

Job Management Partner 1 Version 10

**Job Management Partner 1/Performance
Management Planning and Configuration Guide**

3021-3-347-20(E)

Notices

■ Relevant program products

Job Management Partner 1/Performance Management - Manager (for Windows):

P-2W2C-AAAL Job Management Partner 1/Performance Management - Manager 10-50

The above product includes the following:

P-CC242C-AAAL Job Management Partner 1/Performance Management - Manager 10-50 (for Windows Server 2003)

P-CC2A2C-AAAL Job Management Partner 1/Performance Management - Manager 10-50 (for Windows Server 2008, Windows Server 2012)

Job Management Partner 1/Performance Management - Manager (for UNIX):

P-812C-AAAL Job Management Partner 1/Performance Management - Manager 10-50 (for Linux 5 (x86), Linux 5 (x64), Linux 5 Advanced Platform (x86), Linux 5 Advanced Platform (x64), Linux 6 (x86), Linux 6 (x64))

P-9D2C-AAAL Job Management Partner 1/Performance Management - Manager 10-50 (for Solaris 10 (SPARC))

P-1M2C-AAAL Job Management Partner 1/Performance Management - Manager 10-50 (for AIX V6.1, AIX V7.1)

Job Management Partner 1/Performance Management - Base (for Windows):

P-2W2C-AJAL Job Management Partner 1/Performance Management - Base 10-50

The above product includes the following:

P-CC242C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for Windows Server 2003)

P-CC2A2C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for Windows Server 2008, Windows Server 2012)

Job Management Partner 1/Performance Management - Base (for UNIX):

P-1J2C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for HP-UX 11i V3 (IPF))

P-812C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for Linux 5 (x86), Linux 5 (x64), Linux 5 Advanced Platform (x86), Linux 5 Advanced Platform (x64), Linux 6 (x86), Linux 6 (x64))

P-9D2C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for Solaris 10 (SPARC), Solaris 11 (SPARC))

P-1M2C-AJAL Job Management Partner 1/Performance Management - Base 10-50 (for AIX V6.1, AIX V7.1)

Job Management Partner 1/Performance Management - Web Console (for Windows):

P-2W2C-ARAL Job Management Partner 1/Performance Management - Web Console 10-50

The above product includes the following:

P-CC242C-ARAL Job Management Partner 1/Performance Management - Web Console 10-50 (for Windows Server 2003)

P-CC2A2C-ARAL Job Management Partner 1/Performance Management - Web Console 10-50 (for Windows Server 2008, Windows Server 2012)

Job Management Partner 1/Performance Management - Web Console (for UNIX):

P-812C-ARAL Job Management Partner 1/Performance Management - Web Console 10-50 (for Linux 5 (x86), Linux 5 (x64), Linux 5 Advanced Platform (x86), Linux 5 Advanced Platform (x64), Linux 6 (x86), Linux 6 (x64))

In addition to the above products, this product is targeted at the PFM - Agent and PFM - RM products of Job Management Partner 1/Performance Management, which require Job Management Partner 1/Performance Management - Base. Also, these products include parts that were developed under licenses received from third parties.

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This product includes software developed by Ben Laurie for use in the Apache-SSL HTTP server project.

Portions of this software were developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign.

This product includes software developed by the University of California, Berkeley and its contributors.

This software contains code derived from the RSA Data Security Inc. MD5 Message-Digest Algorithm, including various modifications by Spyglass Inc., Carnegie Mellon University, and Bell Communications Research, Inc (Bellcore).

Regular expression support is provided by the PCRE library package, which is open source software, written by Philip Hazel, and copyright by the University of Cambridge, England. The original software is available from <ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/>

This product includes software developed by Ralf S. Engelschall <rse@engelschall.com> for use in the mod_ssl project (<http://www.modssl.org/>).

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This product includes software developed by the Java Apache Project for use in the Apache JServ servlet engine project (<http://java.apache.org/>).

This product includes software developed by Daisuke Okajima and Kohsuke Kawaguchi (<http://relaxngcc.sf.net/>).

This product includes software developed by Andy Clark.



Job Management Partner 1/Performance Management - Web Console includes RSA BSAFE(R) software developed by EMC Corporation of the United States.

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■ Microsoft product name abbreviations

This manual uses the following abbreviations for Microsoft product names.

Abbreviation		Full name or meaning
Hyper-V		Windows Server 2008 Hyper-V
		Windows Server 2008 R2 Hyper-V
		Windows Server 2012 Hyper-V
		Windows Server 2012 R2 Hyper-V
IIS		Microsoft(R) Internet Information Services
Internet Explorer		Microsoft(R) Internet Explorer(R)
		Windows(R) Internet Explorer(R)
MSCS		Microsoft(R) Cluster Service
SQL Server		Microsoft(R) SQL Server 2005 Enterprise Edition
		Microsoft(R) SQL Server 2005 Standard Edition
		Microsoft(R) SQL Server 2008 Enterprise
		Microsoft(R) SQL Server 2008 Enterprise R2
		Microsoft(R) SQL Server 2008 Standard
		Microsoft(R) SQL Server 2008 Standard R2
		Microsoft(R) SQL Server 2012 Business Intelligence Edition
		Microsoft(R) SQL Server 2012 Enterprise Edition
	Microsoft(R) SQL Server 2012 Standard Edition	
Windows Server 2003	Windows Server 2003 (x64)	Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
		Microsoft(R) Windows Server(R) 2003, Standard x64 Edition
		Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
		Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
	Windows Server 2003 (x86)	Microsoft(R) Windows Server(R) 2003, Enterprise Edition
		Microsoft(R) Windows Server(R) 2003, Standard Edition
		Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition
		Microsoft(R) Windows Server(R) 2003 R2, Standard Edition
Windows Server 2008	Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Enterprise
		Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(R)

Abbreviation		Full name or meaning
Windows Server 2008	Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Standard
		Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(R)
	Windows Server 2008 R2	Microsoft(R) Windows Server(R) 2008 R2 Datacenter
		Microsoft(R) Windows Server(R) 2008 R2 Enterprise
		Microsoft(R) Windows Server(R) 2008 R2 Standard
Windows Server 2012	Windows Server 2012	Microsoft(R) Windows Server(R) 2012 Datacenter
		Microsoft(R) Windows Server(R) 2012 Standard
	Windows Server 2012 R2	Microsoft(R) Windows Server(R) 2012 R2 Datacenter
		Microsoft(R) Windows Server(R) 2012 R2 Standard
WSFC		Microsoft(R) Windows Server(R) Failover Cluster

Windows Server 2003, Windows Server 2008, and Windows Server 2012 are sometimes referred to collectively as *Windows*.

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■ Copyright

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Summary of amendments

The following table lists changes in this manual (3021-3-347-20(E)) and product changes[#] related to this manual.

Changes	Location
The following OS is now supported: <ul style="list-style-type: none">Windows Server 2012 R2	--
The function for obtaining a list of settings is now supported.	<i>4.6</i>
The function that prioritizes the collection of historical data over the display of real-time reports (history collection priority function) is now supported.	<i>4.10.6, G.1, I.1</i>
The monitoring suspension function is now supported.	<i>5.2.1, 5.2.3, 5.3.4, 5.3.5, 5.3.9, 5.3.10, 6.2.1, 6.2.3, 6.3.4, 6.3.5, 6.3.9, 6.3.10, C.7, G.1, H.1, H.3, I.1</i>
The synchronous execution controller for actions is now supported.	<i>G.1</i>
The dispersion of the reconnection is now supported.	<i>G.1</i>
The common account information function is now supported.	<i>G.1, L. Glossary</i>

In addition to the above changes, minor editorial corrections have been made.

#

Includes the functions that were added between version 10-10 and version 10-50.

Preface

This manual describes the features of Job Management Partner 1/Performance Management, and the methods for designing and configuring a system. In this manual, *Job Management Partner 1* is abbreviated as *JP1*.

■ Intended readers

This manual describes JP1/Performance Management. It is intended for the following readers:

- Users who are interested in gaining a basic understanding of JP1/Performance Management functionality before they deploy an operation monitoring system
- Users who are interested in designing and building an operation monitoring system

This manual assumes that the reader is knowledgeable about the operation of the monitored system.

For details about how to use JP1/Performance Management - Agent or JP1/Performance Management - Remote Monitor to collect performance data, the reader is recommended to read this manual together with the applicable JP1/Performance Management - Agent manual or the JP1/Performance Management - Remote Monitor manual.

■ Organization of this manual

This manual is organized into the following parts. Note that this manual contains information common to all the operating systems that this product supports. If there are differences relating to specific operating systems, we note these differences in the text.

PART 1: Overview

PART 1 provides an overview and some operation examples of JP1/Performance Management.

PART 2: Design

PART 2 explains the main design issues to consider when JP1/Performance Management is used to build an operation monitoring system. It also explains the functions provided by JP1/Performance Management.

PART 3: Configuration

PART 3 gives details on how to configure JP1/Performance Management and how to change the configurations.

■ Conventions: Diagrams

This manual uses the following conventions in diagrams:

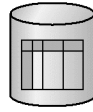
● Computer



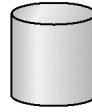
● Server



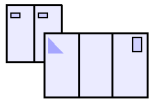
● Database



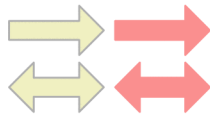
● Shared disk or local disk



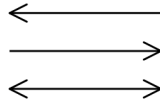
● Host center



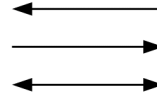
● Data flow



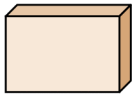
● Control flows



● Other flows



● Program



● I/O operation



● Window



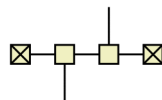
● Processing flow



● WAN (Wide Area Network)



● LAN (Local Area Network)



● Email



● Cell phone



● Problems



■ Conventions: Fonts and symbols

The following table explains the text formatting conventions used in this manual:

Text formatting	Convention
Bold	<p>Bold characters indicate text in a window, other than the window title. Such text includes menus, menu options, buttons, radio box options, or explanatory labels. For example:</p> <ul style="list-style-type: none"> • From the File menu, choose Open. • Click the Cancel button. • In the Enter name entry box, type your name.
<i>Italic</i>	<p>Italic characters indicate a placeholder for some actual text to be provided by the user or system. For example:</p> <ul style="list-style-type: none"> • Write the command as follows: <code>copy source-file target-file</code> • The following message appears: A file was not found. (file = <i>file-name</i>) <p>Italic characters are also used for emphasis. For example:</p>

Text formatting	Convention
<i>Italic</i>	<ul style="list-style-type: none"> Do <i>not</i> delete the configuration file.
Monospace	<p>Monospace characters indicate text that the user enters without change, or text (such as messages) output by the system. For example:</p> <ul style="list-style-type: none"> At the prompt, enter <code>dir</code>. Use the <code>send</code> command to send mail. The following message is displayed: <code>The password is incorrect.</code>

The following table explains the symbols used in this manual:

Symbol	Convention
	<p>In syntax explanations, a vertical bar separates multiple items, and has the meaning of OR. For example: <code>A B C</code> means A, or B, or C.</p>
{ }	<p>In syntax explanations, curly brackets indicate that only one of the enclosed items is to be selected. For example: <code>{ A B C }</code> means only one of A, or B, or C.</p>
[]	<p>In syntax explanations, square brackets indicate that the enclosed item or items are optional. For example: <code>[A]</code> means that you can specify A or nothing. <code>[B C]</code> means that you can specify B, or C, or nothing.</p>
. . .	<p>In coding, an ellipsis (. . .) indicates that one or more lines of coding have been omitted. In syntax explanations, an ellipsis indicates that the immediately preceding item can be repeated as many times as necessary. For example: <code>A, B, B, . . .</code> means that, after you specify A, B, you can specify B as many times as necessary.</p>
()	<p>Parentheses indicate the range of items to which the vertical bar () or ellipsis (. . .) is applicable.</p>

Conventions for mathematical expressions

The following table lists the conventions used in mathematical formulas:

Symbol	Meaning
×	Multiplication sign
÷	This character indicates a division symbol.

■ Conventions: Meaning of "bookmark"

- In this manual, *bookmark* is generally used when there is no need to distinguish *bookmark* and *combination bookmark*. *Combination bookmark* is used only for describing original functionalities of combination bookmarks.

■ Conventions: Version numbers

The version numbers of Hitachi program products are usually written as two sets of two digits each, separated by a hyphen. For example:

- Version 1.00 (or 1.0) is written as 01-00.
- Version 2.05 is written as 02-05.
- Version 2.50 (or 2.5) is written as 02-50.
- Version 12.25 is written as 12-25.

The version number might be shown on the spine of a manual as *Ver. 2.00*, but the same version number would be written in the program as *02-00*.

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1

Overview of Performance Management

Performance Management is a product that monitors the operating status of the databases and applications that form an enterprise system. By notifying the system administrator when the system exceeds the preset threshold values and reaches a critical state, Performance Management can prevent problems from affecting business operations. Performance Management can also efficiently collect data necessary for medium- and long-term analyses of a system's operating status.

1.1 Need for operation monitoring in an enterprise system

Today's enterprise systems serve an important role in supporting the running of a business. A failure of a system critical to the operation of your enterprise can mean not only significant financial loss as a result of delays to or discontinuance of business operations, but also a loss of client confidence. For this reason, improving the availability of the entire enterprise system and eliminating system bottlenecks to allow applications to run smoothly are important issues in business circles.

The following describes the manner in which the availability of an enterprise system can be improved and stable system operation can be achieved.

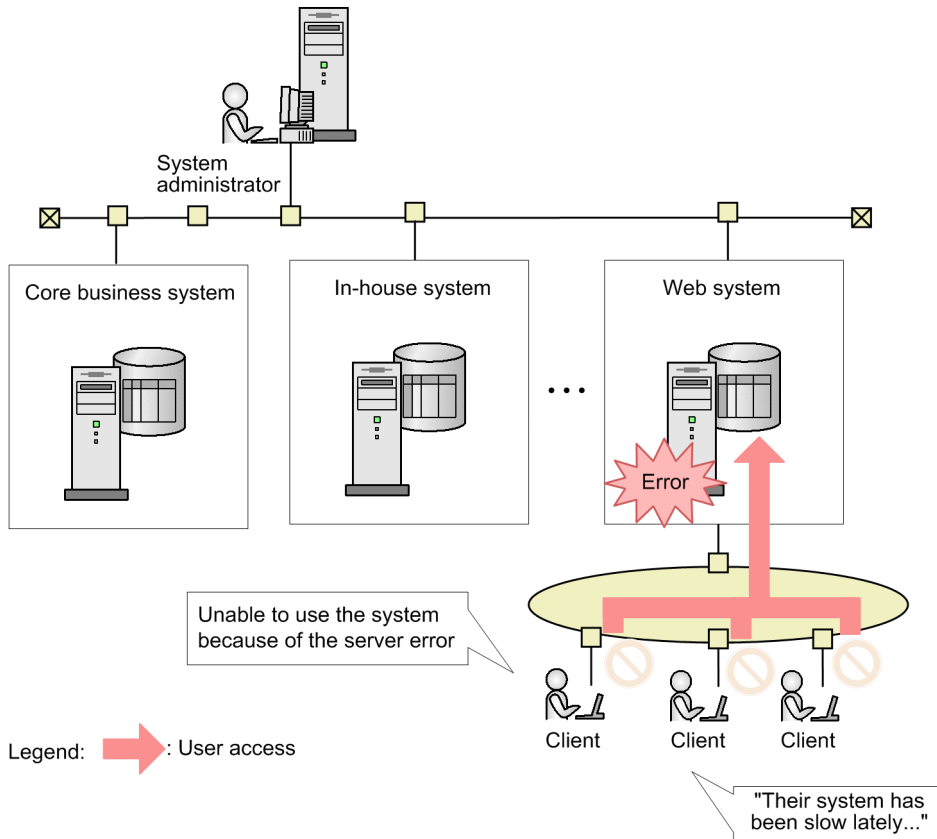
1.1.1 Why is operation monitoring necessary?

To ensure continued, stable operation of an enterprise system, system administrators need to detect faults in the databases, applications, and other resources and take appropriate action, in systems that are increasing in scale and becoming more complex. While managing system operations, system administrators are required to recognize when an error is about to occur by collecting and analyzing operating information representing the performance of resources like the network and OS, and database performance, and prevent these errors from occurring.

(1) Issues faced when not monitoring system operation

When an error occurs in a database server or application server in a system, the system administrator must take steps to minimize the effects of the error on other running systems. This requires an arrangement that includes monitoring the operating status of the servers, detecting system errors, and immediately taking the appropriate action. However, when no form of operation monitoring is in place, the inability of the system user to access the system when the error occurs in the server might be detrimental to the operation of the business.

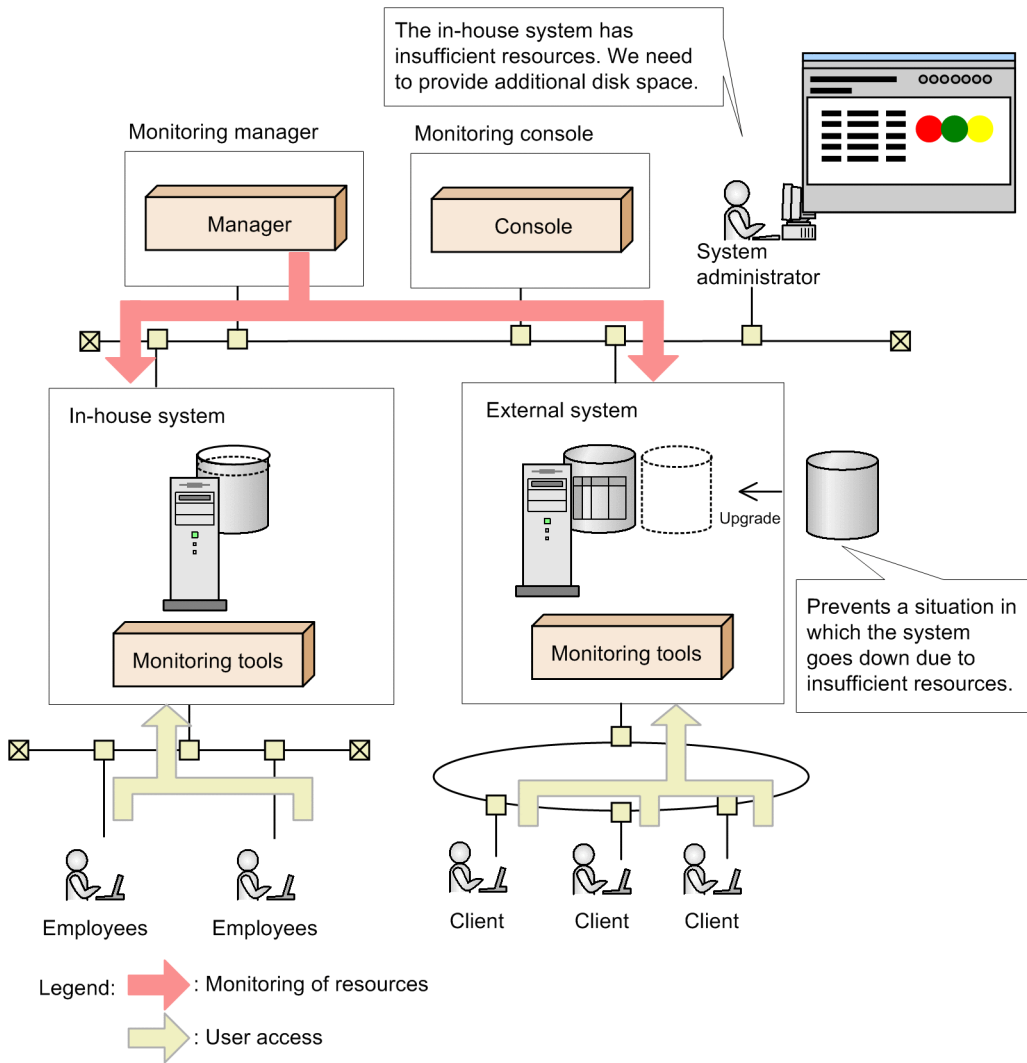
Figure 1–1: Issues faced when not monitoring system operation



(2) Capabilities provided by operation monitoring

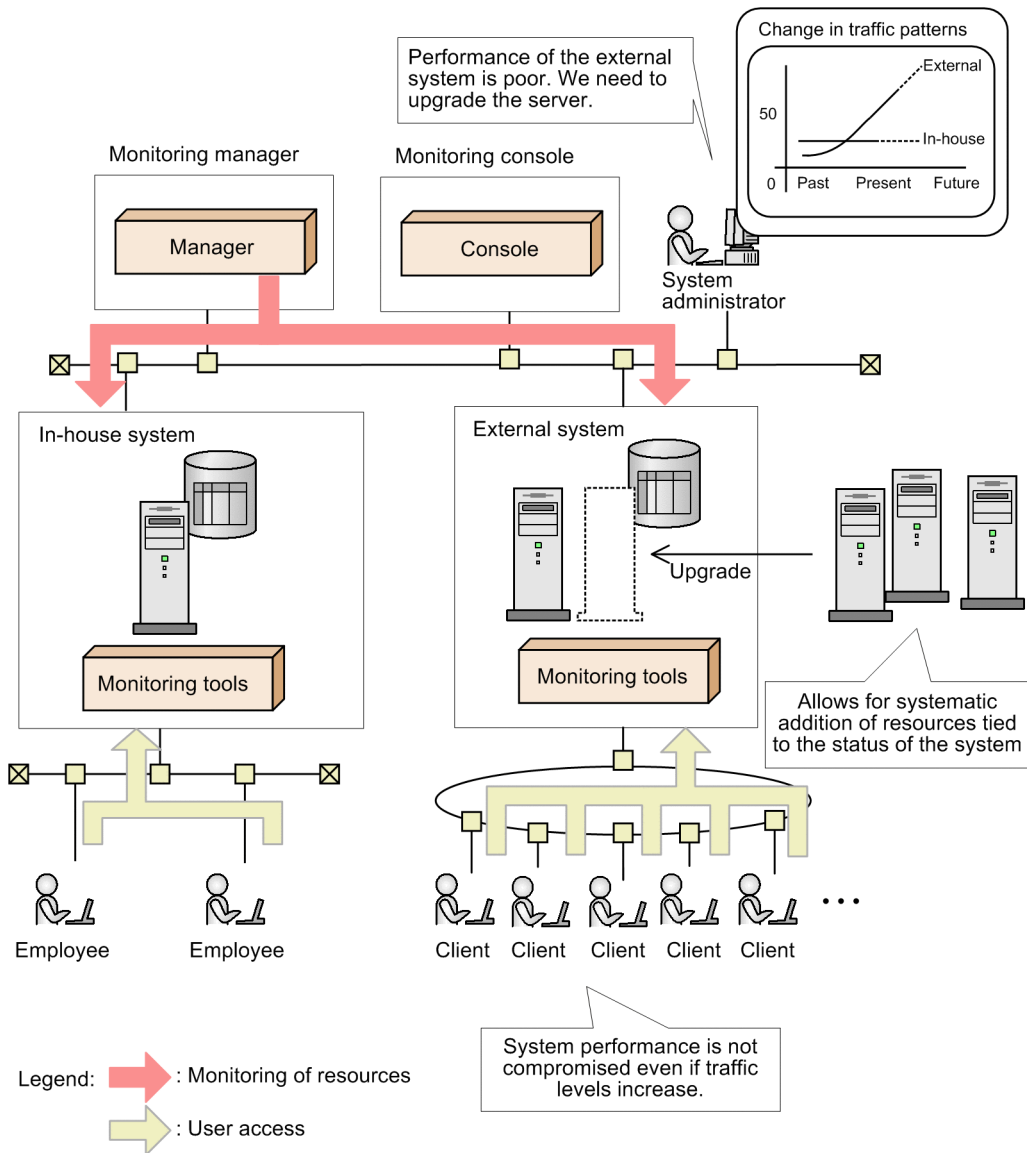
To keep an enterprise system running 24 hours a day, 365 days a year, the system administrator monitors databases, networks, OSs, and other resources, and ensures that sufficient resources are available to all active systems. This prevents situations in which the system goes down due to insufficient resources.

Figure 1–2: Overview of resource monitoring



Also, by monitoring elements of system performance, such as the amount of traffic and response times of the business application server and database server, and displaying the results (performance data) in a report, the system administrator can determine whether the system is being used as intended, and properly identify the location of any bottlenecks in the system. This allows for the systematic addition of resources in a manner tied to the status of the system.

Figure 1–3: Overview of performance monitoring



As you can see, operation monitoring ensures the stable operation of extensive and complex systems, as well as mission-critical systems. It also enables you to predict failures by allowing you to collect and analyze performance data across the entire system. This helps you to avoid potential risks while maintaining consistent, stable operation.

Operation monitoring also allows the system administrator to quantitatively ascertain the service level of the system. This allows for systematic system investment and can prevent the loss of business opportunities.

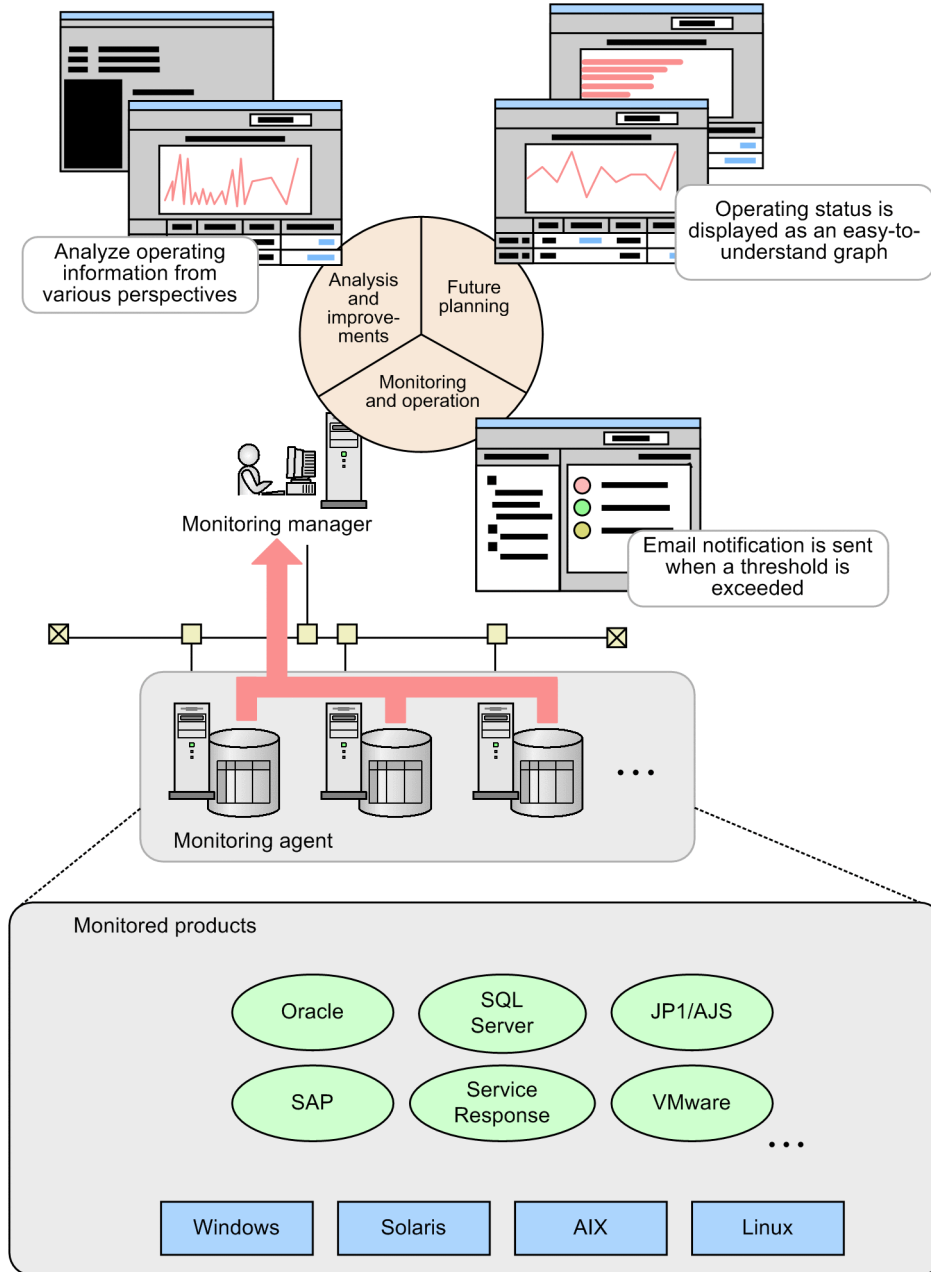
1.1.2 Using Performance Management for operation monitoring and the performance data that can be collected

Performance Management is a series of products that centrally monitors the operating status of resources such as database servers and application servers.

Performance Management can acquire detailed information by placing the appropriate agents throughout the system according to the items being monitored, allowing for a highly detailed operation monitoring system.

Performance Management provides a variety of agent products corresponding to specific monitoring targets and products for analyzing the operating information. Performance Management can be deployed easily in an existing system by adding only the necessary monitoring agents that match the existing system environment. Also, in addition to monitoring resources in real time during system operation, Performance Management can gather and store performance data associated with system resources. Analysis of this stored data can serve as a useful tool for ascertaining the operating status of the system in its entirety or improving the performance of the system over the long term.

Figure 1–4: Operation monitoring using Performance Management



As shown in the figure above, by using Performance Management, the system administrator can collect and centrally manage performance data even in distributed system environments that contain a wide variety of products, without needing to address the differences between platforms.

Table 1–1: Examples of performance data that can be collected

Monitoring target		Collected performance data
OS	Windows	CPU usage, available memory, disk status, network status, and device information
	HP-UX, Solaris, AIX, Linux	CPU usage, available memory, disk status, and amount of network data transferred
Database server	Oracle	Database usage, SQL information, and parameter information
	SQL Server	CPU usage, database use, cache hit rate, and lock information
Job management	JPI/AJS	Number of jobs started, number of delayed jobs, number of held jobs, and length of time on hold
Service response management	Internet services	Response times for protocols such as HTTP, SMTP, FTP, and TCP
ERP	SAP R/3	Roll area usage (SAP memory), response time, and system log/CCMS alerts
Virtual environment	VMware	The following performance data for the physical server and for each virtual machine: <ul style="list-style-type: none"> • CPU usage • Disk I/Os • Disk usage • Memory usage • Amount of network data transferred
	Hyper-V	<ul style="list-style-type: none"> • The following performance data for the physical server and for each virtual machine: <ul style="list-style-type: none"> • CPU usage • Disk I/Os • Memory usage • Amount of network data transferred • The following performance data for the physical server <ul style="list-style-type: none"> • Disk usage
	KVM	<ul style="list-style-type: none"> • The following performance data for the physical server and for each virtual machine: <ul style="list-style-type: none"> • CPU usage • Disk I/Os • Memory usage • Amount of network data transferred • The following performance data for a physical server <ul style="list-style-type: none"> • Disk usage

For details about the performance data that can be collected, see the PFM - Agent or PFM - RM manuals.

1.1.3 Products provided by Performance Management

Performance Management provides the following four products required for operation monitoring:

- **Monitoring manager (PFM - Manager)**
Performs integrated management of the operating status.
- **Monitoring console server (PFM - Web Console)**
Outputs graphical reports and helps the user to configure Performance Management and analyze the operating status.
- **Monitoring base (PFM - Base)**

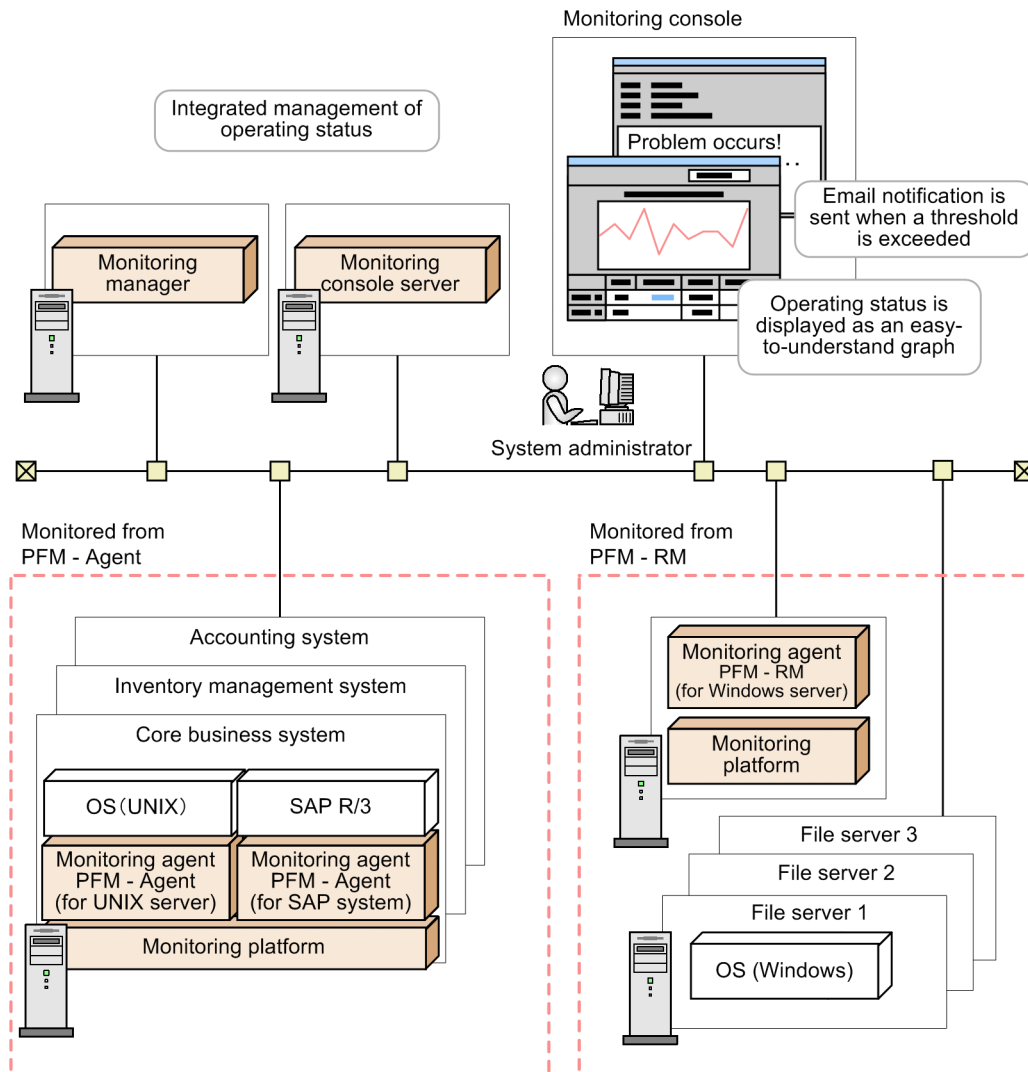
The base program required to perform operation monitoring. PFM - Base performs tasks such as managing the collected operation monitoring data and outputting logs.

- Monitoring agent (PFM - Agent or PFM - RM)

An agent that monitors the status of the OS and server programs.

PFM - Agent is required for agent monitoring; and must be installed on the monitored server. PFM - RM is required for remote monitoring, but you do not need to install the program on the monitored server.

Figure 1–5: Example configuration for Performance Management



Legend:

: Products provided by Performance Management

1.2 Features of Performance Management

Performance Management allows the system administrator to easily ascertain the operating status of such resources as business application processes and database resources, even in large-scale, complex, and mission-critical systems.

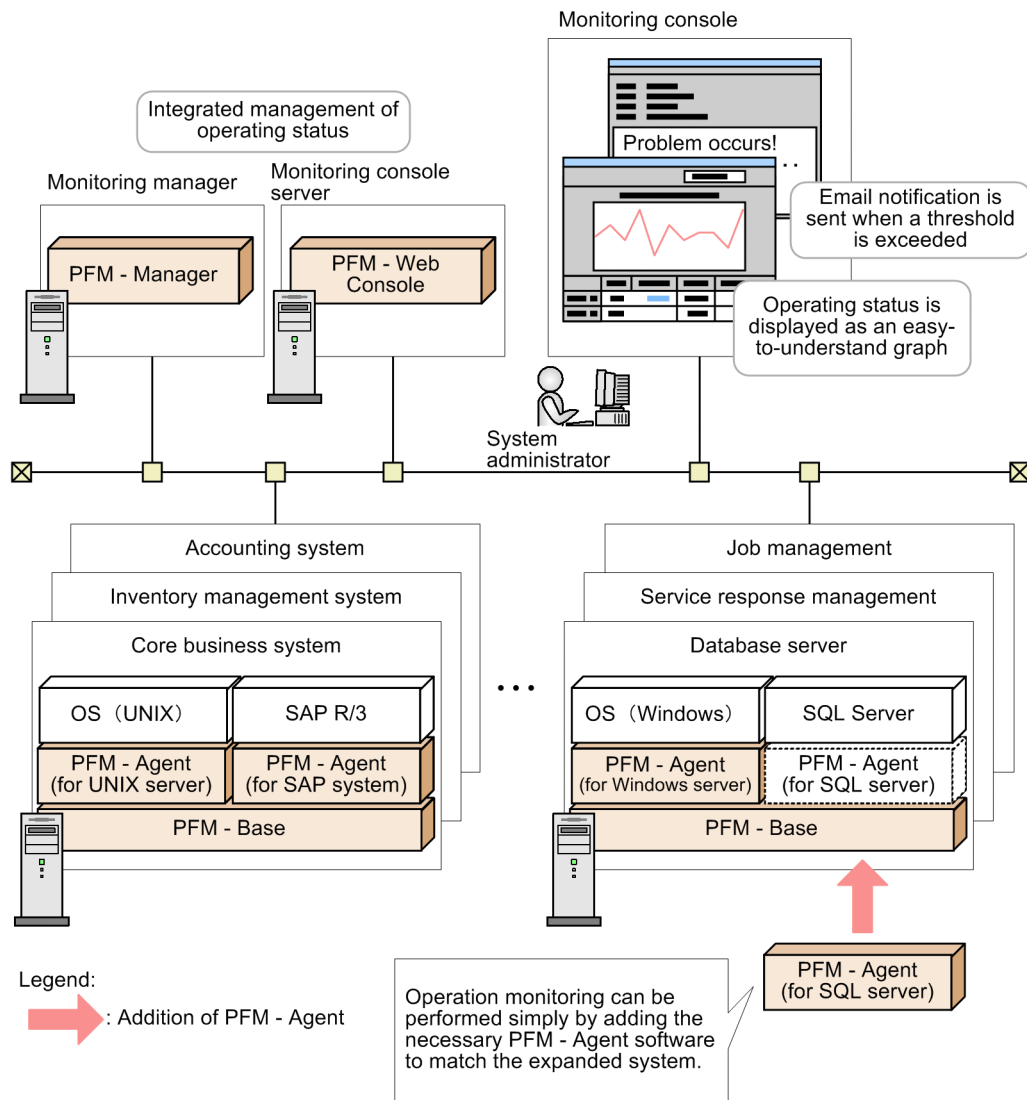
1.2.1 Centralized monitoring of the operating status of large and complex enterprise systems

In a large-scale system consisting of a wide variety of servers and business applications, monitoring the operation of processes and database resources can involve a large commitment of time and effort. With Performance Management, however, you can easily build an operations monitoring system capable of centrally monitoring even large-scale and complex enterprise systems. Performance Management can also be linked with other operations management systems, such as integrated operations management systems, service-level management systems, and network management systems, which can be used in analyzing performance data collected for the purpose of identifying inherent problems in the system. This allows for the early detection of problems in the enterprise system as well as analysis of system performance, and also allows you to establish an upgrade plan based on the projected operation of the system in the future.

(1) Easily expandable to suit the configuration of the monitored system

Performance Management offers numerous monitoring agents for monitoring resources such as database servers and business application servers. For this reason, you can perform operations monitoring simply by adding the necessary monitoring agents for the environment of the enterprise system.

Figure 1–6: Example of changing the Performance Management configuration after adding a new resource to the monitored system



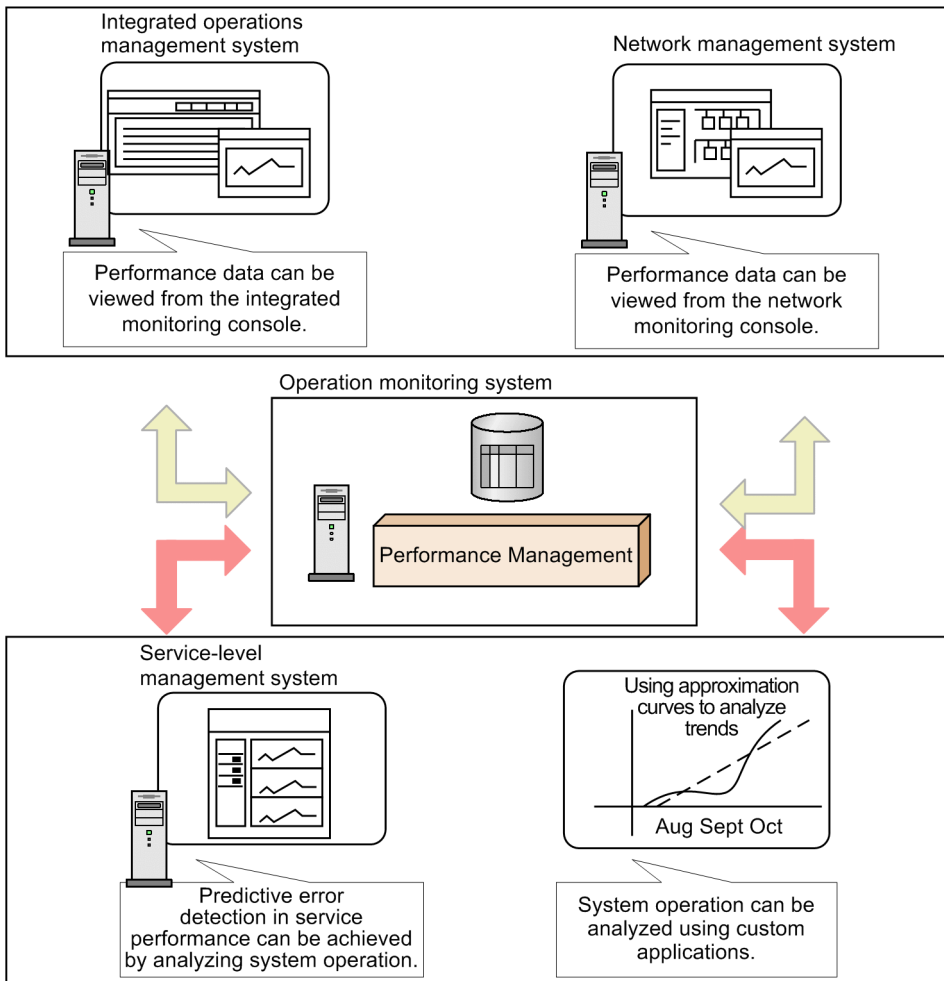
For details about building an operations monitoring system around Performance Management and the configuration of such a system, see [5. Installation and Setup \(in Windows\)](#) for Windows or [6. Installation and Setup \(in UNIX\)](#) for UNIX.

(2) Flexibly links with other systems

In a large-scale system containing multiple servers and programs, Performance Management is able to flexibly link with other systems. By linking with an integrated operations management system or network management system, Performance Management can improve the availability and reliability of the entire enterprise system. Also, by linking Performance Management with a service-level management system and conducting a work analysis of the data collected by Performance Management during operations monitoring, the system administrator can identify inherent problems affecting the enterprise system.

Figure 1–7: Linking Performance Management with other systems

Linking with other systems to provide integrated system monitoring



Linking with other systems to make efficient use of collected performance data

- Optimizing operations management of the entire enterprise system by linking with integrated system management products

JP1 events issued by Performance Management can be monitored by JP1/IM, an integrated systems management product in the JP1 series, and Performance Management can be called from JP1/IM. JP1/IM allows for centralized monitoring of the Performance Management status by using graphical icons. By checking these icons, the system administrator can identify where performance has dropped and caused a bottleneck, and take the appropriate action to resolve the problem before it has a significant effect on business operations. In this way, operations management can be optimized even for large-scale and complex enterprise systems, and integrated support is provided on an enterprise system-wide level throughout the cycle from monitoring the operating status to the application of countermeasures.

- Supporting stable operation of business networks by linking with network management products

The status of the system being monitored by Performance Management can be monitored from the network management product (NNM). This allows for the integrated management of the operating status for systems in a large-scale network environment. Linking with NNM contributes to the stable operation of networks that support enterprise systems.

- Linking with service-level management products to maintain service levels

The status of a system monitored by Performance Management can be monitored from JP1/ITSLM, a service-level management product. JP1/ITSLM enables you to use warning signs to foresee problems in service performance based on data collected by Performance Management and past monitoring results. This contributes to achieving stable service operations.

- Allowing collected performance data to be reprocessed freely according to the intended purpose
The Performance Management ODBC driver provides access to the collected performance data from an ODBC-compliant application program such as Microsoft Excel. By using an ODBC-compliant application program, you can easily create reports suited to users' objectives and analyze performance data.

1.2.2 Use in mission-critical systems that demand high reliability and availability

Performance Management can monitor system operation in mission-critical systems while maintaining high reliability and availability.

(1) Monitor the operation of an enterprise system without imposing a load on the monitored system

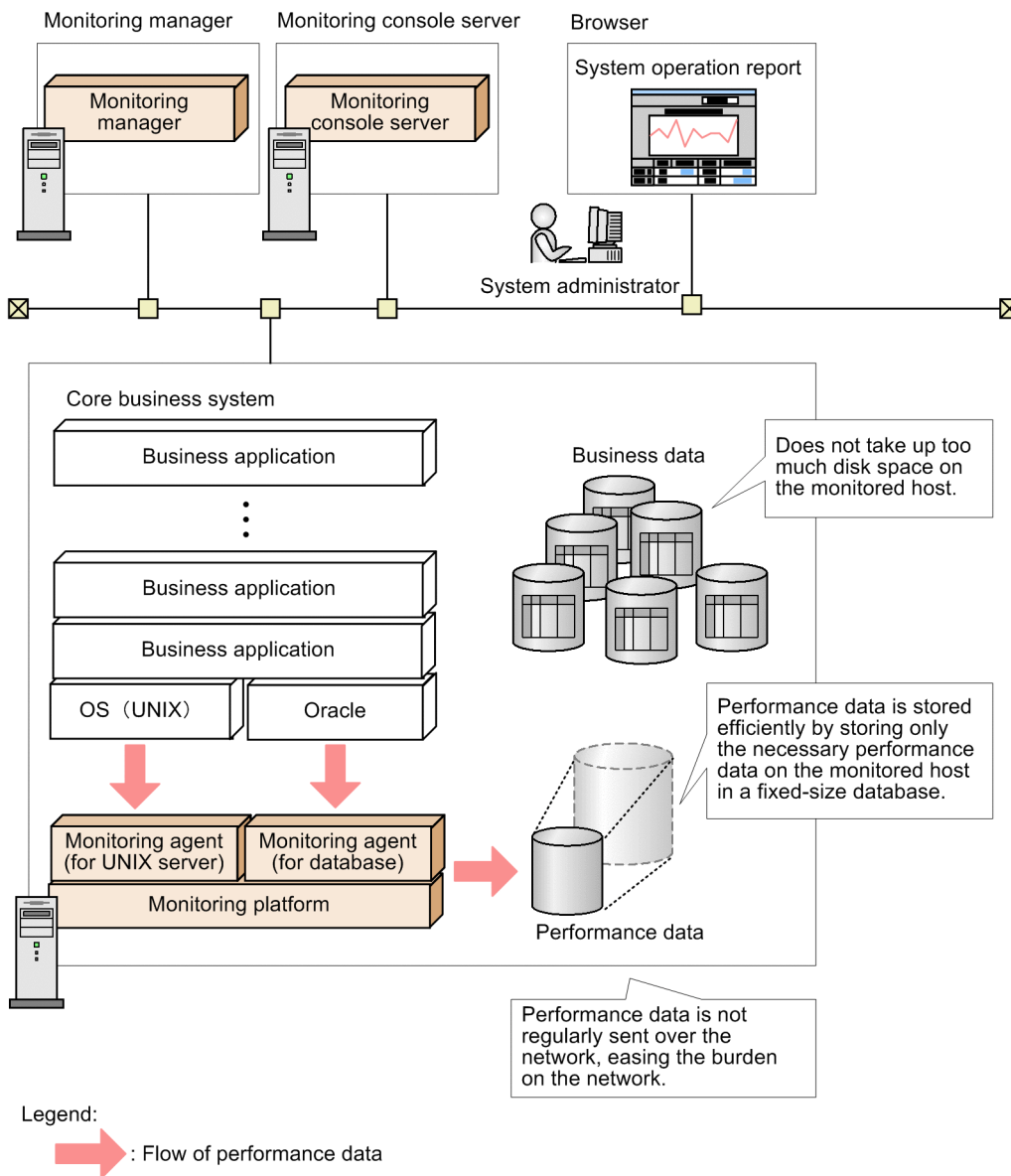
With Performance Management, the monitoring agent, rather than the monitoring manager, collects the performance data associated with the operating status of database resources, business applications, and other resources, and then stores the data into the Performance Management database (called the Store database). This means that large amounts of performance data are not regularly sent over the network, which eases the burden on the network.

Performance Management also provides functions that prevent the data collected by monitoring operations from becoming excessively large. This is accomplished by collecting only the necessary operating information, without taking up too much disk space.

This functionality is illustrated by the following examples:

- Based on such characteristics as the scale of the enterprise system and its usage patterns, Performance Management can be configured to acquire operating information for specific monitored items from a specific server at specific times.
- Depending on the monitored item, summarized data can be collected at a fixed interval.
- Operation monitoring is performed using a fixed amount of disk space by automatically overwriting old data.

Figure 1–8: Flow of operation monitoring data collected by Performance Management



For details about managing data in Performance Management, see [4.2 Functions for collecting and managing performance data](#).

(2) System administrators can be notified of problems before they have an effect on business

Performance Management can be configured to notify the system administrator when a monitored system reaches a critical state.

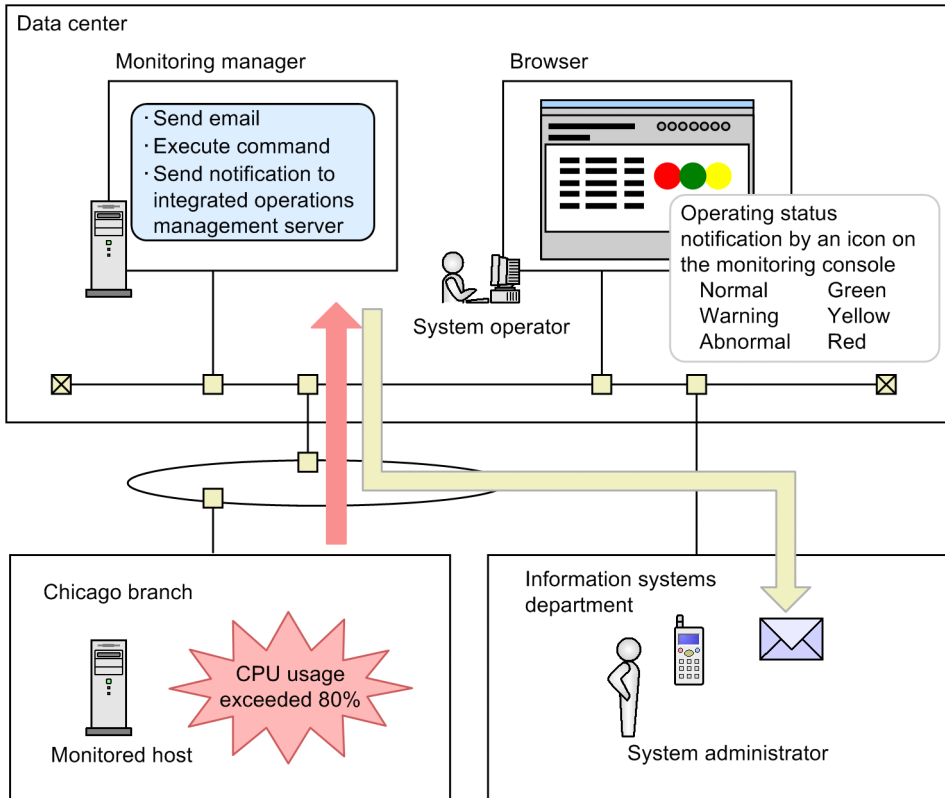
This allows for problems in monitored systems to be detected at an early stage and resolved before they have an effect on business operations.

For example, the system administrator can be notified by email when CPU usage of 80% or more is detected on a server in a specific system, or a system operator can be notified when the proportion of available disk space falls below 30% by having an icon on the console blink on and off.

You can also configure Performance Management to execute a command automatically when a system reaches a critical state.

In this manner, with Performance Management, a small team can efficiently monitor even large-scale systems.

Figure 1–9: Example of using email to notify a system administrator of a problem in the system



For details about the alarms issued when performance data exceeds a threshold, see [4.3 Functions for alerting the user when the system reaches a critical state](#).

(3) Performance Management can be used to achieve stable system operation 24 hours a day, 365 days a year

By incorporating Performance Management into a cluster system or a multiple-monitoring system, you can create a highly reliable system that continues to operate even in the event of a system error.

Figure 1–10: Example of cluster system operation

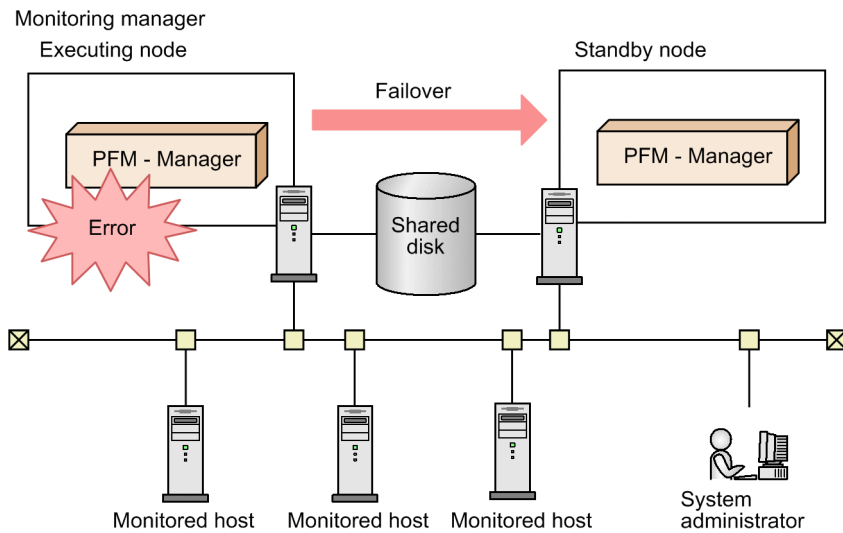
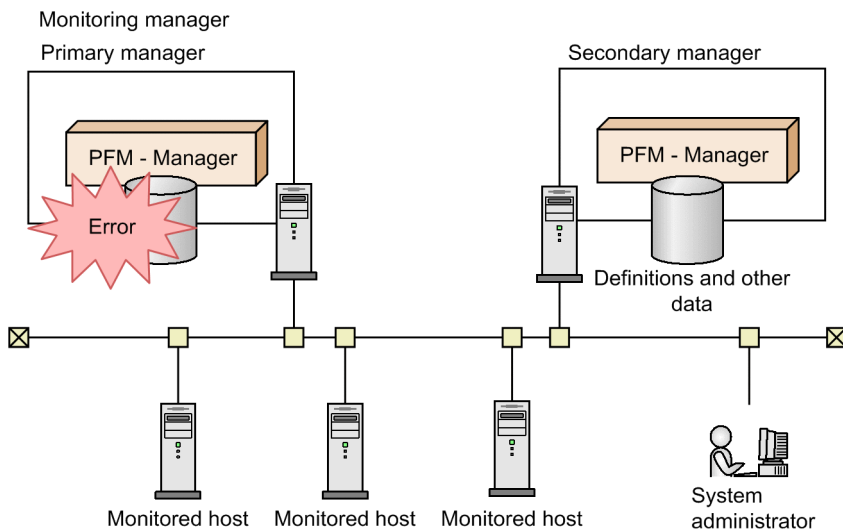


Figure 1–11: Example of multiple-monitoring system operation



For details about how to configure and operate Performance Management in a cluster system, see the chapter that describes the cluster system configuration and operation in the *Job Management Partner 1/Performance Management User's Guide*.

For details about how to configure and operate Performance Management in a multiple-monitoring system, see the chapter that describes multiple-monitoring system configuration and operation in the *Job Management Partner 1/Performance Management User's Guide*.

(4) Ensuring stable system operation by detecting faults in the monitoring system itself

Performance Management can monitor the operating statuses of the PFM - Agent or PFM - RM services and the operating status of the host on which PFM - Agent or PFM - RM is running. It can also monitor the operating status of the host that is monitored by PFM - RM. This monitoring is achieved through the use of the *health check function*. By using this function, you can monitor the operating status of the host, and confirm whether PFM - Agent or PFM - RM is monitoring its monitoring targets correctly.

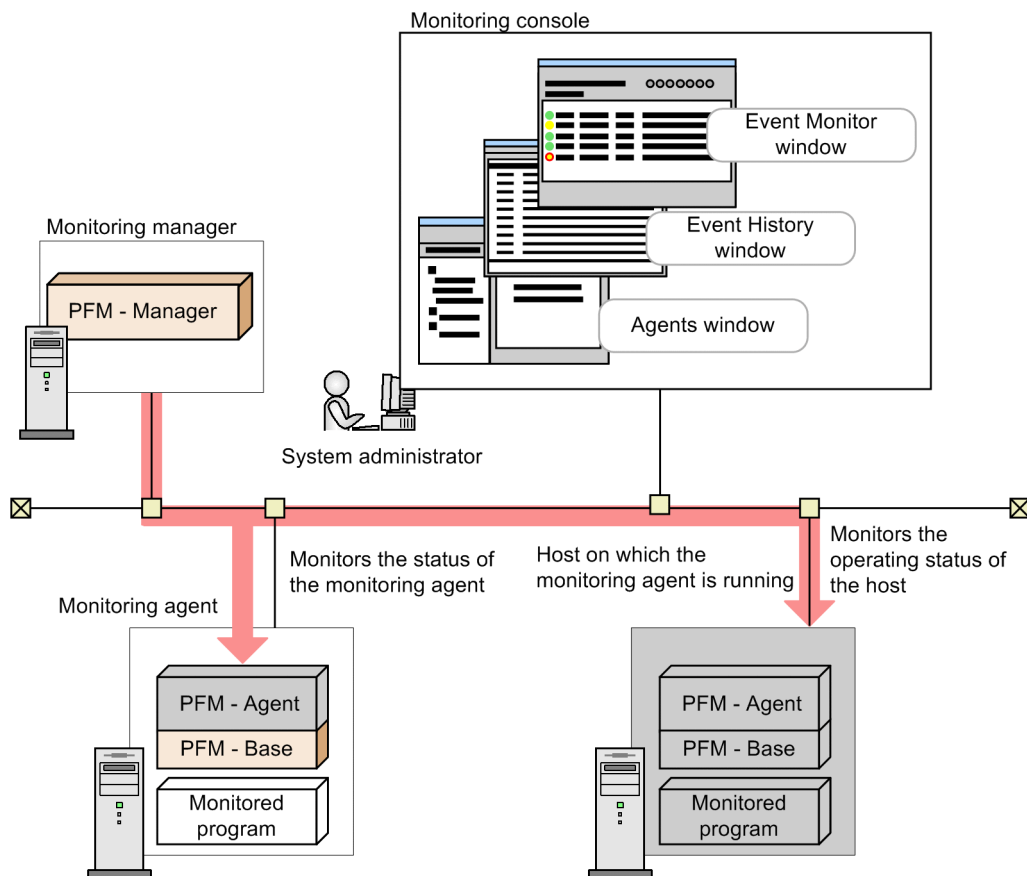
You can view the results in the following windows in PFM - Web Console:

- Agents window
- Event Monitor window
- Event History window

Because the health check function gives you the option of saving monitoring results, you can view a report showing the operating status over time.

By defining alarms for the monitoring results of the operating statuses of the host, the system can issue alarm events when the health check function detects that the host is operating abnormally or detects that PFM - Agent or PFM - RM is malfunctioning. The system can also execute an action in this situation, such as sending an email.

Figure 1–12: Overview of monitoring the operating status by using the health check function (for agent monitoring)



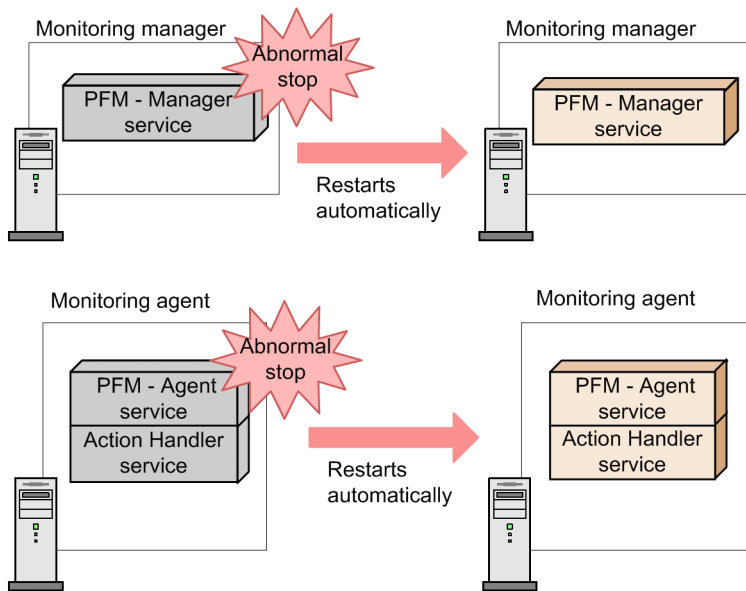
For remote monitoring, when an abnormal operation is detected within the monitored host, you can trigger an alarm event and perform other actions, such as sending emails.

Additionally, if for some reason a PFM service abnormally terminates, the Performance Management system is equipped with a function that can automatically restart the PFM service. This function is called the *PFM service automatic restart function*.

The PFM service automatic restart function is available for the following PFM services: PFM - Manager, Action Handler, PFM - Agent, and PFM - RM. This function cannot be used for the Status Server service. For details about services, see [4.1 Performance Management services](#).

This function allows you to continue monitoring, even when a PFM service abnormally terminates.

Figure 1–13: Overview of the PFM service automatic restart function



1.2.3 Easily create and operate an operations monitoring system

The ever-increasing scale and complexity of enterprise systems has increased the burden on system administrators. For this reason, implementing operations monitoring has required businesses to hire and train personnel. Performance Management provides various functions that support the creation and operation of an operation monitoring system. By using these functions, the system administrator can implement operations monitoring with minimal burden.

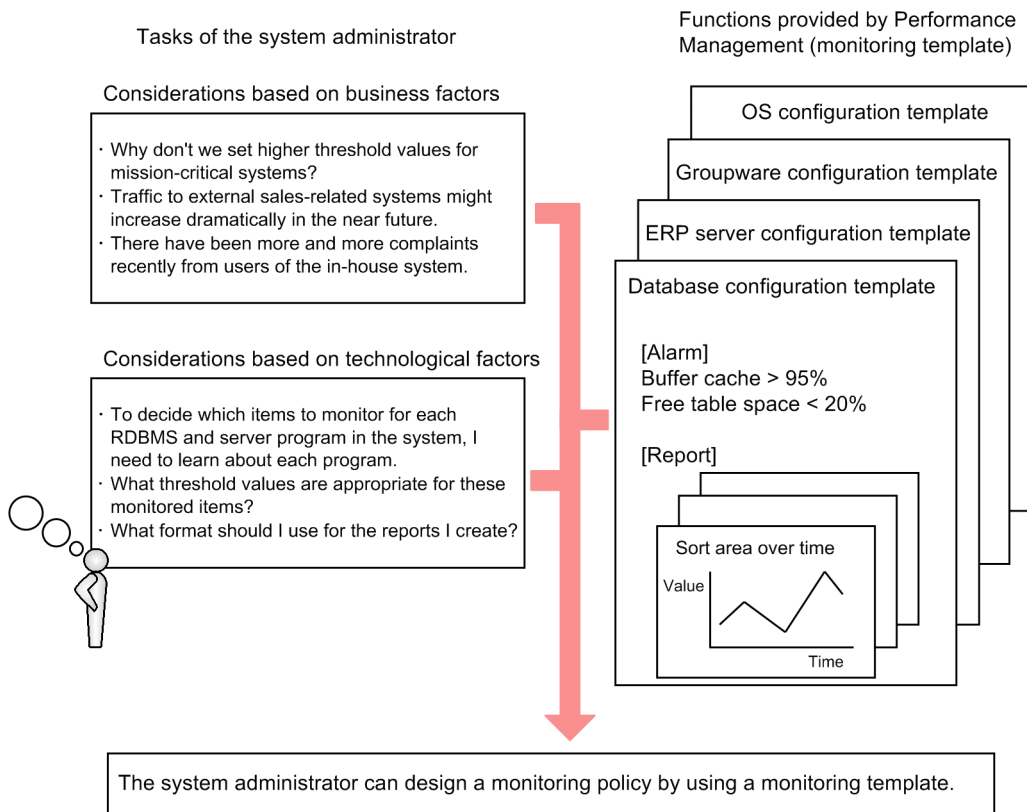
(1) Use of templates to easily configure monitored items

Deciding which items to monitor in an operation monitoring system and how each item is to be monitored requires a high level of skill.

Performance Management provides templates that contain definitions for frequently monitored items. This type of template is called a *monitoring template*.

Monitoring templates simplify the preparation for monitoring.

Figure 1–14: How a system administrator determines which items to monitor and monitoring templates



For example, for a Windows server, the template provides definitions that issue a warning when the following monitored items reach critical states:

- The amount of available physical memory falls below 4 MB.
- CPU usage exceeds 80%.
- The proportion of free space on the logical drive falls below 15%.

You can also customize monitoring templates.

For details about monitoring templates, see the chapter that describes the monitoring templates in the appropriate PFM - Agent or PFM - RM manual.

(2) Convenient tools are provided to reduce the workload of the system administrator

Performance Management provides a monitoring console and operating commands for use in operations monitoring. There is no need to install and learn a different software package for each monitoring target.

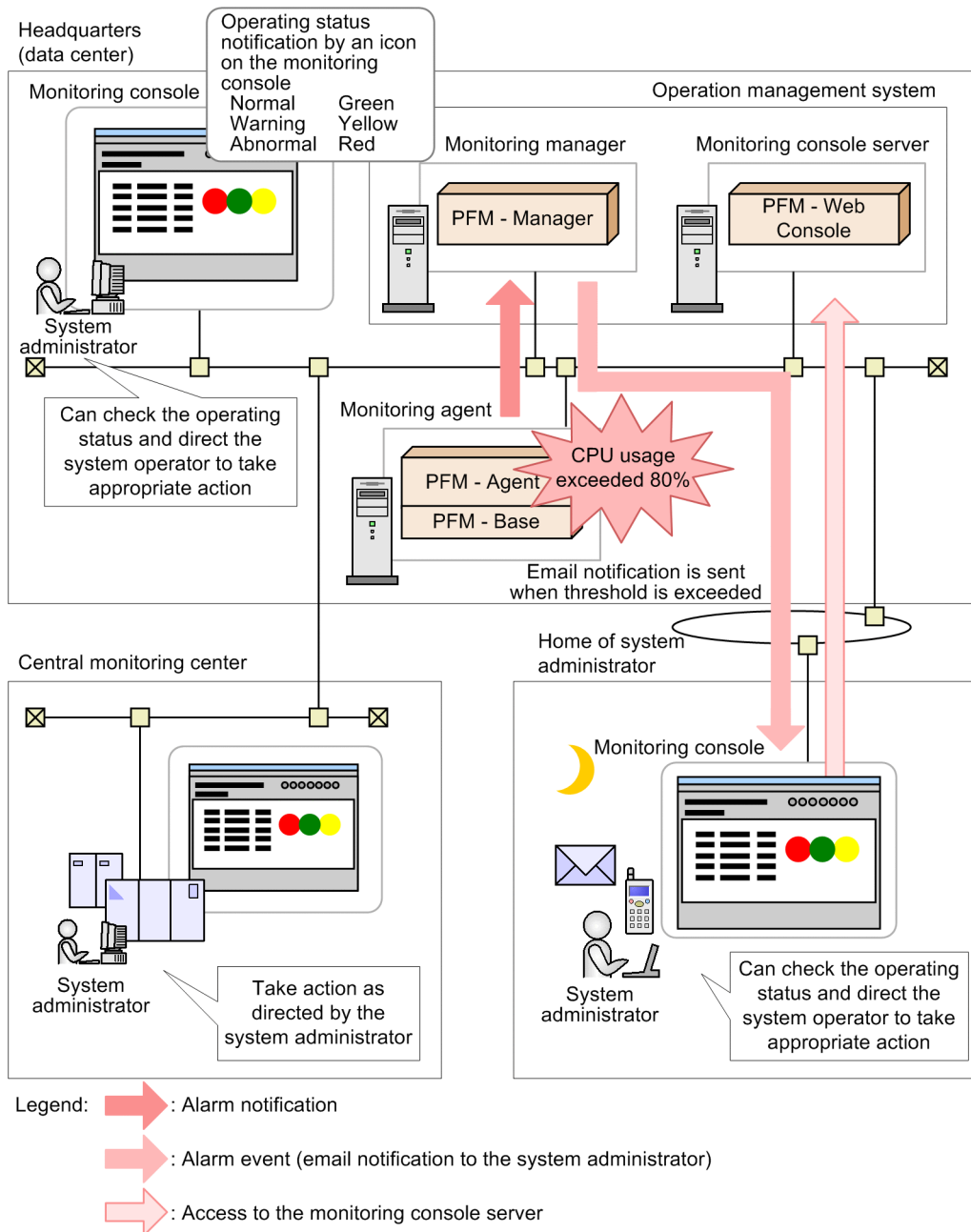
System administrators can reduce their operations monitoring workload by making use of these user-friendly administration tools according to their purpose.

(a) Monitoring an enterprise system from a Web browser

By accessing the monitoring console server from a Web browser, system administrators can detect errors occurring in the enterprise system in real time and perform such tasks as managing the configuration of a monitored system. For

example, when a problem occurs in the system, the system administrator can view the status of the operations monitoring system from home and quickly take the appropriate action before the error affects business.

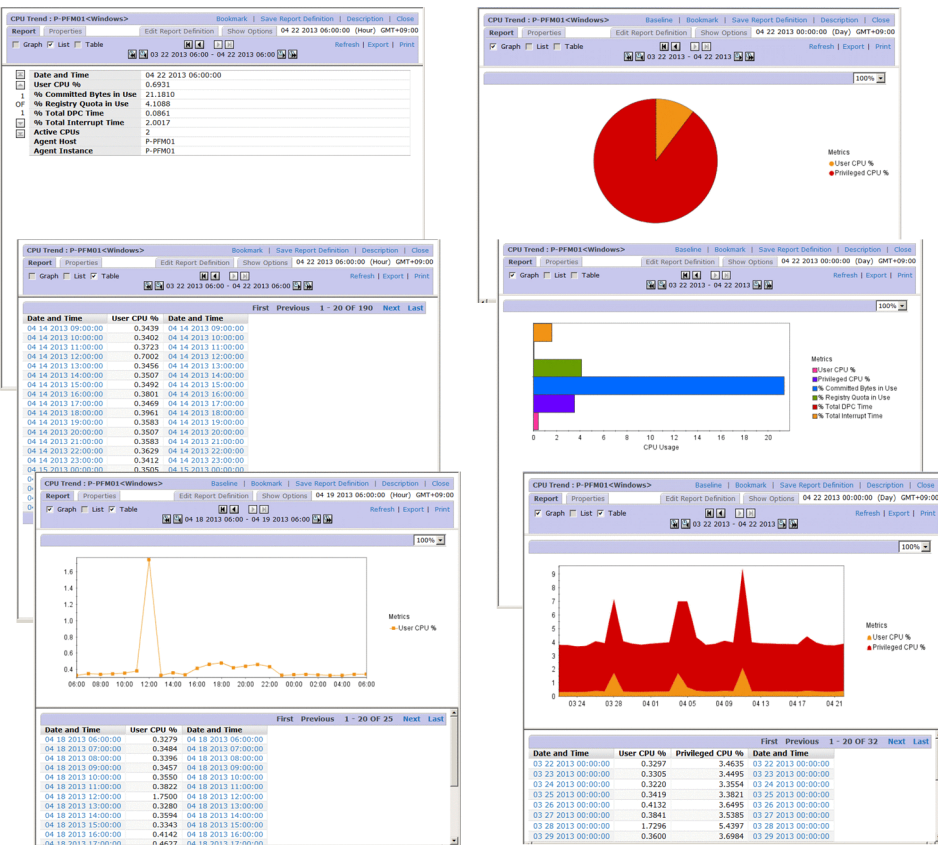
Figure 1–15: Example of using a Web browser from a remote site to check the status of an operation monitoring system



(b) Outputting performance data in an easy-to-understand format

The performance data collected by Performance Management can be displayed in a Web browser in a graphical format. Performance data presented in this format is called a *report*. By using easy-to-understand graphs and tables to display operating information of the systems being monitored, problems can be analyzed more easily.

Figure 1–16: Examples of reports

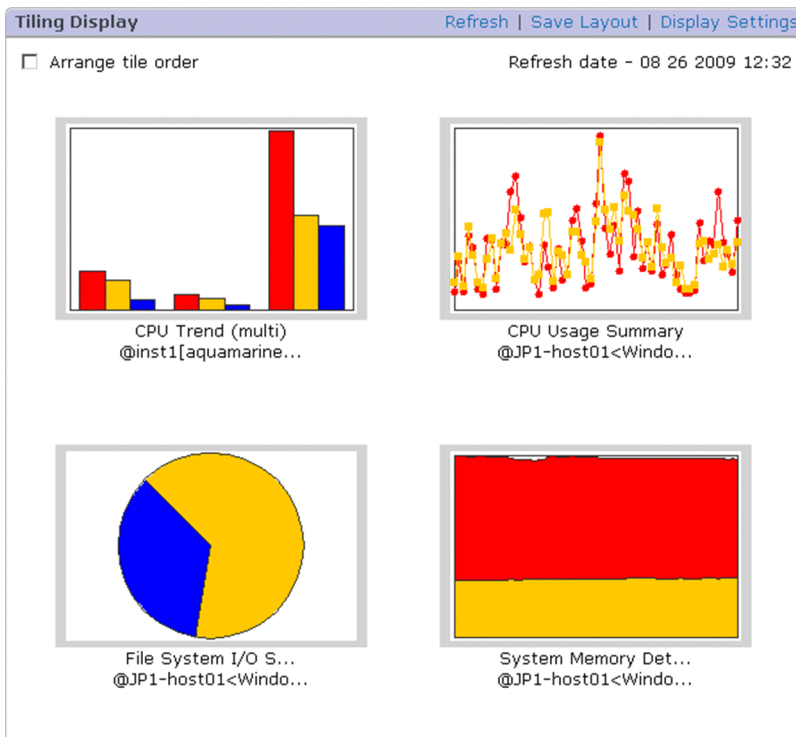


For details about reports, see the chapter that explains the creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

(c) Displaying graphs of multiple reports in a tiling layout

For certain historical reports that are managed by bookmark, you can tile the graphs. Tiling the graphs makes it easier to analyze the causes of problems, as well as manage the network and OS resources. A display that shows graphs of multiple reports aligned horizontally and vertically is called a *tiling display*.

Figure 1–17: Example of a tiling display

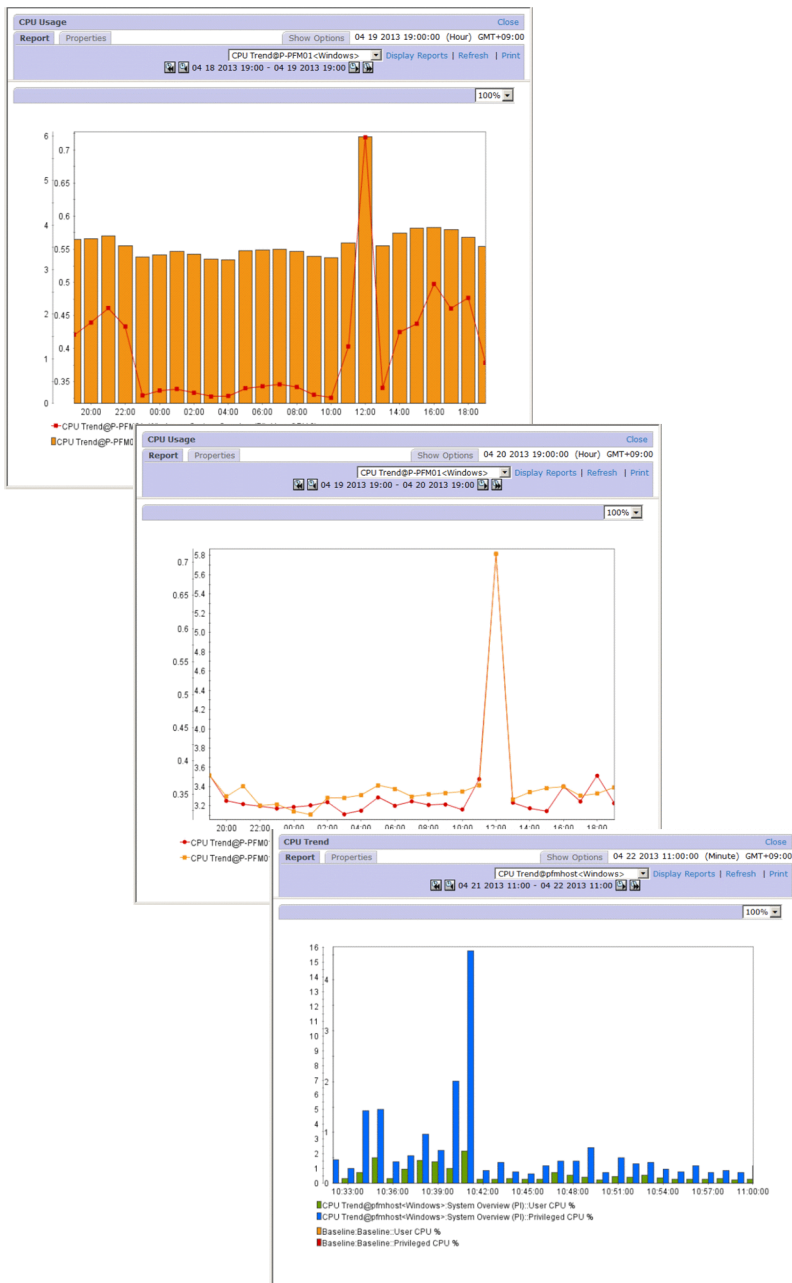


For details about tiling displays, see the chapter that explains the creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

(d) Superimposing multiple reports

Performance Management can display multiple reports in the same graph. By displaying past periodic data or data obtained during stable operation of the system as reference data (a *baseline*) in the graph together with performance data, the operating status of the overall system can be determined in a comprehensive manner. A report that combines multiple historical reports with a baseline in the same graph is called a *combination report*.

Figure 1–18: Examples of combination reports



Restrictions apply to the display of multiple reports on the same graph, depending on whether the report you intend to display is a normal or combination report.

- For normal reports:
 - You can display reports for multiple agents if they refer to the same records in a historical report.
- For combination reports:
 - You can display multiple reports in a single graph, regardless of the agent used or the type of record in the report. However, only historical reports can be used as the basis for a combination report. Combination reports allow you to:
 - Display reports that include different fields from the same record.
 - Display reports that gather related records from different agent types.
 - Display reports that gather different records from different agent types.

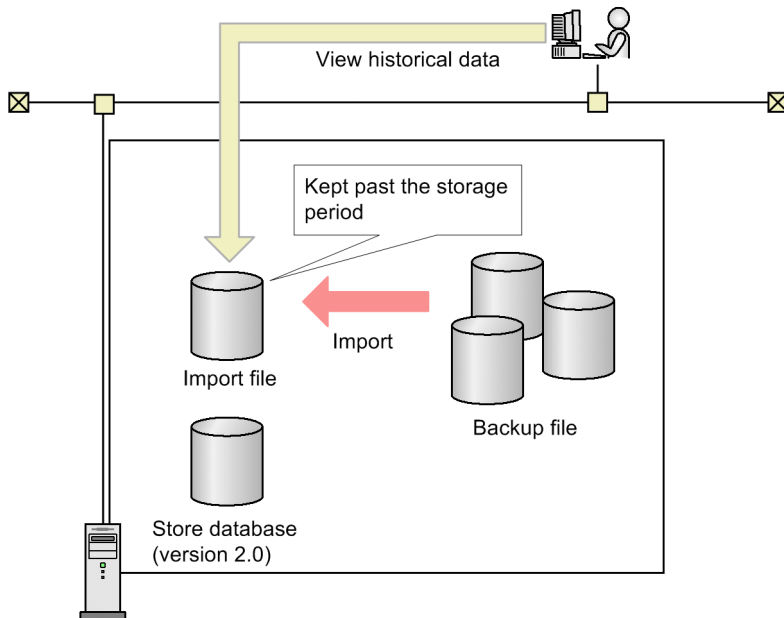
- Display a report together with a baseline.

For details about how to display combination reports, see the chapter that explains the creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

(e) Viewing historical performance data

Version 2.0 of the Store database (Store 2.0) allows you to view historical performance data by importing backed-up monitoring data. Because the imported data is kept past the pre-set retention period, you can view historical data at any point in time.

Figure 1–19: Example of viewing historical data



For details about importing backed-up data, see [4.2.6\(2\) Viewing historical operation monitoring data](#).

(f) Management commands tailored to real-world situations are provided

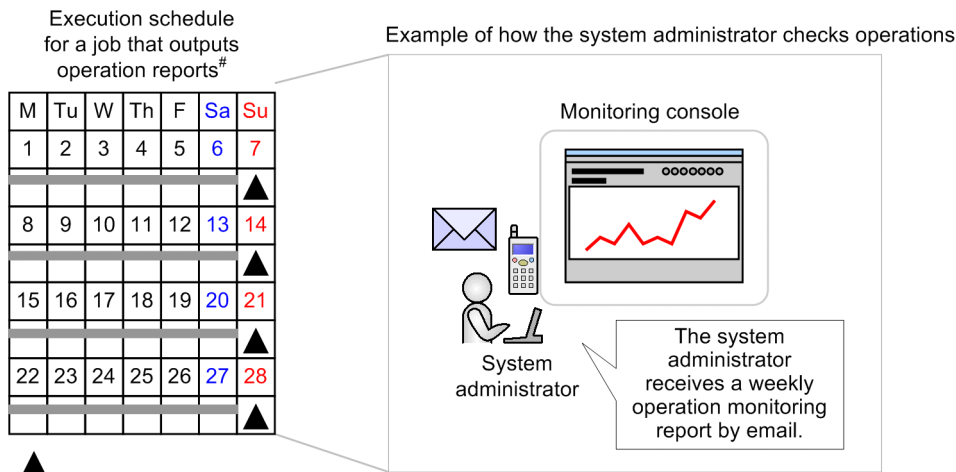
In order to carry out integrated management of multiple servers in large-scale systems, management commands can be processed automatically or in batches.

Operating commands can be used to perform tasks such as managing performance data and Performance Management services automatically or as a batch process, which enables more efficient system operation. Examples of commands provided by Performance Management are as follows:

- Commands to batch configure warning alarms
- Commands to output operation monitoring reports
- Commands to back up and restore the collected operation monitoring data
- Commands to start and stop Performance Management

The following figure shows an example of the system administrator checking weekly operation reports output using Performance Management commands and sent as email by a job management system.

Figure 1–20: Example of the system administrator checking operations



For details about commands, see the chapter about commands in the manual *Job Management Partner 1/Performance Management Reference*.

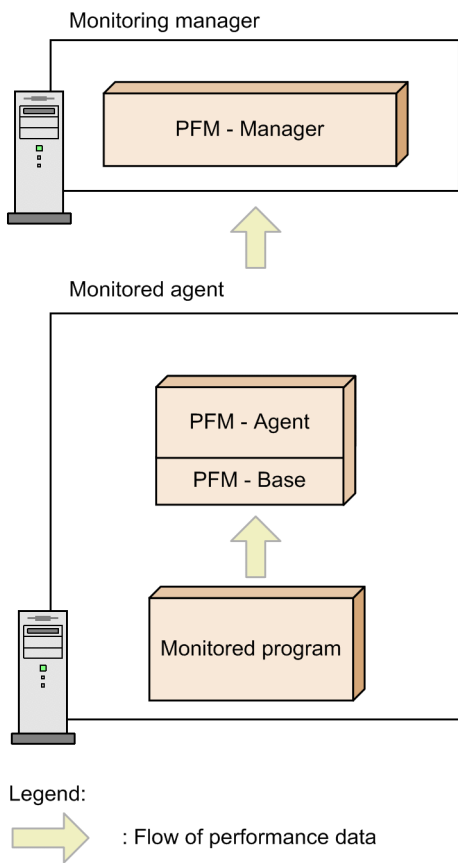
1.2.4 Select a suitable monitoring method

In Performance Management, you can select different monitoring methods, depending on the severity level of the monitored server, as well as the cost and time available for designing and configuring the operation monitoring system.

Agent monitoring

In order to monitor the server's operating status, you must install the agent on the server to be monitored. This enables you to use a number of monitoring options to monitor a server's operating status.

Figure 1–21: Agent monitoring

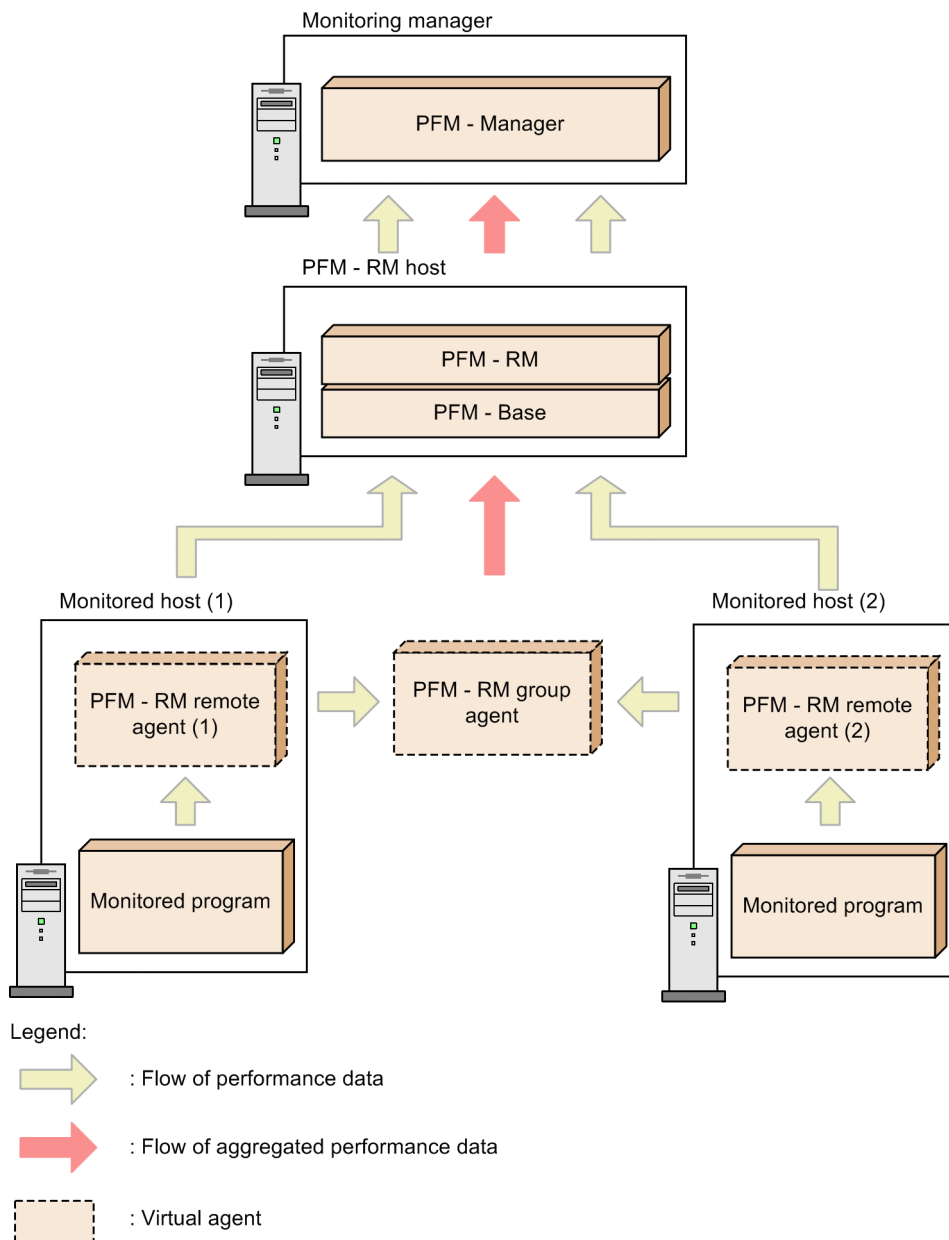


Remote monitoring

Remote monitoring means that you monitor the operating status of servers from another host. There is no need to install the agent on the monitored server. This is particularly useful when you want to monitor the operations of a system that is already running. Although fewer items are monitored than in agent monitoring, you can use a single PFM - RM to collect and manage performance data from multiple monitoring targets (the PFM - RM host itself can be specified as a monitored host).

PFM - RM features two concepts: *remote agent* and *group agent*. Remote agent configures monitoring conditions with an interface similar to traditional agent monitoring. Group agent monitors performance data consolidated from various remote agents.

Figure 1–22: Remote monitoring

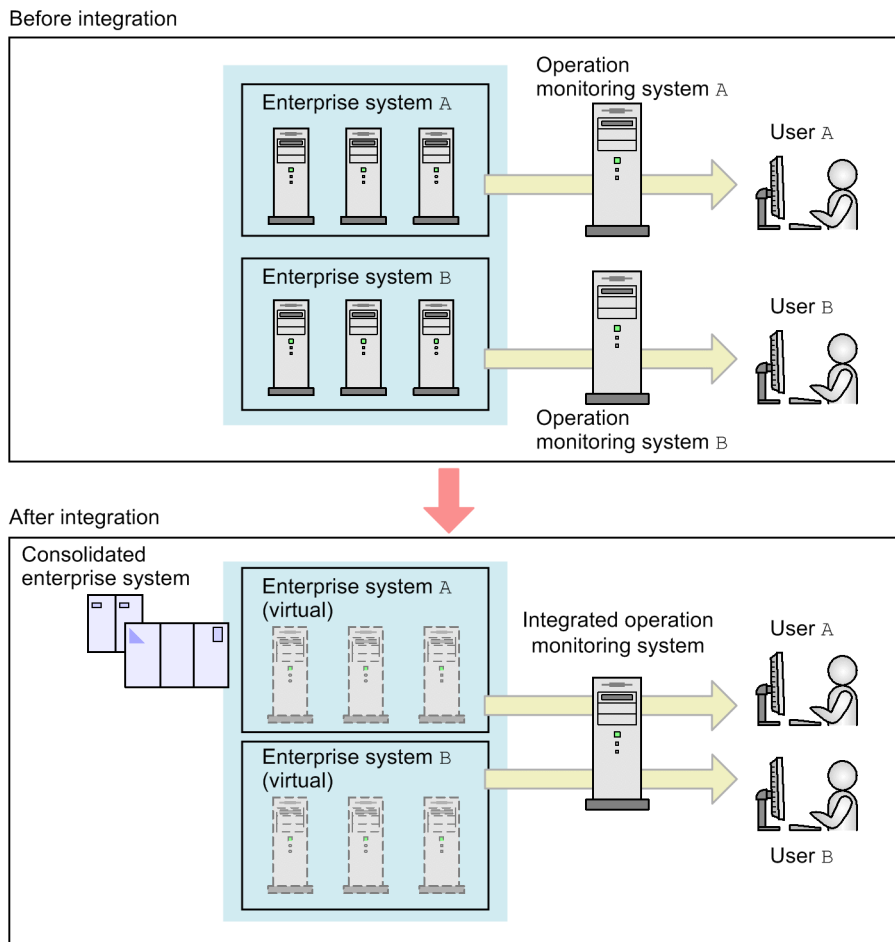


You can combine multiple monitoring methods. To achieve optimal operation monitoring, two monitoring forms are provided for each monitored server: detailed monitoring by using PFM - Agent, or quick monitoring by using PFM - RM.

1.2.5 Set a range that can be monitored by each user

As data centers and monitored hosts are consolidated as a result of virtualization of systems, the need arises to consolidate and integrate the operation monitoring systems that monitor these data centers and monitored hosts. Performance Management enables a single operation monitoring system to be used to monitor multiple enterprise systems by setting a monitoring range for each user's operation monitoring system.

Figure 1–23: Integration of operation monitoring systems as a result of virtualization

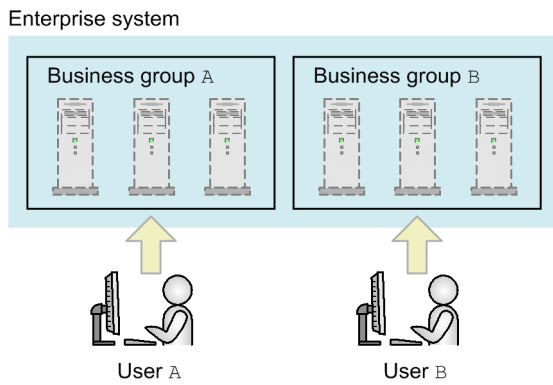


(1) Setting a monitoring range by business group


By setting *business group* as the monitoring range, you can monitor systems in units of business groups. Because the business groups can be configured in such a manner that each business group is accessible only by the user assigned to it, the integrity of information can be protected, operation errors can be reduced, and the independence of each monitoring system can be maintained.

For example, if business groups A and B are defined for business systems A and B, respectively, the user of business system A can access business group A, but not business group B in the same operation monitoring system.

Figure 1–24: Example of a configuration of business groups

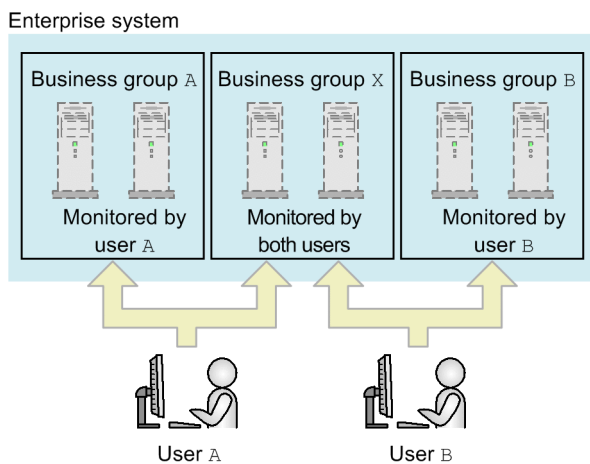


Legend:


 : Business group that can be monitored

You can also set a common business group that is to be monitored by multiple users by first configuring the applicable business groups individually, and then defining each user to also monitor the common business group.

Figure 1–25: Example of a configuration with a common business group



Legend:

 : Business group monitoring

(2) Importing business groups

You can import business groups that are defined in JP1/IM. If you are already monitoring systems in units of business groups in JP1/IM, you can also have the same users monitor the same business groups in Performance Management by importing the JP1/IM definitions of those business groups.

2

Using Performance Management

This chapter describes using Performance Management to monitor the performance of business systems, using the fictitious Company H as an example. Company H operates an Internet marketing system.

The chapter describes the flow of operations from building the Performance Management system to operating it. Please note that it is important to understand this flow of Performance Management basic operations.

2.1 Background of performance monitoring

Example:

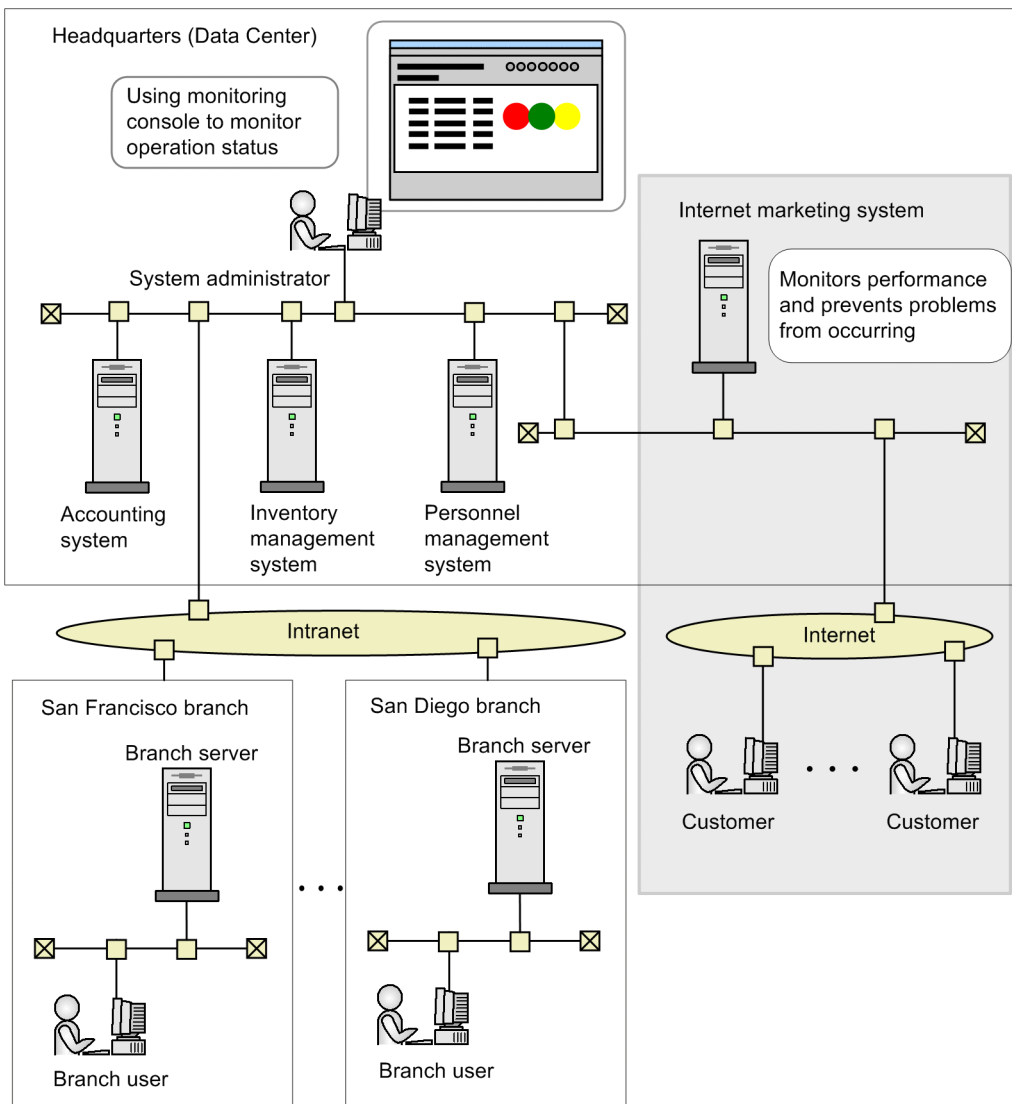
Company H has a large-scale internal system because the company is a retailer with branches across the country. Company H introduced a new Internet marketing system in order to start selling products online. Online sales were good and the number of users of the system continues to increase.

Company H's Information Systems department used Performance Management to configure a performance monitoring system in order to track the operation status of the Internet marketing system and to resolve any issues before they became problems.

The Internet marketing system runs on a Windows server.

The following figure gives an overview of Company H's entire system.

Figure 2–1: Background of performance monitoring (using the Internet marketing system as an example)



The descriptions that follow assume Company H's Internet marketing system for operation monitoring.

2.2 Designing and configuring a performance monitoring system

To optimally monitor performance, you must decide what type of operation status and problems on the system need to be monitored and what performance data needs to be collected. In addition, you must determine the type of system configuration on which Performance Management will operate.

2.2.1 Examining which items are to be monitored

Company H's Information Systems Department examined which items related to the operation status were to be monitored on the Windows server, for the Internet marketing system. They decided on the following requirements to monitor operations and the necessary items to fulfill those requirements:

Table 2–1: Examples of examining which items are to be monitored

Purpose	Item to be monitored	Name of record for the item (for PFM - Agent for Platform (Windows))
To monitor the CPU usage and understand trends in CPU loads	CPU usage	System Overview (PI)
To monitor free physical memory, and have the system administrator take action if the amount becomes low	Free space in physical memory	System Overview (PI)

Performance Management collects performance data in units called *records*. After deciding which items to monitor, check the names of the corresponding Performance Management records.

As a result of the examination, Company H decided to use monitoring templates for PFM - Agent for Platform (Windows). These templates fulfill all of the requirements for monitoring the Internet marketing system's performance. Performance Management provides pre-defined reports and alarms, called *monitoring templates*, for frequently monitored items. By using these solution sets, you can easily prepare to monitor a system's operating status without using complex definitions.

For details about what to take into consideration when you evaluate the items to be monitored, see [3.4.3 Examining alarms and reports](#).

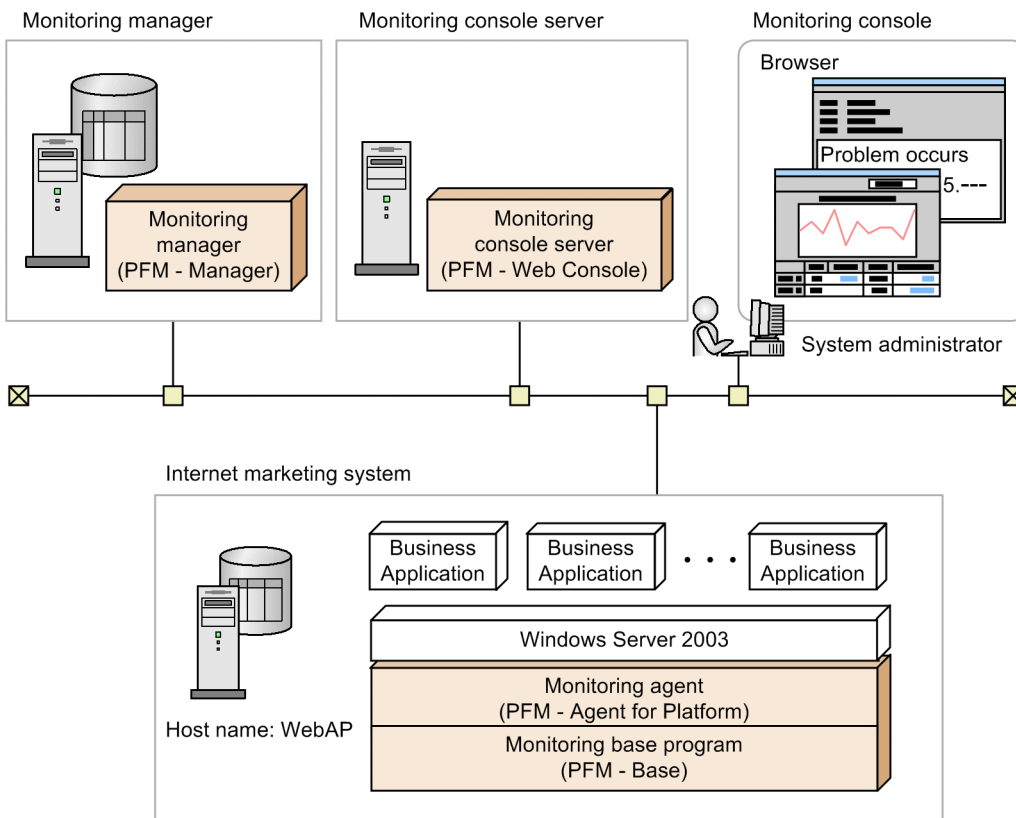
For details about the monitoring templates that are provided and which records to collect, see the chapters about monitoring templates and records in each PFM - Agent manual.

2.2.2 Examining the system configuration

This section will examine the system configuration for operating performance monitoring.

After examining the system scale and future expandability, Company H places the monitoring manager, monitoring console server, and monitoring agent on different hosts.

Figure 2–2: Company H's Performance Management system configuration



Company H installs PFM - Manager on the host with the monitoring manager, which carries out integrated management of the Internet marketing system's operation status, and installs PFM - Web Console on the host with the monitoring console, which checks the operation status.

Company H installs PFM - Agent for Platform (Windows), which is the monitoring agent that collects Windows' performance data, and PFM - Base, which is the monitoring base, on the server with the Internet marketing system.

For details about installing and setting up the Performance Management programs, see [5. Installation and Setup \(in Windows\)](#), [6. Installation and Setup \(in UNIX\)](#), and the chapters that describe installation and setup in the applicable PFM - Agent manual.

2.3 Operating a performance monitoring system

After deciding on the items to be monitored and designing the performance monitoring system, use Performance Management to monitor the operation.

2.3.1 Starting the Performance Management services

After installing the Performance Management programs, start each program's service.

For Windows, no operations are necessary because the service is configured by default to start automatically when the OS starts. For UNIX, a startup script must be configured.

For details about starting services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

When the services for Performance Management programs are started, performance data[#] collection might start by default depending on PFM - Agent.

#

For details about performance data collected by default, see the chapters describing records in each PFM - Agent manual.

2.3.2 Using a Web browser to log on to PFM - Web Console

To log on to PFM - Web Console from a Web browser at the monitoring console:

1. In the monitoring console's Web browser, enter the following URL:

```
http://PFM - Web Console-installation-server-name:20358/PFMWebConsole/  
login.do
```

2. In the Login window, enter **User Name** and **Password**.

After installation, a user account with the user name ADMINISTRATOR and no password is configured by default.

Enter the information as shown below:

User Name: ADMINISTRATOR

Password: None

Note:

For security reasons, configure a password for the ADMINISTRATOR account before starting to use Performance Management. For details about how to manage user accounts, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

3. Click the **Login** button.

Log on to PFM - Web Console. The Main window is displayed.

The following describes procedures using the window of PFM - Web Console, including creating a user account and creating agent levels for monitoring.

2.3.3 Creating a user account

In Performance Management, an account called *Performance Management user* is used for managing the Performance Management system, and an account called *JPI user* is used for managing with JPI/Base.

The following procedures describe how to create a Performance Management user account in order to manage the Performance Management system.

There are three types of Performance Management users:

- Administrator user permissions
- General user permissions
- Business group ordinary users[#]

#

Available only when the access control function based on business groups is enabled.

The available functions for each PFM - Web Console window depend on the permission. For details about the permissions and on the access control function based on business groups, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

A Performance Management user account is created from the Users window in PFM - Web Console. The following example shows how to create a Performance Management user account called `INT_ADMIN` with administrator user permissions.

To create a user account with the administrator user permissions:

1. In the navigation frame of the Main window, select the **Users** tab.
2. In the method frame of the Users window, select the **New User** method.
3. In the New user window, for **User Name**, enter `INT_ADMIN`.
4. Set any password for **Password** and **Confirm password**.

Note:

We recommend that Performance Management passwords contain six or more characters and include alphanumeric characters and symbols. A confirmation message is displayed if you enter a password that is made up of only alphabetic characters, numeric characters, or five characters or fewer. A message is also displayed when you enter a password that is the same as your user name.

5. In **Select permission level**, select **Management user**.
6. Click the **OK** button.
The created user account is added in the Performance Management user level in the navigation frame.
7. Click **Logout** in the menu bar frame to temporarily log off of PFM - Web Console.
8. Log on using the `INT_ADMIN` user account.

2.3.4 Creating agent levels for monitoring

In Performance Management, agents being monitored can be managed and monitored by level. There are two types of agent levels:

- Monitoring by the agent levels grouped together for each product
This monitors by agent level grouped by folders for each PFM - Agent product.
- Monitoring by agent level created for each logon user
This monitors by agent level created specifically for each logon user. For example, folders can be created in units of the system configuration or organization, and monitoring agents can be grouped for each.

Agent management and monitoring are performed from the Agents window in PFM - Web Console.

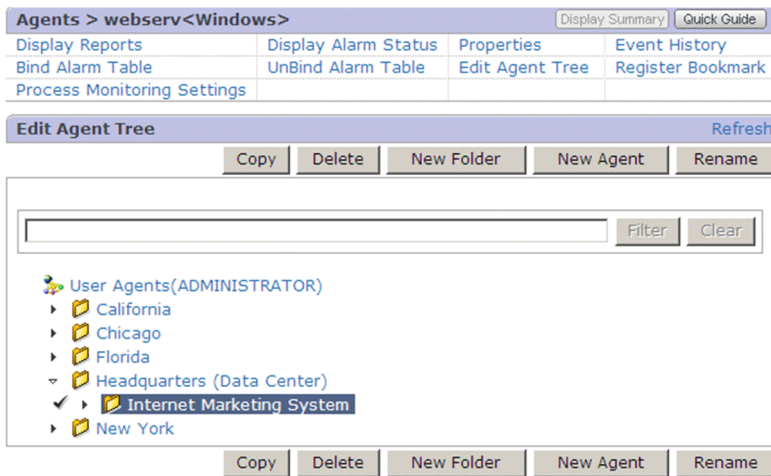
(1) Creating folders

The following example shows folders created for each branch office.

To create a folder:

1. In the navigation frame of the main window, select the Agents tab.
2. In the method frame of the Agents window, select the **Edit Agent Tree** method.
3. In the Edit Agent Tree window, select **User Agents** (*name-of-user-to-log-in*) from the information frame, and then click the **New Folder** button.
4. In the Edit Agent Tree > New Folder window, enter `Headquarters (Data Center)` for **New folder name**.
5. Click the **OK** button.
The **Headquarters (Data Center)** folder is created under **User Agents** (*name-of-user-to-log-in*) in the information frame.
6. Using the same operations as steps 3 to 5, create the following folders:
 - San Francisco Branch
 - San Diego Branch
7. Select the **Headquarters (Data Center)** folder created in steps 3 to 5 and click the **New Folder** button.
8. Enter `Internet Marketing System` for **New folder name** and click the **OK** button.
Similar levels are created as in the following figure.

Figure 2–3: Example of creating agent levels



(2) Placing PFM - Agent

After creating folders, place agents (PFM - Agent product) in each folder.

To place an agent in the Internet Marketing System folder:

1. In the method frame of the Agents window, select the **Edit Agent Tree** method.

The Edit Agent Tree window is displayed.

User Agents (*name-of-user-to-log-in*) is displayed in the information frame of the Edit Agent Tree window.

2. In the Edit Agent Tree window, from the agent level, select the Internet Marketing System folder, and then click the **New Agent** button.

In the Edit Agent Tree > New Agent window, the PFM - Agents connected to the PFM - Manager is displayed. The name of each PFM - Agent is displayed as a service ID. For example, if the product name display function is active and *WebAP* is the host name for the PFM - Agent for Platform (Windows) agent, **WebAP<Windows>** is displayed.

For details about service IDs, see [B.1 Naming rules for service IDs and service keys](#). For details about the product name display function, see [4.1.2 Displaying and specifying services \(the product name display function\)](#).

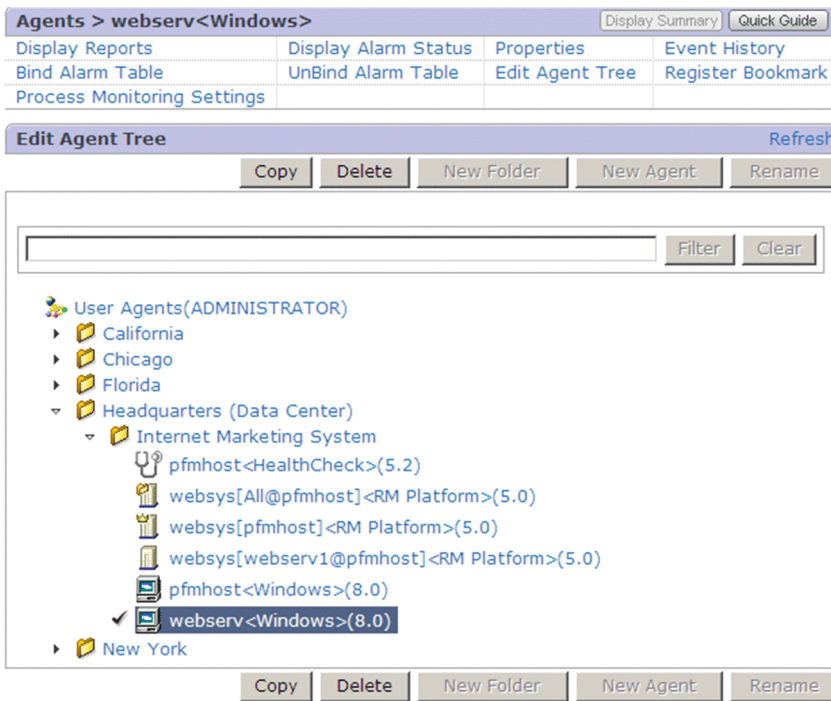
3. From the agent level, select the PFM - Agent to add to the folder.

Multiple PFM - Agents can also be selected. A selected PFM - Agent is marked with a check mark.

4. Click the **OK** button.

The PFM - Agent is added under the Internet Marketing System folder as shown in the following figure:

Figure 2–4: Example of displaying agent levels



Reference note:

The same PFM - Agent can be placed in multiple folders. It can also be placed directly under User Agents (*name-of-user-to-log-in*) without being placed in a folder.

2.3.5 Displaying reports

Two types of reports are created with the Performance Management system. One type is for the reports prepared by the system as monitoring templates, and the other type is for user-defined reports.

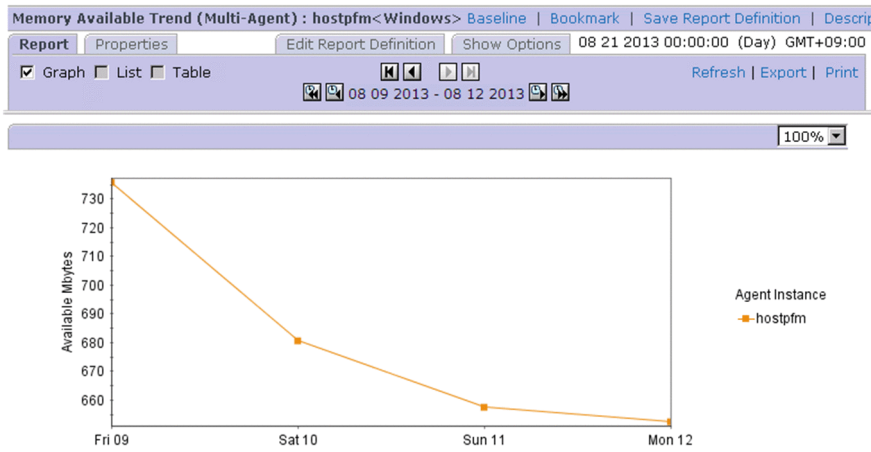
The following example shows how to display the Memory Available Trend(Multi-Agent) report for a monitoring template of the PFM - Agent for Platform (Windows). The Memory Available Trend (Multi-Agent) report can display the memory usage during the past month for multiple systems. This report is displayed as a line graph.

Reports are displayed mainly from the Agents window.

To display a report:

1. From the navigation frame in the Agents window, select the agent named *host-name* <Windows>. The selected agent is marked with a check mark.
2. From the method frame, select **Display Reports**. The Display Reports > Select Report window is displayed. The reports in the monitoring templates for PFM - Agent for Platform (Windows) are displayed in tree form in the information frame.
3. From the **Windows** folder, choose the **Operating System** folder, and then the **Monthly Trend** folder, and then click the **Memory Available Trend (Multi-Agent)** report. The View Report window for **Memory Available Trend (Multi-Agent)** is displayed in a separate window.

Figure 2–5: View Report window



For example, checking the reports shows that free memory continues to decrease. In this situation, you can output the report in CSV or HTML format and forward it to the application developers. The developers can then use this information to investigate and resolve the problem.

By using Performance Management to monitor performance, issues can be resolved before they have an effect on business, and potential problems, including system failures, can be prevented.

In this example, the monitoring template definition was used as is, however, depending on your needs, you can customize the monitoring template definition or you can define a specific report instead of using a monitoring template.

For details about how to define reports, see the chapter that explains the creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

Reference note: Types of reports and what should be done to display reports

There are two types of reports. *Historical reports* indicate the past agent status and *real-time reports* indicate the current agent status. To display a historical report, the system must be configured so that agent performance data is recorded in the Store database. This is not necessary for a real-time report.

For details about the relationship between reports and the Store database and how to use performance data from Performance Management, see the chapter that describes management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

2.3.6 Using an alarm for monitoring

If an alarm is set and the performance data reaches a pre-defined threshold, a lamp icon (alarm icon) blinks red in the PFM - Web Console window to notify the system administrator that there is a problem (alarm). You can output a log (action log) when an alarm is triggered. For details about action logs, see [H. Outputting Action Log Data](#).

When binding alarm tables, you can choose to bind a single alarm table for each agent, or bind multiple alarm tables for each agent. For details about binding alarm tables, see [3.4.4 Examining alarm table binding methods](#).

When binding occurs, Performance Management begins monitoring based on the alarm definition. The following describes an example of creating an alarm table and an example of binding an alarm table to a monitoring agent.

(1) Creating an alarm definition

The following example shows an alarm table called **Web Server Monitoring** being created by customizing the monitoring template of the alarm table **PFM Windows Solution Alarms 8.00** from the PFM - Agent for Platform (Windows).

To copy and customize an alarm table:

1. In the navigation frame of the Main window, select the **Alarms** tab.
2. In the navigation frame of the Alarms window, expand the subgroup in the Windows folder.
3. From the alarm level in the navigation frame, select **PFM Windows Solution Alarms 8.00**.
A check mark appears next to **PFM Windows Solution Alarms 8.00**.
4. In the method frame, select the **Copy** method.
5. In the Copy > Input Name[Alarm Table] window, enter `Web server monitoring` for **New alarm table name**.

Note:

You can assign any name to an alarm table but you cannot specify `PFM` as the first three letters.

6. Click the **OK** button.
The newly created alarm table is added to the navigation frame of the Alarms window.
7. Select the **CPU Usage** alarm in order to edit the CPU monitoring conditions in the new alarm table.
A check mark appears next to the **CPU Usage** alarm and the **Edit** method is displayed in the method frame.
8. Select the **Edit** method in the method frame.
9. In the Edit > Main Information window, in **Advanced settings**, change the value of the item below.
Change **Damping** to the following:
 - 4 occurrence(s) during 5 Interval(s)

Figure 2–6: Example of the Edit > Main Information window

Advanced settings

Enable alarm

Alarm notification

Notify when the state changed

Notification target

State changes for the alarm

Evaluate all data

State changes for each record instance

Always notify

Evaluate all data

Monitoring time range

Always monitor

Start: 16:06 HH:MM

End: 16:06 HH:MM

Damping

Report alarm when the following damping condition is reached.

4 occurrence(s) during 5 interval(s)

Cancel Next > Finish

Damping

Damping refers to the setting that controls whether a notification is sent out after a threshold is reached a certain number of times within a certain interval. By setting this item, the system can be operated so that a notification is sent only when the CPU has a heavy, continuous load.

10. Click the **Finish** button.

(2) Binding the alarm table and the agent

The newly created alarm table and the agent must be bound (linked). When binding occurs, Performance Management begins monitoring based on the alarm definition. The following procedure describes how to bind a single alarm table to a monitoring agent.

To bind a single alarm table to a monitoring agent:

1. In the navigation frame of the Main window, select the **Agents** tab.
2. In the navigation frame of the Agents window, select the agent that will bind the newly created alarm table.
3. In the method frame, select **Bind Alarm Table**.
4. In the Bind Alarm Table to Agents [Select Alarm Table] window, select an alarm table to be bound from the alarm table level displayed in the information frame.
The selected alarm table is marked with a check mark.
5. Click the **OK** button.
When the alarm table is bound to the agent, monitoring based on the alarm table begins.
6. In the method frame, select the **Display Alarm Status** method.

Figure 2–7: Example of the Alarm Status window



A defined alarm is displayed in the bound alarm table.

When an alarm occurs, the alarm icon is displayed in a color that indicates the alarm status. When you click the alarm icon, the Properties window for the alarm is displayed, where you can check details of the alarm definition.

You can also check the operating status of the monitoring agent based on the message displayed for **Health check status**.

This subsection showed how to copy, customize, and use a solution set's alarm tables. However, the solution set's alarm tables can also be used as is. You can also define a specific alarm table instead of using a solution set. For details about how to define an alarm table, see the chapter that describes operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

2.3.7 Displaying events

Events that occur in the Performance Management system can be checked from the PFM - Console Event Monitor window. The following three types of event information can be checked from the Event Monitor window:

- Agent events:
Events that indicate changes in the agent status
- Alarm events:
Events that indicate alarms being triggered by agents
- Health check events:
Events that indicate changes in the health check status of the monitoring agent

Reference note

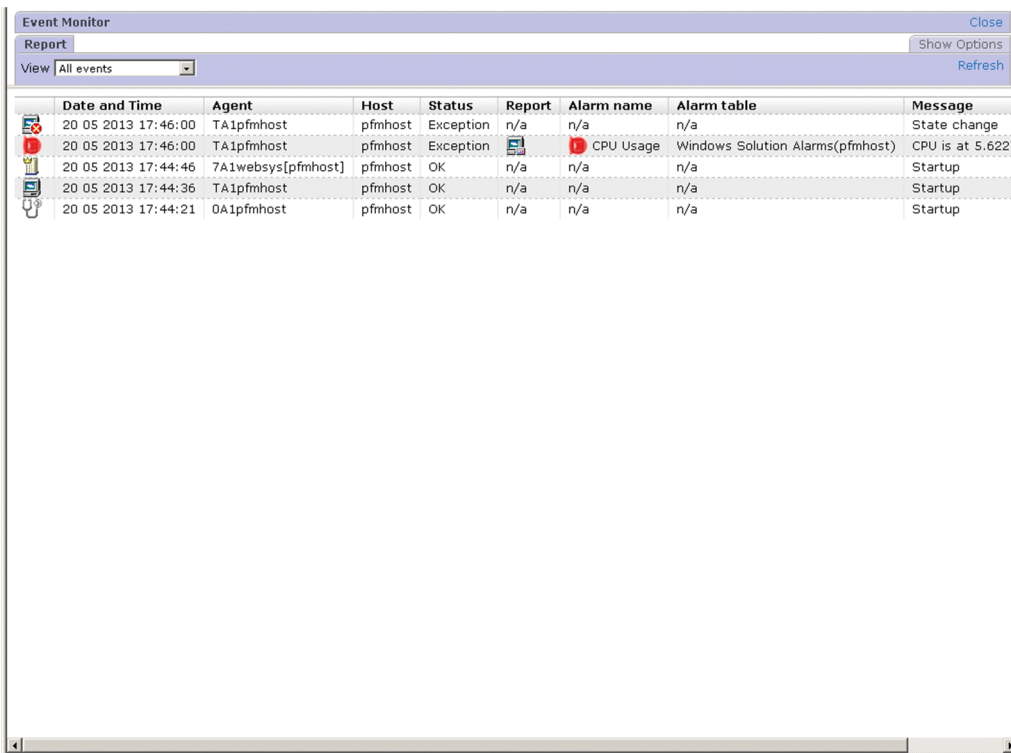
You can also check the health check status in the Event Monitor window.

The Event Monitor window displays a list of events in the order they occurred. You can check the agent status, alarm status, and health check status based on the icon color and appearance.

To display events:

1. In the menu bar frame of the main window, select the **Event Monitor** menu.
The Event Monitor window is displayed.

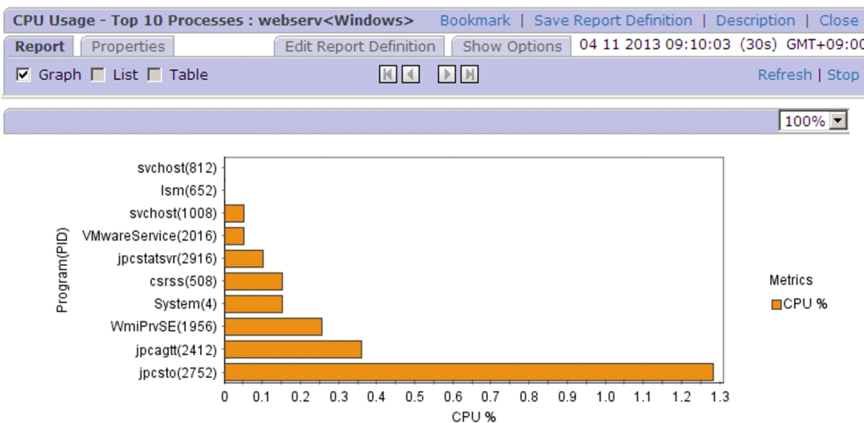
Figure 2–8: Example of the Event Monitor window



If a report is associated with an alarm event, a report icon is displayed in the **Report** column. Clicking the icon displays the associated report in a separate window.

For example, if a report is checked because an alarm occurred, you can analyze from the report that the CPU usage has increased due to a particular program.

Figure 2–9: View Report window



Reference note

What should be done to display a report from the event monitor

Reports linked to alarms cannot be viewed from the event monitor unless the report is defined as such when the alarm is defined. For details about how to edit alarms and link reports, see the chapter that describes operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

3

Design of Operation Monitoring Systems that Use Performance Management

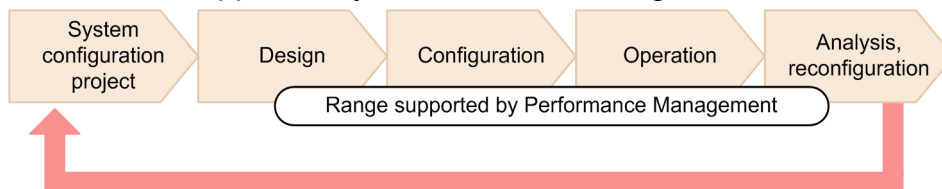
This chapter describes the design of operation monitoring systems that use Performance Management.

3.1 General procedure for configuring an operation monitoring system and the range supported by Performance Management

This section describes the general process flow for when the system administrator configures an operation monitoring system, and the range supported by Performance Management. Before designing an operation monitoring system, confirm what you can do with the operation monitoring system life cycle and Performance Management.

For details about the functions Performance Management provides, see [4. Performance Management Functions](#).

Figure 3–1: General process flow for creating the operation monitoring system and the range supported by Performance Management



System configuration project phase

In this phase, a project is proposed to configure an operation monitoring system. Factors that should be examined include the purpose of the system, cost and structure of the architecture, and schedule.

If Performance Management is used, monitoring agent products that meet the system requirements need to be selected.

Design phase

In this phase, the staff designs the foundation of the operation monitoring system.

The first things to be designed include the system configuration and network configuration. If other systems, such as an integrated operations management system (JP1/IM), a service level management system (JP1/ITSLM), or a network monitoring system (NNM), are linked to the operation monitoring system, the format in which they are linked must also be examined.

Next, other factors are designed, including the selection of items to be monitored, measures to be taken when the system is in a critical state, the display format of monitoring reports, and rules for the operation monitoring system.

Functionality provided by Performance Management:

- Calculation methods for system estimates including the amount of memory used
- Monitoring templates and data models (records) for selecting items to monitor
- Linking with other systems (including JP1/IM and NNM)
- Other functions

Configuration phase

In this phase, the operation monitoring system is implemented and the various settings are configured according to what was examined during the design phase. After Performance Management is installed, parameters and the environment are configured.

Functionality provided by Performance Management:

- GUI (the window of PFM - Web Console) to configure the various settings
- Commands to configure the various settings

Operation phase

In this phase, the operation monitoring system is in operation. Operation monitoring data is collected, appropriate measures are taken when the system reaches a critical state, and reports are examined to analyze the performance status.

Functionality provided by Performance Management:

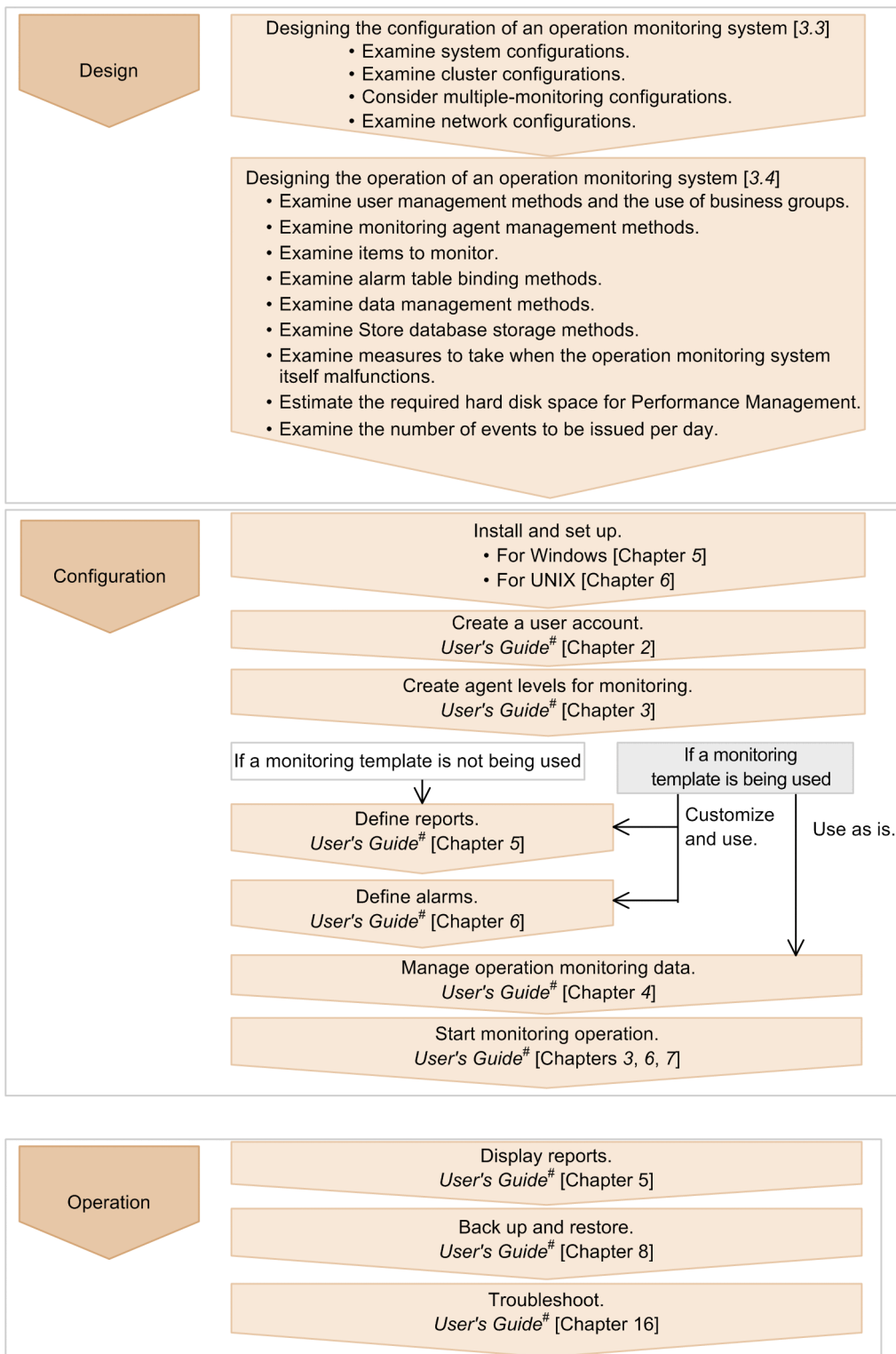
- Performance data collection and management
- Alarm notification when performance data reaches a certain threshold
- Performance data reporting
- Performance data output
- Backing up and restoring performance data and importing backup data by using operation commands
- Other functions

Analysis and reconfiguration phase

In this phase, problems in the system being monitored are analyzed based on the performance data acquired from the operation monitoring system and any necessary reconfiguration is performed.

3.2 Performance Management: from design to operation

Figure 3–2: Process flow from design to operation



Legend:

[]: See the indicated chapter.

#: *User's Guide* is Job Management Partner 1/Performance Management *User's Guide*

3.3 Designing the configuration of an operation monitoring system

3.3.1 Examining system configurations

The system administrator should examine what system configuration is to be used when constructing the operation monitoring system. Performance Management can be used to configure the system by adding required PFM - Agents depending on the items being monitored, or by installing PFM - RM, if remote monitoring is necessary. This enables the system to be flexibly expanded to match the operating conditions, such as an increase in the number of users on the system or an increase in the load on the system.

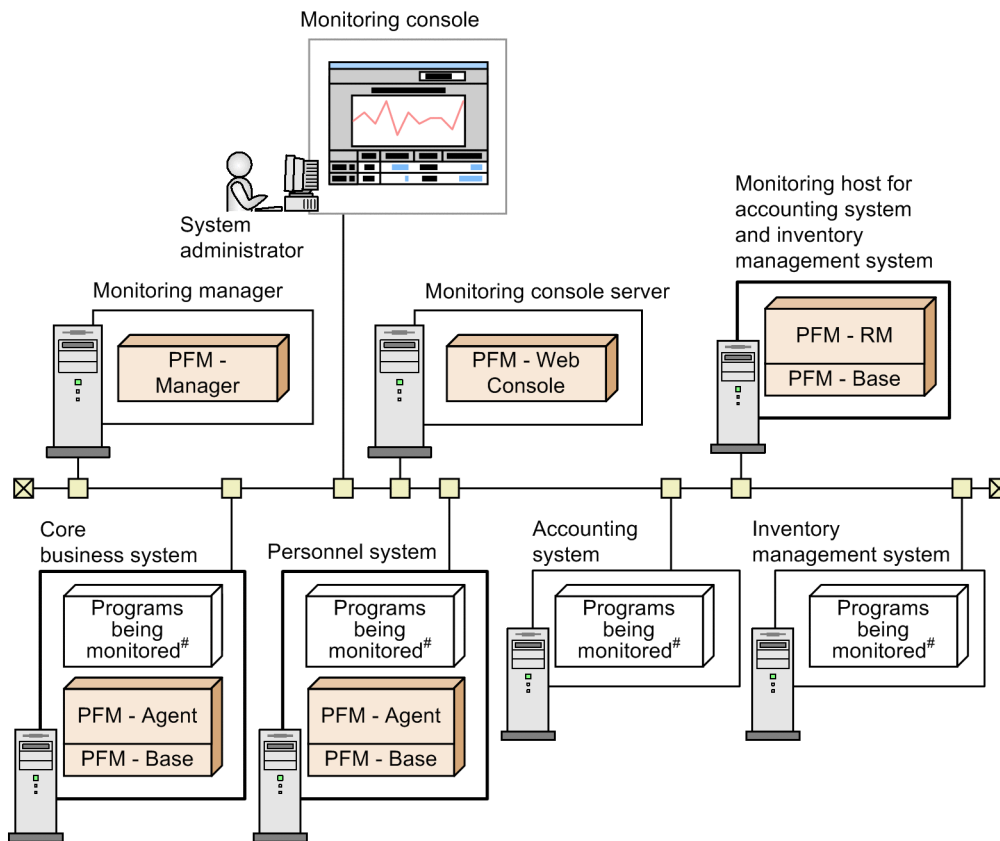
Point:

You can configure an operation monitoring system by installing all of the Performance Management programs on one of the systems that is to be monitored.

(1) Example of the basic system configuration

If the operation of databases and business applications is to be monitored, a system can be configured so that one monitoring manager can perform integrated management of multiple monitoring agents. In order to monitor multiple systems with a single monitoring host, you can also add PFM - RM to the system configuration.

Figure 3–3: Example of a system configuration for monitoring the operation of databases and business applications



Legend:

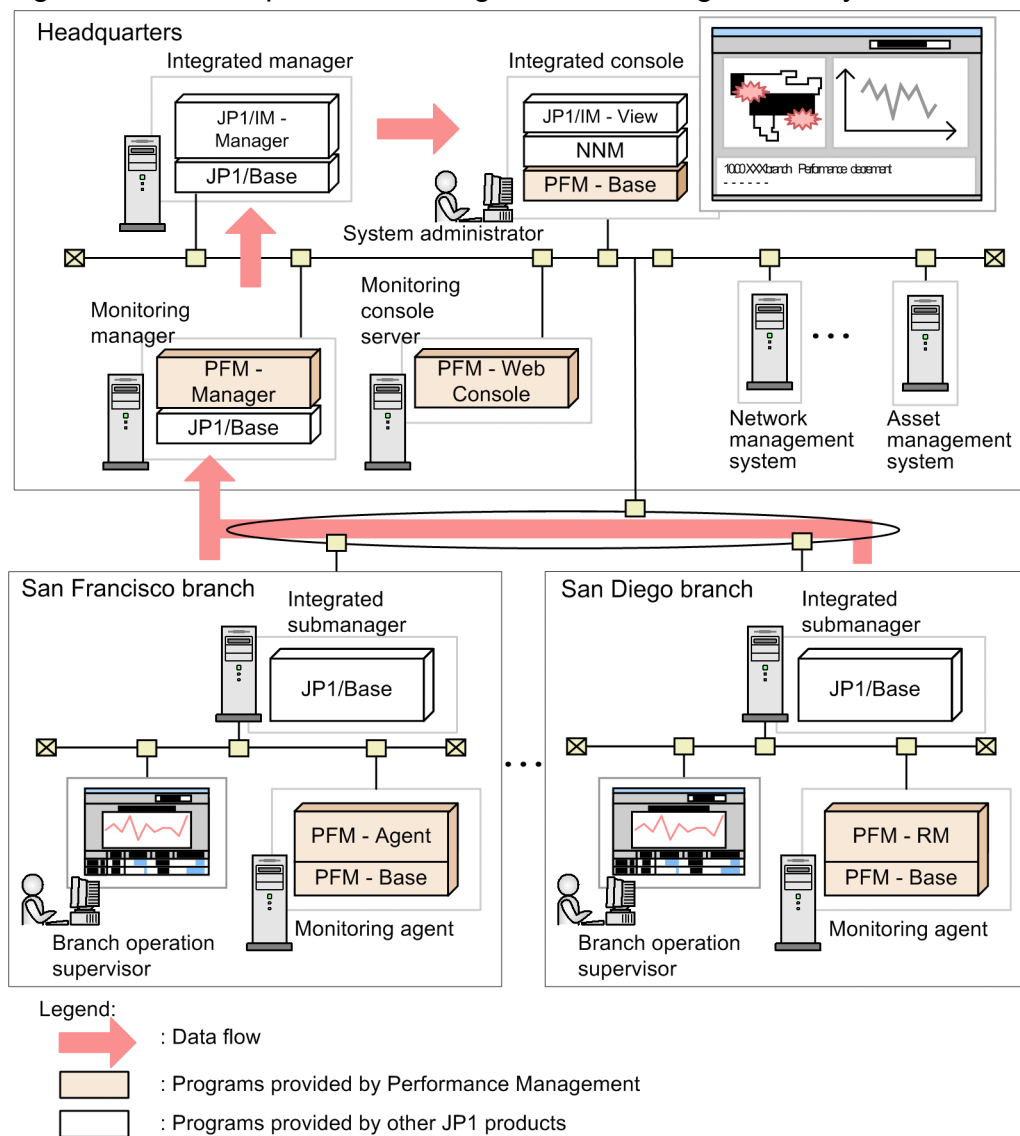
- : Programs provided by Performance Management
- : Monitoring agent

#: OS and various server applications

(2) Example of a system configuration when other products are linked

Operation status for an entire company can be monitored by checking the performance data collected with Performance Management from an integrated management product (JP1/IM) and a network management product (NNM). The following figure shows an example of the configuration of a large-scale system that uses NNM for network management and JP1/Base and JP1/IM for integrated management.

Figure 3–4: Example of the configuration of a large-scale system



Point:

When using Performance Management, the number of PFM - Agents, PFM - RM, and PFM - Web Consoles that can be connected to one PFM - Manager differs depending on the system configuration. Consider this number and then design an appropriate system configuration. For details about the limits, see *A. Limits*. In addition, whether there is enough functionality, such as the amount of memory of the computers in use, must also be considered. For details about system estimates for Performance Management, see *C. System Estimates*.

3.3.2 Examining the availability of monitoring managers

Two methods are available to increase the availability of monitoring managers: cluster configuration and multiple-monitoring configuration. Compare the features of the two configurations and employ the type that is appropriate for your operating environment.

For details about cluster configurations, see *3.3.3 Examining cluster configurations* and the chapter that describes the cluster system configuration and operation in the *Job Management Partner 1/Performance Management User's Guide*.

In a multiple-monitoring configuration, two managers, the primary and the secondary, monitor the same agents. The secondary manager can take over and continue monitoring if the primary manager fails. This eliminates the downtime for monitoring, thus increasing the availability of the system. In addition, by placing the paired managers in different locations, you can restore information assets if a disaster hits either location.

For details about multiple-monitoring configurations, see the chapter that describes the multiple-monitoring system configuration and operation in the *Job Management Partner 1/Performance Management User's Guide*.

The following table describes the differences between a cluster configuration and a multiple-monitoring configuration.

Table 3–1: Differences between a cluster configuration and a multiple-monitoring configuration

Item		Cluster configuration	Multiple-monitoring configuration
Configuration	Number of servers that are functionally identical	2	2
	Cluster software	Required	Not required
	Shared disk	Required	Not required
	Version of Performance Management programs	Not limited	10-10 or later (Monitoring agents must be 10-00 or later.)
	Failover	Enabled (active and standby)	Not enabled (Use a command to switch nodes.)
Failures	Downtime	Several minutes (Monitoring is disabled during node switching because services stop.)	0 seconds
	Execution of actions if a failure occurs	Possible (You can select the host on which actions are performed when you configure alarms. However, actions can be performed only on one host.)	Possible (You can select the node on which actions are performed if you want to perform them on a manager host.)
Application of Performance Management program settings	For failover	Not required (The settings are automatically passed when cluster software performs node switching.)	Required (Use a command to manually pass the settings.)
	For failback	Not required (The settings are automatically passed when cluster software performs node switching.)	Required (Use a command to manually pass the settings.)
Linkage with JP1 products	JP1/IM	Possible	Possible with limitations
	NNM	Possible	Possible with limitations
	JP1/ITSLM	Possible	Possible with limitations

3.3.3 Examining cluster configurations

The system administrator should examine whether to employ a cluster configuration in order to increase the system's capacity. For Performance Management, the supported cluster configuration differs depending on the product. The supported cluster configurations are indicated as follows:

Cluster configuration of PFM - Manager

PFM - Manager supports clusters in the active-standby configuration. Either the executing node or the standby node can be executed. If the executing node malfunctions, a failover occurs and the standby node takes over the processing.

Cluster configuration of PFM - Web Console

PFM - Web Console supports clusters in the active-standby configuration. Either the executing node or the standby node can be executed. If the executing node malfunctions, a failover occurs and the standby node takes over the processing.

Cluster configuration of PFM - Base

PFM - Base supports clusters in the active-active configuration. If PFM - Agent or PFM - RM is installed on a PFM - Base host, you can configure the cluster environment so that PFM - Base can be used together with that installed PFM - Agent or PFM - RM.

Cluster configuration of PFM - Agent

The cluster configuration for PFM - Agent differs depending on the programs being monitored. For example, because PFM - Agent for Oracle, which monitors an Oracle database, supports the active-standby configuration, if the executing node malfunctions, a failover occurs and the standby node takes over the processing. On the other hand, PFM - Agent for Platform, which monitors the OS server, can operate in a cluster environment but PFM - Agent for Platform itself cannot fail over.

Cluster configuration for PFM - RM

The cluster configuration for PFM - RM differs depending on the programs being monitored. For example, because PFM - RM for Platform, which monitors the OS on the server, supports the active-standby configuration, if the executing node malfunctions, a failover occurs and the standby node takes over the processing.

For details about clusters for PFM - Manager and PFM - Web Console, see the chapter that describes the cluster system configuration and operation in the *Job Management Partner 1/Performance Management User's Guide*. For details about clusters for PFM - Agents or PFM - RM, see the chapters that describe operations on cluster systems in the appropriate PFM - Agent or PFM - RM manual.

Note:

Performance Management does not support the following cluster configurations:

- A cluster configuration where Performance Management is operated by both a physical host and a logical host that share the same name
- A cluster configuration where the physical host is renamed when a failover occurs

To operate Performance Management in a cluster system, you must set different names for the physical host and the logical host on the node forming the cluster.

To run Performance Management on a cluster containing a physical host and logical host that share the same name, you must use the function for setting monitoring-host names in order to define a unique name for the physical host. For details about the function for setting monitoring-host names, for Windows see [5.3.3 Specifying and changing the monitoring host name in a Performance Management system](#), and for UNIX see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

3.3.4 Examining network configurations

The system administrator should examine what network configuration to use when configuring an operation monitoring system.

Point:

With Performance Management, the performance data collected with the monitoring agent is stored in the monitoring agent itself. As a result, large amounts of performance data are not sent regularly over the network.

(1) Using Performance Management in a LAN environment

(a) How the Performance Management services communicate with each other

To allow Performance Management services to communicate with each other, the host names (or IP addresses) and the port numbers used by the services are registered in PFM - Manager when PFM - Agent or PFM - RM starts. For Performance Management, these host names, IP addresses, and port numbers are called *node information*. PFM - Manager manages node information. Performance Management services communicate with each other by using this node information.

If a service fails to establish a connection by using its node information, the host name was probably not resolved successfully. Check and, if necessary, revise the following settings and retry the connection:

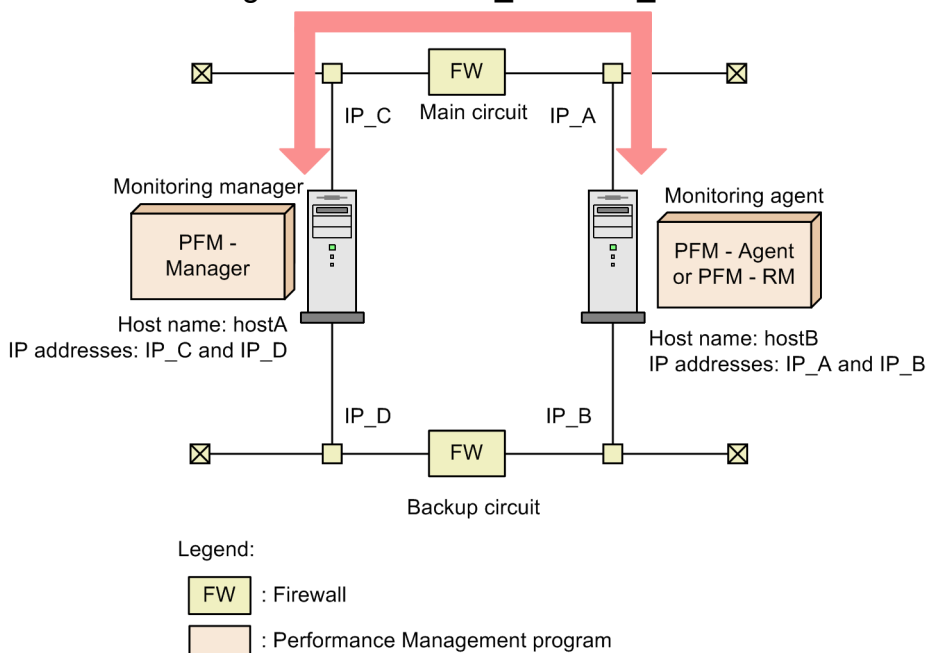
- `jpchosts` file
- `hosts` file
- DNS server

(b) Purpose of the `jpchosts` file

In a Performance Management system, PFM - Manager, PFM - Agent, and PFM - RM are installed on hosts and each host has multiple network adapters. As a result, each host can connect to multiple LANs.

Suppose a system in which each PFM - Manager and PFM - Agent (or PFM - RM) has multiple network adapters. In such a system, if some of the IP routes cannot be used to connect to the network, the IP addresses to be used must be specified in the PFM node information.

Figure 3–5: Example system configuration where PFM - Manager and PFM - Agent communicate using IP addresses IP_C and IP_A



Configure the `jpchosts` file on the PFM - Manager server and the PFM - Agent server as follows to enable communication using IP address `IP_C` and IP address `IP_A`:

- Settings in the `jpchosts` file on the PFM - Manager server

```
hostA IP_C
hostB IP_A
```
- Settings in the `jpchosts` file on the PFM - Agent server

```
hostA IP_C
hostB IP_A
```

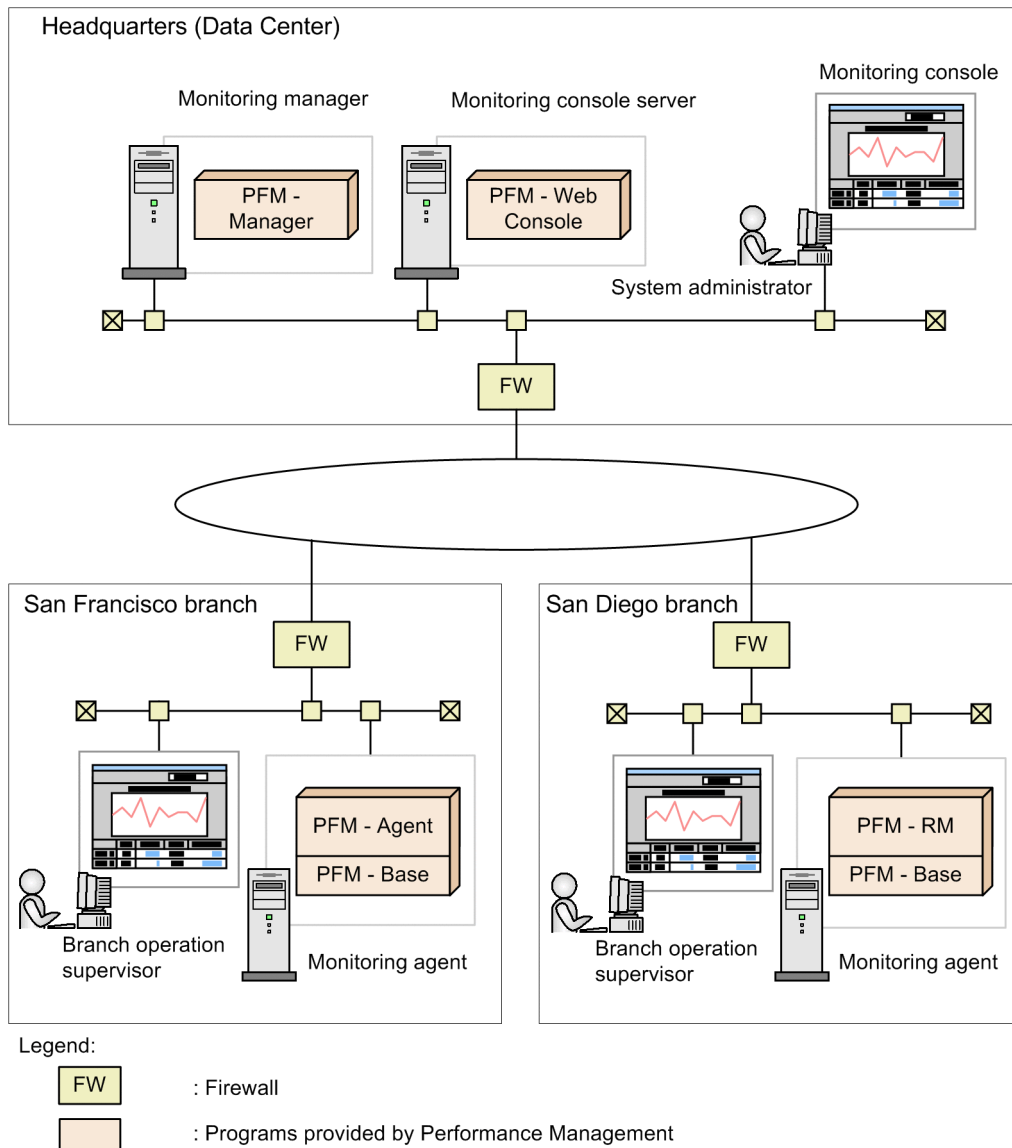
For details about the settings in the `jpchosts` file, see [5.3.1 Specifying and changing the network configuration](#) or [6.3.1\(1\)\(b\) Setting IP addresses](#).

(2) Using Performance Management in a WAN environment

With Performance Management, PFM - Manager, PFM - Web Console, or PFM - Agent or PFM - RM can be placed behind a firewall.

Performance Management supports static NAT (basic NAT), which translates addresses one-to-one. In addition, the port number used by Performance Management can be changed to an arbitrary port number depending on the environment.

Figure 3–6: Example of using Performance Management in a WAN environment



For details about port numbers, see the port number list in the manual *Job Management Partner 1/Performance Management Reference*.

(3) Using Performance Management in an environment that contains multiple hosts with the same name

Performance Management can be used in an environment that contains multiple hosts with the same name, for example, a host extending over multiple domains. In such an environment, create an *alias name* for each host to prevent hosts from being misidentified.

With Performance Management, you can choose to use the actual host name or an alias name. For details about which host name is used, for Windows see [5.3.3 Specifying and changing the monitoring host name in a Performance Management system](#), and for UNIX see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).



Reference note

Alias names cannot be used as the host names in the logical host environment.

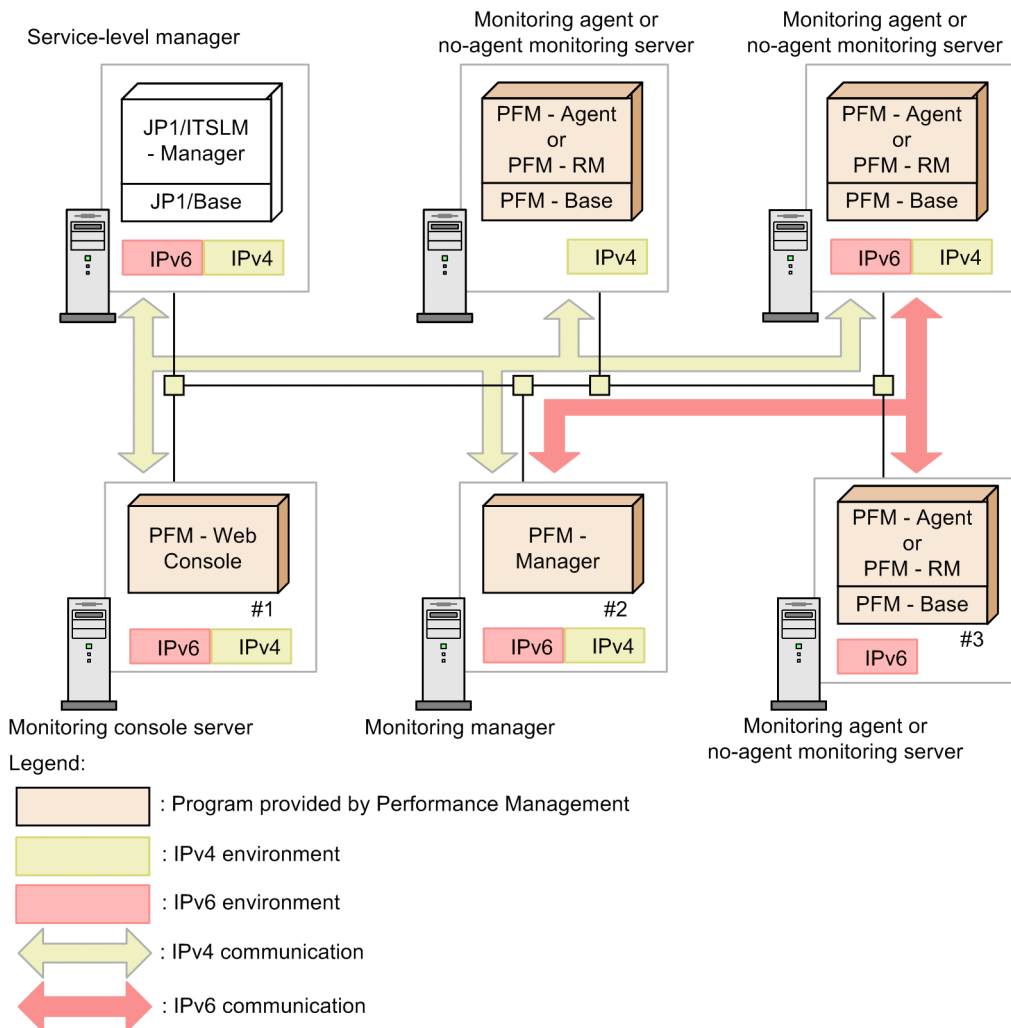
(4) Example of a network configuration that also supports an IPv6 environment

For Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Linux, Performance Management supports not only IPv4 network configurations, but also IPv6 network configurations. This means that with these operating systems you can run Performance Management in a network configuration that supports both IPv4 and IPv6 environments.

Note that IPv6 communications are not supported between PFM - Manager and PFM - Web Console.

The following figure shows an example of such a network configuration.

Figure 3–7: Example of a network configuration in which both IPv4 and IPv6 environments are supported



- #1: An IPv4 environment or an environment in which IPv4 and IPv6 are both supported must be provided. However, the IPv6 functions provided by the OS are not used.
- #2: An IPv4 environment or an environment in which IPv4 and IPv6 are both supported must be provided. If Performance Management is linked with ITSLM, only IPv4 is supported for communication with JP1/ITSLM - Manager.
- #3: Can be installed in an environment that uses only IPv6 and in which IPv4 functions are not provided by the OS. However, the supported collection ranges depend on the monitoring target. For details, see the appendixes in the PFM - Agent or PFM - RM manuals. Performance Management cannot be linked with JP1/ITSLM.

In a network configuration that supports both IPv4 and IPv6 environments, the PFM - Manager hosts must also support both IPv4 and IPv6 communications.

If IPv6 communications are used on the same hosts, PFM - Manager or PFM - Base, and PFM - Agent or PFM - RM must all be version 10-00 or later.

Specify for the IP address of a server on which IPv6 is installed a unique local address, a site-local address, or a global address. Neither a loopback address nor a link-local address can be specified.

To use IPv6 communications, you must execute the `jpccconf ipv6 enable` command on any PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communications. In a cluster system, these settings must be specified in both the active and the standby systems. For details about when to execute this command, for Windows see [5.3.1](#)

Specifying and changing the network configuration, and for UNIX see *6.3.1 Specifying and changing the network configuration*.

Note:

In a network configuration that supports both IPv4 and IPv6 environments, connection cannot be established between a server on which only IPv4 is configured and a server on which only IPv6 is configured. Therefore, in the following commands some of the options might not be available or a portion of the function might be limited:

- `jpctool service list` command
- `jpctool db backup` command
- `jpctool db dump` command

For details, see the chapter that explains these commands in the manual *Job Management Partner 1/Performance Management Reference*.

3.4 Designing the operation of an operation monitoring system

3.4.1 Examining user management methods and the use of business groups

Taking security policies and considerations into account, the system administrator examines the user account management and operation methods to determine whether to use business groups. For user accounts, the setting of appropriate permissions corresponding to each worker's job duties needs to be considered.

(1) Examining user account management methods

With Performance Management, you can select the user account management method from the following two choices.

How to manage user accounts in an operation monitoring system (PFM authentication mode):

This method manages user accounts by using PFM - Manager. User accounts are created in the window of PFM - Web Console. This is the management method for standard user accounts in a Performance Management system.

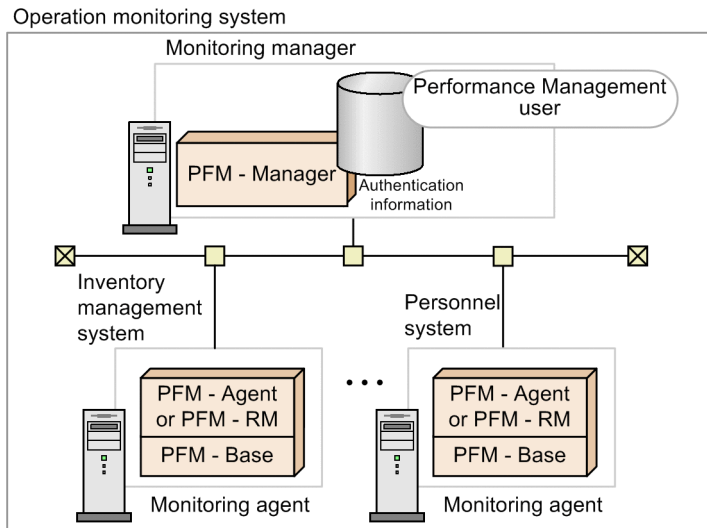
How to perform integrated management of user accounts by using JP1/Base (JP1 authentication mode):

This method performs integrated management of user accounts by using JP1/Base, which is the authentication server of the integrated management system (JP1/IM). User accounts are created as JP1 users in JP1/Base. If this method is used when authentication by JP1/Base has already been performed using another JP1 product or when the linkage function of Performance Management is used to link with JP1/IM and JP1/ITSLM, there is no need to manage multiple accounts.

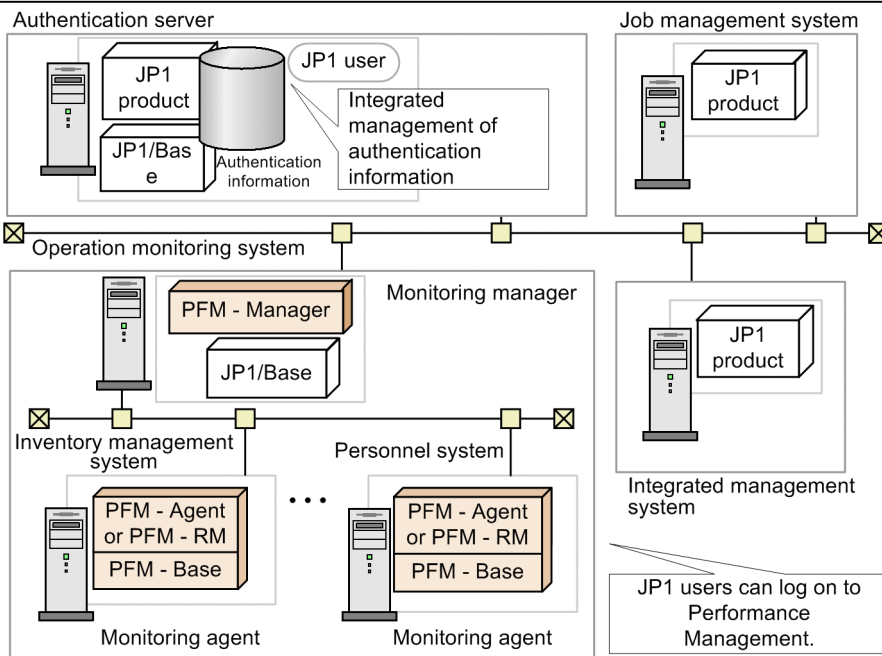
If the account is managed by a JP1 user, JP1/Base is required in the host on which PFM - Manager is installed. In a cluster environment, the logical host name for PFM - Manager and JP1/Base must be the same.

Figure 3–8: Differences between the user account management methods

How to manage user accounts in the operation monitoring system



How to perform integrated management of other JP1 products and user accounts



(2) Examining user account operation methods

For security reasons, the system administrator grants the appropriate permissions for user accounts. User account permissions that can be set are either *administrator user permissions* or *general user permissions*. You can grant the following permissions to user accounts:

- Administrator user permissions
- General user permissions
- General user permission per business group[#]

[#]: This permission can be granted only when the access control functions based on business groups is enabled.

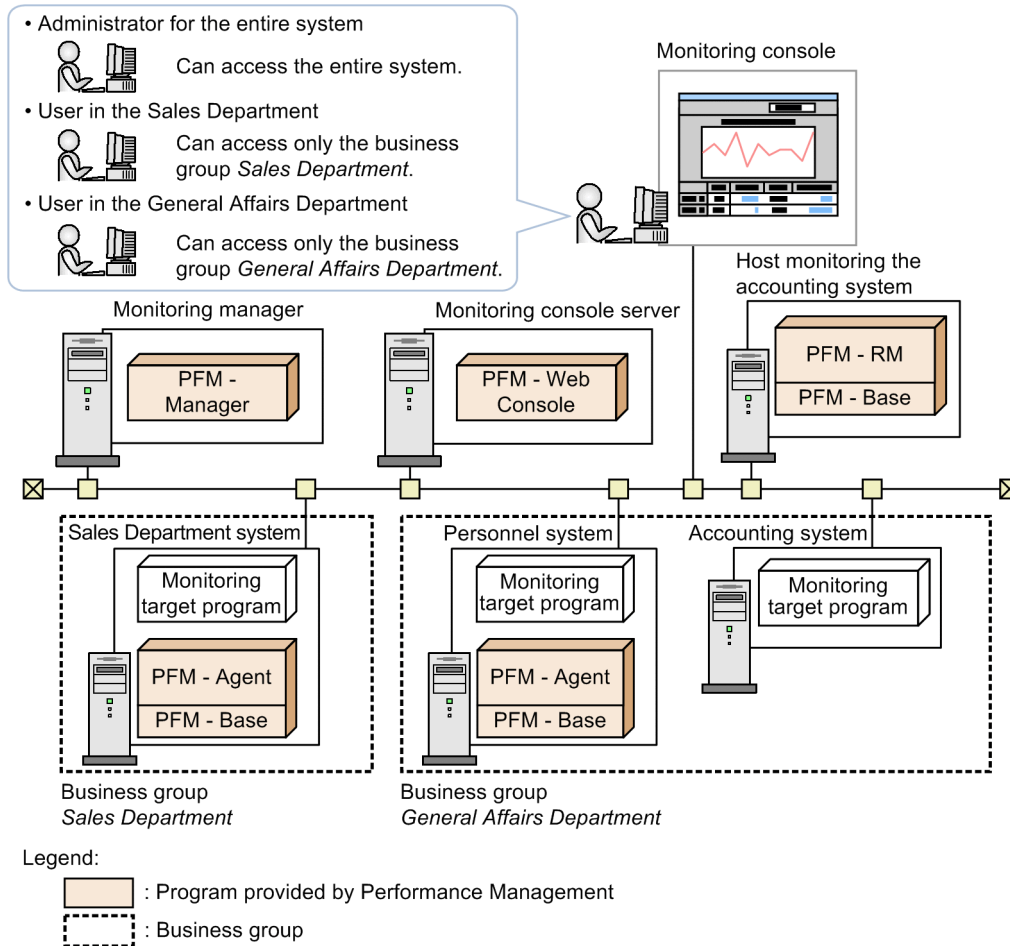
In addition, passwords are set for user accounts. To prevent spoofing, passwords that are difficult to guess must be set. To increase security, delete any unused accounts. We recommend that passwords be changed regularly.

(3) Examining whether to use business groups

To limit the users who can access performance data in the individual business systems, you can use business groups. Each user is only allowed to reference the business group he or she has access to. This prevents mixing of different types of information, reduces operation mistakes, and maintains the integrity of monitored systems.

Consider using business groups when multiple system administrators will be monitoring the same system or when a large system will be monitored. If you use business groups, evaluate which monitored hosts are to be defined as the same business group and the user accounts that will be permitted to access the individual business groups.

Figure 3–9: Example of performing operation monitoring for each business group



Tip

If you include a PFM - RM host in a business group, also include the hosts managed by that PFM - RM host (remote agent hosts) in that same business group. If you include a remote agent in a business group, it is not required that you include the corresponding PFM - RM host in the same business group. A system administrator empowered to run the entire system specifies the settings, including setting the collection interval for each remote agent.

3.4.2 Examining monitoring agent management methods

The system administrator should examine how to manage the monitoring agents within the operation monitoring system. With Performance Management, differences in programs being monitored are not considered and the following monitoring agent management methods are provided to allow monitoring agents to be managed:

- Monitoring by the agent levels grouped together for each PFM - Agent or PFM - RM
This method monitors by the agent levels grouped together by folder for each PFM - Agent or PFM - RM product in the operation monitoring system. You can limit the agents that can be accessed by disabling this monitoring method for users who have only the general user permission.
- Monitoring by agent levels created for each logon user
This method monitors by agent levels created specifically for each logon user. Folders can be freely configured in units such as system configurations and organizations. You can limit the agents that can be accessed by prohibiting editing of agent levels by users who have only the general user permission.

Create agent levels for monitoring to match the environment in which the operation monitoring system is operated. For details about managing monitoring agents, see the chapter that describes monitoring agents in the *Job Management Partner 1/Performance Management User's Guide*.

3.4.3 Examining alarms and reports

The purpose of an operation monitoring system is to detect in advance that the system has reached a critical state, and to prevent problems. As such, examining the items to be monitored in the system is of the utmost importance. When examining items to be monitored, you must decide which items to be monitored and how to monitor them. When selecting the items to be monitored, see the manual for each PFM - Agent or PFM - RM.

The process flow for examining items to be monitored is as follows:

1. Examine alarms.

After deciding what items are to be monitored in the system, you need to decide the thresholds for the items. For example, to keep a shared server from malfunctioning, you can monitor the percentage of free space on the server's logical disk drive, and decide an appropriate threshold.

Next, you decide the triggers for sending alarms. The possible triggers are as follows:

- When a monitored item exceeds the preset threshold for the first time
- Each time alarm evaluation is performed as long as a monitored item exceeds the preset threshold

You also decide the method for notifying the system administrator when a threshold is reached. For example, a notification can be sent by an email or SNMP trap.

2. Examine reports.

To analyze the cause of some situation and understand the current status, you can decide how the report is to be displayed when a threshold is exceeded and an alarm occurs. For example, for the items to be monitored and the display method, you might use a bar graph to show the ten logical hard drives with the least amount of free space.

When selecting items to be monitored, you can use the monitoring template provided by Performance Management. Using the monitoring template as is, or customizing a part of the definition reduces the system administrator's work required to define the items to be monitored.

Point:

Selecting parameters for programs being monitored is not just a technical matter. We recommend that you also consider both job characteristics and operating structure of the system.

(1) Examining alarms

(a) How to set the threshold

Performance Management can issue an alarm event when the performance data collected by PFM - Agent or PFM - RM reaches a pre-defined threshold. The system administrator needs to decide which values, when exceeded for the items being monitored, will cause an alarm event. With Performance Management, the conditions that cause an alarm event to be issued can be defined for specified periods of time.

For example, you could set up the following configurations:

- Specify separate settings for the processes to be monitored during the day and during the night
- Because a system operator is constantly monitoring from a monitoring center during the daytime, you can specify that notification by a blinking icon on the monitoring console. You can specify that, at night, an email to be sent to the system administrator's mobile phone.

The system administrator should decide the time periods during which the system is to be monitored.

Performance Management can be configured so that an alarm event does not occur if the threshold is exceeded due to a temporary load increase. By configuring Performance Management to send out a notification only after the threshold has been exceeded a certain number of times and monitoring intervals, notification will occur only when the CPU has a heavy, continuous load. By suppressing notifications for temporary load increases, you can ensure that alarms are issued efficiently, taking into account the system attributes.

(b) Triggers for sending alarms

You can send alarm events when the triggers below occur. The system administrator needs to select the appropriate triggers based on the monitoring requirements.

- Send an alarm when a monitored item exceeds the preset threshold for the first time.
In this case, further options are available:
 - Send an alarm if the alarm status changes.
 - For multi-instance records, send an alarm if the alarm status for an instance in a record changes.
- Send an alarm each time alarm evaluation is performed as long as a monitored item exceeds the preset threshold.

(c) Action to be taken if an alarm is sent

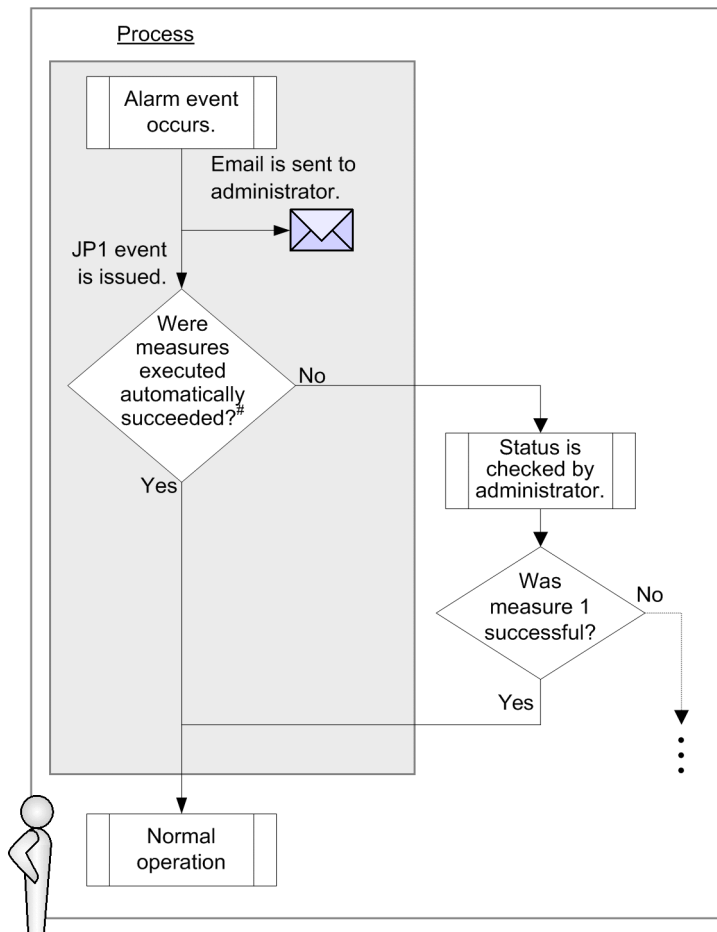
The system administrator needs to decide the following in case a monitored item reaches a critical level: how to locate the problem, the primary measures to be taken, the person who takes them, and how to resolve the problem if the primary measures fail. Performance Management can automatically execute the following actions when an alarm event occurs:

- Notify the system administrator by an email
- Send an SNMP trap
- Execute commands, including `net send` (messenger service) and `wall`, to notify the system administrator without sending an email or SNMP trap
- Issue a JP1 event to link with other JP1 products

The system administrator should examine measures to take when an alarm is sent by the operation monitoring system, including the above functions.

The following figure shows an example of the process to follow when an alarm occurs.

Figure 3–10: Example of the process to follow when a monitored system reaches a critical state



System operator

Legend:

: Measure executed automatically by the system.

#: This measure is executed automatically by a job management system.

Point:

When an alarm event occurs, if the system administrator wants to automatically execute a recovery program and return the system to the normal operating status, we recommend that the system be set up to issue a JP1 event and link with systems such as a job management system.

(2) Examining reports

(a) What type of report to use

Performance Management can create a real-time report to indicate the current operation status and a historical report to show long-term trends in the operation status. The system administrator should examine what type of report based on the performance data should be created in order to check the operation status. Creating easy-to-understand reports allows problems with the system to be understood correctly.

Performance Management can display reports every day, week, month, or year. You can configure Performance Management to display a report from the alarm icon when an alarm event occurs or define an association between related reports that allows you to open a different report using a drill-down operation.

Performance Management can also display multiple reports combined on the same graph, allowing you to determine the operating status of the overall system in a comprehensive manner.

To analyze operations over a long period of time, the output format of reports should be examined if they need to be output regularly. In Performance Management, you can display reports in the PFM - Web Console GUI, or use an operation command (the `jpccrpt` command) to output the report to a text file in CSV or HTML format.

For details about how to define and output a report, see the chapter that explains the creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

(b) What items to save in the database

The system administrator should decide the following regarding the performance data collected by monitoring agents:

- Whether to record the performance data in the Store database

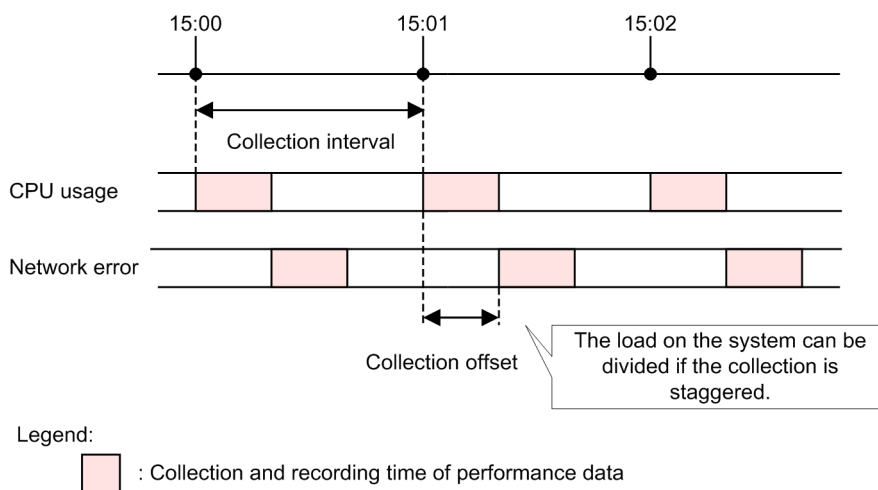
To display the performance data as a historical report, the performance data to be displayed must be configured so that it is saved in the Store database.

- Performance data collection interval and timing

When many items are monitored, system performance might suffer because data collection and recording processing might be concentrated at specific time periods. In such a case, the load on the system can be distributed over time if the performance data collection is staggered by item.

For example, if the performance data for two items is being collected every minute, the offset of one can be configured to 0 seconds and the other to 20 seconds in order to stagger the collection starting time by 20 seconds. When changing the offset, consider the load due to performance data collection and then specify the setting.

Figure 3–11: Example of the performance data collection interval and offset configuration



For details about how to record the performance data, see the chapter that describes the management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

3.4.4 Examining alarm table binding methods

To perform monitoring that uses alarms with Performance Management, you must associate a monitoring agent with an alarm table. An alarm table is a consolidated group of several alarms. This association is known as *binding*.

The monitoring agent evaluates condition expressions for all alarms included in the bound alarm table and notifies an alarm to PFM - Web Console, according to the specified alarm definition. Normally, alarms are notified when an evaluation determines that a condition has been changed.

If you add a new alarm to an alarm table that is already bound to the monitoring agent, or if you change an existing alarm's definition, the new definition is automatically used to perform evaluations.

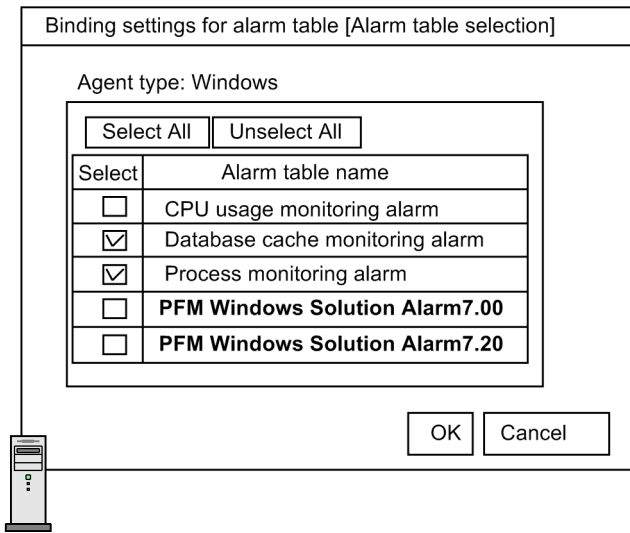
Alarm tables are bound as follows:

- Each monitoring agent can have one alarm table bound to it.
- Each monitoring agent can have multiple alarm tables bound to it.

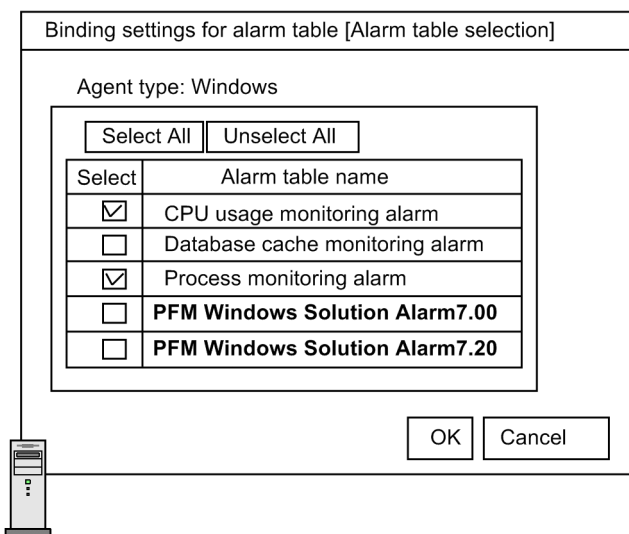
If you bind multiple alarm tables to a monitoring agent, different alarm conditions can be set for each agent. That is, you can use different combinations of alarm tables for each monitoring agent. For example, you can create a separate alarm table for each type of monitoring, such as database cache monitoring, CPU usage monitoring, or process monitoring. After creating a separate table, you can then bind a monitoring agent with a combination of alarm tables for database cache and process monitoring, or bind another agent with a combination of alarm tables for CPU usage and process monitoring.

If you have multiple monitoring agents, you can bind a common alarm table to all of the monitoring agents, as well as add another alarm table to a specific monitoring agent.

Figure 3–12: Example of binding multiple alarm tables



Monitoring agent A



Monitoring agent B

You can set the binding method of the alarm table in PFM - Manager. You must be using version 09-00 or later of PFM - Manager and PFM - Web Console to bind multiple alarm tables to one monitoring agent. To bind multiple alarm tables to a monitoring agent, PFM - Agent must be 08-00 or later, and PFM - Base must be 09-00 or later. To bind an alarm table to a monitoring agent for PFM - RM, the Performance Management product must be 09-00 or later. For details about how to configure the binding method of the alarm table, for Windows see [5.4.4 Configuring the functionality for binding multiple alarm tables](#), and for UNIX see [6.4.4 Configuring the functionality for binding multiple alarm tables](#).

3.4.5 Examining data backup methods

The system administrator needs to examine how to back up data used by Performance Management in case of data loss due to problems such as a disk malfunction. The following shows the Performance Management data that needs to be backed up and when to back up that data.

Operating information

The operating information data (performance data and event data) collected by Performance Management is backed up. Because this operating information data is updated daily, we recommend that you obtain the data regularly, weekly or monthly, as needed.

Definition information

Data such as definition files of required services for running Performance Management and the configuration data, such as alarms and reports, is backed up. We recommend that you back up this definition information whenever the system configuration or settings are changed.

Figure 3–13: Example of using Performance Management to obtain required backup data

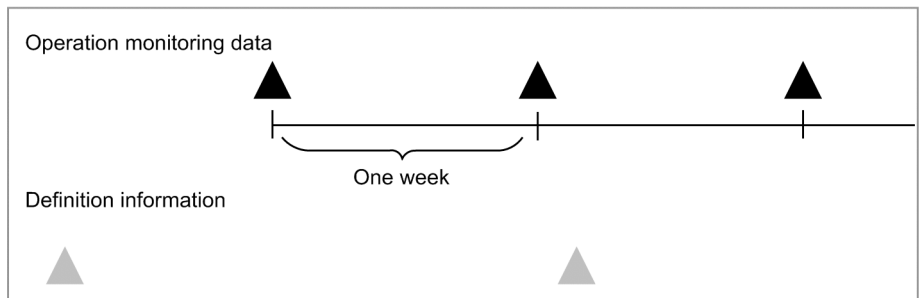
Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

System Operating status



Example of obtaining a backup



Operation monitoring data is backed up at regular intervals such as weeks. Definition information is backed up whenever the system configuration is changed.

Legend:

- ▲ : When operation monitoring data is backed up
- ▲ : When definition information is backed up
- : Online system running
- ⋯ : Online system stopped

You should examine the methods for exporting the obtained operating information so that it can be used by other applications.

Operating information is backed up and exported using the operation command (the `jpctool db` command). For details about how to back up data, see the chapter that describes backing up and restoring in the *Job Management Partner 1/Performance Management User's Guide*.

Point:

Operating information can be automatically managed by registering operation commands in a job scheduler or other function.

3.4.6 Examining Store database storage methods

Performance Management provides a database called the *Store database*, which stores the operation monitoring data collected by the monitoring agents. There are two versions of the Store database, and each stores data in a different way.

The two database versions, called *Store 1.0* and *Store 2.0*, each have different characteristics in terms of features, maintenance, and resource usage. For this reason, the system administrator should examine what storage method to use for the Store database when configuring an operation monitoring system.

Tip

PFM - RM can only use Store 2.0.

Table 3–2: Features of Store 1.0 and Store 2.0

Category	Item	Store 1.0	Store 2.0
Functionality	Amount of performance data that can be stored	Maximum of 2 GB per record type (PI, PD, PL) per agent (instance)	Maximum of 2 GB per day for each record per agent (instance)
	Retention period settings	<p>PI records: A retention period cannot be set for individual records, but can be set for PI records in general.</p> <p>PD records: A maximum number of stored records can be set for individual records.</p> <p>PL records: A maximum number of stored records can be set for individual records.</p>	<p>PI records: Retention periods can be set for individual records.</p> <p>PD records: Retention periods can be set for individual records.</p> <p>PL records: Retention periods can be set for individual records.</p>
	Maximum retention period for PI records	Records collected on a per-minute, hourly, daily, weekly, or monthly basis are kept for a maximum of one year. Records collected yearly can be kept indefinitely.	Records collected on a per-minute or hourly basis are kept for a maximum of one year. Records collected on a daily, weekly, or monthly basis are kept for a maximum of 10 years. Records collected yearly can be kept indefinitely.
	Viewing of historical data	Data from outside the retention period cannot be viewed even when present in the backup data.	Backup data can be imported and viewed regardless of when it was stored.
Maintenance	Backup	Allows backup of the entire database (full backup) only	Allows full backup of the database, or partial backup by specifying a number of days from the execution date (this allows backup of only the data that has changed since the last backup)
	Database reorganization	The database must be reorganized periodically to delete invalidated areas	Database does not need reorganization
Resource usage	Number of files created	Few (19 files)	Many (for details, see the appendixes in the PFM - Agent or PFM - RM manuals)
	Number of files that can be opened concurrently	Few (19 files)	Many (for details, see the appendixes in the PFM - Agent or PFM - RM manuals)
Versatility	Available Performance Management programs	PFM - Agent	PFM - Agent and PFM - RM

Based on these features, the following describes when use of each version of the Store database is recommended.

Situations where Store 1.0 is recommended:

Store 2.0 uses more system resources (in terms of the number of files used and the number of open files) than the database provided with Performance Management version 08-00 or earlier. Also, because of changes to some of the retention periods, you need to re-estimate the database settings as well as the disk space required.

In situations where changing these settings proves difficult, such as upgrading Performance Management in a system already in operation, we recommend that you use Store 1.0. By doing so, you can continue operation using the original estimates (for Performance Management 08-00 or earlier).

Situations where Store 2.0 is recommended:

With Store 2.0 you can perform partial backups of performance data and import the backed up data. This allows for the management of performance data over long periods. For this reason, we recommend that you use Store 2.0 with new systems. Store 2.0 should also be used when Store 1.0 does not support your requirements in terms of the amount of performance data you want to store or the desired retention period.

3.4.7 Examining measures to take when the operation monitoring system itself malfunctions

In order to provide stable operation for the operation monitoring system itself, the system administrator should examine measures to take when problems in the operation monitoring system itself are detected and a malfunction occurs.

(1) Detecting problems in Performance Management

With Performance Management, you can use the health check function to monitor the status of the host where the monitoring agent is running and to check whether the monitoring agent is working correctly. The health check function offers a two-tiered monitoring approach, consisting of the following two monitoring levels:

Monitoring the operating status of the host running the monitoring agent:

The health check function monitors the operating status of a host running PFM - Agent or PFM - RM, or the operating status of the hosts monitored by PFM - RM. You can check the operating status from PFM - Web Console.

Monitoring the operating status of the monitoring agent service:

In addition to monitoring the operating status of the host running PFM - Agent or PFM - RM, the health check function monitors the operating status of the Agent Collector, Remote Monitor Collector, Agent Store, and Remote Monitor Store services. You can check the operating statuses from PFM - Web Console.

You can change how the health check function operates according to what the health check function is to monitor and the desired monitoring conditions. However, the prerequisites differ for each mode of operation. For details about the prerequisites for using the health check function, see the chapter that describes detecting problems in the *Job Management Partner 1/Performance Management User's Guide*.

You cannot use the health check function to monitor the operating status of PFM - Manager itself. By using the `jpctool service list` command, you can check a detailed status of services for PFM - Manager, PFM - Agent, or PFM - RM. You can also detect errors by linking with other products (JP1/Base) in the JP1 series.

For details about detecting problems within Performance Management, see the chapter that describes detecting problems within Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(2) Automatically restarting PFM services

If for some reason a PFM service abnormally terminates, the *PFM service automatic restart function* of Performance Management allows you to automatically restart the service. This ensures continuous system monitoring. If you are not using a cluster system that has high system availability, we recommend using the PFM service automatic restart function. You can automatic restart PFM services in the following ways:

Automatic restart function

If for some reason a PFM service abnormally terminates, this functionality automatically restarts the service.

Scheduled restart functionality

This functionality restarts a PFM service at scheduled intervals. This helps to avoid memory leaks and handle leaks caused by problems with the OS or actual PFM service.

For the prerequisite conditions and procedure to use the PFM service automatic restart function, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(3) Collecting the maintenance information when a problem occurs

In order to identify the cause of a problem, information including the OS logs and internal log output by Performance Management might be necessary in addition to the operating information. Performance Management provides operation commands (the `jpcras` and `jpcwras` commands) to collectively obtain this maintenance information.

For details about collecting the maintenance information when a problem occurs, see the chapter that describes the error handling procedures in the *Job Management Partner 1/Performance Management User's Guide*.

3.4.8 Estimating the required hard drive space for Performance Management

After finishing other steps, such as deciding items to be monitored, you need to perform the final step of estimating the required hard drive space for Performance Management. Performance Management handles the following three main types of data. The system administrator should estimate the size of this data and prepare the required free disk space.

- Performance data collected by monitoring agents
- Event data indicating the status of the monitoring agents
- Data required for running Performance Management, log files output by Performance data, and other data

We recommend that the system be designed with ample free disk space to ensure future system expandability.

The following gives an overview of estimating the required disk space for each Performance Management program. For details about required disk space estimates, see *C. System Estimates*.

(1) Required disk space for PFM - Manager

- Required disk space for running the system:
This depends on factors such as the OS in which PFM - Manager is installed and the retention period of output logs.
- Required disk space for storing event data:
The disk space required for event data depends on factors such as the number of instances of PFM - Agent and PFM - RM that connect to PFM - Manager and the number of events to be saved. In addition, disk space must be reserved for performing actions such as backing up and exporting data.
- Required disk space for storing the monitoring result data produced by the health check function
This depends on factors such as the amount and data retention conditions of the monitoring result data in the Store database. In addition, some disk space must be reserved for performing actions such as backing up and exporting data. The required disk space also depends on the store method used by the Store database (either Store 1.0 or Store 2.0), which must be considered when estimating disk space requirements.

(2) Required disk space for PFM - Web Console

The required disk space for running PFM - Web Console depends on such factors as the OS in which PFM - Web Console is installed and the maximum amount of log data output by the system.

If the report cache file function is used, the disk space required for report cache files must also be estimated. The disk space required for the report cache file function depends on the number of performance data items that are displayed in reports. For details about the report cache file function, see the chapter that describes reports in the *Job Management Partner 1/Performance Management User's Guide*.

(3) Required disk space for PFM - Base

The required disk space for PFM - Base depends on factors such as the OS in which PFM - Base is installed and the maximum amount of log data output by the system.

(4) Required disk space for PFM - Agent and PFM - RM

- Required disk space for running the system

The disk space required for running the system depends on factors such as the OS in which PFM - Agent and PFM - RM is installed and the amount of time output logs are saved.

- Required disk space for storing performance data

This depends on factors such as the amount and data retention conditions of the performance data in the Store database. In addition, some disk space must be separately reserved for performing actions such as backing up and exporting data. The required disk space also depends on the store method used by the Store database (either Store 1.0 or Store 2.0), which must be considered when estimating disk space requirements.

4

Performance Management Functions

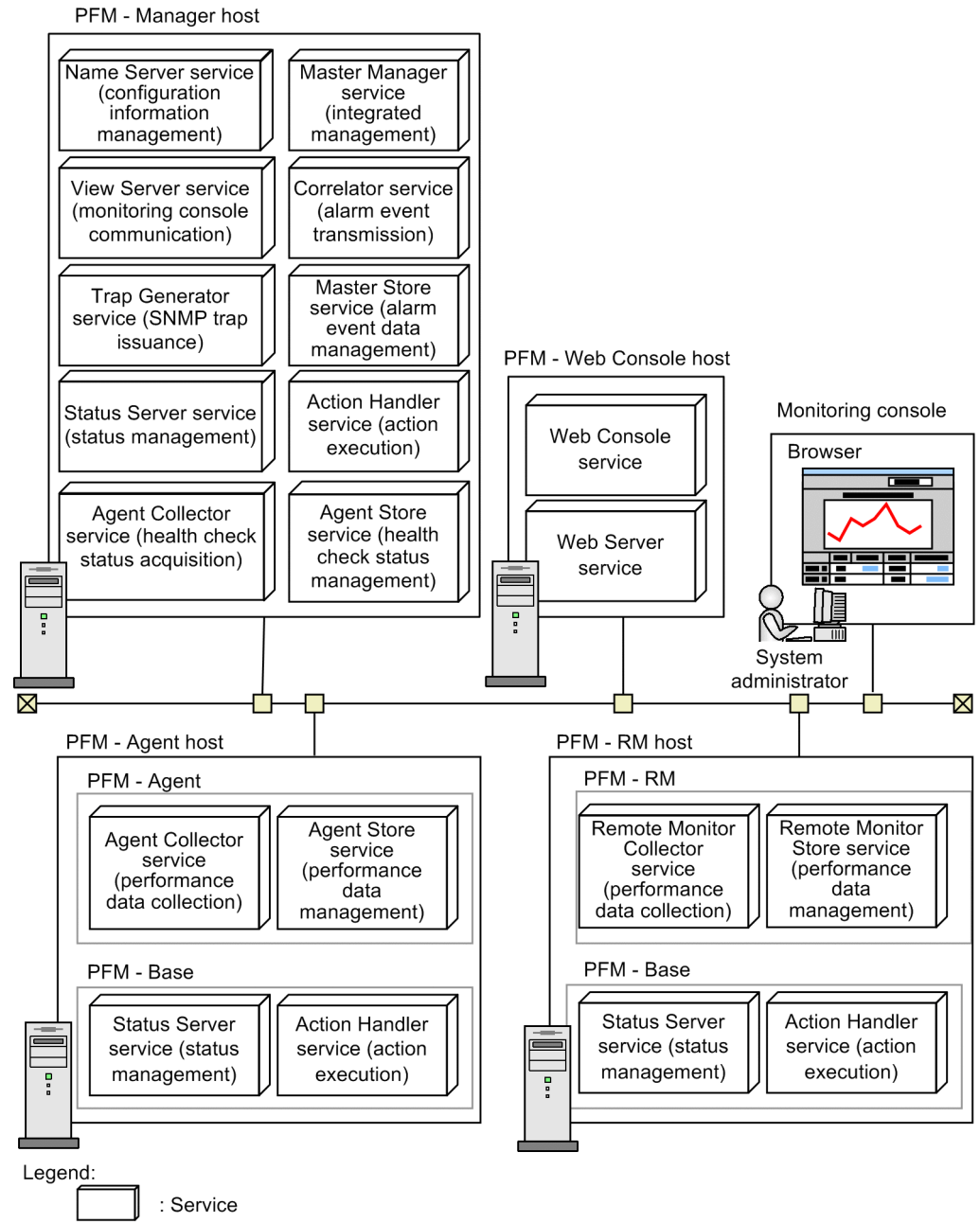
This chapter describes Performance Management functions for constructing the operation monitoring system.

4.1 Performance Management services

4.1.1 Overview of services

Performance Management monitors operations of the monitoring agents by executing processes that have various functions. A process performed by the functions that comprise the Performance Management program is called a *service*.

Figure 4–1: Configuration of Performance Management services



You can check properties and the status of services in the monitoring console by selecting the Services window of PFM - Web Console. You can also stop services.

(1) Service types

The following table lists and describes the functions and names of the Performance Management services. Performance Management services have service IDs in addition to the service names described in the table. The system uses service IDs to execute commands and to display in the monitoring console. For details about service IDs, see *B.1 Naming rules for service IDs and service keys*.

Table 4–1: PFM - Manager services

Service name	Function	Detail
Name Server	Service configuration information management	Manages the service configuration information such as registration and update of the Performance Management service information.
Master Manager	System integrated management	The main server is the core of PFM - Manager. Manages the definition information of reports and alarms, and transmits the definition information.
View Server	Monitoring console communication server	Manages the communication processing when connected to PFM - Web Console.
Correlator	Alarm event transmission control	Controls alarm event transmissions between services.
Master Store	Event data management	Records the event data from each instance of PFM - Agent and PFM - RM in the Store database and manages the data.
Trap Generator	SNMP trap issuance	Issues SNMP traps when alarm events occur due to the monitoring agent data exceeding a threshold value.
Action Handler	Action execution	Executes actions to inform the user of the system status such as errors, when alarm events occur due to the monitoring agent data exceeding a threshold value.
Status Server	Status management	Manages the status of the Performance Management services.
Agent Collector	Health check status collection	<p>Collects the following operating statuses and monitors thresholds:</p> <ul style="list-style-type: none"> Operating status of PFM - Agent and PFM - RM services Operating status of the hosts running the PFM - Agent or PFM - RM Operating status of the monitored host of PFM-RM <p>Processes the data when real-time reports are displayed in the PFM - Web Console.</p>
Agent Store	Health check status management	<p>Records the following collected operating information into the Store database and manages this data.</p> <ul style="list-style-type: none"> Operating status of PFM - Agent and PFM - RM services Operating status of the hosts running the PFM - Agent or PFM - RM Operating status of the monitored host of PFM-RM <p>Processes the data when historical reports are displayed in the PFM - Web Console. Processes the data when ODBC-compliant application programs are used.</p>

Table 4–2: PFM - Web Console services

Service name	Function	Detail
PFM - Web Console	Web application execution function	This is the main service of PFM - Web Console. Processes connection to PFM - Manager and requests from the Web browser.
PFM - Web Service	http server function	Manages the communication processing with the Web browser.

Table 4–3: PFM - Base services

Service name	Function	Detail
Action Handler [#]	Action execution	Executes actions to inform the user of the system status such as errors, when alarm events occur due to the monitoring agent data exceeding a threshold value.
Status Server [#]	Status management	Manages the status of the Performance Management services.

#

The system places only one of the PFM - Base services on the host when there are multiple instances of PFM - Agents or PFM - RM on the same host.

Table 4–4: PFM - Agent services

Service name	Function	Detail
Agent Collector	Performance data collection	Collects the performance data of monitoring agents and monitors thresholds. Processes the data when real-time reports are displayed in the PFM - Web Console.
Agent Store	Performance data management	Records the collected performance data into the Store database and manages this data. Processes the data when historical reports are displayed in the PFM - Web Console. Processes the data when ODBC-compliant application programs are used.

Table 4–5: PFM - RM services

Service name	Function	Detail
Remote Monitor Collector	Performance data collection	Collects the performance data of monitoring agents and monitors thresholds. Processes the data when real-time reports are displayed in the PFM - Web Console.
Remote Monitor Store	Performance data management	Records the collected performance data into the Store database and manages this data. Processes the data when historical reports are displayed in the PFM - Web Console. Processes the data when ODBC-compliant application programs are used.

(2) Starting instances

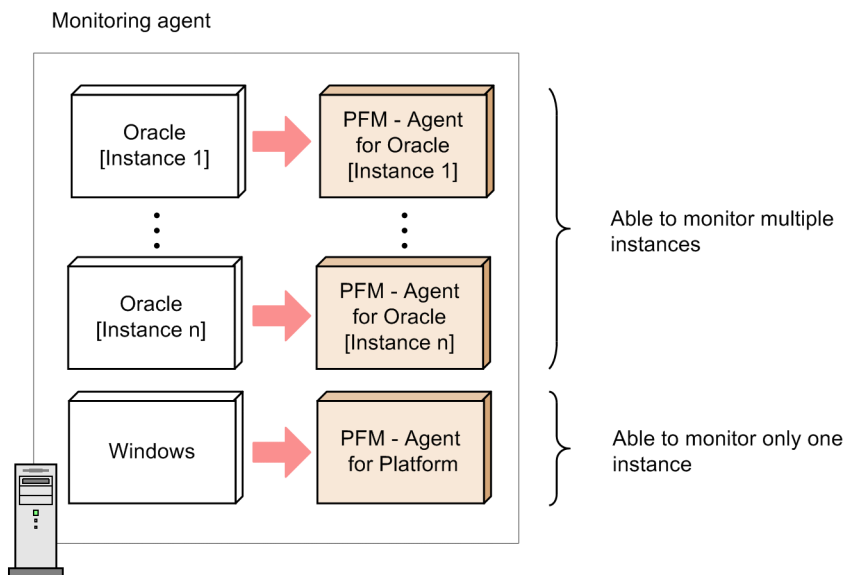
Some PFM - Agent or PFM - RM products can monitor every *instance*[#] of a target program.

#




The term *instance* has two meanings in this manual. For details, see *instance* in *L. Glossary*.

For example, PFM - Agent for Oracle monitors each Oracle instance with an SID. In such cases, you need to construct an instance environment to run PFM - Agent services with multiple instances.

Figure 4–2: Example of starting an instance



Legend:

-  : Performance data collection
-  : Instance to be monitored
-  : Instance environment that was already constructed

For details about the possibility of instance-based monitoring, and how to construct an instance environment, see the PFM - Agent or PFM - RM manual.

4.1.2 Displaying and specifying services (the product name display function)

This subsection describes the formats for service IDs and service keys used to display and specify services.

A Performance Management service has the following two identifiers:

- Service ID
- Service key

In Performance Management 09-00 and later, enabling the *product name display function* allows you to change the formats for the service IDs and the service keys you can display and specify.

For details about the Performance Management products required for using the product name display function, see [4.1.2\(2\) Coverage of the product name display function](#).

(1) Overview of the product name display function

You can use the product name display function to change the service identifier format for Performance Management. If this function is enabled, each identifier displays the name of the program to be monitored. This makes it easier to identify the service. After the format is changed, it is called the *product name*.

For details about the format of the identifier in each case when the product name display function is enabled and disabled, see *B.1 Naming rules for service IDs and service keys*.

Figure 4–3: Example of the Services tree displayed on the monitoring console (if the product name display function is enabled)

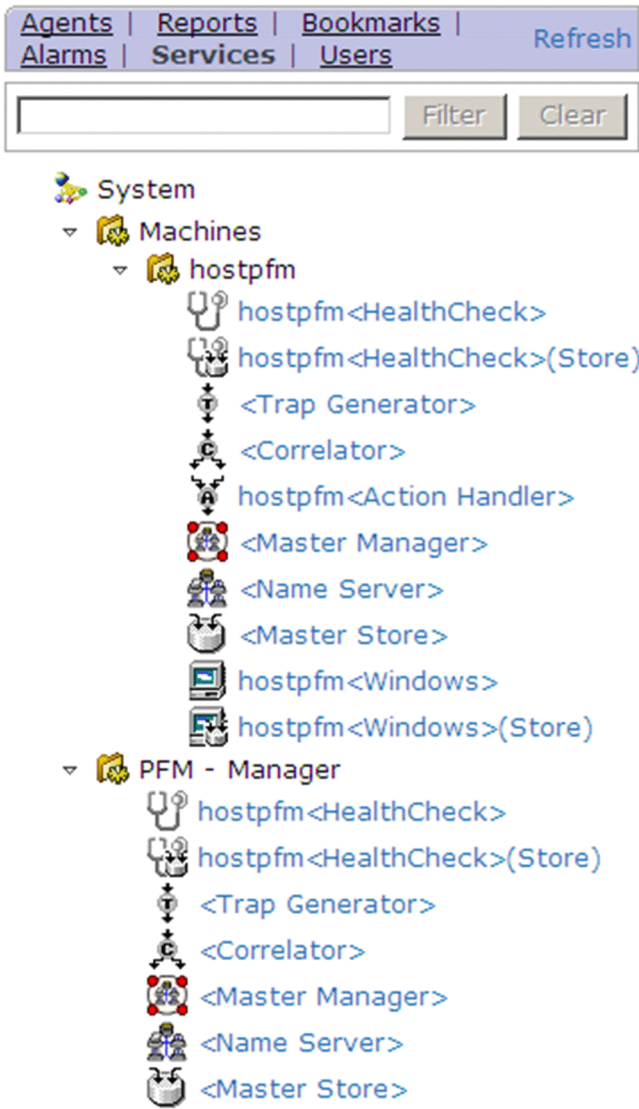


Figure 4–4: Example of the Services tree displayed on the monitoring console (if the product name display function is disabled)

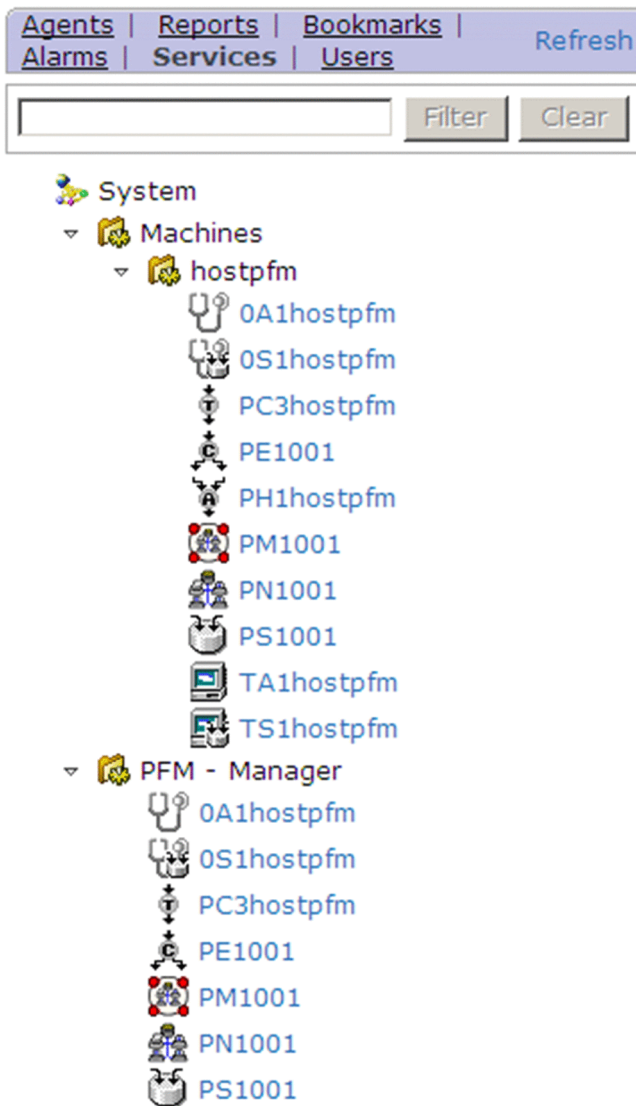


Figure 4–5: Example of the output generated when the jpc tool service list command is executed (if the product name display function is enabled)

Host Name	Service	PID	Port	Status
hostpfm	hostpfm<Status Server>	272	22350	Active
hostpfm	<Name Server>	2748	22285	Active
hostpfm	<Master Manager>	3972	1036	Active
hostpfm	<Master Store>	2832	1046	Active
hostpfm	<Correlator>	2328	1060	Active
hostpfm	<Trap Generator>	2632	1083	Active
hostpfm	<View Server>	2236	1104	Active
hostpfm	hostpfm<Action Handler>	3556	1067	Active
hostpfm	hostpfm<HealthCheck>(Store)	3940	1062	Active
hostpfm	hostpfm<HealthCheck>	2468	1090	Active
hostpfm	hostpfm<Windows>(Store)	2392	1065	Active
hostpfm	hostpfm<Windows>	3240	1076	Busy

KAVE06003-I List processing of the service information terminated normally.

Figure 4–6: Example of the output generated when the `jpctool service list` command is executed (if the product name display function is disabled)

```

Host Name      ServiceID      Service Name    PID      Port      Status
-----
hostpfm       PT1hostpfm    Status Server  2808     22350     Active
hostpfm       PN1001        Name Server    6132     22285     Active
hostpfm       PM1001        Master Manager 8824     1229      Active
hostpfm       PS1001        Master Store   8792     1233      Active
hostpfm       PE1001        Correlator     7876     1236      Active
hostpfm       PC3hostpfm    Trap Generator 9832     1238      Active
hostpfm       PPlhostpfm    View Server    7432     1247      Active
hostpfm       PH1hostpfm    Action Handler 6012     1113      Active
hostpfm       OS1hostpfm    Agent Store    10052    1261      Active
hostpfm       OA1hostpfm    Agent Collector 6432     1263      Active
hostpfm       TS1hostpfm    Agent Store    8376     1119      Active
hostpfm       TA1hostpfm    Agent Collector 8132     1121      Busy
KAVE06003-I List processing of the service information terminated normally.

```

Reference note

To display the output generated when the `jpctool service list` command is executed as a product name, enable the product name display function and then specify the `-v` option.

(2) Coverage of the product name display function

The table below shows the scope in which the product name is available. If the product name display function is enabled, you can use the product name as an identifier to display only those items listed below. The product name display function can be used for all versions of PFM - Agent and PFM - RM.

Table 4–6: Items for which the product name is available

Items for which the product name is available	Hosts for which the product name display function is set	Required Performance Management products
Service ID displayed on the monitoring console	PFM - Manager host	<ul style="list-style-type: none"> PFM - Manager 09-00 or later PFM - Web Console 09-00 or later
Report on the monitoring console		
Event monitor		
Service ID displayed in the event history		
Service ID displayed when the <code>jpctool service list</code> command is executed [#]	The host that executes the command	When the host that executes the command is a PFM - Manager host: <ul style="list-style-type: none"> PFM - Manager 09-00 or later
Service key specified when a command is executed	--	When the host that executes the command is a PFM - Agent or PFM - RM host: <ul style="list-style-type: none"> PFM - Base 09-00 or later
Service key displayed in a message	The host that outputs the message	When the host that outputs the message is a PFM - Manager host: <ul style="list-style-type: none"> PFM - Manager 09-00 or later When the host that outputs the message is a PFM - Agent or PFM - RM host: <ul style="list-style-type: none"> PFM - Base 09-00 or later

Legend:

--: Available regardless of whether the product name display function is enabled or disabled.

#

To display this item by using the product name, specify the `-v` option. For details about the `jjpctool service list` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

(3) Configuring the product name display function

For details about how to set up the product name display function, see [5.4.10 Configuring the product name display function](#) (in Windows) or [6.4.9 Configuring the product name display function](#) (in UNIX).

The default setting of the product name display function varies depending on how to install Performance Management.

Table 4–7: Installation methods of Performance Management and the default settings of the product name display function

Installation method	Performance Management version before upgrade	Configuring the product name display function
New installation	--	Enabled
Upgrade installation	09-00 or later	Settings prior to upgrading are used.
	08-11 or earlier	Disabled

Legend:

--: Not applicable

4.2 Functions for collecting and managing performance data

Performance Management collects performance data from the monitoring agents. There are two categories of collected data: data that references real-time transitions, and data that also references the history. Performance data that also references the history saves the collected data into the Store database and manages this data.

- Recording performance data into the Store database

You can specify whether you want to record the collected performance data into the Store database. You can also specify judgment conditions when recording the performance data into the Store database.

- Performance data collection interval and timing

You can specify the intervals for collecting the performance data. If there are many items to be monitored, system performance suffers because many data collection and recording processes occur at the same time. In such cases, the load on the system can be distributed over time by changing the collection timing to a monitoring item basis.

For example, if the performance data on two items is being collected every minute, set the offset of the collection start time (Collection Offset) to 0 seconds for one item, and set the offset of the collection start time (Collection Offset) to 20 seconds for the other. This shifts the collection timing, and distributes the load over the system.

4.2.1 Performance data

The data that is collected from the monitoring agent and indicates details of operation status is called *performance data*. The system administrator can check the collected performance data by using a Web browser.

Performance Management collects performance data in units called *records*. Items that can be monitored vary depending on PFM - Agent or PFM - RM.

There are two types of performance data:

Real-time data

This type of performance data displays the current status of the monitored target.

Use this type to check the status of a constantly changing system and system errors in the window of PFM - Web Console.

Historical data

This type of performance data displays the status of the monitored target from past to present.

Use this type mainly to analyze system trends. The monitoring agent database stores historical data in one of the following two formats depending on data characteristics:

- Summary record

The system automatically calculates the values collected by the monitoring agent, summarizes the average and total values in minutes, and hourly, daily, weekly, monthly, and yearly units, and then the Store database stores this summary data.

The summary record monitors long-term system performance. These records are called a *Product Interval record type (PI record type)*.

- Non-summary record

The Store database stores the performance data in the same state as collected by the monitoring agent.

There are two record types: A *Product Detail record type (PD record type)* that collects the performance data displaying the status of the system at a certain point (for example, detailed information of a currently operating process), and a *Product Log record type (PL record type)* that collects logs and messages of systems and applications.

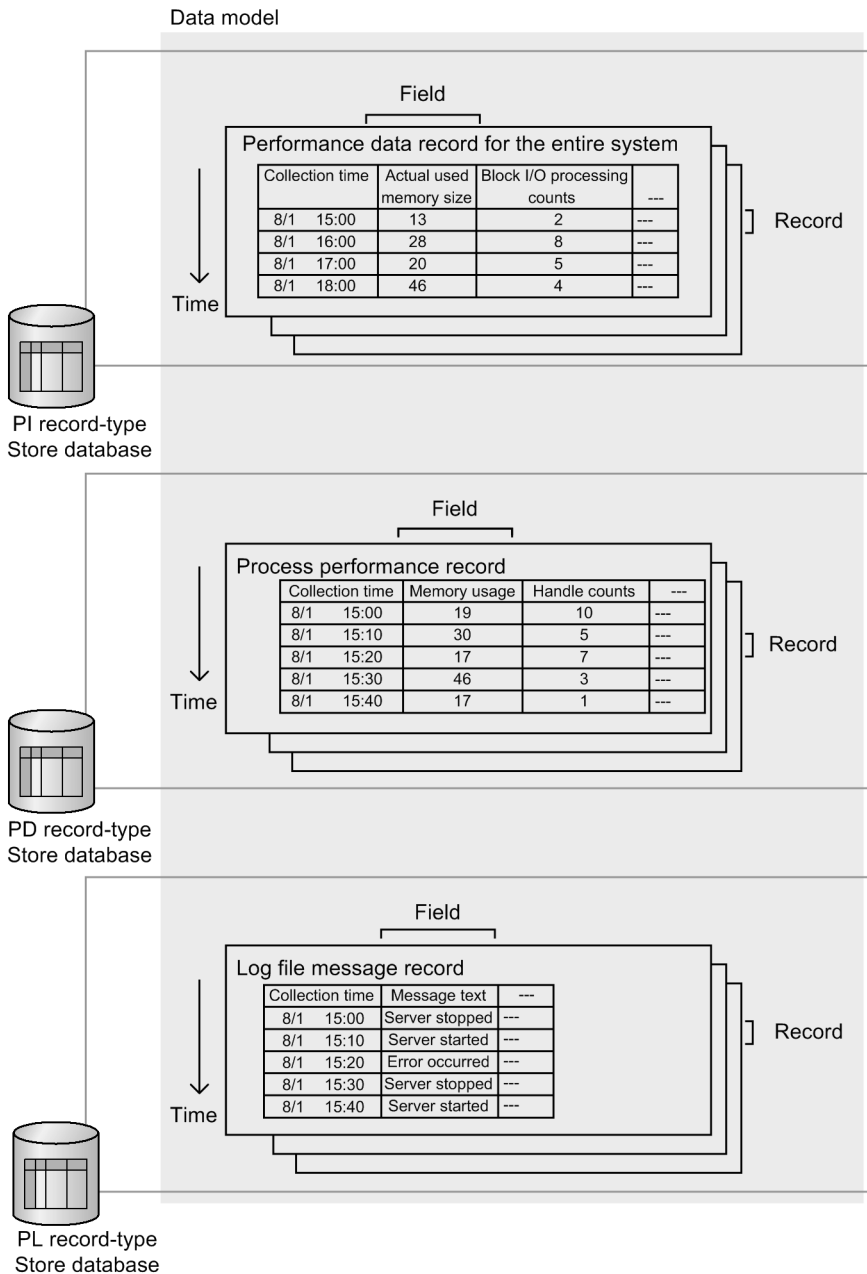
Record types other than above are available depending on the monitored target. For details, see the appropriate chapters that describe records in each PFM - Agent or PFM - RM manual.

(1) Data models

The Store database stores performance data in record units. Each record is divided into smaller units, called *fields*.

The generic term for the performance data collected by agents is called a *data model*. Data models are managed by version.

Figure 4–7: Conceptual figure of a data model, records, and fields



(2) Single-instance and multi-instance records

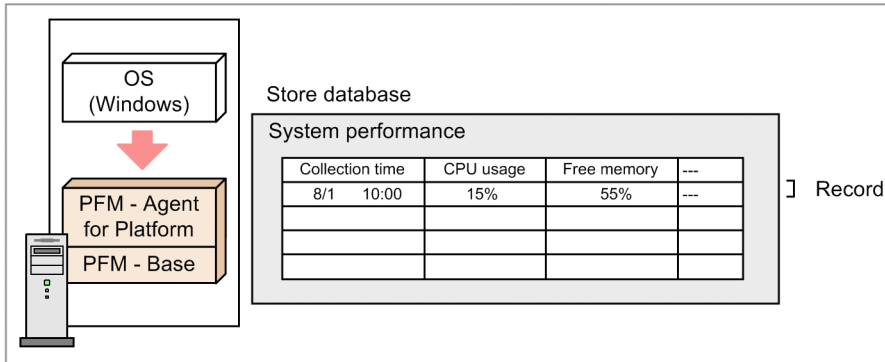
There are two types of performance data records collected by Performance Management depending on the monitoring items:

Single-instance record:

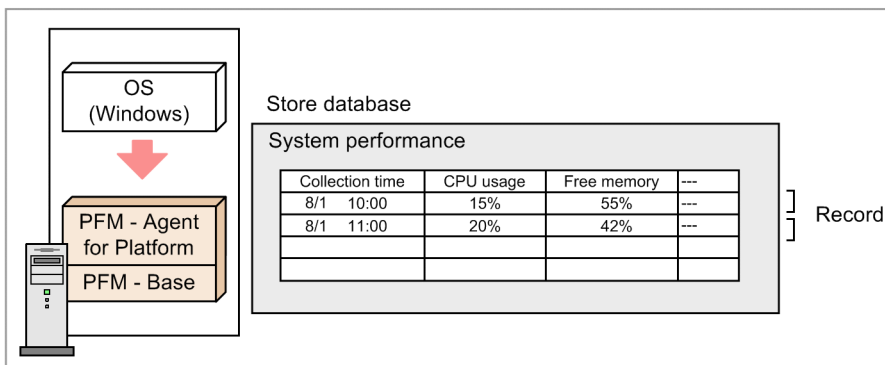
A record that collects one record at a time is called a *single-instance record*.

Figure 4–8: Example of a single-instance record


First collection



Second collection



Legend:

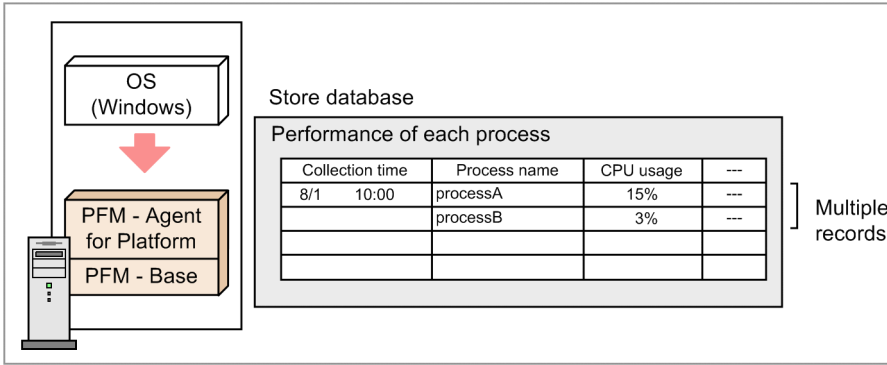
 : Performance data collection

Multi-instance record:

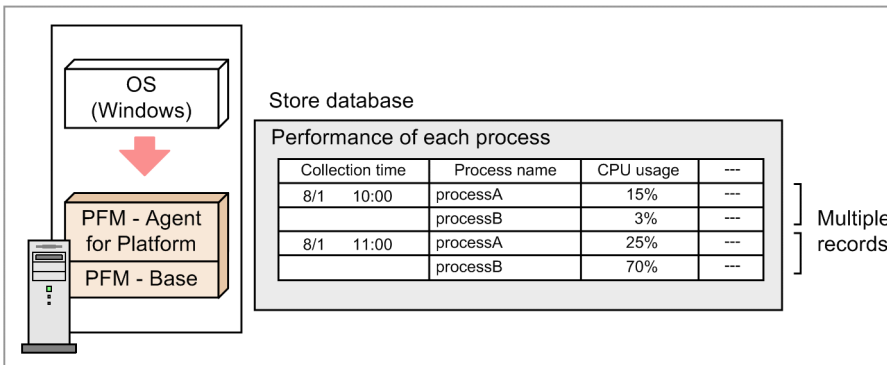
A record that collects multiple records at a time is called a *multi-instance record*.

Figure 4–9: Example of a multi-instance record


First collection



Second collection



Legend:

 : Performance data collection

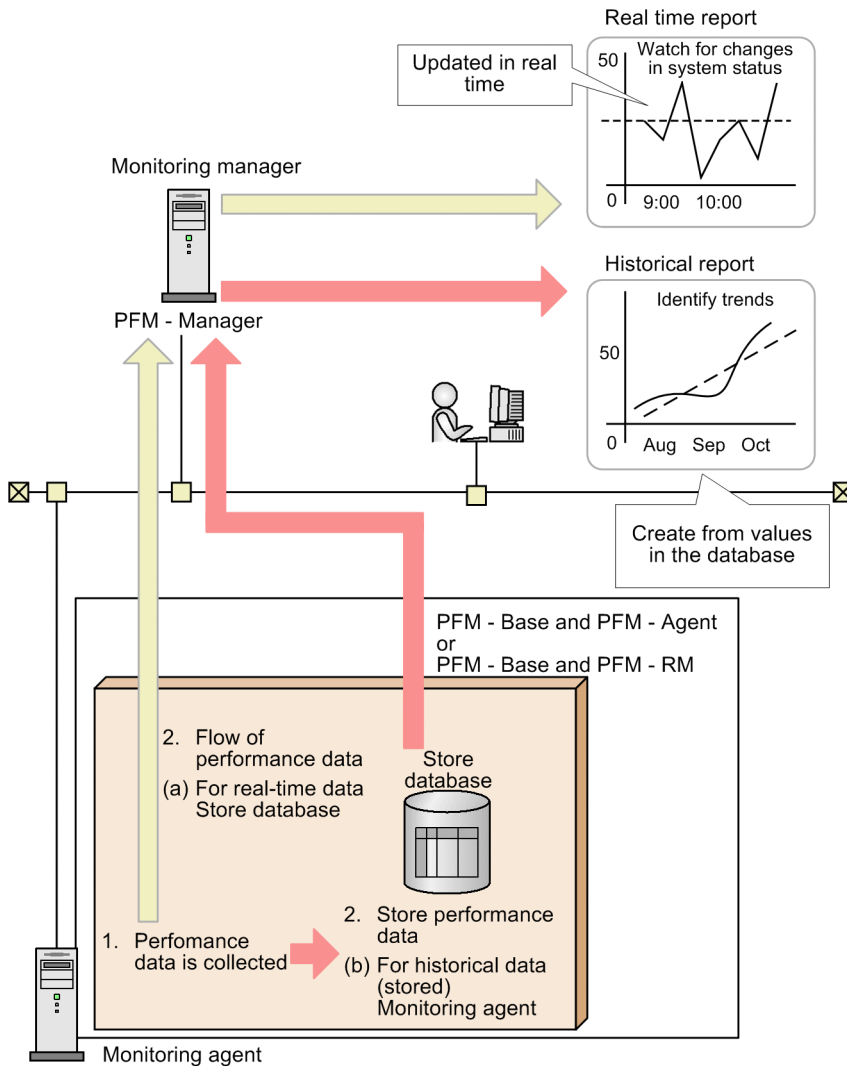
Point:

A group of records collected at the same time is called a *data group*. A data group of a single-instance record consists of one record. A data group of a multi-instance record consists of multiple records.

4.2.2 Flow of performance data collection

(1) Flow of processing in performance data collection

Figure 4–10: Flow of processing during performance data collection



Legend:

- ➔ : Flow of performance data for use in a historical report
- ➔ : Flow of performance data for use in a real-time report

Flow of processing:

1. The performance data is collected.

The Agent Collector service or Remote Monitor Collector service collects the performance data and manages the data in record format.

2. The performance data is stored.

(a) For real-time data

The Store database does not store the collected performance but the data appears in the real-time reports.

(b) For historical data

The Agent Store service and Remote Monitor Store service store the collected performance data in the Store database. The system uses this data to display the historical reports and to execute SQL queries by using the ODBC driver.

(2) Life cycle of performance data

PFM - Agent and PFM - RM collect performance data at the following times:

- For real-time data: At the refresh intervals specified in the report definition
- For historical data: At the intervals specified in the collection interval (Collection Intervals) of each record

PFM - Agent or PFM - RM might determine that the monitored target of the performance data collected at this time is the same target of the performance data previously collected. In this case PFM - Agent or PFM - RM treats the data as if they are the same records in the same field even if the collected data is from different targets.

Example regarding consistency:

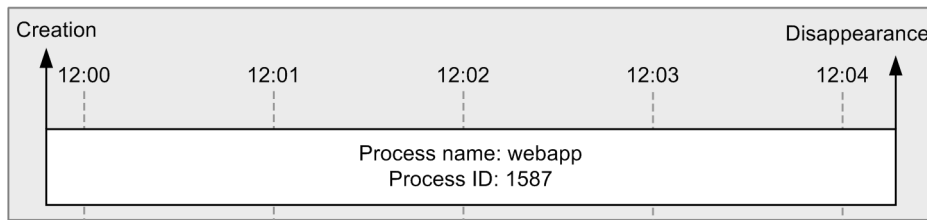
In the case of the Process Detail (PD) record of PFM - Agent for Platform (Windows), the system uses the process name and process ID to judge whether performance data is from the same monitored target.

When the process name and process ID are the same as those of the data collected previously, PFM - Agent for Platform (Windows) recognizes the performance data collected at this time as data of the same process. Even when the process disappears during a collection interval and is later regenerated, if the process name and the process ID are the same as those of the data previously collected, PFM - Agent or PFM - RM recognize the data as the performance data of the same process. In such cases, the performance data becomes inconsistent.

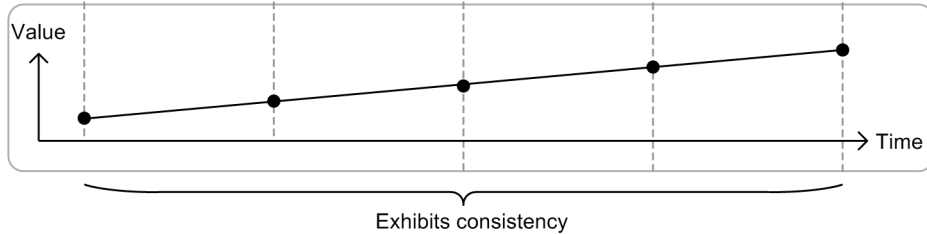
Figure 4–11: Example of performance data consistency

Example: The performance data maintains consistency

Creation and disappearance of the process

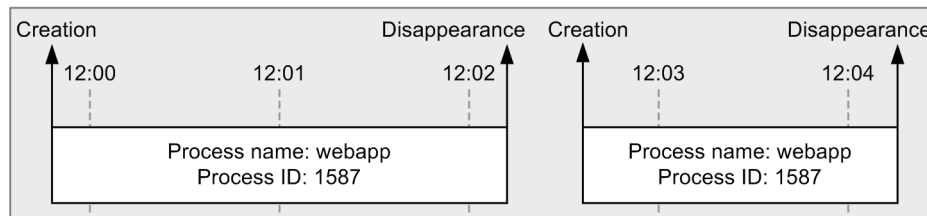


Report

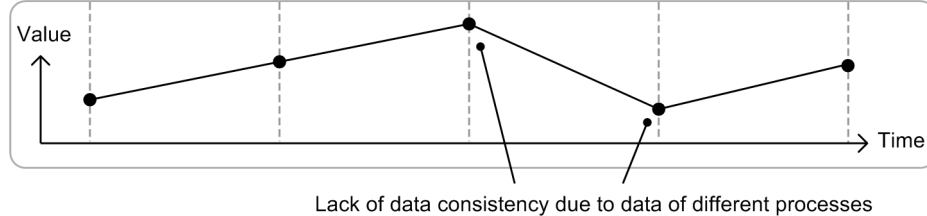


Example: The performance data lacks consistency

Creation and disappearance of the processes



Report



Legend:

----- : Timing to collect the performance data

Point:

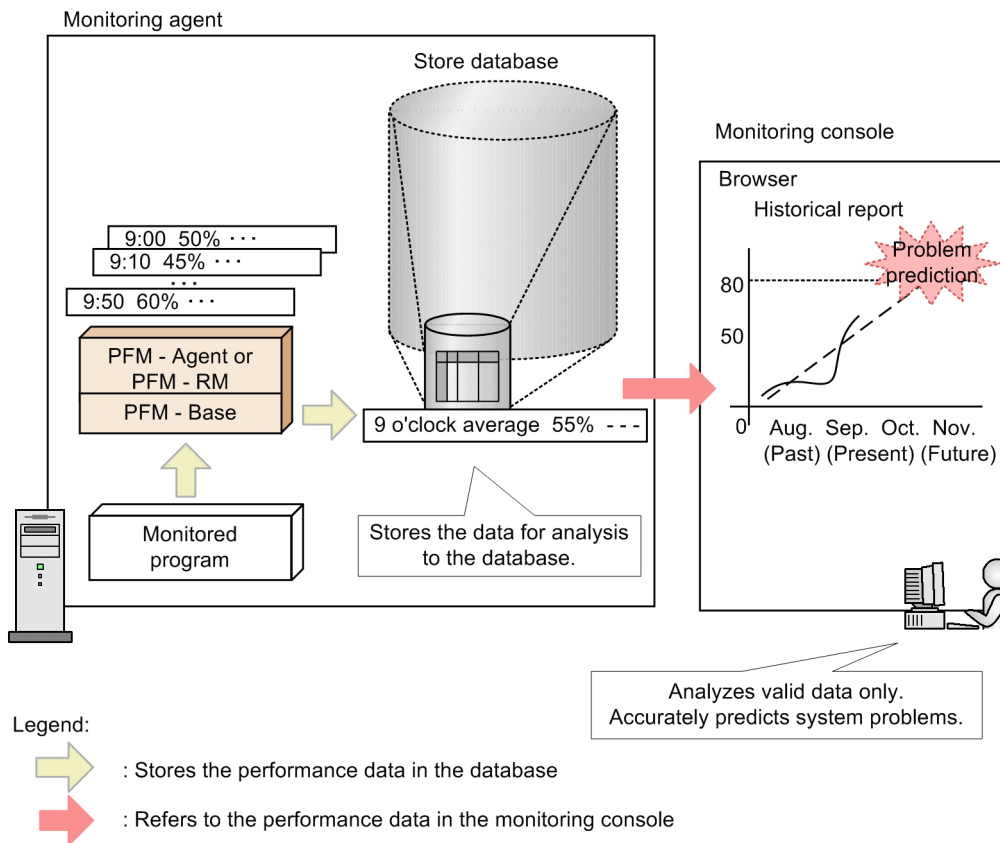
The period during which performance data maintains consistency is called the *lifetime* of the performance data. Take into account the lifetime of performance data when specifying the refresh intervals for real-time data and collection intervals for historical data.

4.2.3 Performance data management function and how to configure the function

Performance Management selects only the operation monitoring data needed for the system analysis from the collected records and stores the data in the database at required intervals. You can specify the upper limit of the data to be recorded in the database and a retention period enabling operation monitoring in a set resource. Depending on the monitoring records, you can also have Performance Management store the operation monitoring data in the database in summarized

form, in a meaningful form such as the average or maximum values for each monitoring period. Therefore, the system administrator can efficiently manage only the data necessary for system analysis.

Figure 4–12: Overview of management of performance data collected from the monitoring agents



You can specify how to record performance data into the Store database in Performance Management. You can specify the following items in PFM - Web Console:

- Whether to record the collected performance data into the Store database
- Collection intervals for performance data
- An offset value to distribute the load when collecting performance data
- Judgment conditions for recording performance data into the Store database
- Retention periods for performance data

The data recording method varies depending on the records. For details about how to record each record, see the appropriate chapters (the default value and changeable value of each record) of each PFM - Agent or PFM - RM manual.

Point:

It is not necessary to save the monitoring record of the alarm settings into the Store database. However, when an alarm event occurs, you can check the status of the system by checking the history of the monitoring record; so we recommend that you save the records into the Store database.

(1) For real-time data

In the case of real-time data, the system does not store the collected performance data into the Store database.

(a) Collection start times for real-time data

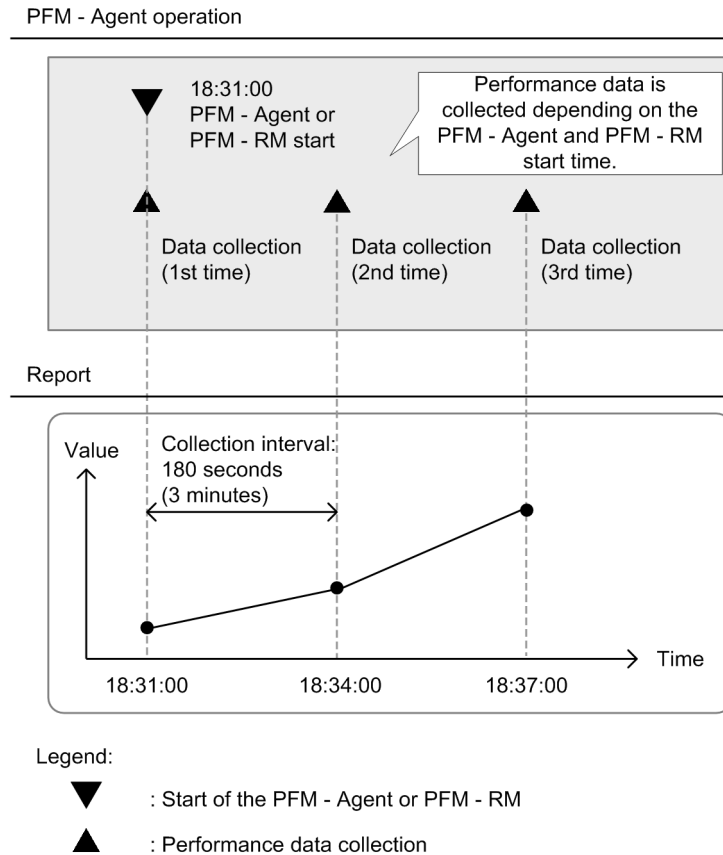
In the case of real-time data, the system does not store the collected performance data into the Store database. In this case, the time PFM - Agent or PFM - RM is started determines the collection start time for performance data.

Refer to the following examples:

An example of the collection start times for real-time data

If you specify the collection intervals of the performance data as 180 seconds (three minutes) with the Content Index Detail (PD_CIND) record of PFM - Agent for Platform (Windows), and start PFM - Agent for Platform at 18:31:00, the first data collection starts at 18:31:00. The next data collection starts at 18:34:00, that is, three minutes after the previous collection as per the data collection interval.

Figure 4–13: Example of the collection start times for real-time data



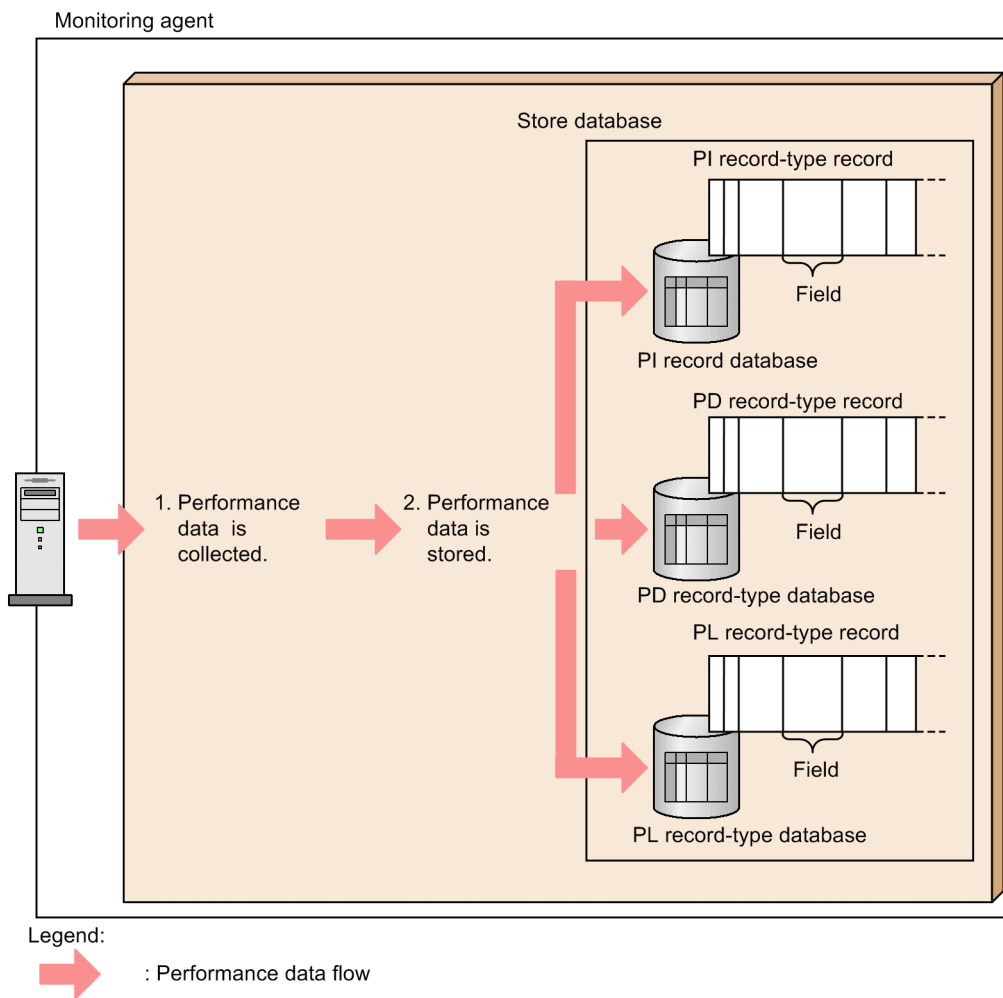
(b) How to store real-time data

The Store database does not store real-time data.

(2) For historical data

In the case of historical data, the Agent Store or Remote Monitor Store service stores the collected performance data into the Store database.

Figure 4–14: Process flow until the Store database stores the performance data



Flow of processing:

1. The performance data is collected.

The Agent Collector or Remote Monitor Collector service collects the performance data from the monitoring target program and the data is managed in a record format.

2. The performance data is stored.

The Agent Store or Remote Monitor Store service saves the collected performance data into the Store database. For PI type records, the Agent Store service stores the collected data in summarized form. For PD and PL type records, the collected data is stored in the same state as it was collected.

The default value of the performance data collection intervals varies depending on the records. For details, see the appropriate chapters that describe records in each PFM - Agent or PFM - RM manual.

(a) Collection start times for historical data

For the collection start times of historical data, based on 00:00:00 A.M. Greenwich Mean Time (GMT), the collection intervals (Collection Interval) of the performance data and the value of the collection start time offset (Collection Offset) determine the start time of the performance data collection.

To set the collection start time:

1. Convert the start time of PFM - Agent or PFM - RM to Greenwich Mean Time (GMT).

2. Advance the time by the interval value (Collection Interval) from 00:00 GMT until the time determined in step 1 is exceeded.
3. Convert the time determined in step 2 to your local time.
The converted time is the collection start time.
Starting from the set time, data is collected at intervals of the Collection Interval value.

Note: If you specify `Collection Offset`, the `Collection Offset` value will be added to the collection start time determined in step 3.

Collection start time: example 1

This subsection provides an example for when you set the time to the following conditions:

- Collection Interval = 28,800 seconds (8 hours)
- Collection Offset = 0
- Service start time: 13:00

To specify this setting:

1. Convert the start time of PFM - Agent or PFM - RM to Greenwich Mean Time (GMT).
Collection starts at 13:00 Japan time, which corresponds to 4:00 GMT.
2. Advance the time by the interval value (Collection Interval) from 00:00 GMT until the time determined in step 1 is exceeded.
Because the collection interval is 8 hours, the time when the value first passes 4:00, the time becomes 08:00 GMT.
3. Convert the time determined in step 2 to your local time.
08:00 GMT corresponds to 17:00 Japan time. This marks the collection start time. After that, the performance data is collected every 8 hours (01:00 the next day, then 09:00, 17:00...)

Collection start time: example 2

This subsection provides an example for when you set the time to the following conditions:

- Collection Interval = 28,800 seconds (8 hours)
- Collection Offset = 60 seconds (1 minute)
- Time to start the service = 13:00

To specify this setting:

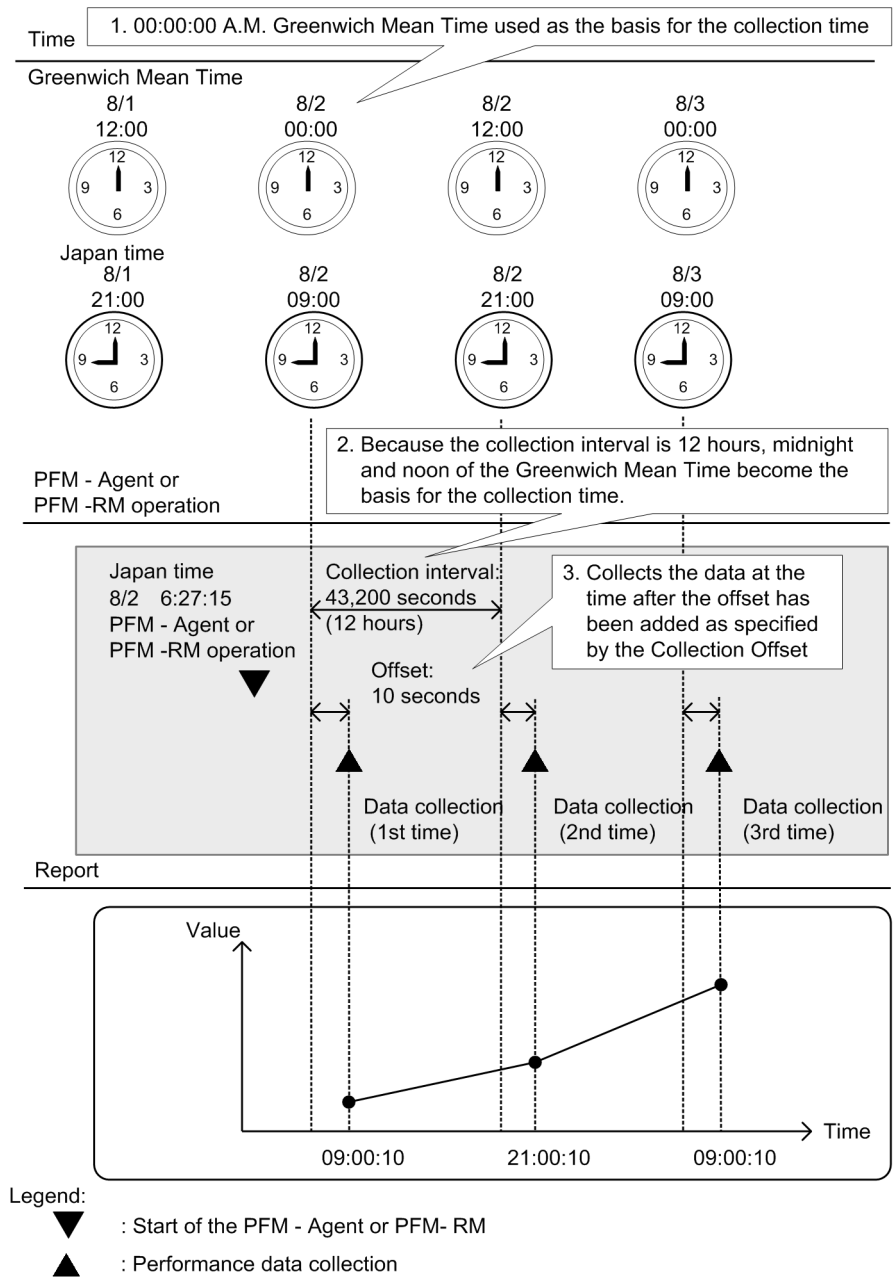
1. Convert the start time of PFM - Agent or PFM - RM to Greenwich Mean Time (GMT).
Collection starts at 13:00 Japan time, which corresponds to 4:00 GMT.
2. Advance the time by the interval value (Collection Interval) from 00:00 GMT until the time determined in step 1 is exceeded.
Because the collection interval is 8 hours, the time when the value firstly passes 4:00 is 08:00 GMT.
3. Convert the time determined in step 2 to your local time.
08:00 GMT corresponds to 17:00 Japan time.
Because the `Collection Offset` has been specified, the collection start time is 17:01, which is 17:00 plus 1 minute of the collection offset value.
After that, the performance data is collected every 8 hours (01:01 the next day, then 09:01, 17:01...)

Example of the collection start times for historical data

In this example using the System Overview (PI) record of PFM - Agent for Platform (Windows), the set value of the `Collection Interval` is 43,200 seconds (12 hours) and the `Collection Offset` is 10 seconds.

If PFM - Agent or PFM - RM starts at 06:27:15, August 2nd Japan time (21:27:15 on August 1st GMT), the first data collection takes place at 09:00:10, August 2nd Japan time (00:00:10 GMT). The next data collection takes place 12 hours later, which is at 21:00:10 Japan time (12:00:10 GMT).

Figure 4–15: Example of the collection start times for historical data



(b) How to store the data

The following describes how to store the performance data of the records of the PI, PD, and PL records types:

- For the PI record type
The system collects the performance data according to a collection interval that you set in the window of PFM - Web Console. However, the performance data is stored in the Store database, starting with the second collection after PFM - Agent or PFM - RM is started. The Store database does not store the data during that first collection.
- For the PD and PL record types

The system collects the performance data according to a collection interval that you set in the window of PFM - Web Console. The performance data is stored in the Store database, starting with the first collection after PFM - Agent or PFM - RM is started.

As a default setting, the Store database stores the performance data of only some records. To store the performance data into the Store database, specify the setting in the window of PFM - Web Console for each record. For details about how to specify this setting, see the chapter that describes management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

(3) Storing difference data

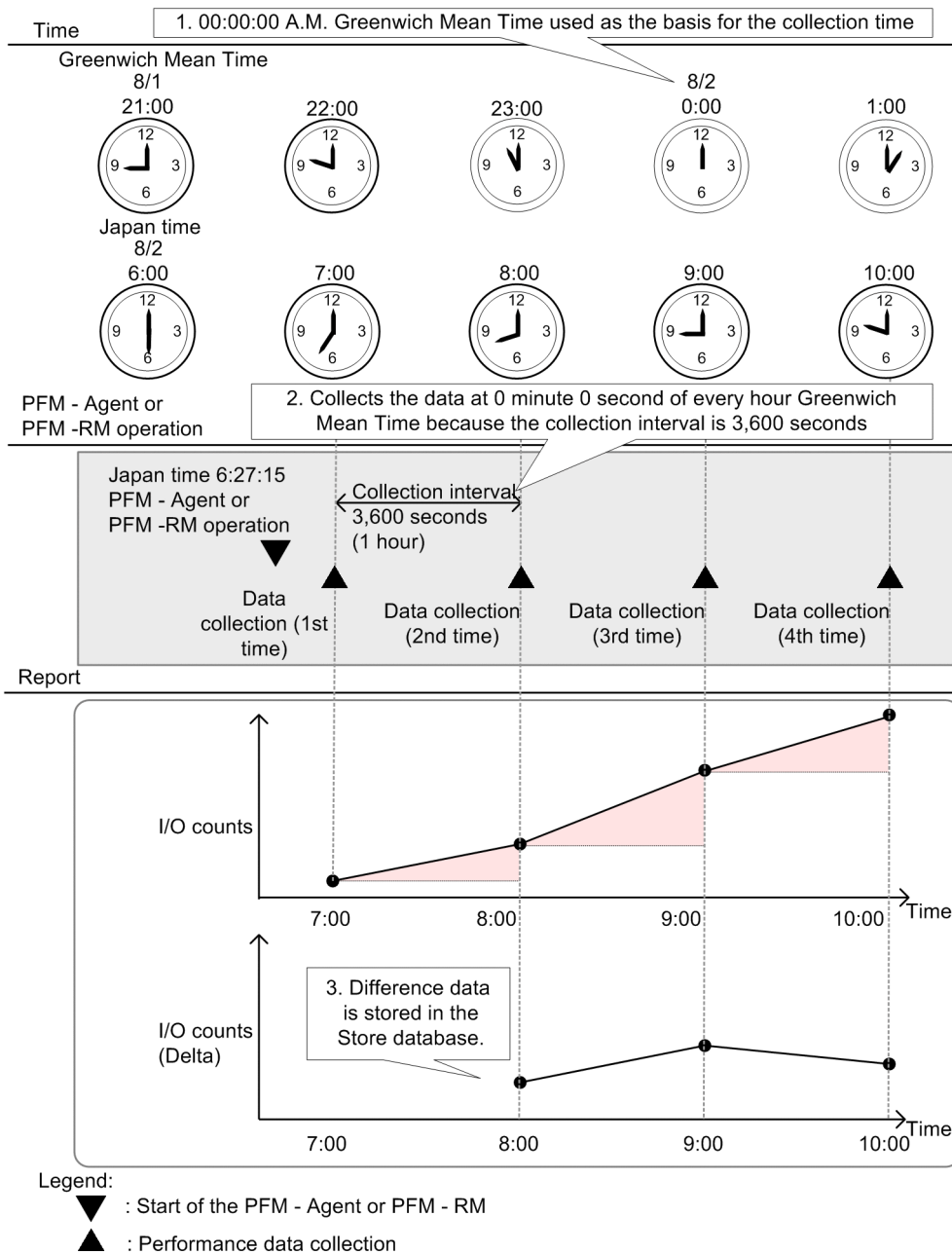
Some of the values stored in each field of the PI, PD, and PL record types exhibit a difference from the previous collection data. This difference data is called *delta*. Refer to the following examples:

An example of storing difference data

When the delta section of the field that measures the total I/O counts since the system starts is **Yes**, the system stores the I/O counts between the previous collection time and the current collection time. For instance, assume that you set the value of the collection intervals (Collection Interval) of the performance data to 3,600 seconds (1 hour).

If PFM - Agent or PFM - RM starts at 06:27:15 on August 2nd (21:27:15 on August 1st GMT), the first data collection takes place at 07:00:00 on August 2nd Japan time (22:00:00 in the GMT). The next data collection takes place at 08:00:00 Japan time (23:00:00 on August 1st GMT). After that, based on the data collected at 07:00:00 and 08:00:00 Japan time, the system creates difference data, and stores this data into the Store database.

Figure 4–16: Example of storing difference data



For details about how to determine if the values in each field are delta values or not, see the relevant chapters (tables of each record field) of each PFM - Agent or PFM - RM manual. In the table of each record field, the fields that have Yes in the delta section store the differences from the previous measured value.

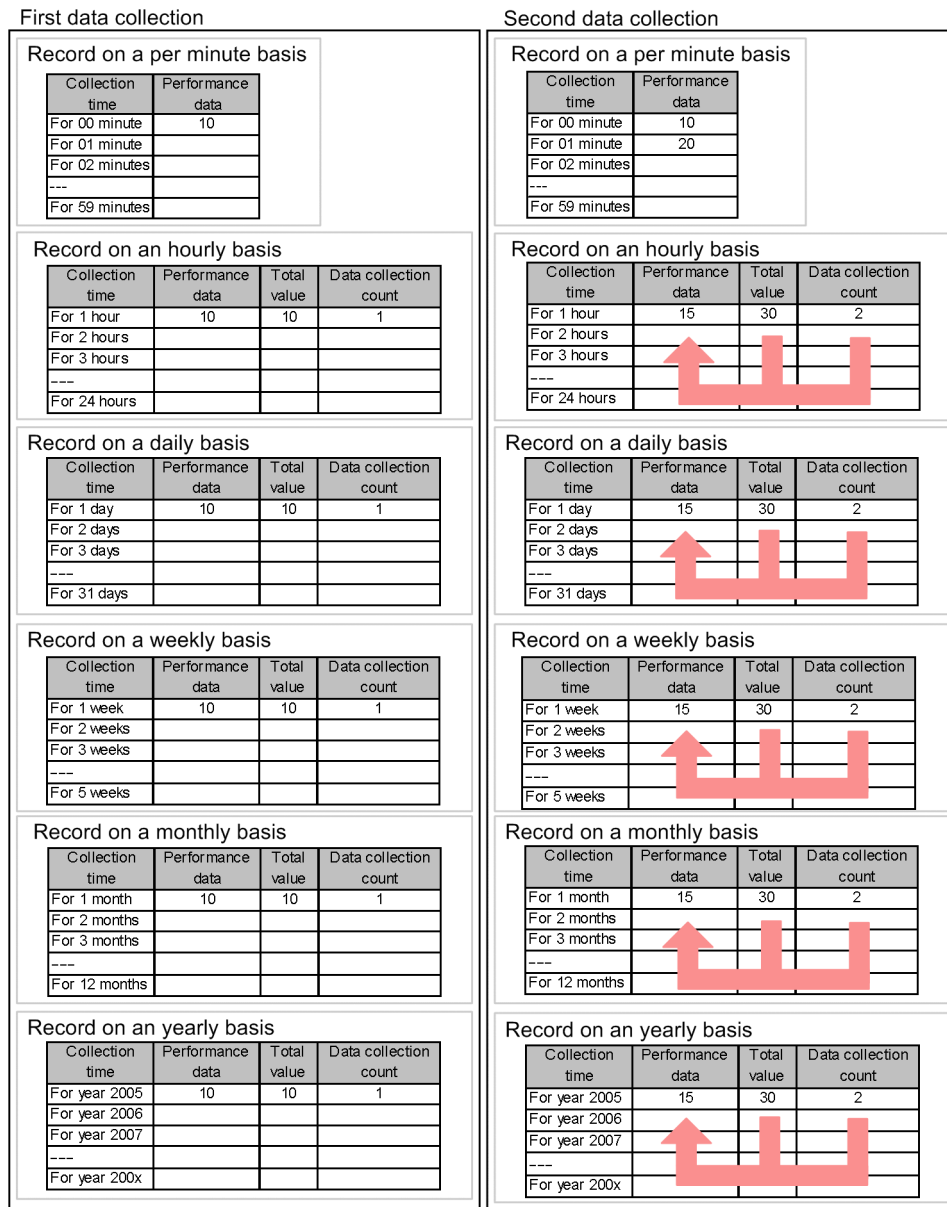
4.2.4 Summarizing the performance data


The data retention conditions and summary methods used for performance data depend on the type of record being stored. This subsection describes the storage conditions you can set and the summary methods used for each record type.

(1) Summary record (PI record)

This database automatically summarizes the performance data at a certain time (on a per-minute, hourly, daily, weekly, monthly, and yearly basis). The system summarizes the fields containing the value in terms of average and total values. The performance data is summarized for each record, each time it is collected. This database automatically summarizes the performance data at a certain time (on an hourly, daily, weekly, monthly, and yearly basis). The system summarizes the fields containing the value in terms of average and total values. Summarizing takes place each time the minute data is stored.

Figure 4–17: Example of summarizing the PI record type



Legend:  : Summarized by average value

With PI-type records, data is categorized according to the length of time covered by each record. Data of the category Minute, Hour, Day, Week, or Month is deleted when the specified retention period is exceeded. Data of the category Year is not deleted.

Table 4–8: PI record-type categories

Category	Description
Minute	A record stored on a per-minute basis. A maximum of 60 records per hour, 1,440 records per day, 10,080 records per week, 44,640 records per month, or 527,040 records per year are stored. These records are deleted when the specified retention period is exceeded.
Hour	A record stored on an hourly basis. A maximum of 24 records per day, 168 records per week, 744 records per month, or 8,784 records per year are stored. These records are deleted when the specified retention period is exceeded.
Day	A record stored on a daily basis. A maximum of 7 records per week, 31 records per month, or 366 records per year are stored. These records are deleted when the specified retention period is exceeded.
Week	A record stored on a weekly basis. A maximum of 5 records per month or 52 records per year are stored. These records are deleted when the specified retention period is exceeded.
Month	A record stored on a monthly basis. A maximum of 12 records per year are stored. These records are deleted when the specified retention period is exceeded.
Year	A record stored on a yearly basis. One record per year is stored. These records are retained indefinitely.

(2) Non-summary record (PD record and PL record)

Performance Management does not summarize the performance data in PD and PL-type records when storing them in the database. The data retention conditions for PD and PL-type records are set differently for each version of the Store database. With Store 1.0, you specify the number of records to store in the database. With Store 2.0, you specify a retention period, as a number of days, in the same manner as for PI-type records. In both versions, data that no longer meets the data retention conditions is deleted automatically. For details about the different versions of the Store database, see [4.2.5 Store database storage methods](#).

4.2.5 Store database storage methods

The Store database that stores the operation monitoring data collected by the monitoring agent is available in two versions, Store 1.0 and Store 2.0. Store 2.0 can be used with version 08-11 or later of PFM - Manager or PFM - Base combined with version 08-00 or later of PFM - Agent.

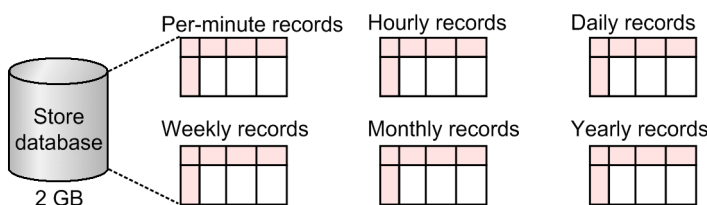
PFM - RM can only use Store 2.0.

The two versions of the Store database differ in how they store operation monitoring data.

(1) Storage method used with Store 1.0

This example shows the storage of PI records.

Figure 4–18: Storage method used with Store 1.0



With Store 1.0, all of the records of each record type (PI/PD/PL) are stored as operation monitoring data in a single database. The maximum capacity of the database is 2 GB.

(2) Storage method used with Store 2.0

This example shows the storage of PI records.

Figure 4–19: Storage method used with Store 2.0

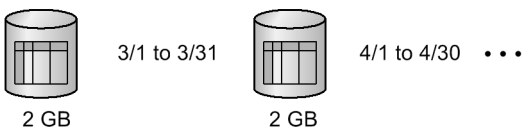
- Per-minute and hourly records



- Daily and weekly records



- Monthly records



- Yearly records



With Store 2.0, operation monitoring data is stored in the Store database in multiple files, each covering a specific time period (division period) determined by the summarization category and record type of the data. Each database storing data of a specific division period is called a *unit database*.

Table 4–9: Summarization categories and division periods

Summarization category	Division period
Per-minute, hourly, and PD/PL records	Daily
Daily and weekly records	Weekly
Monthly records	Monthly
Yearly records	Yearly

With Store 2.0, the 2 GB limit applies to each database storing data of a specific division period, not to all databases. For this reason, a greater amount of operation monitoring data can be stored than when Store 1.0 is used. Records collected on a per-minute or hourly basis are kept for a maximum of one year. Records collected on a daily, weekly, or monthly basis are kept for a maximum of 10 years. Records collected on a yearly basis are kept indefinitely. This allows for long-term analysis of the system's operating status.

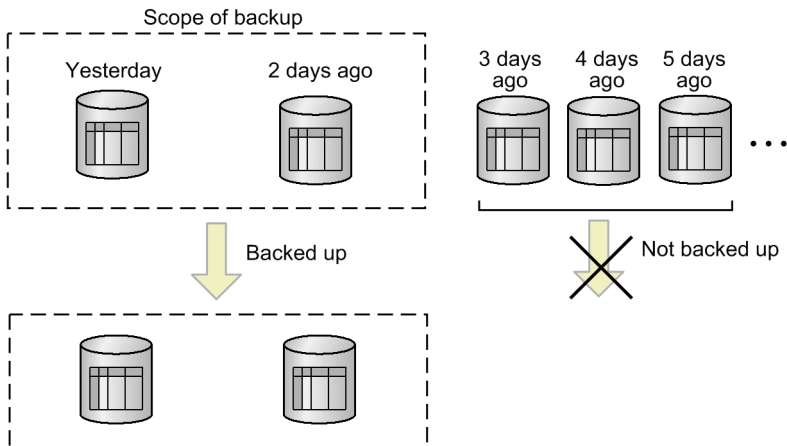
4.2.6 Functions specific to Store 2.0

(1) Backup of the Store database

By regularly backing up the operation monitoring data, you can reduce the risk of data loss in the event of an error. In addition to these regular backup operations, Store 2.0 allows partial backup of data in smaller units.

Figure 4–20: Partial backup of operation monitoring data

Partial backup applied to data stored yesterday and the day before



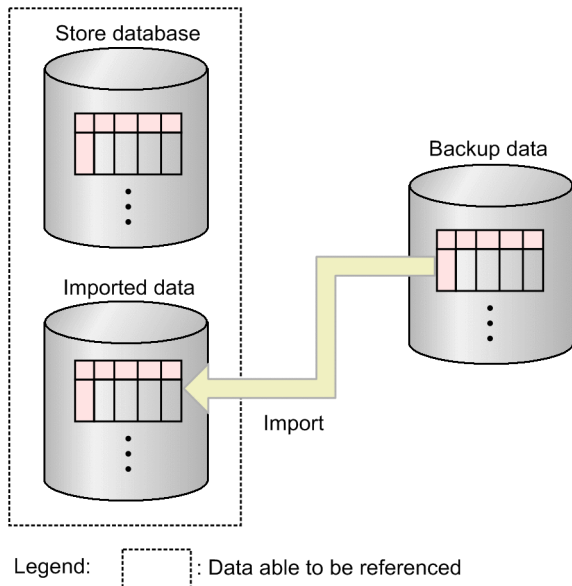
With partial backup, you can specify the target of the backup operation, such as the data collected over a specific time period, data of a specific record type, or data collected during a specific month or year. For example, as shown in the figure above, you can carry out a partial backup of only the PD_PDI records in the PD database that were stored yesterday and the day before, or only monthly records in the PI database that contain data associated with yesterday and the day before. By performing a partial backup, you can reduce the time taken by the backup process and manage data files more efficiently.

For details about how to perform a partial backup, see the chapter that describes backups and restoration operations in the *Job Management Partner 1/Performance Management User's Guide*.

(2) Viewing historical operation monitoring data

When using Store 2.0, you can view operation monitoring data whose retention period has elapsed by importing it from backup data.

Figure 4–21: Viewing operation monitoring data



As the figure shows, the Store database can store the imported backup data parallel with the current operation monitoring data, allowing both the data in the database and the imported data to be viewed. Because the imported data is managed independently of the data in the Store database, it will not be deleted even when the retention period specified in the Store database configuration is exceeded. This means that the imported data is available for reference at any time.

Importing backup data differs from restoring it in the following ways:

- Importing data does not delete the data already stored in the Store database.
- Imported data is retained past the specified retention period.

Use the `jpctool db import` command to import backup data, specifying either a full or additional import.

- Full import:
Use the `jpctool db import` command to perform a full import of backup data.
- Additional import:
Use the `jpctool db import` command with the `-add` option specified to perform an additional import. This process adds the backup files to the files already in the import directory. However, if you perform an additional import of backup data that is older than the data already in the import directory, the imported data overwrites the newer data and is reflected from that point in summary records. Therefore, when using the additional import option, import older data first.

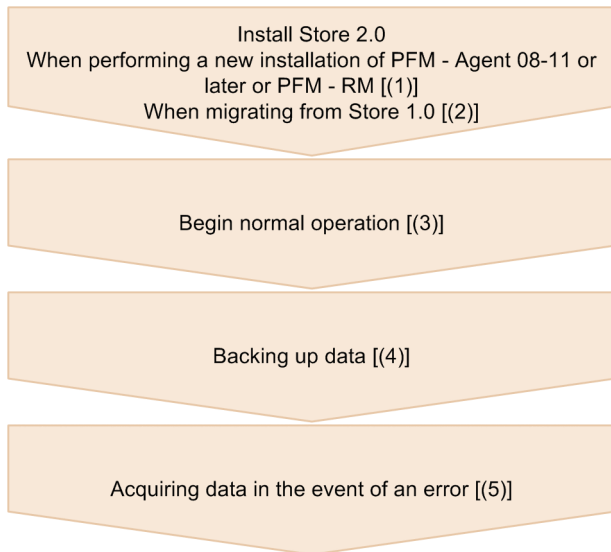
For details about how to import data, see the chapter that describes management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

You can change the import directory by using the `jpconf db define` command while the Agent Store and Remote Monitor Store services are stopped. You can also delete the data in the import directory by executing the `jpctool db import` command with the `-clear` option specified.

You cannot import backup data with a different product ID or Store version. If the data model of the backup data is an older version than that used by the Store database, you can use the `jpctool db dmconvert` command to upgrade the data model of the backup data, and then you can import it.

4.2.7 General procedure for installing Store version 2.0

Figure 4–22: Flow of Store 2.0 from installation to operation



Legend: [()]: See the indicated step

(1) When performing a new installation of PFM - Agent version 08-11 or later or PFM - RM

To perform a new installation and begin operation with Store 2.0:

1. Estimate system resource requirements and plan the retention periods.

Make sure that the execution environment can provide the system resources required to install Store 2.0. The system resources you need to estimate are as follows:

- Hard disk space
- Number of files
- Number of files opened by each process

Specific resource requirements depend on the retention period settings. Consider the resources available in the execution environment when planning the retention periods. For details about estimating system resource requirements, see the section about system estimates in the appendixes of each PFM - Agent or PFM - RM manual.

2. Set up directories.

Set up the directories used by the Agent Store and Remote Monitor Store services, such as the Store directory. This step is only necessary if you intend to use a directory other than the default. Use the `jpccconf db define` command to specify the directories used by the Agent Store and Remote Monitor Store services.

3. Set the retention periods.

Set the retention periods you arrived at when estimating resource requirements in step 1. To set the value with PFM - Web Console, start the Agent Store or Remote Monitor Store service.

(2) When migrating from Store 1.0

To migrate from Store 1.0 and begin operation with Store 2.0:

1. Estimate system resource requirements and plan the retention periods.

Make sure that the execution environment can provide the system resources required for installation of Store 2.0. The system resources you need to estimate are as follows:

- Hard disk space
- Number of files
- Number of files opened by each process

Specific resource requirements depend on the retention period settings. Consider the resources available in the execution environment when planning the retention periods. For details about estimating system resource requirements, see the Release Notes.

2. Back up the performance data.

Back up the data from Store 1.0.

3. Set up directories.

When you migrate to Store 2.0, the Agent Store service might not start if the original directory settings for Store 1.0 are retained. For this reason, you will need to review the directory settings used by the Agent Store service. You can use the `jpccconf db define` command to display and change the directory used by the Agent Store service.

With Store 2.0, the maximum path length of the directories in which the Store database is created and in which backup files are stored is different from Store 1.0. If a relative path is used in the directory settings for Store 1.0, make sure that it does not exceed the maximum path length allowed by Store 2.0 (214 bytes) when converted to an absolute path. If a directory does not meet this condition, modify the directory settings for the Agent Store service before proceeding to step 4.

4. Execute the setup command.

To transfer to Store 2.0, execute the `jpccconf db vrset -ver 2.0` command.

5. Set the retention periods.

Set the retention periods you arrived at when estimating resource requirements in step 1. Set the retention periods through PFM - Web Console after starting the Agent Store service.

(3) Beginning normal operation

Start the Agent Store or Remote Monitor Store service and begin using the Store database. This step is the same for Store 1.0.

(4) Backing up data

Because Store 2.0 is capable of managing large volumes of operation monitoring data, it is more efficient to perform partial backups on a regular basis than full backups. Establish a backup plan that performs partial backups at regular intervals, such as once a week.

If you intend to reference backup data by using the import function, we recommend that you change the directory used for partial backups so that the data you want to import in one operation will be backed up in one directory. We recommend that you change the directory about once a month.

(5) Acquiring data in the event of an error

The larger size of the Store database means that data collection will take longer when Store 2.0 is used. In this case, execute both of the following commands to perform data collection of all data except that in the database.

- `jpccras directory-name all`
- `jpccras directory-name all dump`

If the database is not particularly large, you can include data in the database in the data collection by executing the command as follows:

- `jpcras directory-name all all`

When you execute this command, the database data is collected from the Store directory. If the environment variable `JPC_COLIMPORT` is defined, the database data in the import directory is also collected.

4.3 Functions for alerting the user when the system reaches a critical state

In Performance Management, you can specify the settings to warn the system administrators by email and through the monitoring console when the performance data of a monitoring agent reaches a critical state.

4.3.1 Alarm event data

When the performance data of a monitoring agent exceeds a threshold and reaches a critical state, Performance Management provides a function to warn specified staff, such as system administrators.

In Performance Management, this warning is called an *alarm event*. The alarm events issued by PFM - Agent or PFM - RM are sent to PFM - Manager on the connection destination. PFM - Manager integrally manages alarm events sent from PFM - Agent or PFM - RM.

Alarm events notify the system administrators by emails and send notification to the monitoring console that the system has reached a critical state. In Performance Management, this is called an *action*. The system also can automatically execute commands reporting that the system has reached a critical state when an alarm event occurs.

The Master Store service of PFM - Manager stores the alarm event data, as records of the *Product Alarm record type* (*PA record type*), into the Store database.

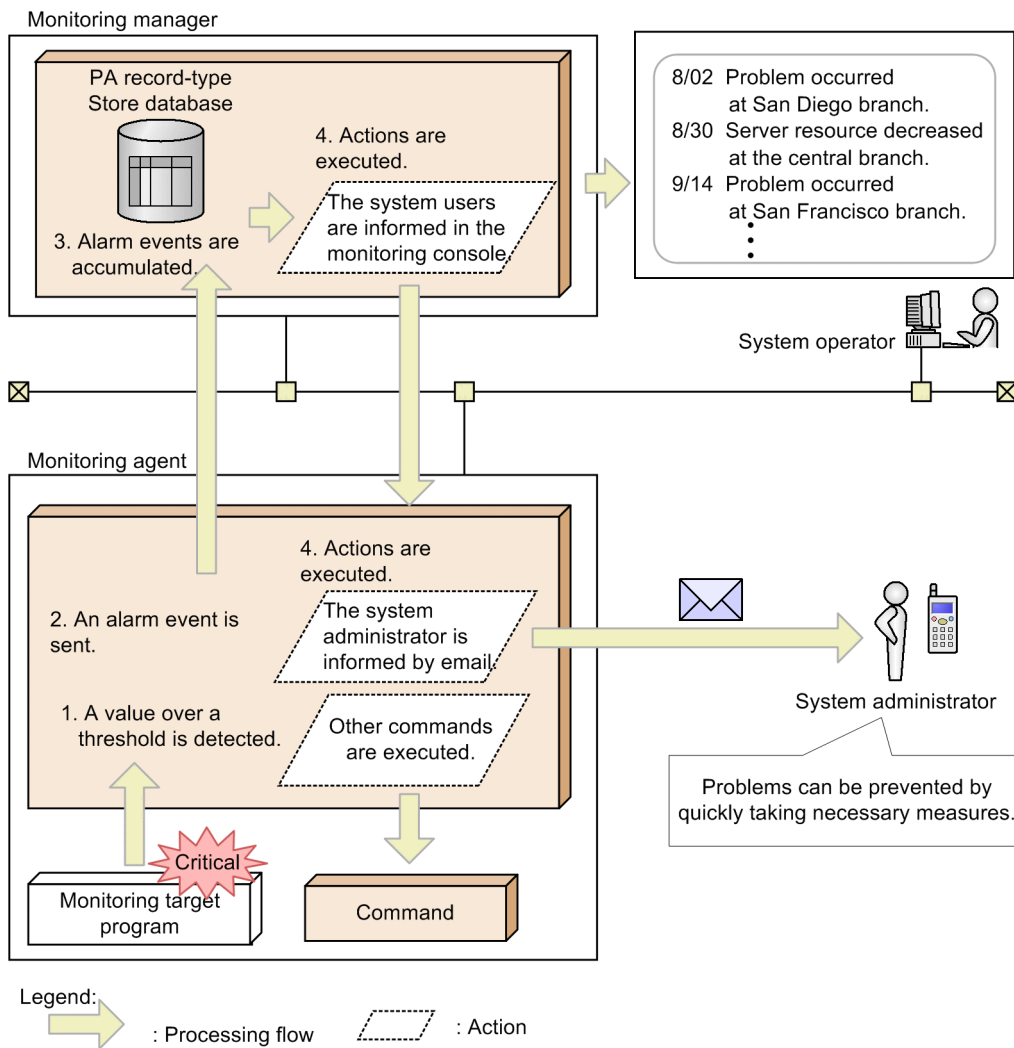
4.3.2 Issuing alarm events

(1) How to collect the alarm event data

The Agent Collector service of PFM - Agent or the Remote Monitor Collector service of PFM - RM issues alarm events, when the performance data of a monitoring agent exceeds a threshold. Thresholds are preset in the alarm definition of the monitoring template provided by the Performance Management system.

The threshold that triggers the alarm event can also be set for a group agent in PFM - RM. If you set the threshold for a group agent, you can use the merged value of the performance data from multiple monitored targets to issue the alarm event. For example, you can use the CPU usage average for multiple monitored targets to issue an alarm event.

Figure 4–23: Flow of the warning processing when the monitored program has reached a critical state



Flow of processing:

1. A value over a threshold is detected.
PFM - Agent or PFM - RM issues an alarm event when the value of the performance data exceeds a threshold.
2. An alarm event is sent.
The system sends the alarm event issued by PFM - Agent or PFM - RM to PFM - Manager. The alarm event information sent to PFM - Manager can be checked from the Event Monitor window of PFM - Web Console.
3. Alarm events are accumulated.
The Store database of PFM - Manager stores the alarm event data sent from PFM - Agent or PFM - RM. The alarm event information accumulated in the Store database of the PFM - Manager can be checked from the Event History window of PFM - Web Console.
4. Actions are executed.
The system executes actions defined in the issued alarm event. The system warns the system administrators by executing actions, such as informing them by icons in the window of PFM - Web Console or by sending emails. Also, a command can be executed to inform the system administrators that an alarm event was issued.

Point:

The monitoring agent executes actions, such as sending emails or executing commands, according to the monitoring agent settings. The monitoring manager can also execute the actions.

4.3.3 Summarizing the alarm event data and the maximum number of records

The system does not summarize the alarm event data. When the number of records has reached the maximum, the system overwrites the alarm event data starting from the oldest.

You can change the maximum number of records in the window of PFM - Web Console. For details about how to set the maximum number of records, see the chapter that describes management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

4.3.4 Triggers for sending alarms

This subsection describes the triggers for sending alarms.

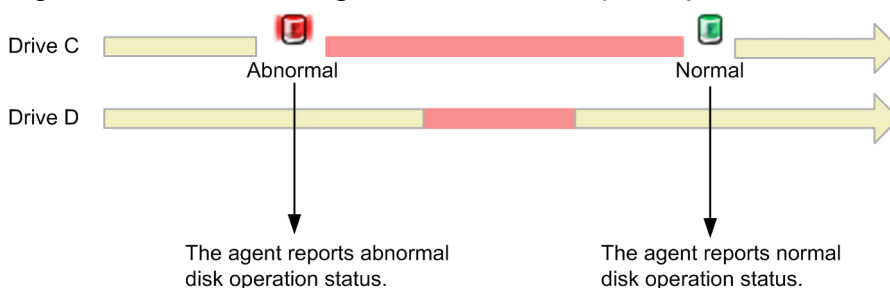
(1) Monitoring the alarm status

An alarm event is sent when an alarm status changes. The alarm status of a record is determined based on the results of evaluating the instances in that record against the criteria specified as alarm conditions in the alarm definition. The highest severity level among the evaluation results is set as the alarm status of the record.

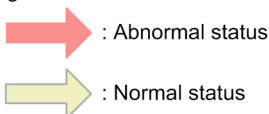
Figure 4-24 Monitoring the alarm status (example of monitoring disks) illustrates an example of sending alarms when an agent is monitoring the operating status of disks. In this example, the record that collects the performance data regarding the disks has two instances (for drive C and drive D).

If the agent detects an abnormality in drive C, the alarm status is set to *Abnormal* and the agent sends an alarm to the manager. If the agent detects an abnormality in drive D later, the agent does not send an alarm because the alarm status used for monitoring the disk is already *Abnormal*. If the status of drive D returns to *Normal*, the alarm status remains *Abnormal* and the agent does not send an alarm. When the statuses of both drives C and D return to *Normal*, the alarm status of the record changes to *Normal* and the agent sends a *Normal* alarm to the manager.

Figure 4-24: Monitoring the alarm status (example of monitoring disks)



Legend:



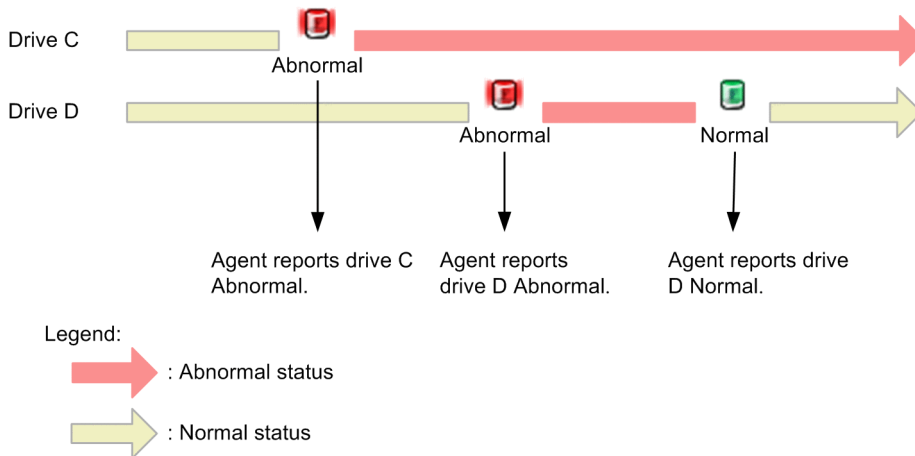
(2) Monitoring the operating status of each instance

An alarm event is issued if the alarm status of an instance of a record changes.

Suppose an agent is monitoring the operating status of disks. In such a case, the record that collects the performance data regarding the disks has two instances (for drive C and drive D). If the agent detects an abnormality in drive C while monitoring the operating status of instances, the agent sends an alarm status indicating *Abnormal*. If the agent detects an abnormality in drive D later, the agent sends another *Abnormal* alarm even though the alarm status has already been set to *Abnormal* because the status of the instance has changed. The agent also sends a *Normal* alarm when the status of the instance returns to *Normal*.

Figure 4–25: Monitoring the operating status for each instance (example of monitoring disks)

Status changes of multiple instances can be reported by using a single alarm.



The following versions of products are required to enable this function:

- PFM - Manager version 10-10 or later
- PFM - Base version 10-10 or later
- PFM - Web Console version 10-10 or later
- PFM - Agent version 10-00 or later and PFM - RM version 10-00 or later[#]

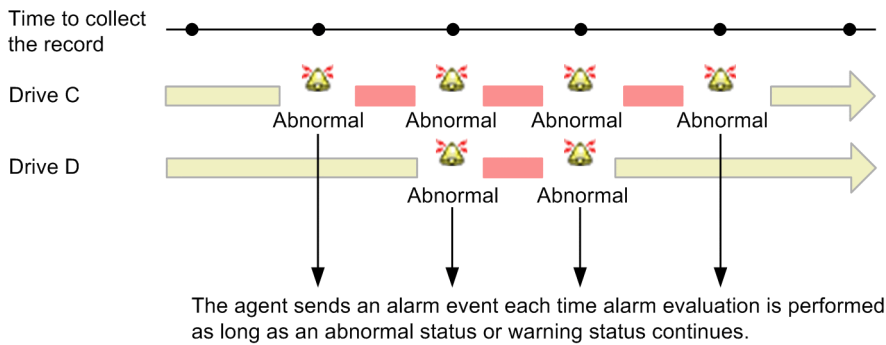
#

Required to bind an alarm table for sending alarms in units of instances.

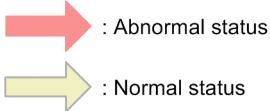
(3) Constant monitoring of the alarm status

Every time an alarm evaluation is performed, an alarm event is sent if a record instance satisfies the abnormal criteria or warning criteria.

Figure 4–26: Constant monitoring of the alarm status (example of monitoring disks)



Legend:



4.3.5 Considerations for monitoring the alarm status in units of instances

(1) Allowing alarm events to show the instance that caused an alarm

When a monitoring agent collects performance data in units of instances, define alarms so that information that indicates the instance that caused an alarm is shown in the message text of an alarm event.

The following is an example of how to define an alarm.

Suppose you want to use PFM - Agent for Platform (Windows) to monitor disks. You want PFM - Agent for Platform to send a warning alarm when the remaining free disk space becomes less than 30% and an abnormal alarm when the remaining free disk space becomes less than 10%. Define the alarm as follows so that the message text in the alarm event indicates which instance caused an alarm.

1. In the window for specifying the main Information for the alarm, specify the alarm message text as follows:

Alarm message: Disk %CVSI#:Available disk space is %CVS2%

#: %CVSI is replaced by a measurement value in the field specified for the first condition in the alarm conditions in step 2.

2. Specify the alarm conditions.

- First condition

Specify the field that indicates the name of an instance.

Record: PI_LOGD

Field: ID#

Condition: =

Abnormal value: *

Warning value: *

#: Key field of the PI_LOGD record (information for identifying an instance)

- Second condition

Specify the warning and abnormal threshold values for the remaining disk space indicated by %CVS2.

Record: PI_LOGD

Field: % Free Space

Condition: <

Abnormal value: 10

Warning value: 30

As a result, in the message text, variable %CVS1 is replaced by the volume name of a logical disk and variable %CVS2 is replaced by a measurement value in the % Free Space field.

Example message text: Disk C::Available disk space is 29.0123%

(2) Allowing JP1 events to show the instance that caused an alarm

When Performance Management is linked with the integrated operation management product (JP1/IM) to monitor the operating status and a monitoring agent collects performance data in units of instances, define alarms as shown below. This will cause the instance that caused an alarm to be displayed in the message area for a JP1 event.

The following procedure is an example of how to define an alarm and its corresponding JP1 event so that the JP1 event collected by JP1/IM indicates the instance that caused the alarm.

1. Define the alarm.

For the procedure, see [4.3.5\(1\) Allowing alarm events to show the instance that caused an alarm](#).

2. In the JP1 event settings, specify the message shown below. This will cause the alarm message text to appear in the message area in the JP1 event settings.

Message: %MTS

(3) Checking the status of an instance from an alarm event

You can associate an alarm definition with a report. While doing so, if you associate a report specified to display the same information as for the fields that are referenced for alarm conditions, you can check the status of an instance with ease.

We take the example described in [4.3.5\(1\) Allowing alarm events to show the instance that caused an alarm](#). In this example, a report that displays the values of % Free Space and ID fields is associated with the alarm for which the % Free Space and ID fields in the PI_LOGD record are referenced for alarm conditions.

4.4 Functions for detecting faults in the operation monitoring system itself

4.4.1 Overview of the health check function and the status management function

Performance Management provides a function that monitors the operating status of the monitoring agent and the host on which the monitoring agent is running. This is called the *health check function*. By using this function, you can confirm whether the monitoring agent is monitoring its targets correctly and whether the host of the monitoring agent is operating. If PFM - RM is used, you can confirm whether a monitored host is running. By defining alarms for the various operating statuses of the Agents and hosts, the system can issue alarm events and trigger an action such as sending an email when the health check function detects that PFM - Agent or PFM - RM is malfunctioning or detects that a host is down.

Performance Management also provides a function you can use to view the detailed operating status of Performance Management services running in the operation monitoring system. This is called the *status management function*.

The health check function uses the status management function to monitor the operating status of monitoring agents. For this reason, the version of the monitoring agent monitored by the health check function must support the status management function, and the status management function must be active. There are no prerequisites associated with monitoring the operating status of a host.

Figure 4–27: Overview of checking the operating status by using the health check function (in PFM - Agent)

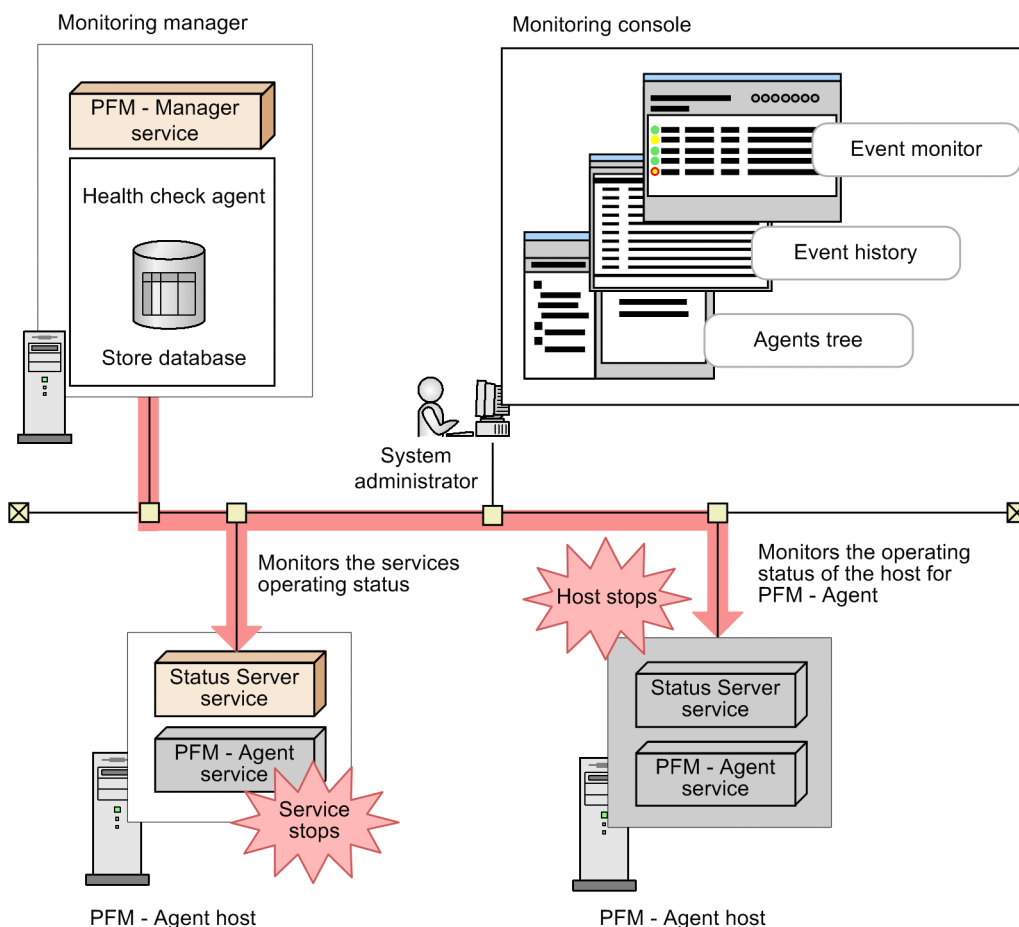
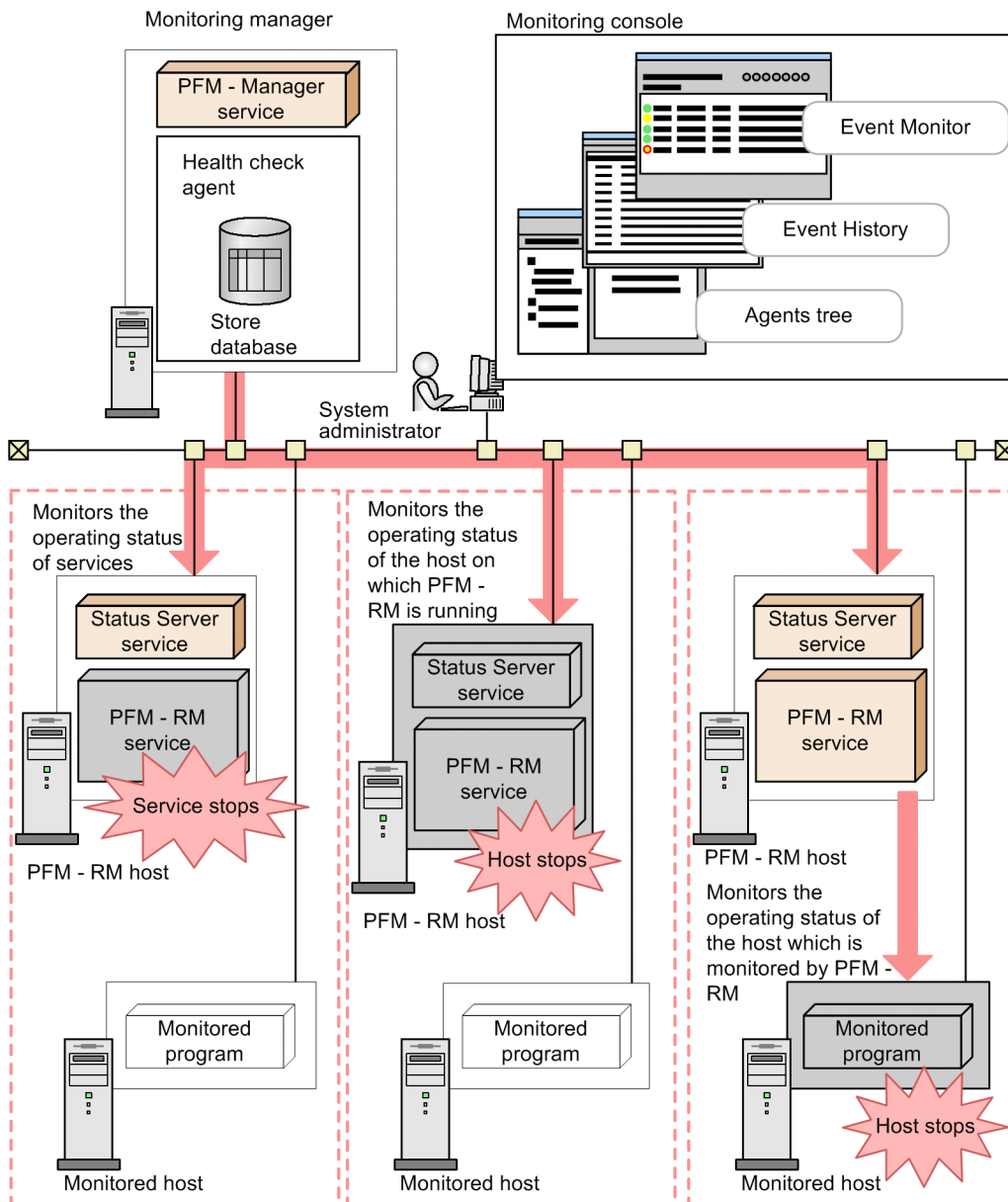


Figure 4–28: Overview of checking the operating status by using the health check function (in PFM - RM)



The health check function enables you to monitor the operating status of the host running the monitoring agent and the operating status of the monitored agent service.

(1) Monitoring the operating status of the host running the monitoring agent

The health check function monitors the operating status of a host running PFM - Agent or PFM - RM, and the operating status of a host monitored by PFM - RM. You can check the operating status from PFM - Web Console. The following software versions support this functionality:

- Version 08-11 or later of PFM - Manager and PFM - Web Console
- Any version of PFM - Agent or PFM - RM

(2) Monitoring the operating status of the monitoring agent service

In addition to the operating status of the host where PFM - Agent or PFM - RM is running, and the operating status of the monitored host for PFM - RM, the health check function also monitors the operating status of Agent Collector, Remote Monitor Collector, Agent Store, and Remote Monitor Store services. Depending on the settings, the health check function can also monitor the Action Handler service on the same monitored host. You can check the results from PFM - Web Console. The following software versions support this functionality:

- Version 08-11 or later of PFM - Manager and PFM - Web Console
- Version 08-00 or later of PFM - Agent, or PFM - RM, with the status management function enabled

(3) Health check for PFM - RM

For PFM - RM, you can monitor the following three operating statuses:

- Operating status of the host running PFM - RM
- Operating status of the PFM-RM services
- Operating status of the monitored host of PFM-RM

The operating status of a monitored host for PFM - RM is monitored as the operating status of the corresponding remote agent. You cannot monitor the operating status of a group agent.

You can monitor the operating status of the monitored host for PFM - RM, regardless of whether you set the health check function to the host monitoring level or the service monitoring level. However, if this function is set to the service monitoring level, the operating status of the monitored host for PFM - RM varies, depending on the status of the Remote Monitor Store or Action Handler service. If you want to monitor the operating status of the monitored host for PFM - RM, you must enable the status management function of PFM - RM, even when setting the health check function to the host monitoring level.

For details about monitoring the operating status of the host monitored by PFM -RM, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

4.4.2 Using the monitoring results obtained from the health check function

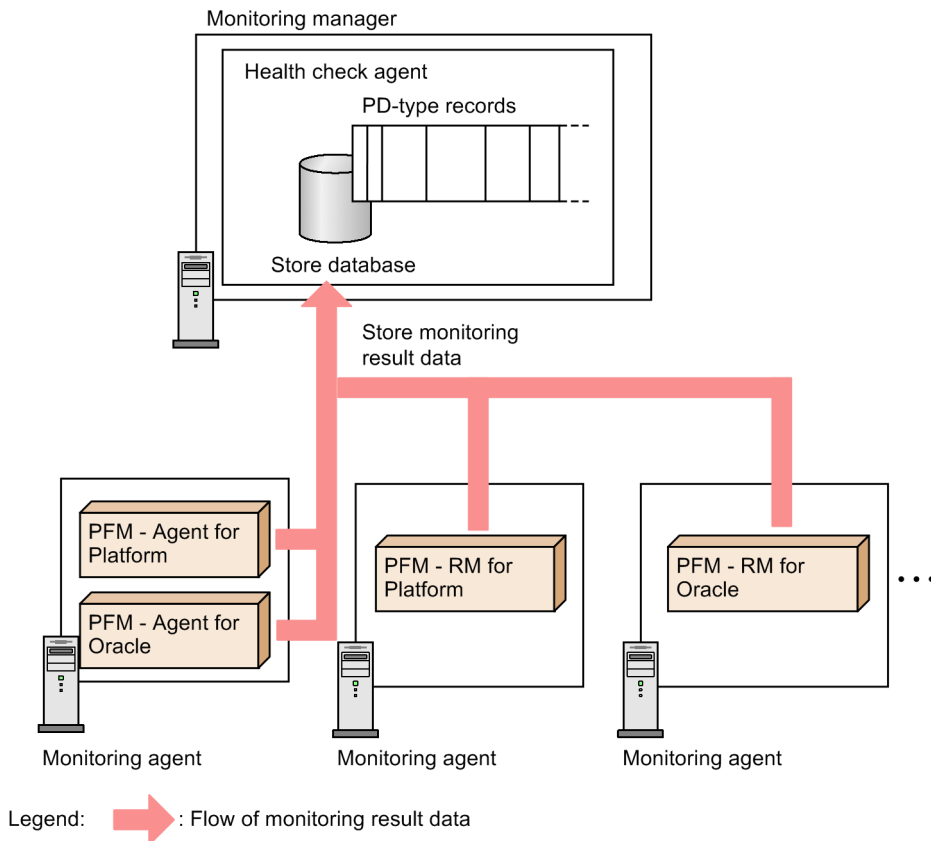
The health check function uses a dedicated agent called a *health check agent* to monitor the operating status of monitoring agents and the operating status of hosts on which monitoring agents are running. When the health check function is enabled, the health check agent starts when PFM - Manager starts. The health check agent checks the operating status of monitoring agent services and their hosts at regular intervals and displays the results in PFM - Web Console. By viewing the results, the system administrator can be made aware of changes in the operating status. For details about how to configure the health check function and how to check the operating statuses, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

The monitoring results are issued as events (*health check events*). Health check events are always issued when a health check agent starts, and when the health check agent's status changes. If the health check function's JP1 event issuance function is enabled, a JP1 system event is issued when a health check event is issued. For details about how to configure the health check function's JP1 event issuance function, see the chapter that describes detection of Performance Management failures in the *Job Management Partner 1/Performance Management User's Guide*.

Because health check events are also collected in the format of performance data, you can set alarms as needed and specify desired actions for the alarms. This enables you to issue a JP1 event, execute a command, issue an SNMP trap, and send an email when an agent's operating status changes. By using JP1 events and SNMP traps, you can link with an integrated management product like JP1/IM or NNM.

Depending on how the health-check agent is configured, the results of operating status monitoring can be stored in the Store database. You can then use the reporting function of the health check agent to view current and historical operating status information. The manner in which the health check agent stores data in the Store database, such as the Store version and the data retention period, can be set and managed in the same way as for ordinary performance data. For details about how to manage the collected data, see the chapter that describes management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

Figure 4–29: Data management of the monitoring results of the health check function



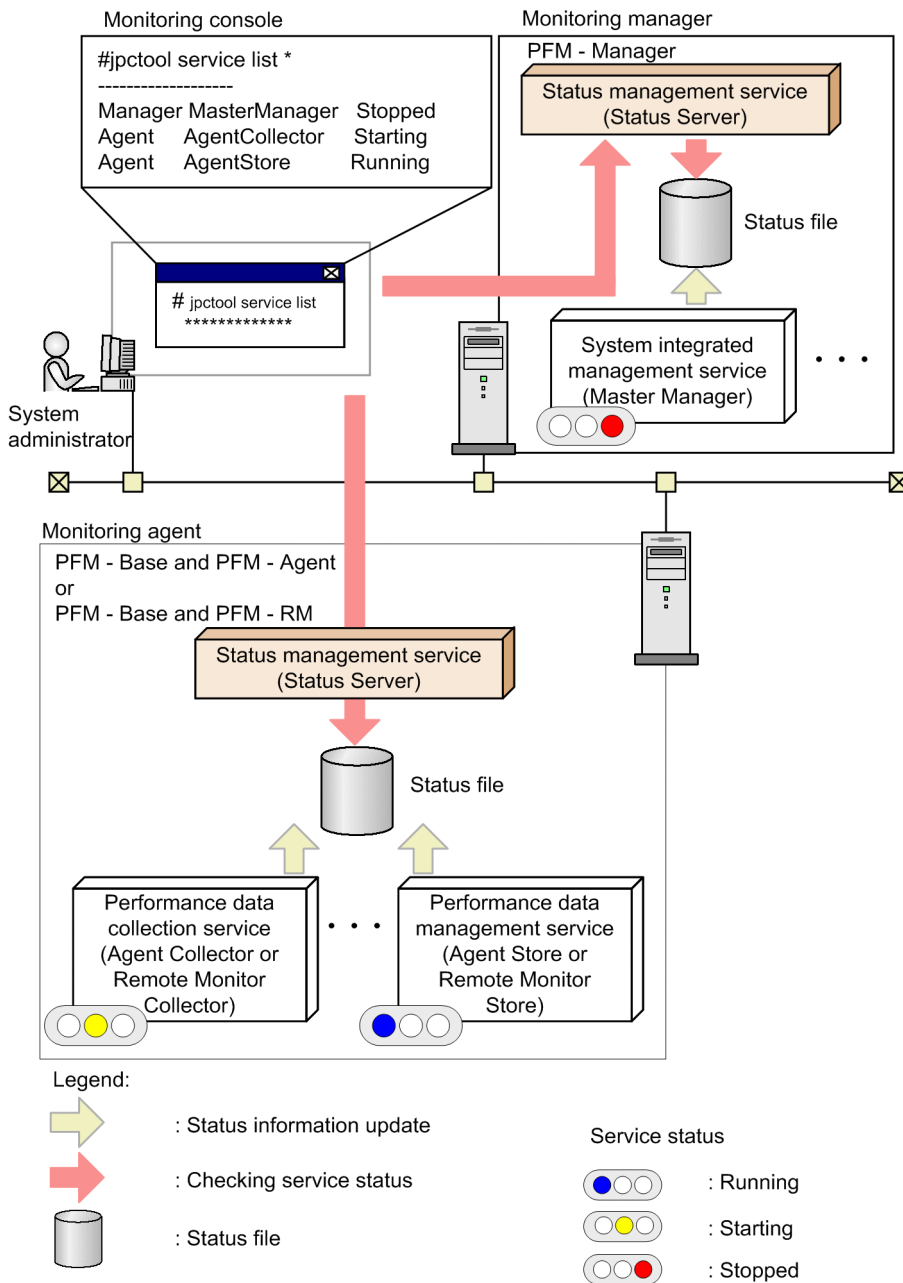
4.4.3 Using the monitoring results obtained from the status management function

Alternatively, you can monitor the status of the Performance Management services by using only the status management function.

(1) When the status management function is enabled

When the status management function is enabled, all services that run on PFM - Manager and PFM - Base register their status in a status file. The system administrator can then learn the status of each service by using the status management service (Status Server service) to check the contents of this file. To check the contents of the status file, you execute an operation command (the `jpctool service list`).

Figure 4–30: Overview of checking service statuses using the status management function



For details about how to configure the status management function, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

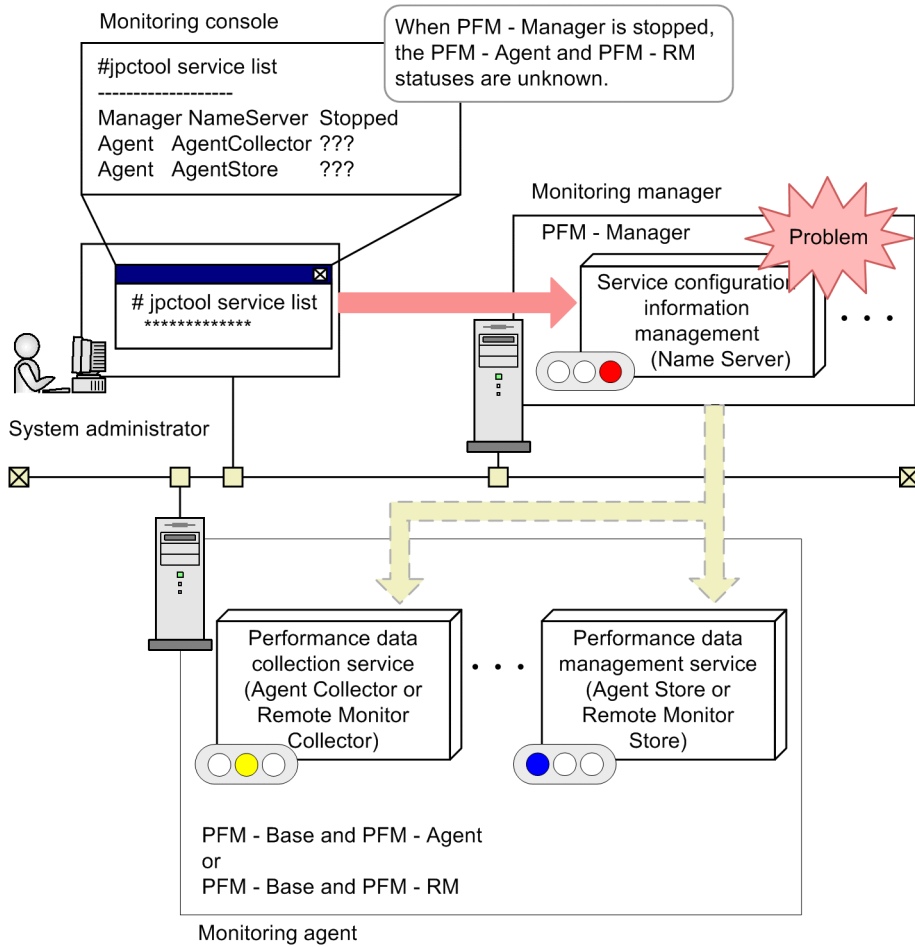
(2) When the status management function is disabled

If the status management function is disabled, PFM - Manager determines the service status based on whether attempts to communicate with PFM - Agent or PFM - RM yields a response. In addition, PFM - Manager centrally manages network information such as the IP addresses and port numbers for PFM - Agent or PFM - RM. Therefore, the service status cannot be checked if communication with PFM - Manager is not possible because an error has occurred, the service is starting, or for some other reason the status also cannot be checked when PFM - Agent or PFM - RM is running in standalone mode.



If the status management function is disabled, you might be unable to check the status of a service that is starting or stopping when you execute the `jpc tool service list` command. If it is necessary to check the service status,

enable the status management function. The following figure shows an example of checking the status of Performance Management with the status management function disabled.


Figure 4–31: Example when the status management function is disabled



Legend:

-  : Monitoring service status
-  : Checking service status

Service status

-  : Running
-  : Starting
-  : Stopped

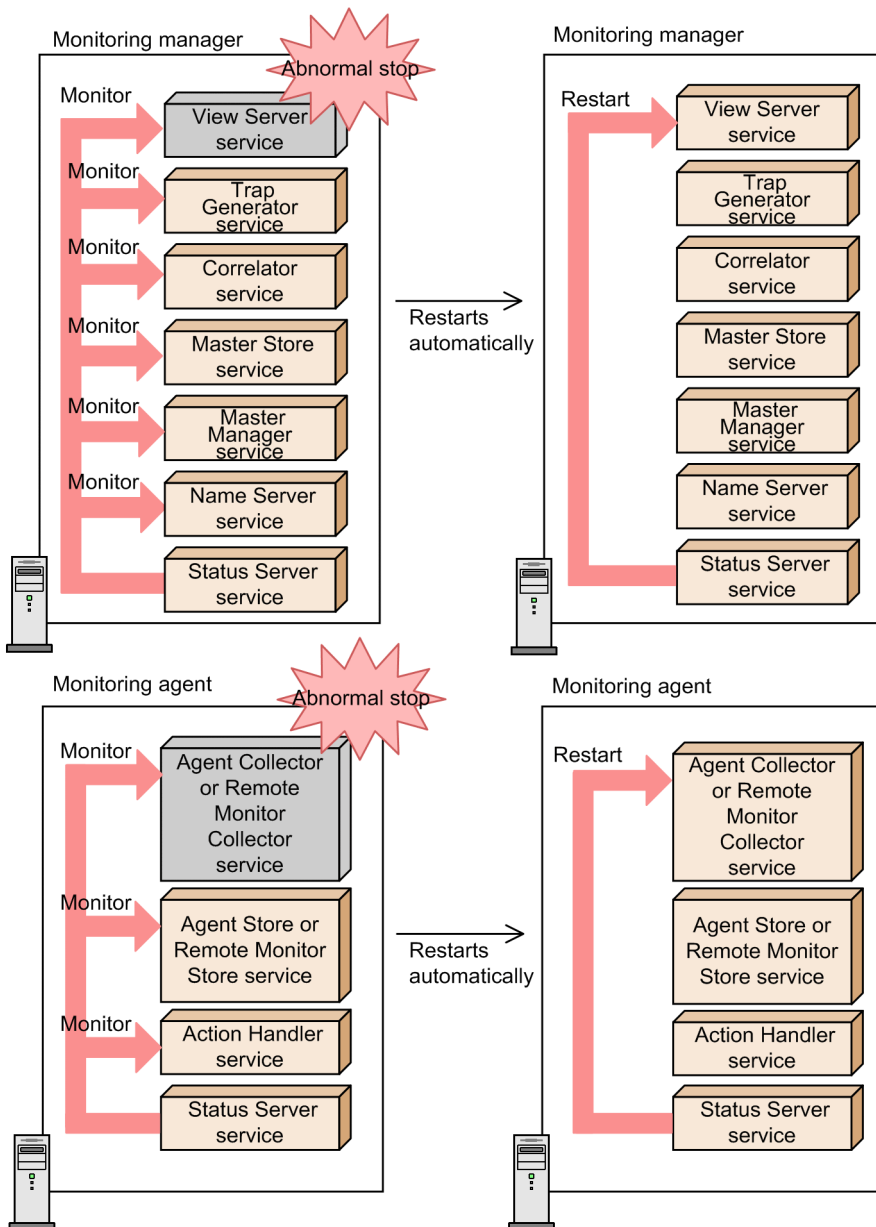
For details of the `jpctrllist` command, see the chapter about commands in the manual *Job Management Partner 1/Performance Management Reference*.

4.5 Functions for automatically restarting operation monitoring system services

As an insurance against abnormal termination of the PFM services, Performance Management provides a function that allows you to automatically restart the services. The Status Server service of each host uses the status management function to monitor the PFM services within the same host, and automatically restarts the PFM service when it detects an abnormal termination. Even when abnormal termination does not occur, you can set the PFM services to automatically restart at specified intervals. This function is called the *PFM service automatic restart functionality*. To maintain a stable monitoring environment, use the PFM service automatic restart function.

The PFM service automatic restart functionality uses the status management function. For this reason, the version of the PFM services to which this function is applied must support the status management function, and the status management function must be active on the host running these services. The PFM services to be restarted are the only PFM services that run on the physical host. The actual Status Server service is not restarted. If you are operating Performance Management on a cluster system, use the cluster software to control the PFM services that run on the logical host. The PFM service automatic restart function applies to all services running on the logical host.

Figure 4–32: Overview of the PFM service automatic restart functionality



The PFM service automatic restart function provides the following two functionalities:

- Automatic restart functionality

This functionality monitors the PFM services, and automatically restarts them when an abnormal termination is detected. You can specify the monitored PFM services and the monitoring intervals in units of service. However, if this functionality detects that the monitored PFM services terminated abnormally, the services are restarted in the service startup unit[#] to which the applicable PFM service belongs.

- Scheduled restart functionality

This functionality periodically restarts the PFM services. You can specify the PFM services to be restarted and the intervals between restarts in units of service. However, the PFM services are restarted in the service startup unit[#] to which the applicable PFM service belongs, while the specified unit of service terminates the services.

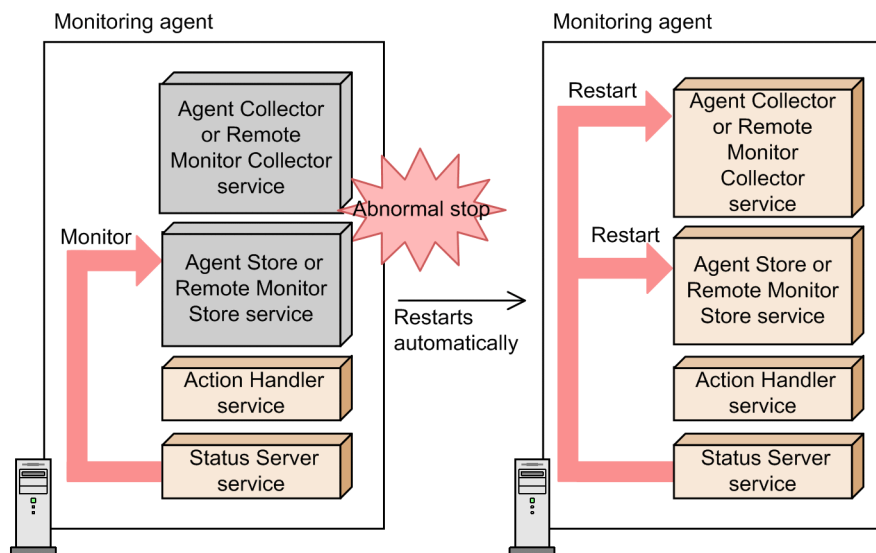
#

The service startup unit is the minimum unit you can specify with the `jpcspm start` command. For monitoring agents, the Agent Store and Remote Monitor Store services are paired together as a unit, and the

Agent Collector and Remote Monitor Collector services are paired together as a unit. For multi-instance agents, each instance forms a unit. For the Action Handler service, the service forms the actual unit.

The figure below shows an example where services are started by the service startup unit. In this example, even if the monitored target is only the Agent Store service, when an abnormal termination of the Agent Store service is detected, the PFM service automatic restart function restarts both the Agent Collector and Agent Store services forming the service startup unit to which the Agent Store service belongs. For details about the service startup units in the PFM service automatic restart functionality, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

Figure 4–33: Example of the restart by the service startup unit to which the applicable service belongs



You can configure the PFM service automatic restart functionality in the Service Properties window, which is launched from the Services window of PFM - Web Console. For details about the PFM service automatic restart functionality, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

4.6 Function for obtaining a list of settings

Performance Management can output varieties of settings for each host to files at one time. Such settings include the operation settings of each host (contents of the start information files) and the service-specific property settings.

This function can be used for the following purposes:

- Leaving evidence of environment settings
- Confirming that no mistake exists in new settings by comparing the old and new settings when you change multiple settings for one host
- Confirming that the differences in the settings of multiple hosts are adequate

Note that you need a commercially-available difference comparison tool to compare files (to extract differences).

Use the `jpcparamdump` command to output settings to a file. When you execute the command on the target host, the settings of the Performance Management programs installed on that host are output to a text file.

For details about how to use the `jpcparamdump` command and the contents of the output, see the chapter and the appendix that describe the commands in the manual *Job Management Partner 1/Performance Management Reference*.

4.7 Monitoring console functions of Performance Management

The monitoring console of Performance Management is a Web browser. By accessing the monitoring console server from a Web browser, the system administrators can detect errors occurring in the corporate system in real time. You do not need to install or acquire different monitoring software for each agent. By logging on to PFM - Web Console from a Web browser, the system administrators can monitor the status of agent operations in real time.

You can use the following two methods for monitoring operation status:

4.7.1 Monitoring agents in an Agents tree

The icons display the status of agent operations. You can control agents in a tree structure by grouping the icons and converting the icons to a hierarchical structure called an *Agents tree*. Icons on the tree change when an event occurs in an agent. This allows you to visually check what kind of event has occurred.

By clicking the report icon for an agent in the Display Alarm Status window, you can display as graphs or tables the reports associated with the alarms. You can then use this report, which appears as a graph or table, to check the operating status of the agent. When you select an item on the graph or table, you can have the report display a detailed graph or table associated with the item in a separate window. From the report, you can open a more detailed *drilldown report*.

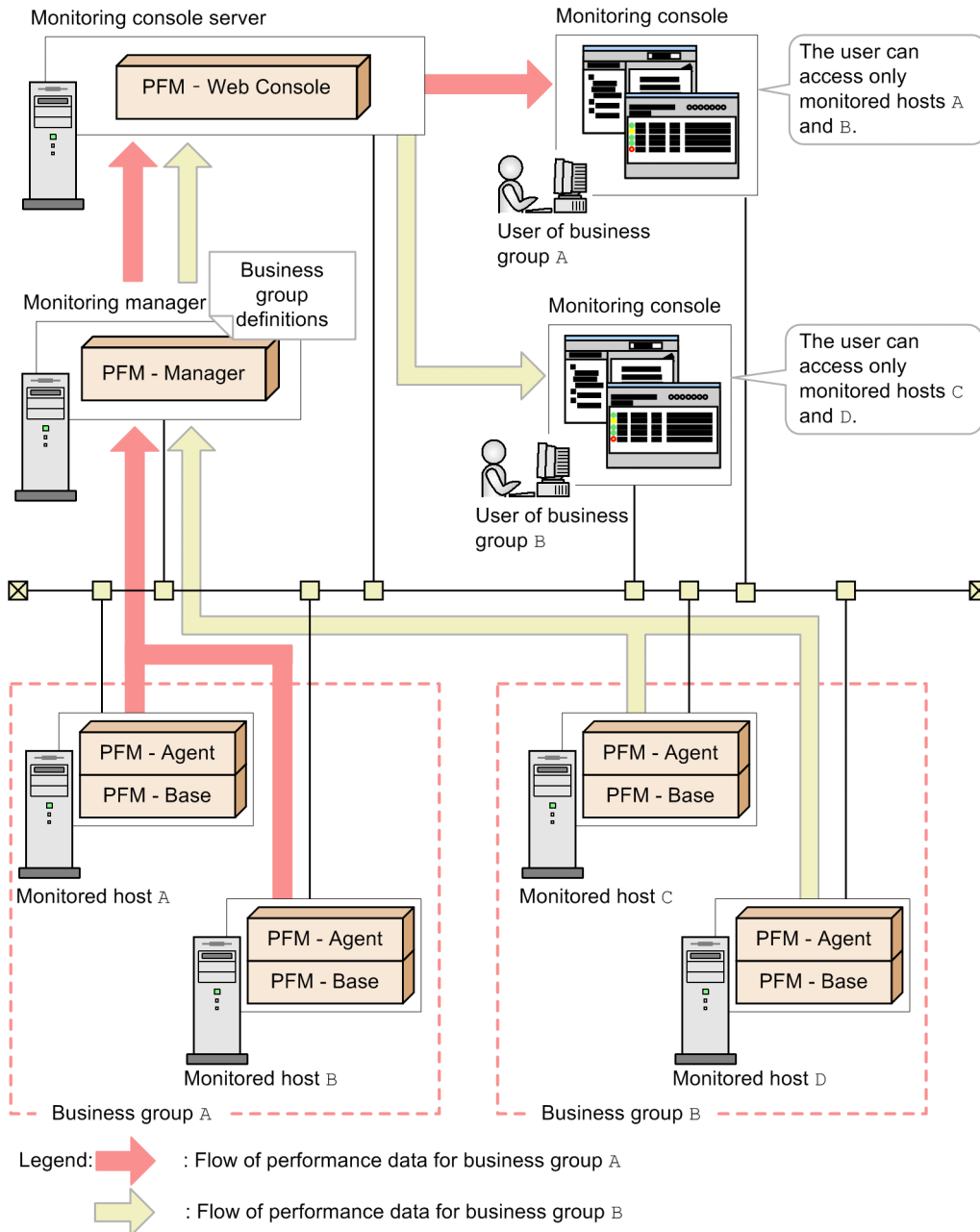
4.7.2 Monitoring agents using logs

Using logs, you can display information about events that occurred during agent monitoring. You can check the latest information in the Event Monitor window for the date and time when the event occurs and details of messages. In the Event History window, you can also check the history of past events.

4.8 Functions monitored in a business group

Performance Management enables you to group multiple monitored hosts together for each business system and specify the users who will be able to access each group. A group of monitored hosts is called a *business group*. When you use business groups, you can limit the users who monitor the operating status of each business system, thereby improving security. This is called the *access control function based on business groups*.

Figure 4–34: Example of using the access control function based on business groups



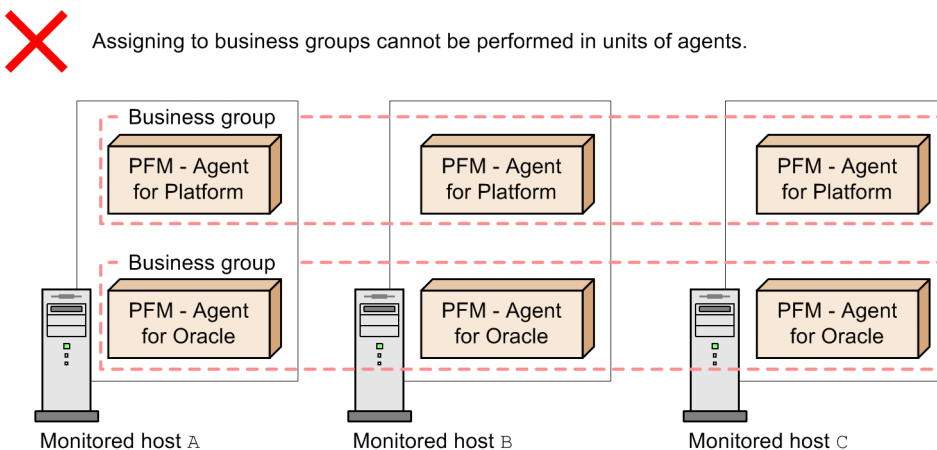
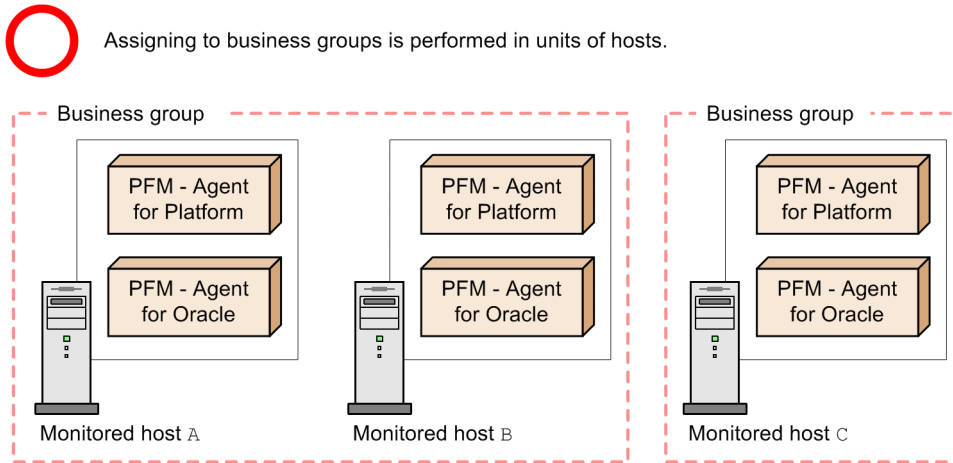
When the user to whom a business group is assigned logs on to the monitoring console, only the agents in that business group are displayed. The user can perform operation monitoring, such as displaying reports, only for the displayed agents.

For details about the configuration of the access control function based on business groups and the operations that can be performed from a monitoring console by a user to whom a business group has been assigned, see the chapters that

describe user accounts and management of business groups in the *Job Management Partner 1/Performance Management User's Guide*.

The resources to be assigned to each business group are specified by monitored host. Therefore, if multiple agents are installed on the same host, those agents cannot be assigned to different business groups. The following figure shows an example of a configuration in which multiple agents are installed on a monitored host.

Figure 4–35: Example of assigning a host on which multiple agents are installed to a business group



Reference note

Access control over command execution when business groups are used

The commands of PFM - Manager and PFM - Base cannot be executed on a per business group basis. However, depending on option settings, you can limit the hosts that can be manipulated to the local host only. This can prevent a user from manipulating a host that does not belong to the user's business group. For details, see [4.9.4 Settings to limit the host subject to command processing](#).

The commands of PFM - Web Console can be used with the user permissions specified in the authentication key file that is created by using the `jpcmkkey` command. The user who created the authentication key file can execute the commands only on the monitored hosts in the business group to which that user is assigned.

4.9 Performance Management commands

Performance Management provides various commands to support efficient operations. This section describes the major Performance Management commands.

For details about commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

4.9.1 Commands used to set up the system

You can execute the setup commands and some of the commands used to set up the Store database in the non-interactive format. The non-interactive format enables you to continue processing by specifying options and importing definition files without having to request entry of user responses. This format is useful when you have to set up many monitoring targets.

(1) Setup commands

The following are types of setup commands:

- Commands used at setup
- Commands used to set up the monitoring targets of PFM - RM
- Commands used to set up an instance environment
- Commands used to set up the cluster system

(a) Commands used at setup

Commands used at setup include commands that specify PFM - Manager at the connection destination of PFM - Agent or PFM - RM, specify settings when you add PFM - Agent or PFM - RM, and specify port numbers used in Performance Management.

Figure 4–36: Overview of the commands used at setup

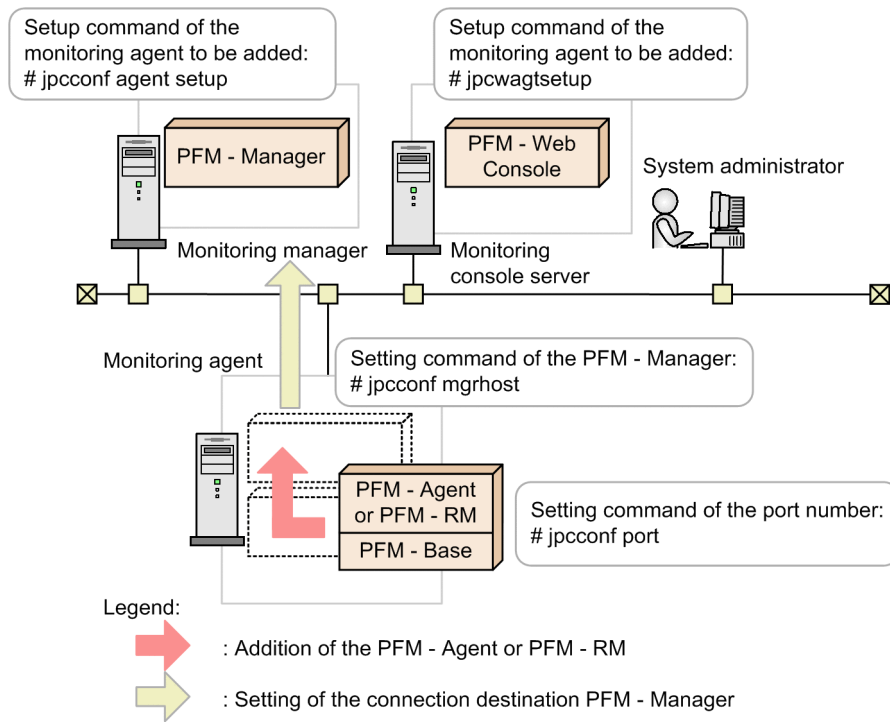


Table 4–10: List of the main commands used at the setup

Command	Description
<code>jpcconf mgrhost</code>	Displays, sets and changes PFM - Manager for the connection destination
<code>jpcconf agent setup</code>	Additionally sets up a new PFM - Agent or PFM - RM
<code>jpcwagtsetup</code>	Additionally sets up a new PFM - Agent or PFM - RM to PFM - Web Console
<code>jpcconf port</code>	Displays and sets the port number used in Performance Management
<code>jpcconf host</code>	Renames the monitoring host in the Performance Management system, or changes the method for obtaining the monitoring host name

(b) Commands used to set up the monitoring targets of PFM - RM

Commands used to set up the monitoring targets of PFM - RM include commands to add, delete, and display the monitoring targets of PFM - RM.

Table 4–11: List of the main commands used to set up the monitoring targets of PFM - RM

Command	Description
<code>jpcconf target setup</code>	Adds monitoring targets of PFM - RM
<code>jpcconf target unsetup</code>	Deletes the monitoring targets of PFM - RM
<code>jpcconf target list</code>	Lists the monitoring targets of PFM - RM
<code>jpcconf target display</code>	Displays the settings for the monitoring targets of PFM - RM

(c) Commands used to set up an instance environment

Commands used to set up an instance environment include commands to create, delete, and display the instance environment.

Table 4–12: List of the main commands used to set up an instance environment

Command	Description
<code>jpccconf inst setup</code>	Creates an instance environment
<code>jpccconf inst unsetup</code>	Deletes an instance environment
<code>jpccconf inst list</code>	Displays an instance environment

(d) Commands used to set up the cluster system

Commands used to set up the cluster system include a command used to operate the logical host.

Table 4–13: Main command used to set up the cluster system

Command	Description
<code>jpccconf ha</code>	Used to operate the logical host in the cluster system

(2) Commands used to set up process monitoring

Commands used to set up process monitoring include the commands for adding, deleting, outputting, and displaying application definitions.

Table 4–14: Main commands used to set up process monitoring

Command	Description
<code>jpccprocdef create</code>	Creates and edits application definitions
<code>jpccprocdef delete</code>	Deletes application definitions
<code>jpccprocdef list</code>	Displays a list of application definition names
<code>jpccprocdef output</code>	Outputs the contents of application definitions

(3) Commands used to set up the Store database

Commands used to set up the Store database include commands to change the Store database version.

Table 4–15: List of the main commands used to set up the Store database

Command	Description
<code>jpccconf db vrset</code>	Changes the Store database version
<code>jpccconf db display</code>	Displays the status of the Store service and the Store version
<code>jpccconf db define</code>	Displays or modifies the settings of the Store service

(4) Commands used to set up the Performance Management functions

Commands used to set up the Performance Management functions include commands used to check whether the status management and health check functions are enabled or disabled, and to display information about the functions.

Table 4–16: List of the main commands used to set up the Performance Management functions

Command	Description
<code>jpccconf stat</code>	Checks whether the status management function is enabled or disabled, and displays information about the function
<code>jpccconf hc</code>	Checks whether the health check function is enabled or disabled, and displays information about the function
<code>jpccconf prodname</code>	Enables and disables the product name display function. Displays the settings for this function

(5) Commands used for configuring a linkage with other systems

The commands used to configure a linkage with other systems include the commands to enable or disable the JP1/IM linkage.

Table 4–17: List of the main commands used to set up linkage with other systems

Command	Description
<code>jpccconf im</code>	Enables or disables the linkage facility to JP1/IM
<code>jpccconf ov</code>	Enables or disables the linkage facility to NNM

(6) Commands used to create and edit agent levels

The commands used to create and edit agent levels include the command for exporting the definition of agent levels to a file and the command for importing the definition of agent levels from a file.

Table 4–18: List of the commands used to create and edit agent levels

Command	Description
<code>jpccconf agttree export</code>	Exports the definition of agent levels to a file
<code>jpccconf agttree import</code>	Imports the definition of agent levels from a file

(7) Commands used to create and edit business groups

The commands used to create and edit business groups include the commands for exporting and importing business group definition information.

Table 4–19: List of commands used to create and edit business groups

Command	Description
<code>jpccconf bgdef check</code>	Checks the contents of a business group definition file
<code>jpccconf bgdef delete</code>	Deletes business group definition information
<code>jpccconf bgdef display</code>	Displays business group definition information
<code>jpccconf bgdef export</code>	Exports business group definition information to a file
<code>jpccconf bgdef import</code>	Imports business group definition information from a file
<code>jpccconf bgdef list</code>	Displays a list of business group names

(8) Commands used to set Performance Management to run in an IPv6 environment

The commands used to set Performance Management to run in an IPv6 environment include the commands for enabling and disabling the IPv6 usage settings and the command for displaying the IPv6 usage settings.

Table 4–20: List of commands used to set Performance Management to run in an IPv6 environment

Command	Description
<code>jpccconf ipv6 enable</code>	Enables usage of Performance Management in an IPv6 environment
<code>jpccconf ipv6 disable</code>	Disables usage of Performance Management in an IPv6 environment
<code>jpccconf ipv6 display</code>	Displays a window containing the settings of the usage of Performance Management in an IPv6 environment

4.9.2 Commands used to operate the system

(1) Service management commands

Performance Management provides commands to check the status of services.

Table 4–21: List of the main commands used to manage the Performance Management services

Command	Description
<code>jpctool service list</code>	Checks the structure and status of the Performance Management services
<code>jpctool service delete</code>	Deletes the Performance Management service information
<code>jpctool service register</code>	Re-registers the Performance Management service information
<code>jpctool service sync</code>	Synchronizes the service information registered in PFM - Manager and PFM - Web Console

(2) Alarm management commands

Alarm management commands include a command to set the alarm events issued when the monitored program exceeds a threshold.

Table 4–22: Main command to set alarms

Command	Description
<code>jpctool alarm</code>	Sets alarms for Performance Management

(3) Report management commands

Report management commands include a command to create operation monitoring reports based on the data collected from the monitored program.

Table 4–23: List of the main command to set reports

Command	Description
jpctrdef	Sets reports for Performance Management
jpctrpt	Performs batch-output of operation reports to a CSV or HTML file

(4) Store database management commands

Store database management commands include commands used to perform setup and unsetup operations for the Store database.

Table 4–24: List of the main commands used to manage the Store database

Command	Description
jpctool db backup	Backs up data
jpctool db clear	Deletes data
jpctool db dump	Outputs the collected performance data to a text file
jpctool db restore	Restores data
jpctool db import	Imports backup data into the Store database (when using Store 2.0)
jpctool db dmconvert	Upgrades the data model of the backup data in the specified backup directory (when using Store 2.0)
jpccasrec	Changes and outputs the definitions of the Store database recording methods
jpccaspsv	Changes and outputs the definitions of the Store database retention conditions

(5) Data collection commands

Data collection commands include commands used to collect the necessary data together when problems occur.

Table 4–25: Main commands to collect troubleshooting data

Command	Description
jpccras	Collects the troubleshooting data for PFM - Manager, PFM - Agent, PFM - RM, and PFM - Base
jpccwras	Collects the troubleshooting data for PFM - Web Console

(6) Commands used to operate the system linking with other systems

Commands used to operate the system linking with other systems include a command used to enable or disable the linkage facility to JP1/IM.

Table 4–26: Main commands used to operate the system linking with other systems

Command	Description
jpccimevt	Sends events registered in JP1/IM

4.9.3 Commands used to start and stop the system

Table 4–27: List of the main commands used to start and stop the Performance Management system

Command	Description
<code>jpcspm start</code>	Starts the Performance Management services
<code>jpcspm stop</code>	Stops the Performance Management services
<code>jpcwstart</code>	Starts the PFM - Web Console services
<code>jpcwstop</code>	Stops the PFM - Web Console services

4.9.4 Settings to limit the host subject to command processing

PFM - Base provides commands for manipulating other PFM - Manager, PFM - Agent, and PFM - RM hosts. For security reasons, it might not be advisable to manipulate one agent host from another. In such a case, you can specify options to prohibit operations between agent hosts and to limit the target of operations only to the local agent host. If you do not wish to allow one agent host to manipulate another agent host, evaluate whether to enable the following options:

- Option for limiting remote operation of Agent hosts
- Option for restricting viewing of service information from Agent hosts

The following table lists and describes the target commands for each option and the limitations that are applied when the options are enabled.

Option	Target commands	Limitations
Option for limiting remote operation of Agent hosts	<ul style="list-style-type: none"> • <code>jpccras</code> • <code>jpctool db backup</code> • <code>jpctool db dump</code> • <code>jpctool service list</code> (without the <code>-stat</code> option) 	When any target command is executed on the agent host, this option prevents that command from being executed on any other agent host. Even when this option is enabled, any target command that is executed on the PFM - Manager host is executable on all hosts.
Option for restricting viewing of service information from Agent hosts	<code>jpctool service list</code> (with the <code>-stat</code> option)	When a target command is executed, information about any remote host for which this option is enabled is not displayed.

For details about how to specify the settings, see [5.4.12 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts \(in Windows\)](#) or [6.4.11 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts \(in UNIX\)](#).

4.10 Notes

4.10.1 Notes on the time setting of a monitoring target machine

(1) Notes on the time setting

- Stop all Performance Management services before changing the time setting. After changing the time setting, restart the Performance Management services.
- If the Performance Management programs have different time settings, the display range of performance data in historical reports might not be correct. Performance data is collected and stored by PFM - Agent and PFM - RM. You need to specify the display range for a historical report based on the time kept by PFM - Agent and PFM - RM. Likewise, if the time zones differ between the programs, you must also take into account the differences in the time zones when you specify the display range for a historical report.
- Event history is displayed in the Event History window in the order of the times when the events were issued. These are the times set at the computers that issued the events. Therefore, if you change a computer's time setting to a past time, a current event will be inserted and displayed in the history log for past events. If you change a computer's time setting to a future time, a current event will be inserted and displayed in a history log for future events.

(2) Notes on changing the current time to a future time

- When you change the current time to the future time, the system does not store the history information between the time before the change and the time after the change.
- When you change the current time to a future time, performance data might be deleted because of its retention period. Therefore, before you change the current time to a future time, use the `jpctool db backup` or the `jpctool db dump` command to back up the data.

(3) Notes on changing the current time to a past time

When you change the current time to a past time, the system stores data collection and history information based on the changed time. If there is any data or history information that was collected on a date and time that is the same as before the change, you must clear the Store database by performing the procedure described below after you have changed the time setting.

To clear the Store database:

1. Stop the programs and services of Performance Management.
If any programs and services of Performance Management are running, stop all of them. Use the `jpccspm stop` command to stop services.
2. Change the computer's current time to a past time.
3. Start the programs and services of Performance Management.
Start the programs and services of Performance Management. Use the `jpccspm start` command to start services.
4. Execute the `jpctool db clear` command to delete the PI, PD, and PL records of the target Agent from the Store database.
For details, see the chapter that describes the management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

4.10.2 Notes on the Japanese-language environment

This subsection provides information about searching for characters and character strings that are not supported by Performance Management.

(1) About unsupported characters

Performance Management does not support the following double-byte characters:

- ¢, ₤, ₤, ₤, ₤, ~, —, —
- System-dependent characters, such as circled numbers, Roman numerals, and kanji not defined as a JIS Level 1 or JIS Level 2 character

If unsupported characters are used, alarms and reports will not execute normally. Also, unsupported characters might be displayed as question marks (?) or as garbled characters.

(2) About searching for character strings

Use wildcard characters, such as the asterisk (*) and question mark (?), to search for character strings.

If inequality signs, such as < and >, are used, the search might not be performed correctly because interpretation of these signs depends on the character encoding used by the host on which the target database is running. Therefore, do not use inequality signs, such as < and >, in search conditions.

4.10.3 Notes on environments in which multiple languages are used

(1) Notes on PFM - Manager, PFM - Agent, and PFM - RM

If multiple language environments of PFM - Manager and PFM - Agent or PFM - RM coexist in the system or different language types are specified in LANG environment variables in the Performance Management system, limitations might occur depending on the combination of languages.

The following table shows the language combinations that result in limitations.

PFM - Manager	PFM - Agent or PFM - RM	Limitations
Japanese-language environments	Japanese-language environments	N
	English-language environments	Y
	Chinese-language environments (Simplified Chinese)	Y
English-language environments	Japanese-language environments	Y
	English-language environments	Y
	Chinese-language environments (Simplified Chinese)	Y
Chinese-language environments(Simplified Chinese)	Japanese-language environments	Y
	English-language environments	Y
	Chinese-language environments (Simplified Chinese)	N

Legend:

Y: There are limitations.

N: There are no limitations.

If there are limitations, display and define the items listed below in the ASCII 7-bit code range. If these items are defined in a language that includes characters outside the ASCII 7-bit code range, they might not be displayed correctly in PFM - Web Console or the program might not run correctly.

- Performance data that is displayed in CSV or HTML files to which the View Report window and reports have been exported (such as process names and device IDs)
- Alarm message texts
- Conditional expressions for alarms
- Command names in alarm action definitions
- Command arguments in alarm action definitions
- LOGIF (conditional expression) in the method for recording data into the Store database

Note:

In an environment in which Performance Management is linked with other products and multiple languages coexist, check the notes and limitations on the linked products.

4.10.4 Notes on temporary files

(1) Output directory for temporary files

The Agent Collector, Remote Monitor Collector, Agent Store, Remote Monitor Store, and Master Store services create temporary files in the following directories when you display real-time or historical reports in PFM - Web Console, display event histories, or acquire historical data using the ODBC driver:

In Windows:

The directory specified by the `TMP` system environment variable.

In UNIX:

The directory specified by the `TMPDIR` environment variable.

If `TMPDIR` is not defined, temporary files are created in `/var/tmp` or `/tmp`.

The Agent Collector, Remote Monitor Collector, Agent Store, Remote Monitor Store, and Master Store services might output the `KAVE00105-E` message when there is insufficient disk space on the disk where the directory is located.

In this case, if you are unable to secure any more free space, you can change the directory in which temporary files are created by defining the following environment variable:

Environment variable	Description
<code>JPC_TMPDIR</code>	Specifies the path to the directory where temporary files are to be output.

Important note

In Windows, define the `JPC_TMPDIR` environment variable as a system environment variable. If you have configured Performance Management to start automatically in UNIX by using an automatic start script, use the following procedure to edit the automatic start script file:

1. Log on as the root user.
2. Open the automatic start script file `jpc_start` in an editor, for example `vi`, and locate a line that resembles the following:

```
export PATH SHLIB_PATH LD_LIBRARY_PATH LIBPATH HCCLIBCNF
```
3. Modify the line you located in step 2 as follows:

```
JPC_TMPDIR=temporary-file-output-directory
export PATH SHLIB_PATH LD_LIBRARY_PATH LIBPATH HCCLIBCNF JPC_TMPDIR
```

Note: Ensure that the disk where the path specified in *temporary-file-output-directory* is located has sufficient free space.
4. Restart the system.

(2) Estimating the size of temporary files

For details about the estimating the size of temporary files, see the Release Notes.

4.10.5 Notes on using Windows Server 2008 or Windows Server 2012

(1) Operations in Performance Management requiring Administrator privileges

When you use Windows Server 2008 or Windows Server 2012, some operations require administrator privileges if the UAC function is available. If you want to perform operations that require administrator privileges, you must be elevated to administrator status.

Table 4–28: Operations that requires administrator privileges and whether the operations can be performed

Action	Whether administrator privilege is required	Whether the operation can be performed (when the UAC function is enabled)		Whether the operation can be performed (when the UAC function is disabled)	
		Administrator user permission	General user permission	Administrator user permission	General user permission
Installation and uninstallation	Y	Y#1	Y#1	Y	N
Commands requiring Administrators permissions	Y	Y#2	Y#2	Y	N
Commands that do not require Administrators permissions	N	Y	Y	Y	Y
Starting and stopping the service from Service Control Manager	Y	Y#1	Y#1	Y	N

Legend:

Y: Required/Can be performed

N: Not required/Cannot be performed

#1:

UAC popup indicates that your status must be elevated to administrator.

#2:

These commands must be executed from the Performance Management Administrator Console.

(2) Overview of the Performance Management Administrator Console

In Performance Management, some commands require administrator permissions. These commands are called *administrator commands*. The Performance Management Administrator Console is the command prompt used to execute the administrator commands.

If the User Account Control (UAC) of Windows is available, execute these commands from the Administrator Console.

- How to start the Performance Management Administrator Console

Windows Server 2008

- In PFM - Base or PFM - Manager:

To start the Performance Management Administrator Console, from the **Start** menu, choose **Programs**, **Performance Management**, and then **Administrator Console**.

- In PFM - Web Console:

To start the Performance Management Administrator Console, from the **Start** menu, choose **Programs**, **Performance Management**, and then **Administrator Console(Web Console)**.

Windows Server 2012

- In PFM - Base or PFM - Manager:

1. From the desktop, display the Start window.
2. Right-click in the Start window, and then display **All Apps**.
3. From the **Performance Management** folder, select **Administrator Console**.

- In PFM - Web Console:

1. From the desktop, display the Start window.
2. Right-click in the Start window, and then display **All Apps**.
3. From the **Performance Management** folder, select **Administrator Console(Web Console)**.

- How to stop the Performance Management Administrator Console

To stop the Performance Management Administrator Console, from the command prompt, type the `exit` command, or click the close (x) button.

(3) Creating folders or files specific to Performance Management

When you create folders or files specific to Performance Management, do not create them in the folder where the UAC function is active.

(4) About WRP (Windows Resource Protection)

Resources under the folder, for which the resource protection by WRP is enabled, cannot be deleted or changed. Do not set folders or recording destinations for the folders under the folder for which WRP is configured.

(5) About support for Windows Defender

When you are using the software explorer function of Windows Defender, warning messages might be displayed for unclassified programs.

When you install PFM - Manager, or perform the additional setup of PFM - Agent or PFM - RM to PFM - Manager, warning messages might be output by any function of Windows Defender. Therefore, all functions of Windows Defender must be turned off. You can also exclude the folder that installs PFM - Manager from the audit target of Windows Defender.

(6) Commands requiring BackupOperators permissions

If you are using Windows Server 2008 or Windows Server 2012 and you belong to the `BackupOperators` group, you can execute the commands that require `BackupOperators` permissions.

4.10.6 Notes on displaying real-time reports

When you specify display of real-time reports and collection of historical data at the same time, and the processing of the Performance Management services overlaps, only one of the tasks will be performed.

As a result, real-time reports might not be displayed at all or historical data might not be collected at all. If historical data is not collected, alarm evaluation cannot be performed for the data.

If this problem occurs, a `KAVE00213-W` message will be output to the common message log.

This problem occurs if both of the following conditions apply:

1. Display of real-time reports and collection of historical data[#] are specified at the same time for a single agent instance.
2. While a real-time report is being displayed or historical data is being collected, display of a real-time report or collection of historical data occurs.

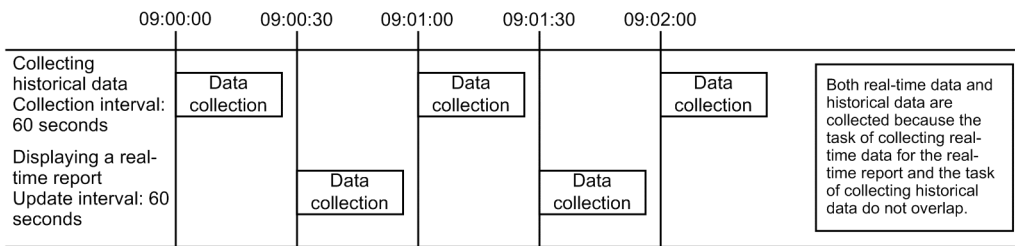
#

Regardless of whether the data is stored in the Store database.

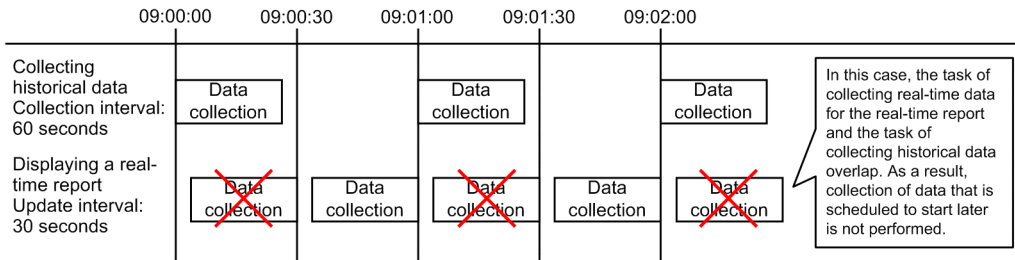
The following figure provides examples of this problem.

Figure 4–37: Problem cases that might occur when display of real-time reports and collection of historical data are specified at the same time

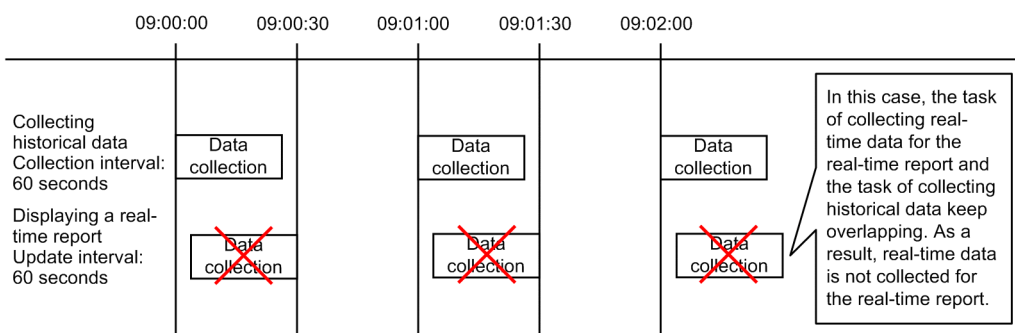
■ Case where a problem does not occur



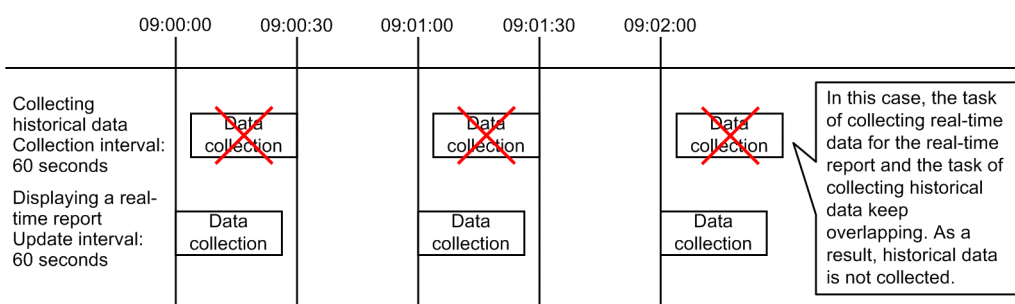
■ Problem case 1



■ Problem case 2



■ Problem case 3



Make sure that the task of displaying a real-time report and the task of collecting historical data do not overlap for a single agent instance.

This problem can be avoided by making sure that the update interval of a real-time report and the interval for collecting of historical data do not overlap. The problem can be automatically prevented by enabling the function that prioritizes the collection of historical data over the display of real-time reports. For details about the method, see the chapter that describes troubleshooting in the *Job Management Partner 1/Performance Management User's Guide*.

5

Installation and Setup (in Windows)

This chapter describes the procedures for installation and setup for Performance Management in Windows.

5.1 Installation and setup

5.1.1 Before installation and setup

This subsection describes what you need to confirm before installing and setting up Performance Management. For notes on Windows Server 2008 and Windows Server 2012, see [4.10.5 Notes on using Windows Server 2008 or Windows Server 2012](#).

(1) Supported OSs

The following table lists supported OSs for the Performance Management programs.

Table 5–1: Supported OSs (in Windows)

OS name	PFM - Manager	PFM - Web Console	PFM - Base
Windows Server 2003	Y	Y	Y
Windows Server 2008	Y	Y	Y
Windows Server 2012	Y	Y	Y

Legend:

Y: Supported

PFM - Agent and PFM - RM support different OSs. For details, see the appropriate PFM - Agent or PFM - RM manual.

(2) Determining the system configuration

Determine the number of instances of PFM - Agent or PFM - RM that connect to PFM - Manager. For details about how to estimate the number of instances, see [A.1 System configuration](#).

(3) System estimates

Estimate and specify the resources required for the Performance Management system. For details about how to estimate resources, see [C. System Estimates](#) and each PFM - Agent manual.

(4) Network environment settings

(a) IP address settings

Set up an environment in which host names of all the hosts in a Performance Management system can be resolved to IP addresses (IP addresses do not need to be resolved to host names). Performance Management cannot be installed if the environment does not provide the ability to resolve IP addresses.

You can use the real host name or the alias name as the monitoring host name (the host name for the Performance Management system). However, we recommend that you use aliases to minimize the influence caused by changing host names in the real environment.

- When using the alias name as the monitoring host name
Configure the environment so that the IP address can be resolved with the specified alias name.
- When using the real host name as the monitoring host name

Configure the environment so that the IP address can be resolved with the host name that has been obtained by executing either the `hostname` command (Windows system) or `uname -n` command (UNIX system).

For a UNIX system, you can also use the host name obtained with the `hostname` command. For details, see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

For details about how to set a monitoring host name, see [5.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

Use one of the following methods to specify host names and IP addresses:

- `hosts` file
- DNS
- Host information configuration file for Performance Management
 - `jpchosts` file (for PFM - Manager, PFM - Agent, PFM - RM, and PFM - Base)

Notes:

- Performance Management can be used in a DNS environment but does not support FQDN. Therefore, you must exclude the domain name when you specify the monitoring host name.
- Use the `jpchosts` file to set IP addresses if you run the system in multiple LAN environments. For details, see [5.3.1 Specifying and changing the network configuration](#).
- Performance Management cannot be used in a DHCP environment on hosts which IP addresses are dynamically allocated. You must allocate fixed IP addresses to all hosts where Performance Management is installed.
- A loopback address cannot be specified as the IP address of a host name that is to be resolved.
- A loopback address must be specified for `localhost` in the `hosts` file.
- If two or more host names are assigned to the PFM - Manager host, you must specify the name of the connection-target PFM - Manager host that is to be used, as described below, in the `jpccnfmgrhost define` command on the PFM - Agent or PFM - RM host in the system.

When the real host name is used as PFM - Manager's monitoring host name:

Host name obtained by executing the `hostname` command in a Windows system or the `uname -n` command in a UNIX system

When an alias is used as PFM - Manager's monitoring host name:

Alias name that has been specified

- If IP address translation (NAT) is performed between the PFM - Manager host and the PFM - Web Console host and JP1/ITSLM host, or multiple IP addresses are used between the PFM - Manager host and the PFM - Web Console host and JP1/ITSLM host, the host name to be used for communication must be specified.

For details, see the section that describes the specification of host names used for communication between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSLM in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

- In a Performance Management system, the host names of servers and the aliases used as monitoring host names must be unique.

The method of checking the host names of servers differs depending on how monitoring host names were determined.

When the `hostname` command was used to obtain a real host name used as a monitoring host name: Use the `hostname` command to check.

When the `uname` command was used to obtain a real host name used as a monitoring host name: Use the `uname -n` command to check.

- In a Performance Management system, the IP addresses of hosts must be unique.

(b) Port number settings

The port numbers listed in the following table are assigned to the Performance Management program services by default. For other services or programs, a port number not in use by the system at that time, is automatically assigned each time a service is started up. Use fixed port numbers if you use Performance Management in a firewall environment. For details about the procedure to fix port numbers, see [5.3.1\(1\)\(c\) Setting port numbers](#).

Table 5–2: Default port numbers and Performance Management program services (in Windows)

Service	Service name	Parameter	Port number	Note
Service configuration information management function	Name Server	jp1pcnsvr	22285	The port number used by the PFM - Manager Name Server service. This port number is set for all hosts for Performance Management.
NNM linkage function	NNM Object Manager	jp1pcovsvr	22292	The port number used for communications between a map manager and object manager in the NNM linkage facility of PFM - Manager and PFM - Base. This port number is set on a host where PFM - Manager or PFM - Base is installed.
Service status management function	Status Server	jp1pcstatsvr	22350	The port number used by the Status Server service in the PFM - Manager and PFM - Base. This port number is set on a host where PFM - Manager or PFM - Base is installed.
Monitoring console communication function	View Server	jp1pcvsvr	22286	The port number used by View Server service in PFM - Manager. This port number is set on PFM - Manager hosts.
Web Service function	Web Service	--	20358	The port number used by the service of Web Service in PFM - Web Console. This is used for communication between the monitoring console's Web browser and the PFM - Web Console host.
Web Container function	Web Console	--	20359 20360	The port number used by Web Console service in PFM - Web Console.

Legend:

--: Not applicable

Set the network settings so that Performance Management can communicate through these port numbers.

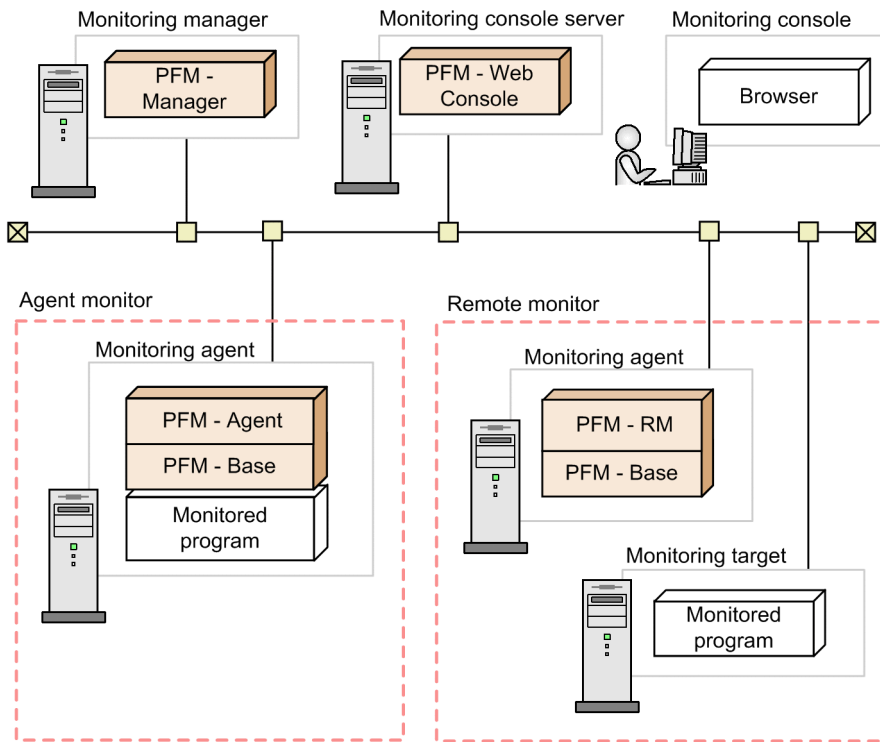
(5) OS user permission required for installation

Always use an account that has OS Administrators permissions when you install the Performance Management programs.

(6) Required programs

This subsection describes required programs to install Performance Management.

Figure 5–1: Program configuration



Legend:

- : Programs provided by Performance Management
- : Required programs

Notes:

- An SMTP server is required to send emails when alarm events are reported to the system administrator via emails. For details, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.
- The required programs might differ if you use linkage functions between Performance Management and other systems. For details about the linkage functions, see the chapter that describes operation monitoring linked with the integrated management product (JP1/IM), the chapter that describes monitoring linked with the service-level management product (JP1/ITSLM), and the chapter that describes operation monitoring linked with the network management product (NNM) in the *Job Management Partner 1/Performance Management User's Guide*.

(a) Programs required for the monitoring manager

PFM - Manager is required for the monitoring manager. Also, JP1/Base is required on the same host running PFM - Manager to enable integrated authentication for JP1 users. For details, see the chapter that describes management of user accounts and business groups in the appropriate JP1/Base manual and the *Job Management Partner 1/Performance Management User's Guide*.

(b) Programs required for the monitoring console server

PFM - Web Console is required for the monitoring console server.

(c) Programs required for the monitoring agent

PFM - Agent or PFM - RM and PFM - Base are required for the monitoring agent. Since the PFM - Base program is required for PFM - Agent or PFM - RM, install PFM - Base first and then install PFM - Agent or PFM - RM.

However, PFM - Base is not required if you install PFM - Manager and either PFM - Agent or PFM - RM on the same host. In such cases, since PFM - Manager is the required program for PFM - Agent or PFM - RM, install PFM - Manager first and then install PFM - Agent or PFM - RM.

The programs to be monitored differ per the PFM - Agent or PFM - RM. For details about the programs monitored by PFM - Agent or PFM - RM, see the appropriate PFM - Agent or PFM - RM manual.

(d) Programs required for the monitoring console

A Web browser is required for the monitoring console in order to check the operation monitoring data collected by Performance Management or to change Performance Management settings.

Either of the following Web browsers is required for Performance Management:

- Internet Explorer
- Firefox

The settings for PFM - Web Console differ depending on the kind of Web browsers. For details, see the Release Notes.

(7) Installation and setup in a cluster system

For installation and setup in a cluster system, the required network environment and program configuration differ from the setup in usual configurations. Also, you need to perform procedures on the executing and standby nodes. For details, see the chapter that describes the cluster system configuration and operation in the *Job Management Partner 1/ Performance Management User's Guide*.

(8) Preparing for data collection in the event of a failure

In the event of a problem, you might need various dumps, including a memory dump, a crash dump, and a user mode process dump. If you intend to collect these dumps when a problem occurs, you must set up output of the memory, crash, and user mode process dumps in advance.

(a) Specifying settings in Windows Server 2003

Memory dump output settings

1. From **Control Panel**, double-click **System**.
2. On the **Advanced** page, click the **Settings** button in **Startup and Recovery**.
3. In **Write debugging information**, select **Kernel memory dump**, and then specify the output file.

Note:

The size of a memory dump depends on the size of the real memory. If the installed physical memory is large, a memory dump will also be large. Allocate enough disk space for the memory dump. For details, see the OS documentation.

Crash dump output settings

1. From the **Start** menu, select **Run**.

2. In the text box, enter `drwtsn32`, and then click the **OK** button.

The Dr. Watson dialog box is displayed.

3. Select the **Create Crash Dump File** check box, and then specify the output file in the **Crash Dump** text box.

4. Click the **OK** button.

Note:

The information that is output to a crash dump includes not only the JP1 error information but also error information from other application programs. A crash dump uses a large amount of disk space. If you set crash dumps to be output, provide sufficient disk space.

(b) Specifying settings in Windows Server 2008 or Windows Server 2012

- User mode process dump output settings

If you specify the registry shown below, you can obtain user mode process dumps as data to aid in an investigation after application programs terminate abnormally:

```
\\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Windows Error Reporting
\LocalDumps
```

Specify the following registry values in this registry key:

- `DumpFolder` : REG_EXPAND_SZ *dump-output-folder-name*
(Write permission is required for the output folder)
- `DumpCount` : REG_DWORD *number-of-dumps-to-be-retained*
- `DumpType` : REG_DWORD 2

Note:

- Once you set this registry, user mode process dumps will be output not only for JP1 programs but also for other application programs. Keep this in mind when you set user mode process dumps to be output.
- A user mode process dump uses a large amount of disk space. If you set user mode process dumps to be output, specify a dump output folder that has sufficient disk space.

(9) Notes

(a) Notes on environment variables

Do not manually set `JPC_HOSTNAME` as an environment variable, because it is used for Performance Management as an environment variable. If this setting is made, Performance Management will not run correctly.

(b) Notes on installation and setup of multiple Performance Management programs on a single host

You can also install the following Performance Management programs on the same host:

- PFM - Manager
- PFM - Web Console
- PFM - Agent or PFM - RM

Supplemental information:

To improve system performance and reliability, we recommend that you run PFM - Manager, PFM - Web Console, PFM - Agent, and PFM - RM on separate hosts.

- PFM - Base is not required if you install PFM - Manager and either PFM - Agent or PFM - RM on the same host. In such cases, because PFM - Manager is required for PFM - Agent or PFM - RM, install PFM - Manager first and then install PFM - Agent or PFM - RM.
- You cannot install PFM - Base and PFM - Manager on the same host. To install PFM - Manager on a host that has PFM - Base and either PFM - Agent or PFM - RM installed, uninstall all Performance Management programs except PFM - Web Console, and then install PFM - Manager and either PFM - Agent or PFM - RM, in that order. To install PFM - Base on a host on which PFM - Manager and either PFM - Agent or PFM - RM is installed, first, uninstall all Performance Management programs except PFM - Web Console and then install PFM - Base and either PFM - Agent or PFM - RM, in that order.
- If you install PFM - Agent or PFM - RM on a host that has PFM - Manager installed, PFM - Manager for the connection destination of PFM - Agent or PFM - RM is set to PFM - Manager on the local host. In such cases, you cannot change PFM - Manager for the connection destination of PFM - Agent or PFM - RM to PFM - Manager on the remote host. If you want to connect to PFM - Manager on the remote host, make sure that PFM - Manager is not installed on a host on which PFM - Agent or PFM - RM is to be installed.
- When you install Performance Management programs on a host that has PFM - Web Console installed, close all the Web browser windows first, and then install the programs.
- If you use the function for setting monitoring-host names, you cannot install PFM - Agent 07-00 or earlier on the same host. If you want to install PFM - Agent 07-00 or earlier, you must reset the setting so that the function for setting monitoring-host names is not used. If you do not reset the setting, the installation of PFM - Agent 07-00 or earlier might fail. For details about how to set a monitoring host name, see [5.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

(c) Notes on version upgrade

The following gives cautionary notes on upgrading older versions of Performance Management programs:

For details about upgrading, see [F. Migration Steps and Notes on Migration](#).

- When you install a Performance Management program (except for PFM - Web Console), stop all of the Performance Management programs and services on the local host. When you install PFM - Web Console, stop existing PFM - Web Console on the local host. All services on the physical host and logical host must be stopped. For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.
- Except in the case of PFM - Web Console, the installation path is the same as the first program when you install another Performance Management program on a host that already has a Performance Management program installed. To change the installation path, you must delete all installed Performance Management programs and then re-install the same programs.
- You cannot install PFM - Base and PFM - Manager on the same host. To install PFM - Manager on a host that has PFM - Base and either PFM - Agent or PFM - RM installed, uninstall all Performance Management programs except PFM - Web Console and then install PFM - Manager and either PFM - Agent or PFM - RM, in that order. To install PFM - Base on a host on which PFM - Manager and either PFM - Agent or PFM - RM is installed, first, uninstall all Performance Management programs except PFM - Web Console, and then install PFM - Base and either PFM - Agent or PFM - RM, in that order.
- Note that the location of the executable files for the Store service (`jpcsto.exe` and `stpqlpr.exe`) has been changed in versions 08-00 and later of the Performance Management programs. When you upgrade PFM - Manager and PFM - Agent to version 08-00 or later, the executable files for the Store service will be deleted from their former location.

- If you want to upgrade the operating system to Windows Server 2008 or Windows Server 2012, you must uninstall temporarily the Performance Management programs for Windows Server 2003. This is because these programs might not function correctly on Windows Server 2008 or Windows Server 2012. First, uninstall all Performance Management programs, and then perform the upgrade. Finally, install the Performance Management programs for Windows Server 2008 or Windows Server 2012.
- For the upgrade installation, the destination disk temporarily requires twice as much free space as the Store database. Securing this free space enables the existing Store database to be automatically upgraded. Confirm that there is sufficient free disk space in the destination disk before performing the upgrade installation.
Determine the required amount of free disk space based on the total size of the current Store database. For example, if the total size of the current Store database is 100 GB, the free disk space required for upgrading will be at least 200 GB. If you have changed the disk used for storing the Store database, determine the required free disk space based on the capacity of the new disk after the change.

(d) Notes on PFM - Web Console installation

The following gives cautionary notes on installing PFM - Web Console:

- The Windows initialization file (`config.xml`) stored in *installation-folder*\conf\ is not updated if you overwrite PFM - Web Console when installing. However, the `config.xml` file stored in the *installation-folder*\sample\conf\ is updated.
- You must restart the system to enable the PFM - Web Console settings when installing a new PFM - Web Console.

(e) Notes on linking with other systems

- When you install the program in an environment that is linked with Network Node Manager, stop the NNM linkage facility and `ovw`, and then install the program. For details about the NNM linkage facility, see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*. For the Network Node Manager environment variables and commands, see the HP NNM documentation.

(f) Other related notes

- If you install a new Performance Management program into an environment that does not have a Performance Management program installed, make sure there are no files or folders in the installation folder.
- A message that prompts you to restart the system might be displayed if you install a Performance Management program while other Performance Management programs or services are running or programs that reference Performance Management files (such as Windows Event Viewer) are running. In such instances, restart the system according to the displayed message to complete the installation.
- Expanding files or folders might fail if you install Performance Management programs while other programs or services are running, programs that reference Performance Management files (such as Windows Event Viewer) are running, the disk capacity is insufficient, or you do not have permission for the installation directory. If other Performance Management programs or services are running or programs that reference Performance Management files (such as Windows Event Viewer) are running, exit all programs and then perform the installation again. If the problem is caused by insufficient disk space or insufficient directory permission, resolve the problem, and then perform the installation again.
- When you install the Performance Management programs, make sure that the following security-related programs have not been installed. If they have been installed, follow the instructions below:
 - Security-monitoring program
Terminate the security-monitoring program, or change the settings so that the program does not interfere with the installation of the Performance Management programs.
 - Virus detection program

Stop virus detection programs before installing the Performance Management programs.

If a virus detection program is running, the installation might be slower, the installation might be aborted, or the programs might not be installed correctly.

- Process-monitoring program
Stop process-monitoring programs, or change the settings so that the programs do not monitor the services and processes of Performance Management or shared components.
If these services or processes are started or terminated by a process-monitoring program while installing the Performance Management programs, the installation might fail.
- If you will be installing Performance Management programs, check for the Windows standard service Application Experience Lookup Service or Application Experience. If you find such a service, first start it, and then install the products.
- When you install version 08-00 or later of a Performance Management program, the setting for the status management function is as follows:
 - After a new installation of version 08-00 or later of PFM - Manager or PFM - Base on a host that does not already have a Performance Management program installed
Status management function setting: Enabled
 - Other cases[#]
Status management function setting: Remains the same

#: The following fall under the other cases category:

- Upgrading version 06-70 to 07-10 of PFM - Manager to version 08-00 or later
- Performing a new installation of version 08-00 or later of PFM - Manager or PFM - Base in an environment where version 06-70 to 07-00 of PFM - Agent is installed

Because 06-70 to 07-10 versions of Performance Management do not have the status management function, the setting status in this case becomes *disabled*.

For details about changing the settings of the status management functions, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

- You can use the health check function with PFM - Manager version 08-11 or later. Depending on the PFM - Manager version and your installation environment, the settings of the health check function are as follows.
 - After a new installation of version 09-00 or later of PFM - Manager on an environment that does not already have a Performance Management program installed
Health check function setting: Enabled
 - Other cases[#]
Health check function setting: Remains the same

#: The following are under the other cases category:

- Upgrading version 06-70 to 08-00 of PFM - Manager to version 08-11 or later
- Newly installing PFM - Manager version 08-11 or later in an environment in which PFM - Agent version 06-70 to 07-00 has been installed

Because PFM - Manager versions 06-70 to 08-00 do not support the health check function, the health check function is set to **Disabled**.

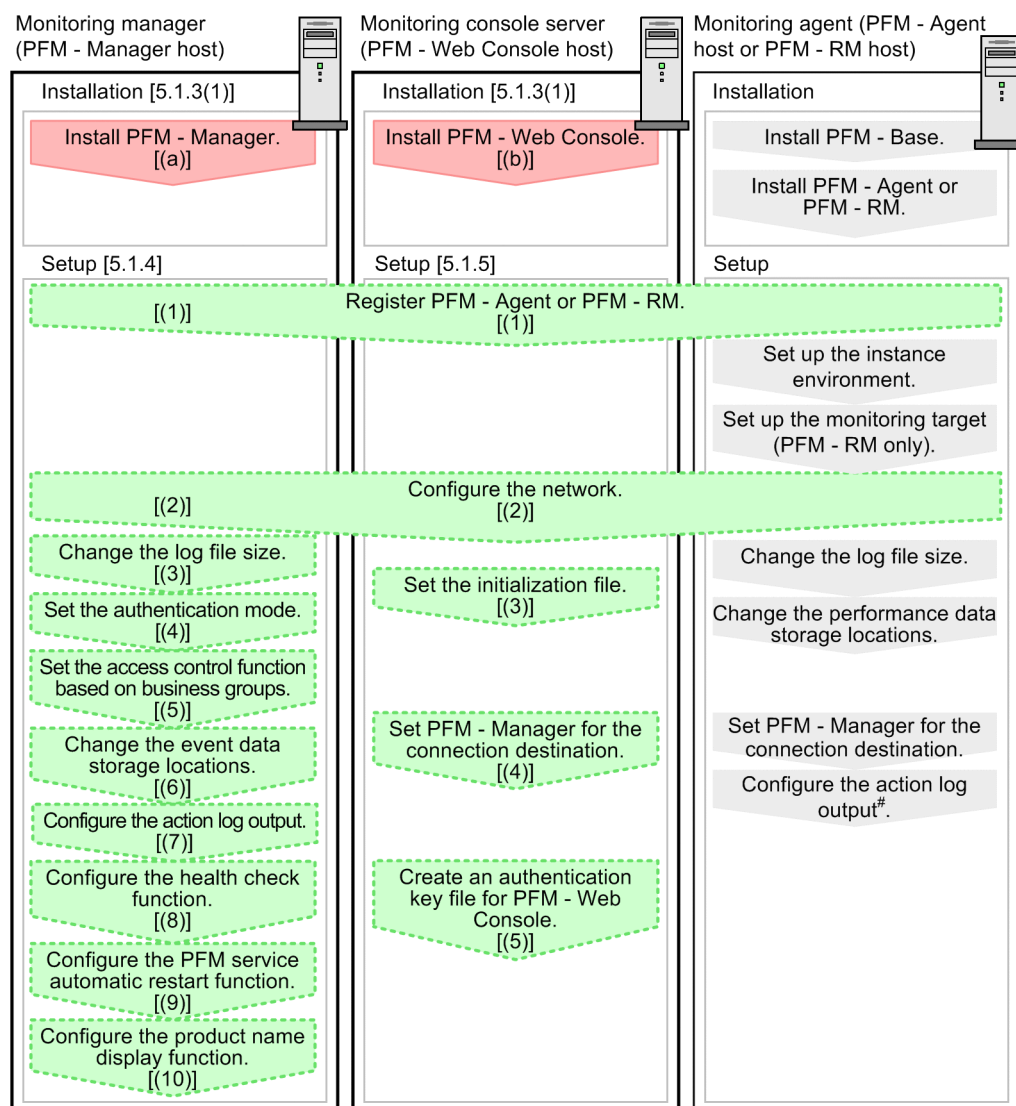
For details about the health check function settings, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

- If the installation folder is displayed by Explorer during installation, close Explorer.
- If the installation folder is displayed in the Command Prompt window during installation, close the window.

- You can install PFM - Manager and specify it as the connection destination of the PFM - Web Console services while those services are running. However, you must then restart PFM - Web Console. If you do not, the functions of PFM - Manager might become unavailable.

5.1.2 Process flow for installation and setup


Figure 5–2: Process flow for installation and setup



Legend:

 : Mandatory setup

 : Described in the manuals for PFM - Agent or PFM - RM.

 : Optional setup

[] : See the indicated section.

#: When you set the action log settings on a specific host, the settings apply to all instances of PFM - Agent version 08-00 or later installed on that host. For details, see *G. Outputting Action Log Data*.

This subsection describes the procedures to install and set up PFM - Manager and PFM - Web Console. The installation and setup procedures of PFM - Agent or PFM - RM depend on the product. For details, see the appropriate PFM - Agent or PFM - RM manual.

You can elect to execute setup commands that require user entries in the interactive mode or the non-interactive mode.

If the commands are to be executed in the interactive mode, you must enter appropriate values as instructed by the commands.

If the commands are to be executed in the non-interactive mode, no user entries will be required because option specifications and definition files will be used in lieu of making entries manually. Batch processing and remote execution enable the setup tasks to be automated, thereby reducing the administrator's workload and operating costs. Using the non-interactive mode for entering commands is useful in the following cases:

- Periodically changing the passwords used for establishing connection with monitoring targets
- Adding multiple monitoring targets efficiently

For details about the commands, see the manual *Job Management Partner 1/Performance Management Reference*.

5.1.3 Installation procedures

This subsection describes the order of installing Performance Management programs on hosts, and the procedure to install programs from the distribution media.

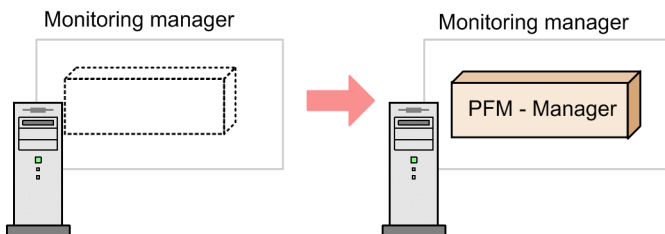
(1) Program installation steps

Note:

For Performance Management programs, you can install monitoring manager, monitoring console server, and monitoring agent in any order.

(a) Steps to install the monitoring manager

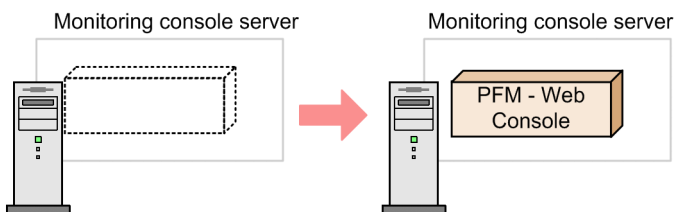
Install PFM - Manager on the monitoring manager.



1. Install PFM - Manager.

(b) Steps to install the monitoring console server

Install PFM - Web Console on the monitoring console server.

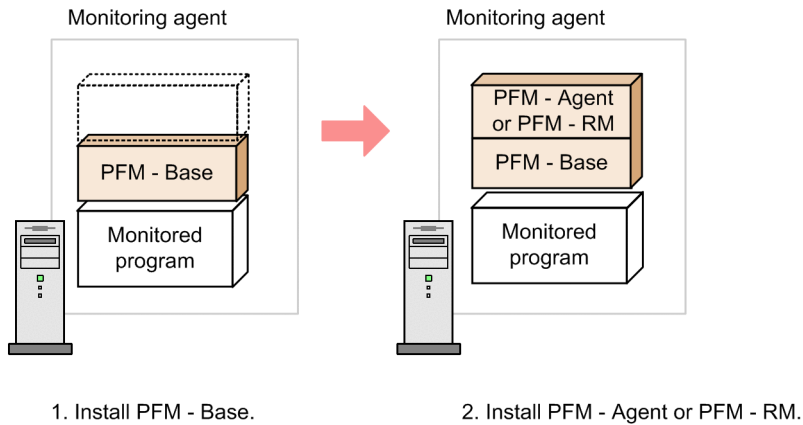


1. Install PFM - Web Console.

(c) Steps to install the monitoring agent

First Install PFM - Base and then install PFM - Agent or PFM - RM. You cannot install PFM - Agent or PFM - RM on a host that does not have PFM - Base installed.

If you install PFM - Agent or PFM - RM and PFM - Manager on the same host, install PFM - Manager first, and then PFM - Agent or PFM - RM.



For details about the installation procedure, see the appropriate PFM - Agent or PFM - RM manual.

(2) Installing Performance Management programs

There are two ways to install Performance Management programs. One method is to install the programs from the distribution media, and the other is to remotely install the programs by using JP1/Software Distribution. For details about how to use Job Management Partner 1/Software Distribution, see the *Job Management Partner 1/Software Distribution Administrator's Guide Volume 1*.

Notes for all Windows OSs

Stop all Performance Management programs and services that are running on the host on which you intend to install the Performance Management program. All services on the physical host and logical host must be stopped. For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

Notes for Windows Server 2008 and Windows Server 2012

If the User Account Control (UAC) function is enabled, the User Account Control dialog box might appear during installation. If this dialog box appears, click the **Continue** button to continue the installation. If you click the **Cancel** button, the installation is aborted.

To install programs from the distribution media:

1. Log on with Administrators permissions to the host on which you intend to install the Performance Management program.
2. Stop Performance Management programs and services.
Stop all running Performance Management programs and services.
3. Insert the applicable distribution media into the appropriate drive.
Follow the instructions provided by the installer after starting up.
Define the following information for installation:
 - User information

Enter a user name and other information.

- **Installation folder**

Specify the folder in which you intend to install the Performance Management programs.

An installation folder is created when you specify the folder in the Select Directory dialog box and click the **OK** button. If you inadvertently create the wrong folder, delete the folder after the installation has finished.

- **PFM - Manager for the connection destination (during a new installation of PFM - Base)**

Enter the host name of the PFM - Manager host for the connection destination when you perform a new installation of PFM - Base.

You do not have to set PFM - Manager for the connection destination during installation. You can set it later. If you do not set PFM - Manager for the connection destination during installation, the physical host name of the PFM - Agent host or PFM - RM host is used. After the installation, change PFM - Manager for the connection destination. For details about changing PFM - Manager for the connection destination, see [5.3.2 Changing the PFM - Manager for the connection destination](#).

Important note

In this procedure, only one host name can be specified. If you want to create a multiple-monitoring configuration, do not specify the host name of PFM - Manager for the connection destination during installation. After you complete installing the Performance Management programs, change PFM - Manager for the connection destination.

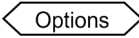
Reference note

The Performance Management program installation folder can be specified only when the Performance Management programs (except for PFM - Web Console) are installed for the first time on a host. Thereafter, the Performance Management programs are installed on the folder specified during the initial installation.

Additionally, you can set PFM - Manager for the connection destination only when PFM - Base is first installed on a host without PFM - Agent 08-00 or earlier. If you install PFM - Base on a host that has version 08-00 or earlier of PFM - Agent installed, or if you perform an overwrite installation of PFM - Base, the existing settings of PFM - Manager for the connection destination are inherited.

For details about how to check the version number of an installed product, see [E. Checking Version Information](#).

5.1.4 PFM - Manager setup procedure

 indicates setup items required according to each environment and optional setup items used to change default settings.

Point:

The start information file (`jpccomm.ini`) is used to configure the operation of Performance Management.

(1) Registering PFM - Agent or PFM - RM

You must register PFM - Agent or PFM - RM in PFM - Manager in order to perform integrated management of PFM - Agent or PFM - RM by using PFM - Manager and PFM - Web Console.

If the version of PFM - Manager is 09-00 or later, the registration is performed automatically, making the instructions described here unnecessary.

However, for PFM - Agent or PFM - RM released after PFM - Manager, you might need to perform manual registration. For details, see the PFM - Manager Release Notes.

Reference note

The information on the automatically registered PFM - Agent or PFM - RM is displayed in PFM - Web Console at the following time:

If the version of PFM - Web Console is 09-00 or later:

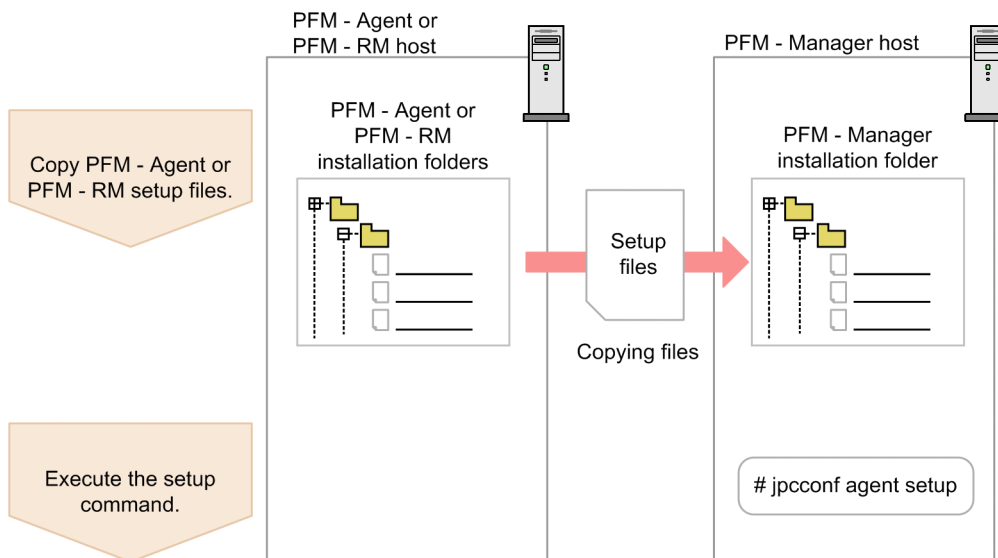
The information is displayed when you log into PFM - Web Console again after starting the registered PFM - Agent or PFM - RM.

If the version of PFM - Web Console is 08-11 or earlier:

The information is displayed when you restart PFM - Web Console after starting the registered PFM - Agent or PFM - RM.

If you want to register PFM - Agent or PFM - RM before starting the console, execute the `jpccconf agent setup` command with the `-register` option specified. For details about the `jpccconf agent setup` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Figure 5–3: Process flow for PFM - Agent or PFM - RM registration



Note

- Register PFM - Agent or PFM - RM before setting the instance environment of PFM - Agent or PFM - RM.
- You do not need to register PFM - Agent or PFM - RM when you add the same version of PFM - Agent or PFM - RM with the same product ID to a Performance Management system in which the PFM - Agent or PFM - RM information has been already registered.
- If you install a different version of PFM - Agent or PFM - RM with the same product ID on a different host, first set up the older version of PFM - Agent or PFM - RM, and then set up the newer version of PFM - Agent or PFM - RM.

- If you install PFM - Agent or PFM - RM on the same host that has PFM - Manager installed, the `jpcconf agent setup` command is executed automatically. In PFM - Agent or PFM - RM, the execution results are logged as `KAVE05908-I New agent setup (pfm-agent-service-key) ended successfully. (version=version)` to the common message log. Check the results. If the command has not been executed correctly, execute the command again. For details about how to execute commands, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Supplemental information:

Note the information that follows about performing manual registration (`jpcconf agent setup -key agtX` (with the `-register` option omitted)) on the PFM - Manager host.

Executing `jpcconf agent setup -key agtX` (with the `-register` option omitted) when PFM - Manager is a physical environment:

The registered PFM - Agent or PFM - RM information is displayed on the PFM - Web Console at the following time.

- PFM - Web Console version 09-00 or later
The next time the user logs on to PFM - Web Console.
- PFM - Web Console version 08-11 or earlier
When PFM - Web Console is restarted.

Executing `jpcconf agent setup -key agtX` (with the `-register` option omitted) on the executing host and the standby host when PFM - Manager is a logical host:

The registered PFM - Agent or PFM - RM information is displayed on PFM - Web Console at the following time.

- PFM - Web Console version 09-00 or later
After the registered PFM - Agent or PFM - RM has started or the next time the user executes `jpcconf agent setup -key agtX -register` on the executing host and the standby host to which the shared disk is connected and logs on to PFM - Web Console.
- PFM - Web Console version 08-11 or earlier
After the registered PFM - Agent or PFM - RM has started or the next time the user executes `jpcconf agent setup -key agtX -register` on the executing host and the standby host to which the shared disk is connected and restarts PFM - Web Console.

(a) Copying the PFM - Agent or PFM - RM setup file

Copy the setup file on a host that has PFM - Agent or PFM - RM onto a host that has PFM - Manager installed.

To copy the PFM - Agent setup file:

1. Copy the setup file of PFM - Agent or PFM - RM in binary mode.

The following table shows the locations where files are stored and the location where files are to be copied.

Table 5–3: Setup files to be copied

Copy from		Copy to	
Host	File	Host	File
PFM - Agent, PFM - RM	<ul style="list-style-type: none"> • In Windows <i>installation-folder</i> <code>\setup\jpcxxxw.EXE</code> 	PFM - Manager	<i>installation-folder</i> \setup\

Legend:

xxxx indicates the service key of each PFM - Agent or PFM - RM. For details about service keys, see the appropriate PFM - Agent or PFM - RM manual.

(b) Executing the setup command on the PFM - Manager host

Execute the following command on the PFM - Manager host to set up PFM - Agent or PFM - RM.

```
jpccconf agent setup -key xxxx
```

xxxx indicates the service key of each PFM - Agent or PFM - RM. For details about service keys, see the appropriate PFM - Agent or PFM - RM manual.

For example, execute the following command to set up PFM - Agent for Oracle:

```
jpccconf agent setup -key Oracle
```

This example executes the `jpccconf agent setup` command in the interactive mode, but this command can also be executed in the non-interactive mode. For details about the `jpccconf agent setup` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Note:

An error might occur if you execute the `jpccconf agent setup` command when Performance Management programs and services have not completely stopped on the local host where you want to execute the command. In such cases, make sure that the Performance Management programs and services have completely stopped and then execute the `jpccconf agent setup` command again.

You can delete the setup file of PFM - Agent or PFM - RM after this procedure has finished.

(2) Specifying settings for the network

The settings described in this subsection are required if you change settings according to the network configuration on which Performance Management is used.

You can set the following four items for network settings:

- Setting IPv6 communication

This setting is required if you use IPv6 communication in Performance Management. To use IPv6 communication, execute the `jpccconf ipv6 enable` command on the PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

In a cluster system, this setting must be specified in both the executing system and the standby system.

Note that only IPv4 communication is supported between PFM - Manager and PFM - Web Console.

For details, see [5.3.1\(1\)\(a\) Setting IPv6 communication](#).

- Setting IP addresses

Set this item when Performance Management is used in a network with multiple LANs connected. To set multiple IP addresses, define the host name and IP address in the `jpchosts` file. Confirm that the settings in `jpchosts` files are the same throughout the entire Performance Management system.

For details, see [5.3.1\(1\)\(b\) Setting IP addresses](#).

- Setting port numbers

You can set the port numbers used by Performance Management. Use the same port numbers and service names for the entire Performance Management system to avoid any confusion during operations.

For details about setting port numbers, see [5.3.1\(1\)\(c\) Setting port numbers](#).

- Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSMLM

Define the host name or IP address of PFM - Manager in the `jpccvsrvr.ini` file on the PFM - Manager host in the following cases:

- IP address translation (NAT) is performed between the PFM - Manager host and the PFM - Web Console host.
- Multiple IP addresses are used between the PFM - Manager host and the PFM - Web Console host.
- JP1/ITSMLM is linked and IP address translation (NAT) is performed between the PFM - Manager host and the JP1/ITSMLM host.
- JP1/ITSMLM is linked and multiple IP addresses are used between the PFM - Manager host and the JP1/ITSMLM host.

For details, see [5.3.1\(1\)\(d\) Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSMLM](#).

(3) Changing the log file size

The operating status of Performance Management is output to a Performance Management-specific log file. This log file is called the *common message log*. This setting is required when you wish to change this file size.

For details, see [5.4.1 Setting the size of the log file for the common message log](#).

(4) Specifying settings for the authentication mode

These settings are required when you wish to change the authentication mode of Performance Management from PFM authentication mode to JP1 authentication mode.

For details, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

(5) Setting the access control function based on business groups

 Options

These settings are required if you want to use business groups to manage users of Performance Management. Specify in the start information file (`jpccomm.ini`) whether the access control function based on business groups is to be used.

For details, see the chapter that describes user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

(6) Changing the storage locations of event data

The settings below are required when you wish to change the storage destination, backup destination, or export destination of the event data managed by PFM - Manager.

By default, event data is stored in the following locations:

- Data storage folder: `installation-folder\mgr\store\`
- Backup folder: `installation-folder\mgr\store\backup\`

- Export folder: *installation-folder*\mgr\store\dump\

Note:

For the default folders when running Performance Management on a logical host, read *installation-folder* as *environment-directory*\jplpc\.

For details, see [5.4.2 Changing the storage location of event data](#).

(7) Specifying settings for action log output

These settings are required when you wish to output an action log when an alarm is issued. An action log is log information output in conjunction with the alarm function, when an aspect of the system such as the system load exceeds a threshold. For details, see [H. Outputting Action Log Data](#).

(8) Configuring the health check function

These settings are required when you wish to check the operating status of monitoring agents and their hosts. For details about how to specify these settings, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

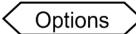
(9) Configuring the PFM service automatic restart function

This setting is required if you want PFM services to automatically restart if they terminate abnormally. For details about how to specify this setting, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(10) Configuring the product name display function

These settings are required if you want to enable the product name display function when you upgrade from a version earlier than 08-11, or when you perform a new installation. For details about this function, see [4.1.2 Displaying and specifying services \(the product name display function\)](#). For details about how to configure this function, see [5.4.10 Configuring the product name display function](#).

5.1.5 PFM - Web Console setup procedure

 indicates setup items required according to each environment and optional setup items used to change default settings.

Point:

The initialization file (`config.xml`) is used to set up the operating environment for PFM - Web Console.

(1) Setting up a language environment

Before setting up PFM - Web Console, make sure that your specified language environment is installed and configured correctly. If the language is not installed or configured correctly, you might encounter issues such as garbled characters or definition data being overwritten erroneously.

If the language setting of the system locale of the server differs from that of the `usrconf.cfg` file, PFM - Web Console may not operate properly. Before setting up PFM - Web Console, check the system locale and the `usrconf.cfg` file, and if the language setting differs from each other, change the setting in the `usrconf.cfg` file.

(a) Changing the settings in the usrconf.cfg file

1. Use a text editor or a similar tool to open the usrconf.cfg file.

The usrconf.cfg file is stored in the following folder:

```
Installation directory\CPSB\CC\web\containers\PFMWebConsole\usrconf
```

2. Edit the usrconf.cfg file.

You need to modify the parameters if the language setting was changed as follows:

- From Japanese to a language other than Japanese
- From a language other than Japanese to Japanese
- From English to Chinese
- From Chinese to English

For details about setting each parameter, see [5.1.5\(1\)\(b\) Parameters of the usrconf.cfg file](#).

3. Save usrconf.cfg by overwriting the file.

(b) Parameters of the usrconf.cfg file

You need to modify the following parameters when changing the language setting.

(c) Parameters of the usrconf.cfg file

You need to modify the following parameters when changing the language setting.

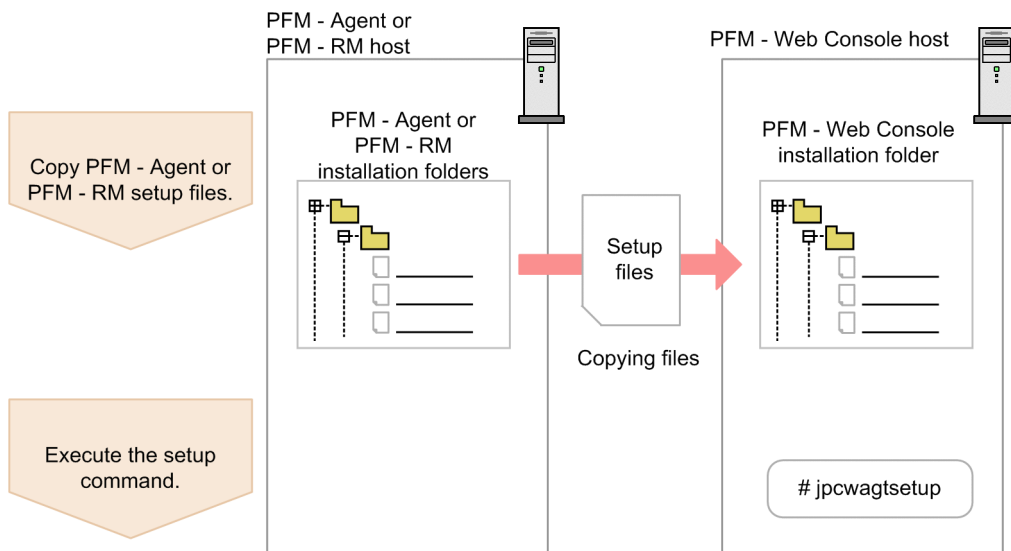
Item	Description
add.jvm.arg=-Duser.language	The default language setting used for PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• en• ja For Japanese, specify "ja". For others, specify "en".
add.jvm.arg=-Duser.country	The default country setting used for PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• US• JP For Japan, specify "JP". For others, specify "US".
add.jvm.arg=-DprGB18030check	The setting to use GB18030 as the encoding format of PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• true• false When using Chinese (Simplified Chinese) and performing encoding in the GB18030 format, specify "true". In other cases, specify "false".

(2) Registering PFM - Agent or PFM - RM

You must register PFM - Agent or PFM - RM in PFM - Web Console in order to perform integrated management of PFM - Agent or PFM - RM by using PFM - Manager and PFM - Web Console.

If the version of PFM - Web Console is 09-00 or later, PFM - Agent or PFM - RM is automatically registered, following the instructions described here is unnecessary. However, for PFM - Agent or PFM - RM released after PFM - Web Console, you might need to perform a manual registration. For details about whether you need to manually register PFM - Agent or PFM - RM, see the PFM - Web Console Release Notes.

Figure 5–4: Process flow for registering PFM - Agent or PFM - RM



Notes:

- You do not need to register PFM - Agent or PFM - RM when you add the same version of PFM - Agent or PFM - RM with the same product ID to a Performance Management system in which the PFM - Agent or PFM - RM information has been already registered.
- Set up the latest version of PFM - Agent or PFM - RM if you install a different version of PFM - Agent or PFM - RM with the same product ID on a different host.

(a) Copying the PFM - Agent or PFM - RM setup file

Copy the setup file on a host that has PFM - Agent or PFM - RM onto a host that has PFM - Web Console installed.

To copy the PFM - Agent or PFM - RM setup file:

1. Stop PFM - Web Console if it is running.
2. Copy the setup file of PFM - Agent or PFM - RM in binary mode.

The following table shows the locations where files are stored and the location where files are to be copied.

Table 5–4: Setup files to be copied

Copy from		Copy to	
Host	File	Host	File
PFM - Agent, PFM - RM	<ul style="list-style-type: none"> • In Windows <i>installation-folder\setup\jpcxxxw.EXE</i> 	PFM - Web Console	<i>installation-folder\setup\</i>

Legend:

xxxx indicates the service key of each PFM - Agent or PFM - RM. For details about service keys, see the appropriate PFM - Agent or PFM - RM manual.

(b) Executing the setup command in PFM - Web Console

Execute the following command on PFM - Web Console to set up PFM - Agent or PFM - RM.

```
jpcwagtsetup
```

You can delete the PFM - Agent or PFM - RM setup file on the PFM - Web Console host after this procedure has finished.

Note:

Even though PFM - Web Console is installed on the same host as PFM - Agent or PFM - RM, you must execute the `jpcwagtsetup` command.

(3) Specifying settings for the network

The settings described in this subsection are required if you change settings based on the configuration of the network on which Performance Management is used.

You can set the following item in network settings.

- Setting port numbers

You can set the port numbers used by PFM - Web Console.

For details about setting port numbers, see [5.4.7 Changing PFM - Web Console settings](#).

(4) Specifying settings in the initialization file (config.xml)

Settings required to operate PFM - Web Console are defined in the initialization file (`config.xml`). The settings described in this subsection are required when you want to change the initial settings in the initialization file.

In the `config.xml` file, you can set settings related to the PFM - Web Console log files and the maximum value of data displayed in the console windows. For details, see [5.4.7 Changing PFM - Web Console settings](#).

(5) Setting PFM - Manager for the connection destination of PFM - Web Console

Use the Windows initialization file (`config.xml`) to set PFM - Manager for the connection destination.

For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

(6) Creating an authentication key file for PFM - Web Console

If you want to execute the PFM - Web Console commands, you must first execute the `jpcmkkey` command. For details about the `jpcmkkey` command, see the chapter describing the command in the manual *Job Management Partner 1/Performance Management Reference*.

5.1.6 Configuring a Web browser to use the monitoring console

You need to configure the Web browser to use PFM - Web Console:

- Enable JavaScript
- Enable file downloads
- Enable Cookies
- Display images (GIF data)
- Check the page cache

- Set the font size

The following tables list the settings for each browser.

(1) When using Firefox (Windows)

This section describes the settings for Firefox 3.6 as an example.

Table 5–5: Firefox settings

Menu	Category	Setting item
Tools - Options	Privacy - History	From Firefox will , select Use custom settings for history . Select the Accept cookies from sites check box. (Whether to select the Accept third-party cookies check box is optional and whether to select a retention period is optional.)
	Content	Select Load images automatically . Select Enable JavaScript .
	Content - Enable JavaScript	Click Advanced , and then select Move or resize existing windows check box.
	Content - Fonts & Colors	Use the default values.
	Content - Languages	<ol style="list-style-type: none"> 1. Click Choose to display the Languages dialog box. Check whether your preferred language is in the list. Japanese: Japanese [ja] English: English [en] Chinese (Simplified Chinese): Chinese/China [zh-cn] 2. If your preferred language is not in the list, select a language from the Select a language to add pull-down list. If your preferred language is in the list, go to step 4. 3. Click the Add button. 4. Click the Move Up button repeatedly until the selected language is displayed at the top of the Language list.
	Security - Passwords	Clear the Remember passwords for sites check box.

(2) When using Firefox (UNIX)

This section describes the settings for Firefox 3.6 as an example.

Table 5–6: Firefox settings

Menu	Category	Setting item
Edit - Preferences	Privacy - History	From Firefox will , select Use custom settings for history . Select the Accept cookies from sites check box. (Whether to select the Accept third-party cookies check box is optional and whether to select a retention period from the Keep until box is optional.)
	Content	Select Load images automatically . Select Enable JavaScript .
	Content - Enable JavaScript	Click Advanced , and then select the Move or resize existing windows check box.

Menu	Category	Setting item
Edit - Preferences	Content - Fonts & Colors	From the Size box, select 12 . [#]
	Content - Languages	<ol style="list-style-type: none"> 1. Click Choose to display the Languages dialog box. Check whether your preferred language is in the list. Japanese: Japanese [ja] English: English [en] Chinese (Simplified Chinese): Chinese/China [zh-cn] 2. If your preferred language is not in the list, select a language from the Select a language to add pull-down list. If your preferred language is in the list, go to step 4. 3. Click the Add button. 4. Click the Move Up button repeatedly until the selected language is displayed at the top of the Language list.
	Security - Passwords	Clear the Remember passwords for sites check box.

#

Before you select a size from the **Size** box, in the **Content** tab, under **Fonts & Colors**, click the **Advanced** button to display the Fonts dialog box. In the Fonts dialog box, select the character encoding set for the LANG environment variable, which is enabled in the process that started Firefox.

(3) When using Internet Explorer

The example presented here specifies the settings in Internet Explorer 9.0.

Table 5–7: Internet Explorer settings

Menu	Tab	Button	Setting item
Tools - Internet Options	Security	Custom Level	Security Settings - Scripting - Active scripting - Enable
			Downloads - File download - Enable
	Advanced	--	Multimedia - Show pictures - Play animations in webpages [#]
	General	Browsing history - Settings	Check for newer versions of stored pages - Every time I visit the webpage or Automatically
Languages		<ol style="list-style-type: none"> 1. Check the Language list to see if there are languages to be selected. Japanese: Japanese [ja] or Japanese (Japan) [ja-JP] English: English/Australia [en-au] or English [en] Chinese (Simplified Chinese): Chinese (Simplified, PRC) [zh-CN] 2. If your preferred language is not in the Language list in the Language Preference dialog box, click the Add button to select the language you want to add to the Language list. 	

Menu	Tab	Button	Setting item
Tools - Internet Options	General	Languages	<p>If your preferred language is in the Language list, go to step 4.</p> <p>3. Click the OK button.</p> <p>4. Keep clicking the Move Up button until the selected language is displayed at the top of the Language list.</p>
View - Text Size	--	--	Medium

Legend:

--: Not applicable

(4) Notes on using a Web browser

If your Web browser is Firefox, data might remain in the cache due to the specifications of Firefox, resulting in incorrect display of image data. To prevent this problem, clear the cache.

5.2 Uninstallation and unsetup

5.2.1 Before uninstallation and unsetup

The following gives cautionary notes on uninstalling and performing unsetup of Performance Management:

(1) Notes on the OS user permission required for uninstallation

When you uninstall Performance Management programs, always use an account that has Administrators permissions.

(2) Notes on the network

Even though Performance Management programs are uninstalled, the port numbers defined in the `services` file are not deleted.

(3) Notes on programs

- Files or folders might remain if you uninstall Performance Management programs while other programs or services, or programs that reference Performance Management files (such as Windows Event Viewer) are running. In such cases, manually delete all of the folders and files in the installation folder.
- A message that prompts you to restart the system might be displayed if you uninstall a program while other Performance Management programs or services, or programs that reference Performance Management files (such as Windows Event Viewer) are running. In such cases, restart the system and complete the uninstallation.
- If a host has PFM - Base and either PFM - Agent or PFM - RM installed, you have to uninstall PFM - Agent or PFM - RM first in order to uninstall PFM - Base. In such cases, uninstall PFM - Agent or PFM - RM, and then uninstall PFM - Base. Additionally, if a host has PFM - Manager and either PFM - Agent or PFM - RM installed, you have to uninstall PFM - Agent or PFM - RM first to uninstall PFM - Manager. In such cases, uninstall PFM - Agent or PFM - RM, and then uninstall PFM - Manager.

(4) Notes on services

- Stop all Performance Management programs and services in the entire Performance Management system before you uninstall PFM - Manager.
- Uninstalling only PFM - Agent or PFM - RM does not delete the service information that can be displayed by using the `jpctool service list` command or the `jpctool monitor list` command. In such cases, use the `jpctool service delete` command to delete the service information. For details about how to delete the service information, see [5.2.3 Deleting service information](#).
- If you uninstall PFM - Manager and then re-install it on the same machine, two Trap Generator services might be displayed when the `jpctool service list` command is executed. In such cases, start the PFM - Manager service and use the `jpctool service delete` command to delete the Trap Generator that is `Inactive`.

(5) Notes on PFM - Web Console

- The value of the `%TEMP%` environmental variable is referenced as the log output folder during the uninstallation of the program. If the `%TEMP%%` environment variable has not been defined, the log file is not output.
- In the initialization file (`config.xml`), if you have changed the settings for `logDir`, `bookmarkRepository`, and `processMonitoringTemplatesRepository` to folders other than the

default folders, the usual uninstallation procedure will not delete those folders. Before you uninstall PFM - Web Console, check `config.xml` and manually delete the folders.

- If the uninstallation fails, back up the log (`%TEMP%\pfmwebconuninst.log`) that was created during the uninstallation, remove the cause of the problem, and then uninstall the program again. If uninstalled programs do not include Performance Management - Web Console, install it and then uninstall it.
- If you uninstall while a list of services is displayed by selecting the Services applet (by choosing **Control Panel, Administrative Tools**, and then **Services** or by choosing **Control Panel, Administrative Tools, Computer Management, Services and Applications**, and then **Services**), it is possible that the name of **PFM - Web Service** or **PFM - Web Console** might not be deleted. Close such windows before the uninstallation.
- If you uninstall PFM - Web Console while a list of services is displayed in the Services window, the name PFM - Web Service or PFM - Web Console might not be deleted. Close the window before the uninstallation.
- When you uninstall Performance Management programs from a host that has PFM - Web Console installed, first close all Web browser windows that are logged in to PFM - Web Console and then uninstall the programs.
- When the uninstallation of PFM - Web Console has finished, you must restart the system to disable the PFM - Web Console settings.

(6) Notes on uninstalling Performance Management in a Windows Server 2008 or Windows Server 2012 environment

If the OS's user account control (UAC) function is enabled, a UAC dialog box might be displayed during uninstallation. If this dialog box is displayed, click the **Continue** button to continue the uninstallation processing. If you click the **Cancel** button, the uninstallation processing will be cancelled.

(7) Notes on unsetup of remote agents of PFM - RM

After the unsetup procedure has been performed on the remote agents of PFM - RM (after the `jpccconf target unsetup` command has been executed), there is no need to execute the `jpctool service delete` command because the service information is deleted automatically.

However, for the new information to be applied to PFM - Web Console after the unsetup procedure, you must execute the `jpctool service sync` command.

Service information is deleted at the following time.

- If PFM - Manager and the PFM - RM service subject to deletion are running
When the `jpccconf target unsetup` command is executed, a service information deletion request is sent from PFM - RM to PFM - Manager and the service information is then deleted by PFM - Manager.
- If PFM - Manager or the PFM - RM service subject to deletion is stopped
When the `jpccconf target unsetup` command is executed, the service information is deleted by PFM - Manager the next time the PFM - RM service is started and connected to PFM - Manager.

(8) Other related notes

- If an instance environment is set in PFM - Agent or PFM - RM, perform unsetup of the instance environment before uninstalling PFM - Agent or PFM - RM. For details about the unsetup procedure, see the chapters describing installation and setup in the appropriate PFM - Agent or PFM - RM manual.
- If PFM - Manager or PFM - Base is uninstalled while Performance Management is linked with JP1/ITSLM, the monitoring targets can no longer be checked in JP1/ITSLM's Troubleshoot window. Therefore, before you uninstall PFM - Manager or PFM - Base, release the linkage between Performance Management and JP1/ITSLM. For details

about how to release the linkage, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes monitoring with a service level management product (JP1/ITS LM) linked.

- If the NNM linkage facility is used, perform unsetup of the facility before uninstalling PFM - Manager or PFM - Base. For details about the unsetup procedure, see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
- If you uninstall or unsetup a PFM - Agent or PFM - RM to which alarm tables have been bound, use PFM - Web Console or the `jpctool alarm unbind` command to unbound all alarm tables before you start the uninstallation or unsetup procedure.
- If you have uninstalled or performed the unsetup procedure on PFM - Agent or PFM - RM, delete the agents, if necessary, that are no longer needed from the tree that is displayed when `User Agents` is selected from the Agents tree in PFM - Web Console. Also, delete any unneeded alarm and report definition information, if necessary. For details about how to delete agents from the Agents tree, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes monitoring of agents. For details about how to delete alarm definition information, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes operation monitoring by using alarms. For details about how to delete report definition information, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes the creation of reports for operation analyses.
- If the Store database is not located in the default directory, uninstalling the Performance Management programs will not delete the files in the Store database storage directory. In such a case, manually delete all files and subdirectories under the Store database storage directory.

5.2.2 Uninstallation procedures

1. Log on with Administrators permissions to the host from which you intend to uninstall the Performance Management program.

2. Stop the Performance Management programs and services on the local host.

Display the service information and make sure the services are not running. Stop all Performance Management programs and services that are running on the local host. All services on the physical host and logical host must be stopped.

For details about how to stop services and displaying service information, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

3. Select a Performance Management program you wish to uninstall.

In Windows **Control Panel**, select **Add/Remove Programs**[#] to select a Performance Management program that you wish to uninstall.

To delete PFM - Manager or PFM - Base, you must uninstall all Performance Management programs except PFM - Web Console beforehand.

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In Windows Server 2008 or later, select **Programs and Features**.

4. Select **Delete** and click the **OK** button.

In Windows Server 2008 or later, select **Uninstall**.

5.2.3 Deleting service information

You must delete the service information displayed by the `jpctool service list` command or the `jpctool monitor list` command in the following cases:

- When PFM - Agent or PFM - RM is uninstalled.
- When PFM - Manager for the connection destination is changed.
- When the host name of PFM - Manager, PFM - Agent, PFM - RM, or PFM - Base was changed after starting the operation.
- When unsetup of multiple monitoring is performed.

If you have deleted the service information of the Action Handler service, you are no longer able to execute alarm actions using that Action Handler. Therefore, reset the Action Handler service that executes alarm action.

You can delete service information by using the `jpctool service delete` command. If communication is impossible because of physical reasons, such as when the LAN cable is disconnected from the PFM - Agent host, you cannot delete the service information normally. In this case, to forcibly delete service information, specify the `-force` option. To delete service information for PFM - Agent or PFM - RM to which alarm tables have been bound, you must first unbind all the alarm tables.

To delete service information:

1. Use the PFM - Web Console or `jpctool alarm unbind` command to unbind PFM - Agent or PFM - RM service to be deleted.
2. Log on to the host where PFM - Manager is installed.
3. Execute the `jpctool service delete` command by specifying the service ID of the service you wish to delete.

For example, to delete the information on the Agent Store service of PFM - Agent for Oracle on the host02, specify as follows:

```
jpctool service delete -id OS* -host host02
```

4. Execute the `jpctool service sync` command.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

Notes on unsetup of remote agents of PFM - RM

After the unsetup procedure has been performed on the remote agents of PFM - RM (after the `jpccconf target unsetup` command has been executed), there is no need to execute the `jpctool service delete` command because the service information is deleted automatically.

However, for the new information to be applied to PFM - Web Console after the unsetup procedure, you must execute the `jpctool service sync` command.

The service information is deleted at the following time:

- If PFM - Manager and the PFM - RM service subject to deletion are running

When the `jpccconf target unsetup` command is executed, a service information deletion request is sent from PFM - RM to PFM - Manager and the service information is then deleted by PFM - Manager.

- If PFM - Manager or the PFM - RM service subject to deletion is stopped

When the `jpcconf target unsetup` command is executed, the service information is deleted by PFM - Manager the next time the PFM - RM service is started and connected to PFM - Manager.

5.3 Specifying and changing the Performance Management system configuration

When you have changed the setup and configuration of systems being monitored, you need to change the Performance Management system configuration. This section explains how to change the Performance Management system configuration.

Important note

You cannot change the system locale of the server while Performance Management is running. To change the system locale of the server, uninstall all the Performance Management programs and then change the system locale of the server. Afterwards, re-install the Performance Management programs.

Refer to the subsections listed below to set up and change the system configuration.

Table 5–8: Subsections to be referenced to set up and change the system configuration

Settings	Setup	Change
Setting up or changing the network configuration	5.3.1	5.3.1
Changing the PFM - Manager for the connection destination after operation has begun	--	5.3.2
Setting up or changing monitoring host names	5.3.3	5.3.3 to 5.3.7
Renaming physical hosts after operation has begun	--	5.3.8 to 5.3.13

Legend:

--: Not applicable

5.3.1 Specifying and changing the network configuration

This subsection explains how to change the Performance Management settings when you have set up or changed the network configuration.

For details about commands, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*. For details about settings and notes about communication through a firewall between PFM - Manager and PFM - Web Console or between PFM - Manager and either PFM - Agent or PFM - RM, see the list of port numbers in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

(1) Procedure on the PFM - Manager host and either PFM - Agent host or PFM - RM host

(a) Setting IPv6 communication

Perform this setting if you use not only IPv4 communication but also IPv6 communication in Performance Management.

Note that only IPv4 communication is supported between PFM - Manager and PFM - Web Console.

To use IPv6 communication, you must execute the `jpccconf ipv6 enable` command in the PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

In a cluster system, this setting must be specified in both the executing system and the standby system.

Once the command has executed, IPv6 communication will be used by default thereafter.

To set IPv6 communication:

1. Execute the `jpccconf ipv6 enable` command for each PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

You can execute the commands in any order.

For details about the `jpccconf ipv6 enable` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

(b) Setting IP addresses

You need to set IP addresses if you wish to specify IP addresses to use Performance Management in a network environment connected to multiple LANs.

To set IP addresses, directly edit the content of the `jpchosts` file.

Note:

- If you have set the `jpchosts` file, the definitions in the `hosts` file or DNS are not referenced for a host name defined in the `jpchosts` file. Therefore, the IP address obtained from a host name must be defined in the `jpchosts` file.
- The same host name cannot be specified more than once. If there are multiple lines that specify the same host name, only the definition in the first line specified will be used.

To set IP addresses:

1. Use a text editor or a similar tool to open the `jpchosts` file.

The `jpchosts` file is stored in the installation folder.

2. Edit the `jpchosts` file.

For example, if there is a `hostA` with the IP address `20.108.41.1` and a `hostB` with the IP addresses `20.108.41.2` and `20.108.41.3`, set the IP addresses of the hosts as follows:

```
hostA 20.108.41.1
hostB 20.108.41.2, 20.108.41.3
```

If you want to provide an alias name *aliasA* to a host whose IP address is `20.108.41.1`, specify the name as follows:

```
aliasA 20.108.41.1
```

- If multiple IP addresses are specified for a single host, the leftmost IPv4 and IPv6 addresses specified are used.
- IP address settings becomes invalid if any of the following conditions is met:
 - The host name length is 33 bytes or longer
 - The host name is `localhost`
 - The IP address (such as `172.16.233.12` or `ACE6:45:75:91::1`) is used as a host name
 - The host name starts with a hyphen (-)
 - The host name includes any of the following characters or the space character:

\ / : , ; * ? " > < | . =

- For IPv4, specify the IP address in dotted decimal notation (example: 172.16.233.12). For IPv6, specify the IP address in colon hexadecimal notation (example: ACE6:45:75:91::1).
 - A zone ID that is added at the end of an IPv6 address, such as in the format of %1 in Windows, cannot be specified. If specified, zone IDs are treated as invalid IPv6 addresses and ignored.
 - You can specify up to 16 IP addresses for one host.
3. Stop Performance Management on the host whose IP address you set, and then copy the `jpchosts` file according to the instructions in note 2 below.
 4. Restart Performance Management on the host.
The information settings for the `jpchosts` file become valid when Performance Management is restarted.

Note 1

In name resolution using the `jpchosts` file, when the IP address that is set first becomes invalid, the system does not simply continue to use the IP address set second. For the next and subsequent communications, an attempt is made to use the first IP address and then the following addresses in order.

Note 2

Determining whether to add settings for a PFM - Manager host to `jpchosts`

1. When the PFM - Manager host uses a single NIC:
 - `jpchosts` of PFM - Manager: Setting not required.
 - `jpchosts` of PFM - Agent or PFM - RM that connects to PFM - Manager: Setting not required.
2. When the PFM - Manager host uses two or more NICs:
 - `jpchosts` of PFM - Manager: Specify the IP address you want to allocate to PFM - Manager.
 - `jpchosts` of PFM - Agent or PFM - RM connected to PFM - Manager: Specify the IP address you want to allocate to PFM - Manager.

Determining whether to add settings for a PFM - Agent or PFM - RM host to `jpchosts`

Perform the steps below for each PFM - Agent or PFM - RM host in the system.

1. When the PFM - Agent or PFM - RM host uses a single NIC:
 - `jpchosts` of PFM - Manager: Setting not required.
 - `jpchosts` of the confirmed instance of PFM - Agent or PFM - RM: Setting not required.
 - `jpchosts` of other instances of PFM - Agent or PFM - RM: Setting not required.
2. When the PFM - Agent or PFM - RM host uses two or more NICs:
 - `jpchosts` of PFM - Manager: Specify the IP address that you want to allocate to PFM - Agent or PFM - RM.
 - `jpchosts` of the confirmed instance of PFM - Agent or PFM - RM: Specify the IP address you want to allocate to the PFM - Agent or PFM - RM.
 - `jpchosts` of other instances of PFM - Agent or PFM - RM: Setting not required.

Note: If you want the PFM - Agent or PFM - RM to be able to communicate with another PFM - Agent host or PFM - RM host during operations such as using the `jpctool db backup` command, `jpctool db clear` command, `jpctool db dump` command, or `jpctool service list` command, you need to add the setting for the confirmed instance of PFM - Agent or PFM - RM to the `jpchosts` file.

Supplemental information:

If names are resolved between the PFM - Manager host and the PFM - Agent or PFM - RM host, there is no problem in the network settings. However, to avoid any confusion during operation, we recommend that you use the same definition in the `jpchosts` file among all target hosts.

■ IP addresses used between the PFM - Manager host and the PFM - Agent or PFM - RM host

This subsection describes the IP addresses that are used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host.

• IP address used by the services at the sending end

Source IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host

Performance Management executes the `connect` function and issues a connection request without specifying the source IP address. In this case, depending on the OS specifications, the OS assigns the IP address corresponding to the connection target. In general, the OS assigns the IP address corresponding to the NIC that is used for sending packets to the connection destination. For details, see the OS's TCP/IP control specifications.

Target IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host

For communication between the PFM - Manager host and the PFM - Agent or PFM - RM host, the target IP address is determined in the order described below.

When the target is not the Status Server service:

1. IP address used by the target service
2. IP address specified in the `jpchosts` file
3. `hosts` file or DNS

When the target is the Status Server service:

1. IP address specified in the `jpchosts` file
2. `hosts` file or DNS

Supplemental information:

All the services of Performance Management, except for the Status Server service, register their IP addresses in PFM - Manager when they start.

When communication is established with a service of Performance Management (other than the Status Server service), the IP address registered in PFM - Manager is used.

• IP address used by the services at the receiving end

This is the IP address used by the services of Performance Management to accept connection. In Performance Management's communication standby processing, data addressed to all IP addresses allocated to the host can be received. If you want to use only a specific IP address in a network environment connected to multiple LANs, you must specify the IP address in the `jpchosts` file.

Specify the local host name and IP address to be used in the `jpchosts` file on each host.

For example, if a host has host name `hostA` and IP addresses `20.108.41.0` and `20.108.41.1` and you want to use `20.108.41.1` as the IP address to be used by the services of Performance Management running on `hostA`, specify `hostA`'s `jpchosts` file as follows:

```
hostA 20.108.41.1  
or  
hostA 20.108.41.1, 20.108.41.0
```

Thus, if you want to specify the target IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host, the `jpchosts` file must be specified at both the sending and the receiving ends.

The following shows an example of settings.

This example uses the following target IP on each host:

PFM - Manager: IP:C

PFM - Agent (A): IP:E

PFM - Agent (B): IP:G

This example specifies the following information in the `jpchosts` file on each host:

PFM - Manager

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

PFM - Agent (A)

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

PFM - Agent (B)

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

(c) Setting port numbers

Set a fixed port number for each service when you want to operate the Performance Management system with fixed port numbers for reasons such as to allow communication through a firewall between PFM - Manager and PFM - Web Console, or between PFM - Manager and either PFM - Agent or PFM - RM.

Use the `jpccconf port define` command to set a fixed port number for each service or change port numbers that have been set. Use the Windows initialization file (`config.xml`) to set the port numbers on the PFM - Web Console side. For details about how to edit the `config.xml` file on the PFM - Web Console host, see [5.4.7 Changing PFM - Web Console settings](#).

This subsection explains how to execute the `jpccconf port define` command in the interactive mode and the non-interactive mode. For details about the `jpccconf port define` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

For details about the port number settings, see the description of firewall routing in the appendixes of the manual *Job Management Partner 1/Performance Management Reference*.

Supplemental information:

The same port number must be specified in the Name Server service on all hosts in the Performance Management system.

Also, the same port number must be specified in the Status Server service on all hosts in the Performance Management system.

To avoid confusion during operations, also use for other Performance Management services the same port numbers and service names throughout the entire Performance Management system.

■ Executing in the interactive mode

1. Execute the `jpccconf port define` command.

For example, to set the port numbers to fixed values for all services, execute the following command:

```
jpccconf port define -key all
```

2. Set a port number for the individual services.

Executing the `jpccconf port define` command displays the currently set port number or default port number.

For example, the current port number 22285 for the Name Server service is displayed as follows:

```
Component[Name Server]
ServiceID[PN1001]
Port[22285]
:
```

Actions vary depending on how you set the port number. The following table lists and describes the settings and actions. As long as there is no duplicate port numbers in the system, use the port number displayed by the `jpccconf port define` command as is.

Setting	Action
To use the displayed number as the fixed port number for a service	Press the return key.
To change the displayed port number to another number	Enter a port number between 1024 and 65535. However, you cannot specify the port numbers currently used by the system.
Port numbers that are not fixed	Enter 0. However, you cannot fix port numbers for the following services: If you enter 0, the default value is set. <ul style="list-style-type: none">• Name Server service• View Server service (between PFM - Web Console and View Server service)• NNM Object Manager service• Status Server service

Notes:

- If Performance Management programs and services are running when you set port numbers, stop the services and then execute the `jpccconf port define` command. After completing the port number settings, manually start the services.
- The port number cannot be set correctly if you use the **Ctrl+C** key command to interrupt execution of the `jpccconf port define` command. Execute the `jpccconf port define` command again to set the port number.

3. Execute the `jpccconf port list` command again to check if the port number has been set correctly.

For example, to display the port numbers of all services, execute the following command:

```
jpccconf port list -key all
```

If `<error>` is displayed in the Service area or Port area, the port numbers have not been set correctly. Set the port numbers again. One of the following could be the cause of the error:

- The port number is not registered in the `services` file.
- The same port number is already registered in the `services` file.

■ Executing in the non-interactive mode

1. Use the `jpccconf port define` command to create a template for the definition file.

For example, to set the port numbers to fixed values for all services, execute the following command:

```
jpccconf port define -key all -template definition-file-name
```

A definition file containing the labels and values for all target services is output. The value of a label is set to the specified port number for a service whose port number has already been specified and to 0 for a service whose port number has not been specified.

2. Edit the template for the definition file that was created in step 1.

Edit the settings in the template according to the port numbers that you want to use.

For details about the specification format of the definition file, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

The following shows an example specification of a definition file:

```
[Common Definitions]
Definition File Version=0001

[Common]
Name Server=22285
Status Server=22350
OpenView=22292
[Manager]
Master Manager=auto
Master Store=auto
Correlator=auto
:
[Windows]
Collector=0
Store=0
:
[Oracle]
[[oracle1]]
Collector=0
Store=0
```

3. Use the `jpccconf port define` command to import the edited definition file.

Execute the command as shown below. In the `-input` option, specify the definition file edited in step 2.

```
jpccconf port define -key all -input definition-file-name -noquery
```

(d) Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSLM

TCP/IP is used for communication between PFM - Manager and PFM - Web Console. This is true not only when PFM - Manager and PFM - Web Console are located on separate hosts but also when they are located on the same host. Therefore, to run Performance Management, a host name or an IP address that will always be available for communication must be specified on both the Performance Management and the PFM - Web Console hosts.[#] If this information has not been specified, the first IP address resolved from the PFM - Manager host name or the PFM - Web Console host name will be used.

Similarly, when Performance Management is linked with JP1/ITSLM, a host name or an IP address that will always be available for communication must be specified on both the PFM - Manager and the JP1/ITSLM host. If this information

has not been specified, the first IP address resolved from the PFM - Manager host name or the JP1/ITSMLM host name will be used.

#

If multiple PFM - Web Consoles connect to PFM - Manager, the specified host name or IP address must be available for communication from all PFM - Web Console hosts.

For example, if Performance Management is configured and run as described below, a host name or an IP address that is always available for communication must be specified in both the PFM - Manager and PFM - Web Console hosts or both the PFM - Manager and JP1/ITSMLM hosts.

- IP address translation (NAT) is used between the PFM - Manager and PFM - Web Console hosts or between the PFM - Manager and JP1/ITSMLM hosts.
- The PFM - Manager host is connected to two networks, a LAN for business and a LAN for monitoring, and Performance Management uses the LAN for monitoring for host-to-host communications.
- The LAN cable is disconnected from NIC temporarily during maintenance of the hosts (because the HP address assigned to NIC might be disabled).

For details about the host name and IP address settings, see the appendix of the manual *Job Management Partner 1/Performance Management Reference* as well as the section that describes the host names used for communication between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSMLM.

(2) Setting procedure on the PFM - Web Console host

Use the initialization file (`config.xml`) to specify and change the network settings on the PFM - Web Console host.

For details about how to edit the `config.xml` file, see [5.4.7 Changing PFM - Web Console settings](#).

5.3.2 Changing the PFM - Manager for the connection destination

This subsection describes how to change PFM - Manager for the connection destination after the Performance Management system is configured.

For details about how to start and stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(1) Procedure on the PFM - Agent or PFM - RM host

Use the `jpccconf mgrhost define` command to change PFM - Manager for the connection destination of PFM - Agent or PFM - RM.

If you installed PFM - Agent or PFM - RM on the same host as PFM - Manager, or if you set PFM - Manager for the connection destination during the installation of PFM - Base, this step is unnecessary.

Notes:

- Except for the case of multiple monitoring, only one PFM - Manager can be set as the connection destination on a single monitoring agent. Therefore, if multiple instances of PFM - Agent or PFM - RM are installed on the same monitoring agent, you cannot set a different instance of PFM - Manager as the connection destination for each instance of PFM - Agent or PFM - RM. For details about multiple monitoring, see the chapter that describes multiple monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

- If PFM - Agent (or PFM - RM) and PFM - Manager are installed on the same host, PFM - Manager on the local host is set as the connection destination (except for the case of multiple monitoring). In such cases, you cannot change PFM - Manager for the connection destination to PFM - Manager on the remote host. For details about multiple monitoring, see the chapter that describes multiple monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
- Before you attempt to change PFM - Manager for the connection destination, stop all Performance Management programs and services running on the local host.
- If the version of PFM - Base is 09-00 or later and you have installed PFM - Agent or PFM - RM, without setting PFM - Manager for the connection destination, you *must* change PFM - Manager for the connection destination.

To change PFM - Manager for the connection destination:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running by using the `jpcspm stop` command.

```
jpcspm stop -key jplpc
```

2. Change PFM - Manager for the connection destination.

Use the `jpccconf mgrhost define` command to change PFM - Manager for the connection destination. For example, if you wish to change PFM - Manager for the connection destination to PFM - Manager on the host `host02`, specify as follows:

```
jpccconf mgrhost define -host host02
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

3. After the change, make sure that PFM - Manager for the new connection destination is running.
4. Restart the Performance Management programs and services on the PFM - Agent host or PFM - RM host.

In addition, in PFM - Manager for the connection destination before the change, delete all service information of the Performance Management programs to which the host name of PFM - Agent or PFM - RM is added. For details about how to delete service information, see [5.2.3 Deleting service information](#).

(2) Procedure on the PFM - Web Console host

Change the information in the Windows initialization file (`config.xml`) to change PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

5.3.3 Specifying and changing the monitoring host name in a Performance Management system

The Performance Management system uses service IDs to run the system. For the service IDs, the Performance Management system uses the host names (*real host names*) obtained from the OS by using the `hostname` command. Therefore, to change the physical host name on a server that has PFM - Manager, PFM - Agent, or PFM - RM installed, you must perform the procedure described in [5.3.8 Changing the physical host name after operation has started](#).

To avoid this, use the *function for setting monitoring host names*. This function enables you to use host names (*alias names*) that do not depend on the host names obtained by the `hostname` command to create service IDs, eliminating the need for changing the physical host name. Therefore, use the function for setting monitoring host names in an environment where a server's host name might be changed or multiple hosts have the same real name.

A host name that is used for the service ID of the Performance Management system is called a *monitoring host name*.

Reference note

If the function for setting monitoring host names is not used and PFM - Agent for Platform (Windows) is installed on a host whose host name obtained by the `hostname` command is `HostA`, the Agent Collector's service ID would be `TA1HostA`. If you use the product name display function, the service ID would be `HostA<Windows>`.

If PFM - Agent for Platform (Windows) is installed on a host whose host name has been set to `aliasA` by using the function for setting monitoring host names, the Agent Collector's service ID would be `TA1aliasA`. If you use the product name display function, the service ID would be `aliasA<Windows>`.

To obtain the monitoring host name used currently by the PFM - Manager, PFM - Agent, or PFM - RM host, as well as the method used to obtain the monitoring host name, execute the command shown below on the corresponding host. In this command, `hostmode` represents the method used to obtain the monitoring host name, and `hostname` represents the monitoring host name.

```
jpccconf host hostmode -display
```

Example

- When the function for setting monitoring host names is not used

```
hostmode : hostname
hostname : hostA
```

- When the function for setting monitoring host names is used

```
hostmode : alias
hostname : aliasA
```

Table 5–9: Relationship between the monitoring host name and the method used to obtain the name

Method for acquiring a monitoring host name	Monitoring host name
<code>hostname</code>	Real host name (value obtained by the <code>hostname</code> command)
<code>alias</code>	Alias name

To set an alias name for the monitoring host name, you must execute the `jpccconf host hostmode` command to set `alias` as the method used to obtain the monitoring host name.

For details about the `jpccconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Important note

Do not execute any other commands while executing the `jpccconf host` command. If you execute another command, both the `jpccconf host` command and the executed command might fail.

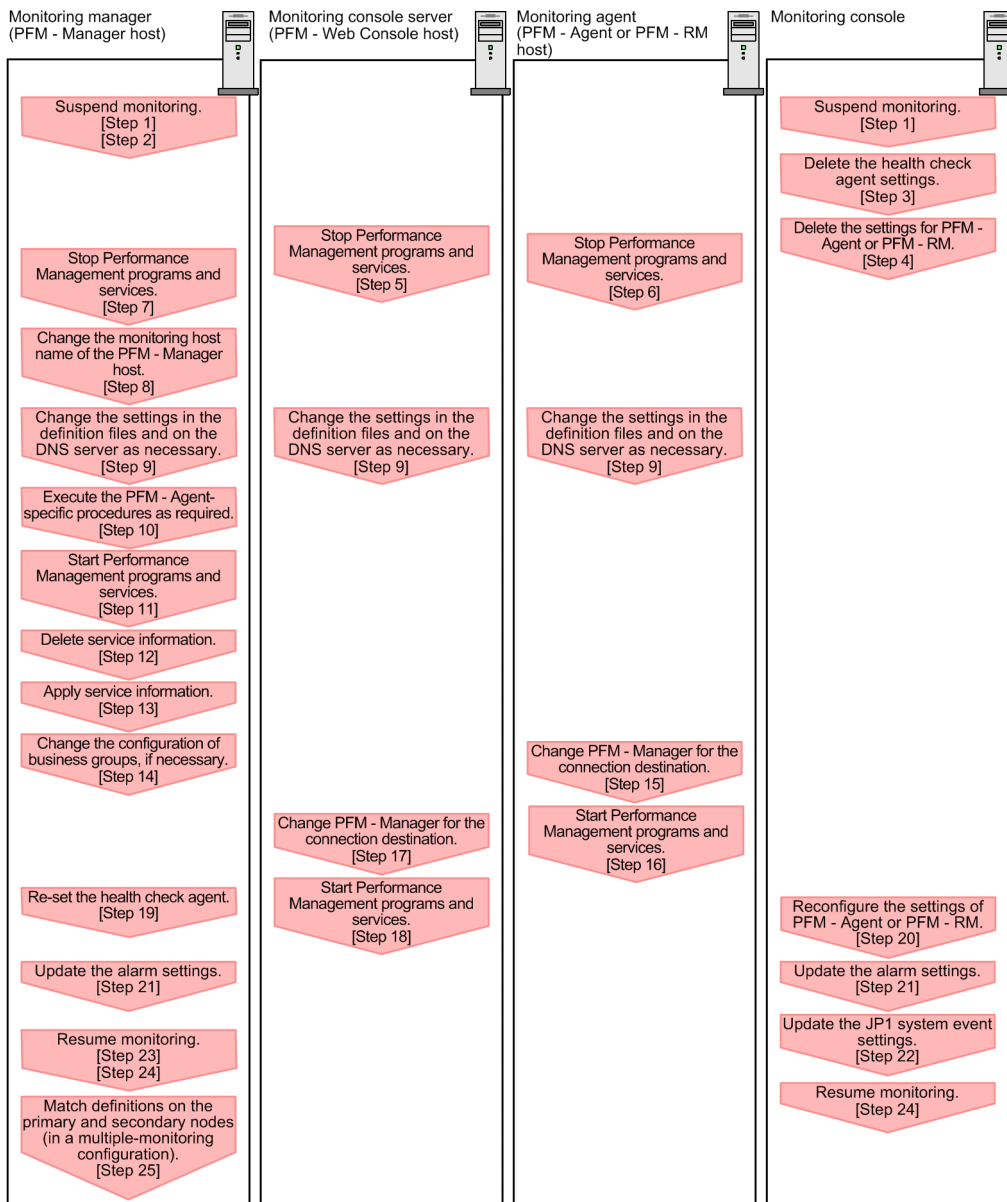
5.3.4 Changing the monitoring host name of PFM - Manager

You must perform operations on the following hosts when changing the monitoring host name of the PFM - Manager host:

- PFM - Manager host
- PFM - Web Console host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

Figure 5–5: Process flow for changing the monitoring host name of the PFM - Manager host



Legend:
 : Step associated with a Performance Management program
 [] : See the indicated step.

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Manager host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
2. Suspend monitoring with the new host name specified.

If you suspend monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for the health check agent.

If you have been using the health check function, use the PFM - Web Console to delete the definition for the health check agent. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Delete the settings for PFM - Agent or PFM - RM.

Use PFM - Web Console to delete the agent definition of the PFM - Agent or PFM - RM host that is installed on the same host as the PFM - Manager whose host name is to be changed (delete the definition from the management folder in the Agents tree and delete the alarm table associations).

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

5. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop services, use the `jpcwstop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

6. Stop the services on the PFM - Agent or PFM - RM host.

On the PFM - Agent or PFM - RM host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop services, use the `jpcspm stop` command.

7. Stop the services on the PFM - Manager host.

Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the host name. To stop services, use the `jpcspm stop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

8. Change the monitoring host name of the PFM - Manager host.

Execute the `jpcconf host hostmode` command on the target PFM - Manager host (whose name you want to change) to change the method of obtaining monitoring host names. To use an alias name (`aliasA`) to acquire a monitoring host name:

```
jpcconf host hostmode -mode alias -aliasname aliasA -d d:\backup -
dbconvert convert
```

For details about the `jpcconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

In a multiple-monitoring configuration, on the PFM - Manager host whose name will not be changed, change the settings of PFM - Manager for the connection destination. For details, see the chapter that describes how to make PFM - Manager for the connection destination redundant in the *Job Management Partner 1/Performance Management User's Guide*.

Reference note

As a guideline, the folder specified for the `-d` option in the `jpcconf host hostmode` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM

- RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if the health check agent, PFM - Agent for Platform, and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

9. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

10. Perform the Agent-specific procedure, if necessary.

If PFM - Agent is installed on the PFM - Manager host for which you have changed the host name, the PFM - Agent-specific procedure might be necessary.

Table 5–10: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent installed on the PFM - Manager host is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent installed on the PFM - Manager host is earlier than 09-00.	The following PFM-Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications PFM - Agent for Microsoft SQL Server 	The Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see 5.3.7 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed .
	For all other cases	The Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

11. Start the services on the PFM - Manager host.

Start the Performance Management programs and services on the PFM - Manager host. To start the services, use the `jpccspm start` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

12. Delete service information on the PFM - Manager host.

Even though the PFM - Manager host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id * -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id *
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id * -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id ???previous-host-name -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id * -host previous-host-name -force  
jpctool service delete -id ???previous-host-name -host new-host-name -  
force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

13. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

14. Change the configuration of business groups, if necessary.

If a PFM - Manager host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

15. Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host.

Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. Use the `jpccconf mgrhost define` command to change the settings for PFM - Manager for the connection destination. For example, if the

host name of PFM - Manager for the connection destination is changed to `hostB`, specify and execute the command as follows

```
jpccconf mgrhost define -host hostB
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

16. Start the services on the PFM - Agent or PFM - RM host.

Start the Performance Management programs and services on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. To start services, use the `jpccspm start` command.

17. Change the settings of PFM - Manager for the connection destination on the PFM - Web Console host.

Change the settings for PFM - Manager for the connection destination on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. Change the information in the Windows initialization file (`config.xml`) to change the settings for PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

18. Start the services on the PFM - Web Console host.

Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start services, use the `jpccwstart` command.

19. Reconfigure the definition for the health check agent.

If you have been using the health check function, reconfigure the definition (that was deleted in step 3) of the health check agent after changing the host name.

In a multiple-monitoring configuration, perform this step on the primary manager.

20. Reconfigure the definition of PFM - Agent or PFM - RM.

Reconfigure the definition (that was deleted in step 4) of PFM - Agent or PFM - RM installed on the same host as PFM - Manager for which the host name was changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

21. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpccool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Manager host is specified for the action handler that executes actions.
Edit the alarm to set `PH1<new-pfm-manager-host-name>` for the action handler that executes actions.
- JP1 events are issued by actions.
Set the JP1 event settings in the action again.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

22. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.

- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

23. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

24. Resume monitoring for the PFM - Manager host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring on the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

25. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

26. Check whether the JP1 system event settings have been properly updated.

Check the following items after changed the settings:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions
Make sure that there is no problem in executing the created alarm actions.

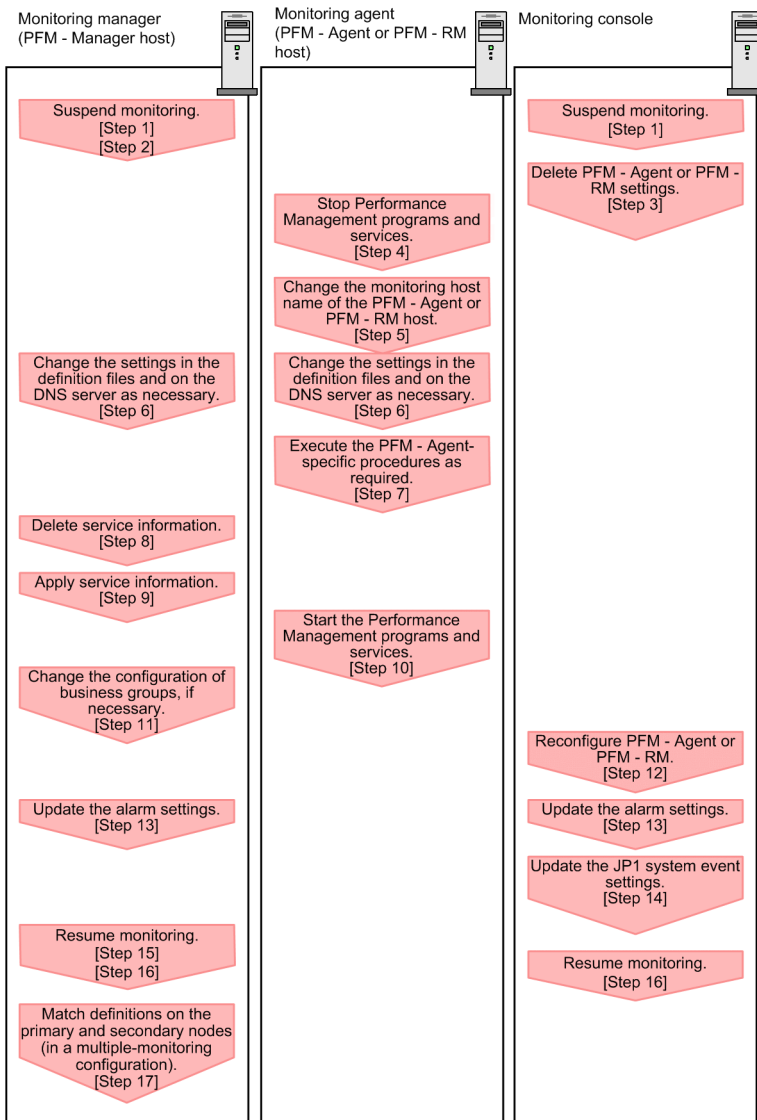
5.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM

You must perform operations on the following hosts when changing the monitoring host name of the PFM - Manager or PFM - RM host:

- PFM - Manager host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

Figure 5–6: Process flow for changing the monitoring host name of the PFM - Agent or PFM - RM host



Legend:
 : Step associated with a Performance Management program
 : See the indicated step.

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Agent or PFM - RM host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for PFM - Agent or PFM - RM.

Use the PFM - Web Console to delete the agent definition for the PFM - Agent or PFM - RM host whose name is to be changed. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Stop the services on the PFM - Agent or PFM - RM host.

Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the host name. To stop the services, use the `jpcspm stop` command.

5. Change the monitoring host name of the PFM - Agent or PFM - RM host.

Execute the `jpcconf host hostmode` command to change the method of acquiring a monitoring host name. The following shows an example of using an alias name (`aliasA`) to acquire a monitoring host name:

```
jpcconf host hostmode -mode alias -aliasname aliasA -d d:\backup -
dbconvert convert
```

For details about the `jpcconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the folder specified for the `-d` option in the `jpcconf host hostmode` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if PFM - Agent for Platform and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

6. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

7. Perform the Agent-specific procedure, if necessary.

Table 5–11: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent on which the monitoring host name is changed is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent on which the monitoring host	The following PFM-Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications PFM - Agent for Microsoft SQL Server 	The Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see 5.3.7 Optional PFM - Agent-specific

Configuration		Necessity and reference
name is changed is earlier than 09-00.	The following PFM-Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications PFM - Agent for Microsoft SQL Server 	<i>procedure to be performed when the monitoring host name is changed.</i>
	For all other cases	The Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

8. Delete service information on the PFM - Manager host.

Even though the PFM - Agent or PFM - RM host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information from the PFM - Manager host. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id * -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id *
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id * -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id ???previous-host-name -host new-host-name
```

If the KAVE05233-W message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id * -host previous-host-name -force
jpctool service delete -id ???previous-host-name -host new-host-name -force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

9. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

10. Start the services on the PFM - Agent or PFM - RM host.

Start Performance Management programs and services on the PFM - Agent or PFM - RM host for which you have changed the host name. To start the services, use the `jpccspm start` command.

11. Change the configuration of the business groups, if necessary.

If a PFM - Agent or PFM - RM host whose host name has been changed has been assigned to business groups, you must change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

12. Reconfigure the definition in step 3 as necessary.

Reconfigure the definition (that was deleted in step 3) of PFM - Agent or PFM - RM for which the host name was changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

13. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Agent or PFM - RM host is specified for the action handler that executes actions.
Edit the alarm to set `PH1<new-pfm-agent-or-pfm-rm-host-name>` for the action handler that executes actions.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

14. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

15. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

16. Resume monitoring for the PFM - Agent or PFM - RM host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring for the PFM - Agent or PFM - RM host.

In a multiple-monitoring configuration, perform this step on the primary manager.

17. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

18. Check whether the JP1 system event settings have been properly updated.

Check the following items after changed the settings:

- Collection of performance data

Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).

- Execution of the `jpcrept` command

Make sure that there is no problem in outputting the collected performance data.

- Check of the report definition and alarm definition

Make sure that there is no problem with the report definition and alarm definition created in the Web browser.

- Check of the actions

Make sure that there is no problem in executing the created alarm actions.

5.3.6 Notes on changing monitoring host names

- If you use an alias name, the IP address of the host must be resolved through the alias name. If you only want to resolve the IP address for the Performance Management system, use the `jpchosts` file to define the IP address resolution. For details about how to edit the `jpchosts` file, see [5.3.1 Specifying and changing the network configuration](#). To link the Performance Management system with other systems, you must configure the IP address to be resolved by either the `hosts` file or DNS definition.
- If you use the function for setting monitoring-host names, depending on the type of PFM - Agent or PFM - RM, the host name output to the common message log might be different from the actual operating host name.
- Even if you use the function for setting monitoring-host names immediately after installation, you must perform the steps described above in [5.3.4 Changing the monitoring host name of PFM - Manager](#) and [5.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM](#).

5.3.7 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed

This subsection describes the PFM - Agent-specific steps necessary to perform the following operations for each product:

- Changing the monitoring host name of the PFM - Manager host
- Changing the monitoring host name of the PFM - Agent or PFM - RM host

For details about when this procedure is required, see [5.3.4 Changing the monitoring host name of PFM - Manager](#) or [5.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM](#).

(1) In PFM - Agent for Enterprise Applications

Execute the `jpccconf inst setup` command for all the created instance environments. For example, if an instance environment `o246bcisD500` exists in PFM - Agent for Enterprise Applications, execute the following command:

```
jpccconf inst setup -key agtm -inst o246bcisD500
```

This example executes the `jpccconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpccconf inst setup` command, specify a new host name in `ASHOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

(2) In PFM - Agent for Microsoft SQL Server

Execute the `jpccconf inst setup` command for all the created instance environments. For example, if an instance environment `default` exists in PFM - Agent for Microsoft SQL Server, execute the following command:

```
jpccconf inst setup -key agtq -inst default
```

This example executes the `jpccconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpccconf inst setup` command, specify a new host name in `SQL_HOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

5.3.8 Changing the physical host name after operation has started

This subsection describes the procedures to be performed on the Performance Management system that are necessary to change the physical host name of the server on which PFM - Manager, PFM - Agent, or PFM - RM is installed after the Performance Management system has been configured.

The Performance Management system uses service IDs to run the system. For the service IDs, the Performance Management system uses the host names (real host names) obtained from the OS by the `hostname` command. Therefore, to change the physical host name on a server that has PFM - Manager, PFM - Agent, or PFM - RM installed, you need to check the settings of the monitoring host name.

To obtain the monitoring host name used currently by the PFM - Manager, PFM - Agent, or PFM - RM host, as well as the method used obtain the monitoring host name, execute the command shown below on the corresponding host. In this command, `hostmode` represents the method used to obtain the monitoring host name, and `hostname` represents the monitoring host name.

```
jpccconf host hostmode -display
```

Example

- When the function for setting monitoring host names is not used

```

hostmode : hostname
hostname : hostA
· When the function for setting monitoring host names is used
hostmode : alias
hostname : aliasA

```

Table 5–12: Relationship between the monitoring host name and the method used to obtain the name

Method for acquiring a monitoring host name	Monitoring host name
Hostname	Real host name (value obtained by the <code>hostname</code> command)
Alias	Alias name

If the method used to obtain the monitoring host name is set to `alias` and the server's physical host name is changed, there is no need to change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server because the monitoring host name is an alias in the Performance Management system.

If the method used to obtain the monitoring host name is set to `hostname`, you must change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server. For details, see [5.3.9 Changing the physical host name of PFM - Manager](#) or [5.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).

For details about the `jpccconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Important note

- Do not execute any other commands while executing the `jpccconf host` command. If you execute another command, both the `jpccconf host` command and the executed command might fail.
- Before you change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server, you must perform the procedure described in [5.3.9 Changing the physical host name of PFM - Manager](#) or [5.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).
- You need to execute the `jpccconf host hostmode` command to change the method of obtaining monitoring host names in the Performance Management system from `alias` (aliases) to `hostname` (real host names). For details about the `jpccconf host hostmode` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

5.3.9 Changing the physical host name of PFM - Manager

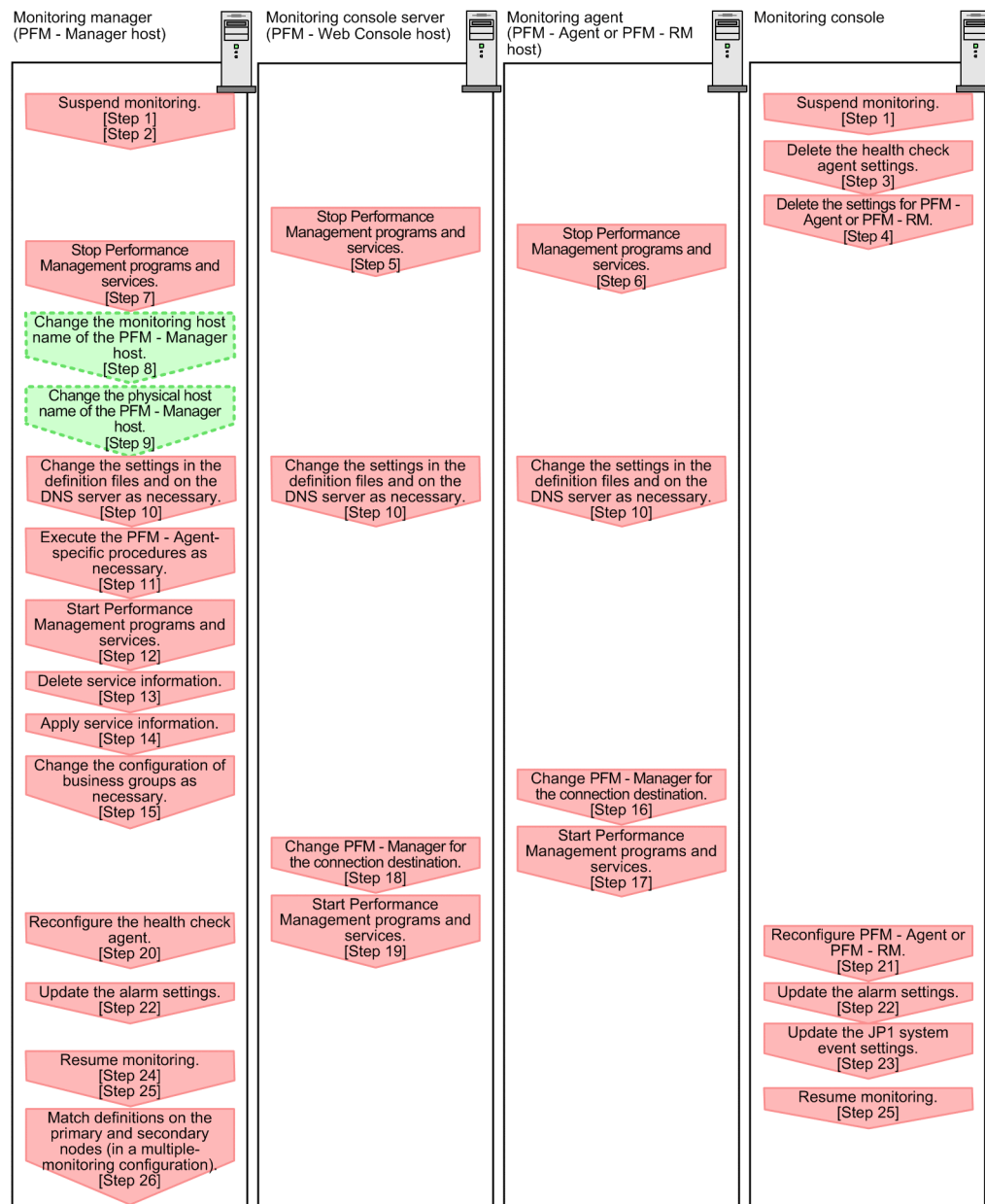
You must perform operations on the following hosts when changing the PFM - Manager host name:

- PFM - Manager host
- PFM - Web Console host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

If Performance Management is linked with JP1/ITSMLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSMLM.

Figure 5–7: Process flow for changing the PFM - Manager host name



Legend:
▾ : Step associated with a Performance Management program ▾ : Step involving the renaming of host [] : See the indicated step.

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Manager host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for the health check agent.

If you have been using the health check function, use the PFM - Web Console to delete the definition for the health check agent. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Delete the settings for PFM - Agent or PFM - RM.

Use PFM - Web Console to delete the agent definition of the PFM - Agent or PFM - RM host that is installed on the same host as the PFM - Manager whose host name is to be changed (delete the definition from the management folder in the Agents tree and delete the alarm table associations).

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

5. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpctestop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

6. Stop the services on the PFM - Agent or PFM - RM host.

On the PFM - Agent or PFM - RM host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpctestpm stop` command.

7. Stop the services on the PFM - Manager host.

Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the host name. To stop the services, use the `jpctestpm stop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

8. Change the monitoring host name of the PFM - Manager host.

Execute the `jpccconf host hostname` command on the PFM - Manager host whose host name is to be changed to change the monitoring host name.

To change a physical host name to `hostB`:

```
jpccconf host hostname -newhost hostB -d d:\backup -dbconvert convert
```

Note:

After you execute the above command, do not execute any other Performance Management commands until you change the physical host name in the next step.

If you execute the `jpccconf host hostname` command, all existing information, such as definition and performance information, is inherited. For details about the `jpccconf host hostname` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the folder specified for the `-d` option in the `jpccconf host hostname` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if the health check agent, PFM - Agent for Platform, and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

9. Change the physical host name of the PFM - Manager host.

Change the physical host name of the PFM - Manager host.

In a multiple-monitoring configuration, on the PFM - Manager host whose name will not be changed, change the settings of the PFM - Manager for the connection destination. For details, see the chapter that describes how to make the PFM - Manager for the connection destination redundant in the *Job Management Partner 1/Performance Management User's Guide*.

10. Change the settings in the `jpchosts` file, the `hosts` file, or the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

If the machines need to be restarted, change the settings of the Performance Management programs and services so that they will not start automatically when the machines restart. After the PFM - Manager host operation has finished, return the settings so that the Performance Management programs and services start automatically.

11. Perform the Agent-specific procedure, if necessary.

If PFM - Agent is installed on the PFM - Manager host whose name has been changed, the PFM - Agent-specific procedure might be necessary.

Table 5–13: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent installed on the PFM - Manager host is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent installed on the PFM - Manager host is earlier than 09-00.	The following PFM-Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications PFM - Agent for Microsoft SQL Server 	The Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see <i>5.3.13 Optional PFM - Agent-specific procedure to be performed when the physical host name is changed</i> .
	For all other cases	Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

12. Start the services on the PFM - Manager host.

Start the Performance Management programs and services on the PFM - Manager host. To start the services, use the `jpccspm start` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

13. Delete service information on the PFM - Manager host.

Even though the PFM - Manager host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id * -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id *
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id * -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id ???previous-host-name -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id * -host previous-host-name -force  
jpctool service delete -id ???previous-host-name -host new-host-name -  
force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

14. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

15. Change the configuration of the business groups, if necessary.

If a PFM - Manager host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

16. Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host.

Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. Use the `jpccconf mgrhost define` command to change the settings for PFM - Manager for the connection destination. For example, if the host name of PFM - Manager for the connection destination is changed to `hostB`, specify and execute the command as follows:

```
jpccconf mgrhost define -host hostB
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

17. Start the services on the PFM - Agent or PFM - RM host.

Start the Performance Management programs and services on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. To start services, use the `jpccspm start` command.

18. Change the settings of PFM - Manager for the connection destination on the PFM - Web Console host.

Change the settings for PFM - Manager for the connection destination on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. Change the information in the Windows initialization file (`config.xml`) to change the settings for PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

19. Start the services on the PFM - Web Console host.

Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccwstart` command.

20. Reconfigure the definition for the health check agent.

If you have been using the health check function, reconfigure the definition (that was deleted in step 3) of the health check agent after changing the host name.

In a multiple-monitoring configuration, perform this step on the primary manager.

21. Reconfigure the definition for PFM - Agent or PFM - RM.

Reconfigure the definition of PFM - Agent or PFM - RM (the definition that was deleted in step 4) that is installed on the same host running PFM - Manager whose host name has been changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

22. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Manager host is specified for the action handler that executes actions.
Edit the alarm to set `PH1<new-pfm-manager-host-name>` for the action handler that executes actions.
- JP1 events are issued by actions.
Set the JP1 event settings in the action again.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

23. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

24. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

25. Resume monitoring for the PFM - Manager host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring for the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

26. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

27. Check whether the JP1 system event settings have been properly updated.

Check the following items after changed the settings:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions

Make sure that there is no problem in executing the created actions.

28. If operation monitoring is performed with a network node manager (NNM) linked, restart the NNM.

If Performance Management is linked with a network node manager (NNM), restart the network node manager.

For details about the NNM linkage facility, see the chapter that describes operation monitoring linked with a network node manager (NNM) in the *Job Management Partner 1/Performance Management User's Guide*.

5.3.10 Changing the physical host name of PFM - Agent or PFM - RM

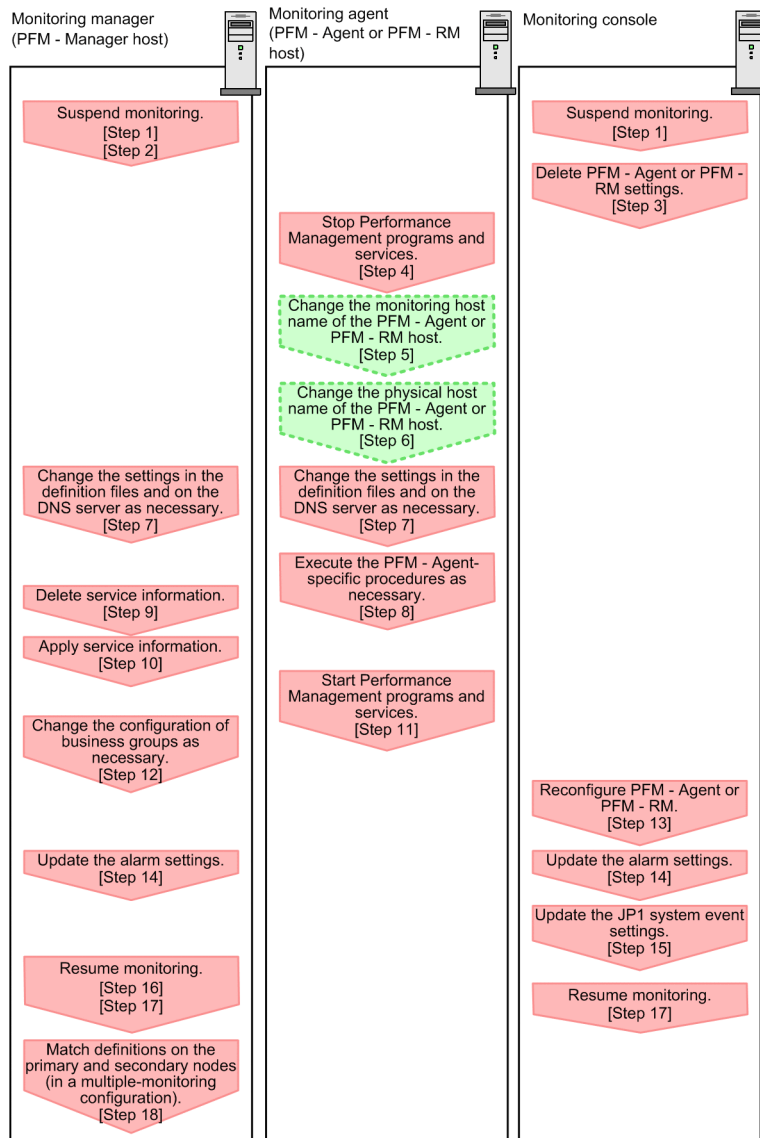
You must work on the following hosts when changing the PFM - Agent or PFM - RM host name:

- PFM - Manager host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

If Performance Management is linked with JP1/ITSMLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSMLM.

Figure 5–8: Process flow for changing the physical host name of the PFM - Agent or PFM - RM host



Legend:

- : Step associated with a Performance Management program
- : Step involving the renaming of host
- [] : See the indicated step

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Agent or PFM - RM host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host. In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the PFM - Agent or PFM - RM setting.

Use the PFM - Web Console to delete the agent definition for the PFM - Agent or PFM - RM host whose name is to be changed. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Stop the services on the PFM - Agent or PFM - RM host.

Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the host name. To stop the services, use the `jpccspm stop` command.

5. Change the monitoring host name of the PFM - Agent or PFM - RM host.

Execute the `jpccconf host hostname` command to change the monitoring host name.

To change a physical host name to `hostB`:

```
jpccconf host hostname -newhost hostB -d d:\backup -dbconvert convert
```

Note:

After you execute the above command, do not execute any other Performance Management commands until you change the physical host name in the next step.

If you execute the `jpccconf host hostname` command, all existing information, such as definition and performance information, is inherited. For details about the `jpccconf host hostname` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the folder specified for the `-d` option in the `jpccconf host hostname` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if PFM - Agent for Platform and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

6. Change the physical host name of the PFM - Agent or PFM - RM host.

Change the physical host name of the PFM - Agent or PFM - RM host.

7. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

If the machines need to be restarted, change the settings of the Performance Management programs and services so that they will not start automatically when the machines restart. After the PFM - Manager host operation has finished, return the settings so that the Performance Management programs and services start automatically.

8. Perform the Agent-specific procedure, if necessary.

Table 5–14: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent on which the monitoring host name is changed is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent on which the monitoring host name is changed is earlier than 09-00.	The following PFM-Agent: <ul style="list-style-type: none"> • PFM - Agent for Enterprise Applications • PFM - Agent for Microsoft SQL Server 	The Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see 5.3.13 Optional PFM - Agent-specific procedure to be performed when the physical host name is changed .
	For all other cases	The Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

9. Delete service information on the PFM - Manager host.

Even though the PFM - Agent or PFM - RM host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information from the PFM - Manager host. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id * -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id *
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id * -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id ???previous-host-name -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id * -host previous-host-name -force
jpctool service delete -id ???previous-host-name -host new-host-name -
force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

10. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

The synchronized service information is displayed when the Agents tree is displayed again in the PFM - Web Console window.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

11. Start the services on the PFM - Agent or PFM - RM host.

Start Performance Management programs and services on the PFM - Agent or PFM - RM host for which you have changed the host name. To start the services, use the `jpccspm start` command.

12. Change the configuration of the business groups, if necessary.

If a PFM - Agent or PFM - RM host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

13. Reconfigure the definition in step 3 as necessary.

Reconfigure the definitions (that was deleted in step 3) of PFM - Agent or PFM - RM for which the host name was changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

14. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Agent or PFM - RM host is specified for the action handler that executes actions. Edit the alarm to set `PH1<new-pfm-agent-or-pfm-rm-host-name>` for the action handler that executes actions.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

15. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

16. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

17. Resume monitoring for the PFM - Agent or PFM - RM host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring for the PFM - Agent or PFM - RM host.

In a multiple-monitoring configuration, perform this step on the primary manager.

18. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

19. Check whether the JP1 system event settings have been properly updated.

Check the following items after the settings have changed:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions
Make sure that there is no problem in executing the created actions.

5.3.11 Changing the physical host name of the monitoring target of PFM - RM

(1) If you do not change the monitored host name

You must change the monitored host name of the remote agent that corresponds to the monitoring target. Assuming that you change the monitored host name of the remote agent (instance name: `inst1`) from `hostA` to `hostB`, commands are executed as follows:

To change the monitored host name of the remote agent that corresponds to the monitoring target:

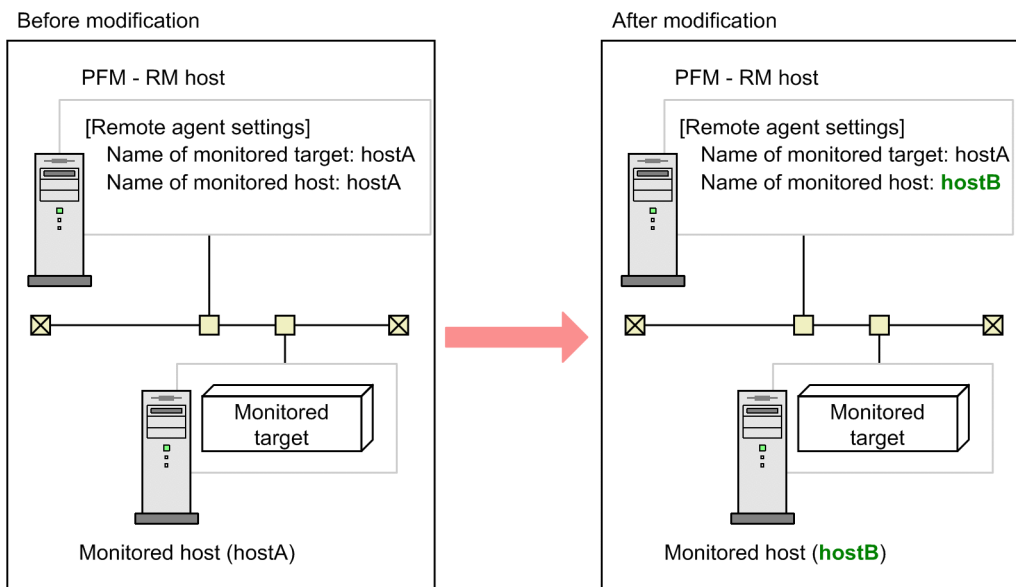
1. Execute the `jpccconf target setup -key RMPlatform -inst inst1 -target hostA` command.

This example executes the `jpccconf target setup` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf target setup` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

2. Enter `Target Host:hostB`.

Follow the instructions to enter the setting items for the monitored host. When you are finished, press the **Enter** key to confirm the setting.

Figure 5–9: Example of changing the monitored host name for PFM - RM (if you do not change the monitored host name)



(2) If you change the monitored host name

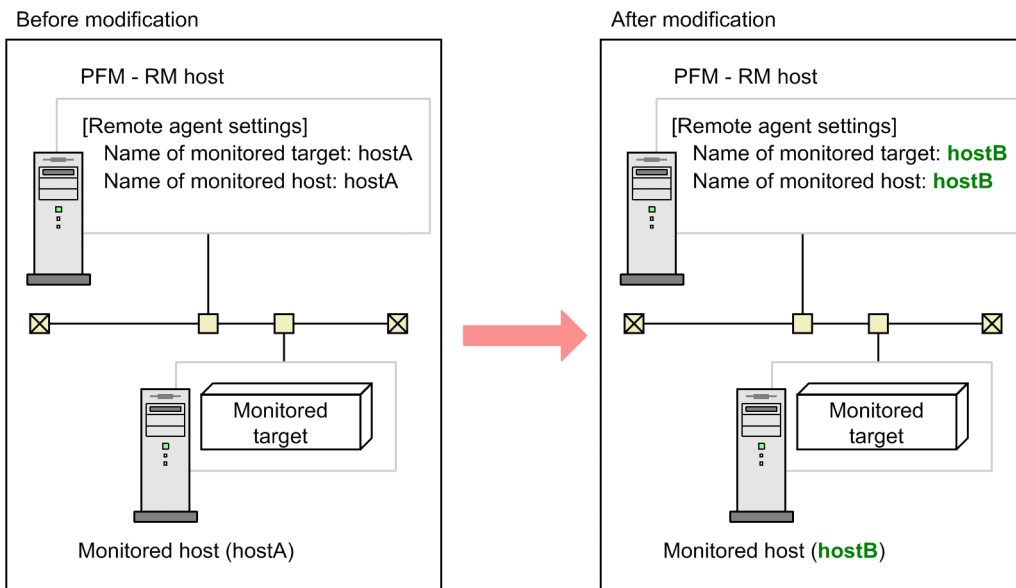
You must re-create the remote agent that corresponds to the monitoring target.

To re-create the remote agent:

1. Execute the `jpccconf target unsetup` command to delete the remote agent that corresponds to the monitoring target.
2. Execute the `jpccconf target setup` command to add the remote agent with a new monitored host name.

Note that the performance data for the monitoring target cannot be inherited.

Figure 5–10: Example of changing the monitored host name for PFM - RM (if you change the monitored host name)



For details about the `jpcconf target setup` and `jpcconf target unsetup` commands, see the chapter explaining the commands in the manual *Job Management Partner 1/Performance Management Reference*.

5.3.12 Changing the physical host name of PFM - Web Console

If Performance Management is linked with JP1/ITSLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSLM.

1. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpcwstop` command.

2. If the PFM - Web Console host name has been changed in the settings of host names used for communications, change that host name to the new name.

This step applies if the PFM - Manager host cannot access the IP address used by the PFM - Web Console host. In this case, if the PFM - Web Console host name is specified in the initialization file (`config.xml`), change the host name to the new name.

For details about how to change host names, see the sections that describe settings of host names used for communications between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSLM in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

3. If the integrated management product (JP1/IM) is linked for operation monitoring, change the host name of the PFM - Web Console host at the following locations.

Depending on the configured event, change the applicable section of the host name to the new host name.

- If a JP1 user event is used
Change the host name in the definition files for the tool launcher and for opening monitor windows.
- If a JP1 system event is used
Change the **Monitoring Console Host** property setting of **JP1 Event Send Host** to the new host name.

For details about an integrated management product (JP1/IM), see the chapter that describes the linkage with the integrated management product JP1/IM for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

4. If the network management product (NNM) is linked for operation monitoring, change the host name of the PFM - Web Console host in the applicable file.

Change the host name of the PFM - Web Console in `jpccnm.ini` file to the new host name.

For details about a network management product (NNM), see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

5. Change the PFM - Web Console physical host name.

Change the PFM - Web Console physical host name. When the machine requires restarting, change the settings so that the Performance Management programs and services will not automatically start after the machine is restarted. After the PFM - Web Console host operation has finished, return the settings so that the Performance Management programs and services start automatically.

6. Start the services on the PFM - Web Console host.

Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccwstart` command.

7. Restart the integrated management product (JP1/IM), if linking with JP1/IM.

5.3.13 Optional PFM - Agent-specific procedure to be performed when the physical host name is changed

This subsection describes the PFM - Agent-specific steps necessary to perform the following operations for each product:

- Changing the PFM - Manager host name
- Changing the PFM - Agent or PFM - RM host name

For details about when this procedure is needed, see [5.3.9 Changing the physical host name of PFM - Manager](#) or [5.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).

(1) In PFM - Agent for Enterprise Applications

Execute the `jpccconf inst setup` command for all the created instance environments. For example, if an instance environment `o246bcisd500` exists in PFM - Agent for Enterprise Applications, execute the following command:

```
jpccconf inst setup -key agtm -inst o246bcisd500
```

This example executes the `jpccconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpccconf inst setup` command, specify a new host name in `ASHOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

(2) In PFM - Agent for Microsoft SQL Server

Execute the `jpcconf inst setup` command for all the created instance environments. For example, if an instance environment `default` exists in PFM - Agent for Microsoft SQL Server, execute the following command:

```
jpcconf inst setup -key agtq -inst default
```

This example executes the `jpcconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpcconf inst setup` command, specify a new host name in `SQL_HOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

5.3.14 Changing the storage directory for bookmark definition information

You can specify the storage folder for bookmark definition information in `bookmarkRepository` in the initialization file (`config.xml`).

This subsection explains how to specify the storage folder for bookmark definition information in the initialization file (`config.xml`). If you use logical hosts, the same storage folder must be specified for both the executing and the standby nodes.

To change the storage directory for bookmark definition information:

1. Open the initialization file (`config.xml`).

The initialization file (`config.xml`) is at the following location:

installation-folder\conf\config.xml

2. Specify the folder in which the bookmark definition information is to be stored.

Specify the storage folder in the `<bookmark>` tag located immediately after the `<format>` tag in the `<vsa>` tag in the initialization file (`config.xml`).

The specified storage folder is created automatically when the PFM - Web Console service starts.

In a non-cluster system

For example, to use `c:\common\bookmarks` as the storage folder, specify as follows:

```
</format>

<bookmark>
<!-- The directory where bookmark repository is stored. Default :
<install directory>\bookmarks -->
<param name="bookmarkRepository" value="c:\common\bookmarks"/>
</bookmark>

</vsa>
```

When a logical host is used

Specify a folder on the shared disk as the storage for the bookmark definition information.

For example, to use `environment-directory\jp1pcWebCon\common\bookmarks` as the storage folder, specify as follows:

```
</format>

<bookmark>
<!-- The directory where bookmark repository is stored. Default :
<install directory>\bookmarks -->
<param name="bookmarkRepository" value="environment-directory\jplpcWebCon
\common\bookmarks"/>
</bookmark>

</vsa>
```

3. Save the initialization file (`config.xml`) that was edited in step 2.

4. Restart the PFM - Web Console service.

The initialization file (`config.xml`) is imported when the PFM - Web Console service starts. To apply the settings changed in the initialization file, restart the PFM - Web Console service. Note that there is no need to restart the PFM - Web Console service on the standby node because it will be restarted in the event of a failover.

Note 1

Do not change any other settings in the initialization file (`config.xml`). If other settings are changed, PFM - Web Console might not function correctly.

Note 2

If you are running a cluster system, restart the PFM - Web Console service from the cluster software.

Note 3

If bookmark definition information already exists in a directory and you want to move the bookmark definition information to another directory, perform the following procedure:

1. Back up and delete the bookmark definition information.

Back up the bookmark definition information in the current storage directory and then delete the bookmark definition information from the directory. When you perform this step, make sure that you back up and then delete all the data in the old directory specified for `bookmarkRepository` in the initialization file (`installation-folder\conf\config.xml`).

2. Move the bookmark definition information to another directory.

Move the bookmark definition information you backed up in step 1 to the new storage directory. When you perform this step, make sure that you move all the backed up data to the new directory specified for `bookmarkRepository` in the initialization file (`installation-folder\conf\config.xml`).

5.4 Changing the Performance Management operation method

You might need to change the operation method for the Performance Management system due to changes in the system administrator of the operation monitoring system, or changes to the operational procedure for the collected operation monitoring data.

5.4.1 Setting the size of the log file for the common message log

Common message logs are output in PFM - Manager, PFM - Base, PFM - Agent, and PFM - RM. The common message log file uses by default two 8,192-KB files. This setting is required only when you wish to change the common message log file size.

Directly edit the content of the `jpccomm.ini` file to change the file size. The `jpccomm.ini` file is stored in the following locations:

On physical hosts:

In Windows:

installation-folder

On logical hosts:

In Windows:

environment-directory\jplpc

The following table lists and describes the label name to be edited and the range of values that can be set in the `jpccomm.ini` file.

Table 5–15: Settings for the file size of the common message log ("Common Section" section in `jpccomm.ini`)

Setting item	Label name	Available values	Default value
Size of the file that stores the common message log (Kilobytes)	Common Msglog Size	4 to 32768	8192 [#]

#

For a new installation, the size is 8,192 kilobytes. For an upgrade installation, the value set prior to upgrading is used.

To change the size of the common message log file:

1. Stop Performance Management programs and services.
Stop all Performance Management programs and services that are running.
2. Use a text editor or a similar tool to open the `jpccomm.ini` file.
3. Change the size of the common message log file.
Correct the shaded parts indicated below:

:
[Common Section]

Common Msglog Size=8192

:

Notes:

- Do not enter spaces at the beginning of the coding, or before and after the equals sign (=).
- The `jpccomm.ini` file contains the definition information besides the common message log file size. Change values only for `Common Msglog Size` in the `Common Section` section. Performance Management might not operate correctly if you change values other than the required items.

4. Save and then close the `jpccomm.ini` file.

Notes:

- You need to make the settings the same for the common message log file in all Performance Management programs running on the same host.
- To return the settings of the `jpccomm.ini` file to the default status at installation, copy the `jpccomm.ini.model` file located in the installation folder of the `jpccomm.ini` file into the `jpccomm.ini` file.

5.4.2 Changing the storage location of event data

The event data that occurs in PFM - Agent or PFM - RM is managed by the Store database of the Master Store service that PFM - Manager provides.

To change the following storage folders for the event data managed by the Store database, directly edit the contents of the `jpcsto.ini` file:

- Installation folder
- Backup folder
- Export folder

The `jpcsto.ini` file is stored in the following locations:

On physical hosts:

In Windows:

installation-folder\mgr\store\jpcsto.ini

On logical hosts:

In Windows:

environment-directory\jp1pc\mgr\store\jpcsto.ini

(1) Items to set in the `jpcsto.ini` file

The following table lists and describes the label names to be edited and the ranges of values that can be set in the `jpccomm.ini` file.

Table 5–16: Settings for the storage location of the event data (Data Section section in jpcsto.ini)

Setting item	Label name	Available values#1	Default value
Folder in which the event data is created	Store Dir#2	Absolute path 1 to 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In Windows: <i>installation-folder</i>\mgr\store\ On logical hosts: <ul style="list-style-type: none"> In Windows: <i>environment-directory</i>\jplpc\mgr\store\
Backup folder for the event data	Backup Dir#2	Absolute path 1 to 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In Windows: <i>installation-folder</i>\mgr\store\backup\ On logical hosts: <ul style="list-style-type: none"> In Windows: <i>environment-directory</i>\jplpc\mgr\store\backup\
Maximum number of generations of event data to back up	Backup Save	1 to 9	5
Export folder for the event data	Dump Dir#2	Absolute path 1 to 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In Windows: <i>installation-folder</i>\mgr\store\dump\ On logical hosts: <ul style="list-style-type: none"> In Windows: <i>environment-directory</i>\jplpc\mgr\store\dump

#1

- Specify absolute paths for all folder names.
- You can use alphanumeric characters, symbols, and spaces except for the following:
; , * ? ' " < > |
- When invalid values are specified, the Master Store service cannot be started.

#2

You cannot specify a duplicated folder for Store Dir, Backup Dir, and Dump Dir.

(2) Procedure to edit the jpcsto.ini file

To edit the jpcsto.ini file:

- Stop the Master Store service of PFM - Manager.
- Use a text editor or a similar tool to open the jpcsto.ini file.
- Change the storage locations and other information related to event data.
As needed, correct the part indicated by shading in the following figure.

```

:
[Data Section]
Store Dir=.
Backup Dir=.\backup
Backup Save=5
Dump Dir=.\dump
:

```

Notes:

- Do not enter spaces at the beginning of the coding and also before and after an equals sign (=).
- A period (.) in the value of each label represents the default storage folder of the Store database of the Master Store service. The default storage folders are as follows:

On physical hosts:

In Windows:

installation-folder\mgr\store\

On logical hosts:

In Windows:

environment-directory\jplpc\mgr\store\

To store the Store database in a different location, specify the relative path from the default folder, or the absolute path to the location.

- Create a folder to be specified beforehand to change the installation location of the Store database.
- The `jpcsto.ini` file contains the definition information in addition to the information on the database installation folder. Change values only in the `Data Section` section. Performance Management might not operate correctly if you change values other than the required items.

4. Save and then close the `jpcsto.ini` file.

5. Start Performance Management programs and services.

5.4.3 Specifying communication line disconnection settings

Performance Management does not disconnect the communications line until 70 seconds after communication with the connection destination ends. Therefore, keep this setting in mind when you use Performance Management in an environment that charges by connection time.

To edit the `jpccomm.ini` file in order to disconnect the line immediately after the communication ends:

1. Stop Performance Management programs and services.
Stop all Performance Management programs and services that are running.
2. Use a text editor or a similar tool to open the `jpccomm.ini` file.
3. Change the connection mode of the communication line.
Change the following label value in all sections in the `jpccomm.ini` file.

```
NS Keepalive Mode=0
```

4. Save and then close the `jpccomm.ini` file.
5. Start Performance Management programs and services.

Note:

The line is always connected between PFM - Web Console and PFM - Manager in order to periodically communicate with each other. For that reason, Hitachi does not recommend that you use networks such as a WAN environment for communications between hosts because environment usage fees are based on the communication time or the volume.

5.4.4 Configuring the functionality for binding multiple alarm tables

You must be using version 09-00 or later of PFM - Manager and PFM - Web Console to use the functionality for binding multiple alarm tables. While the functionality for binding multiple alarm tables is enabled, you cannot connect from PFM - Web Console whose version is earlier than 09-00.

The following table describes the configuration of the monitoring agents that can bind multiple alarm tables. In order to use a monitoring agent to bind multiple alarm tables, the configuration in the table must be marked as Y. Even if a monitoring agent with an N marked configuration exists in the system, you can still use the functionality for binding multiple alarm tables. However, you cannot use the function to bind multiple alarm tables with the applicable monitoring agent. If you use a monitoring agent with an N marked configuration to bind multiple alarm tables, evaluation results cannot be guaranteed for the alarm of the applicable monitoring agent.

PFM - Agent version	PFM - Manager or PFM - Base version on a same host		
	09-00 or later	Before 09-00	None
08-00 or later	Y	N	--
Before 08-00	N	N	N

Legend:

- Y: Multiple alarm tables can be bound.
- N: Multiple alarm tables cannot be bound.
- : Unavailable

To enable or disable the functionality for binding multiple alarm tables, directly edit the contents of the `jpccomm.ini` file on the PFM - Manager host. The `jpccomm.ini` file is stored in the following locations:

On physical hosts:

- In Windows:
Installation-folder

On logical hosts:

- In Windows:
environment-directory\jplpc

(1) Enabling the functionality for binding multiple alarm tables

To enable the functionality for binding multiple alarm tables:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running by using the `jpcspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file.

3. Enable the functionality for binding multiple alarm tables.

Change the following label value in the [Common Section] section in the `jpccomm.ini` file.

```
Multiple Alarm Table Bind=1
```

4. Save and then close the `jpccomm.ini` file.

5. Start Performance Management programs and services by using the `jpcspm start` command.

If the programs are running on a cluster system, start them from the cluster software.

6. Restart the PFM - Web Console.

(2) Disabling the functionality for binding multiple alarm tables

To disable the functionality for binding multiple alarm tables:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running by using the `jpcspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file.

3. Disable the functionality for binding multiple alarm tables.

Change the following label value in the [Common Section] section in the `jpccomm.ini` file.

```
Multiple Alarm Table Bind=0
```

4. Save and then close the `jpccomm.ini` file.

5. Start Performance Management programs and services by using the `jpcspm start` command.

If the programs are running on a cluster system, start them from the cluster software.

6. Restart the PFM - Web Console.

Note

If you disable the functionality for binding multiple alarm tables when multiple alarm tables are bound with PFM - Agent or PFM - RM, the message `KAVE00317-W` is output the next time you start the Master Manager service. In addition, all the alarm tables bound with the applicable PFM - Agent or PFM - RM are unbound. As a result, it might take some time to start the Master Manager service after the functionality has been disabled. For the operating PFM - Agent or PFM - RM, the multiple alarm tables stay bound until the applicable PFM - Agent or PFM - RM is restarted. If you disabled the functionality for binding multiple alarm tables, in order for the binding status update to take effect, you must restart the PFM - Agent or PFM - RM that outputs the `KAVE00317-W` message.

5.4.5 Changing IP address settings

(1) Changing the IP address of the PFM - Manager host

1. Log out from PFM - Web Console.
Log out from all PFM - Web Console hosts that connect to the PFM - Manager host for which you intend to change the IP address.
2. Stop all Performance Management services on the PFM - Manager host.
Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the IP address. To stop the services, use the `jpccspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.
3. Change the IP address of the PFM - Manager host.
Change the IP address of the PFM - Manager host.
4. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Manager host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
5. Restart the Performance Management services on the PFM - Manager host.
Start the Performance Management programs and services on the PFM - Manager host. If the programs are running on a cluster system, stop them from the cluster software.
6. Log on to PFM - Web Console.
Log on to PFM - Web Console.

(2) Changing the IP address of the PFM - Web Console host

To change the IP address of the PFM - Web Console host:

1. Stop all Performance Management services on the PFM - Web Console host.
Stop all Performance Management programs and services on the PFM - Web Console host for which you intend to change the IP address by using the `jpccwstop` command. If running the programs on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Web Console host.
Change the IP address of the PFM - Web Console host.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the connection-destination PFM - Manager host and the PFM - Web Console host whose IP address you changed. Also, allow HTTP communication from the monitoring console to the host whose IP address you changed.
4. Restart the Performance Management services on the PFM - Web Console host.
Start the Performance Management programs and services on the PFM - Web Console host. If the programs are running on a cluster system, stop them from the cluster software.
5. Log on to PFM - Web Console.
Connect to PFM - Web Console from the monitoring console, using the new IP address (or host name) in the URL.

(3) Changing the IP address of the PFM - Base host

To change the IP address of the PFM - Base host:

1. Stop all Performance Management services on the PFM - Base host.
Stop all Performance Management programs and services on the PFM - Base host for which you intend to change the IP address. To stop services, use the `jpccspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Base host.
Change the IP address of the host where PFM - Base is installed.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Base host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
4. Restart the Performance Management services on the PFM - Base host.
Start the Performance Management programs and services on the host where PFM - Base is installed. If the programs are running on a cluster system, stop them from the cluster software.

(4) Changing the IP address of the PFM - Agent or PFM - RM host

To change the IP address of the PFM - Agent or PFM - RM host:

1. Stop all Performance Management services on the PFM - Agent or PFM - RM host.
Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the IP address. To stop services, use the `jpccspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Agent or PFM - RM host.
Change the IP address of the host where PFM - Agent or PFM - RM is installed.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Agent or PFM - RM host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
4. Restart the Performance Management services on the PFM - Agent or PFM - RM host.
Start the Performance Management programs and services on the host where PFM - Agent or PFM - RM is installed. If the programs are running on a cluster system, stop them from the cluster software.

5.4.6 About the operation settings of PFM - Manager, PFM - Agent, and PFM - RM

The operations of PFM - Manager, PFM - Agent, and PFM - RM are specified in the start information file (`jpccomm.ini`). The `jpccomm.ini` file is stored in the installation folder of each product.

For details about the settings in the `jpccomm.ini` file and how to change the settings, see the appendix that describes the start information file (`jpccomm.ini`) in the manual *Job Management Partner 1/Performance Management Reference*.

5.4.7 Changing PFM - Web Console settings

Use the Windows initialization file (`config.xml`) to set the environment necessary to operate PFM - Web Console.

The Windows initialization file (`config.xml`) is stored in `installation-folder\conf\`.

Note:

The Windows initialization file (`config.xml`) is loaded when a PFM - Web Console service starts. Restart the PFM - Web Console service to enable the settings you changed in the Windows initialization file. Change only the required information. PFM - Web Console might not operate correctly if you change locations that are not specified.

(1) Items to set in Windows initialization file (config.xml)

For details about the initialization file (`config.xml`), see the chapter that describes the initialization file in the manual *Job Management Partner 1/Performance Management Reference*.

(2) Procedure to return a changed Windows initialization file (config.xml) to the default

It is possible that the configuration of the `config.xml` file is changed when the version upgrade is performed. After the version upgrade, use the following procedure to reflect the edited content of the `config.xml` file in the new `config.xml` file.

To return a changed Windows initialization file to the default:

1. Check the content of `installation-folder\conf\config.xml` and take note of the edited content.
2. Backup `installation-folder\conf\config.xml`.
3. Overwrite `installation-folder\sample\conf\config.xml` on the `installation-folder\conf\config.xml`.
4. Apply the edited content you checked in step 1 to `config.xml` (`Installation directory\conf\config.xml`) copied by step3.
5. Restart PFM - Web Console.

Note:

When you wish to return the data of the `config.xml` file to the status of the initial installation, copy the `config.xml` file in `installation-folder\sample\conf\` and overwrite on the above folder.

(3) Notes on the date format

For browsers, the default date format is specified using the *locale settings*. For commands, the default date format is set by the locale used to execute the commands. The following table shows the default pattern and format of the date that is displayed for each locale.

Table 5–17: Default pattern and format of the date that is displayed for each locale

Locale	Default pattern	Format
en_US	pattern-MMddyyyy	MM Δ dd Δ yyyy
en	pattern-ddMMyyyy	dd Δ MM Δ yyyy
ja	pattern-yyyyMMdd	yyyy Δ MM Δ dd
Other (browser)	pattern-yyyyMMdd (selectFormat in the initialization file (config.xml))	yyyy Δ MM Δ dd
Other (command)	pattern-ddMMyyyy	dd Δ MM Δ yyyy

Legend:

dd: Date

MM: Month

yyyy: Year

Δ : Separator (a single-byte space)

You can change the date format for a locale from the default display format by the following methods:

- For browsers
Specify `selectFormat` in the `<format>` tag in the initialization file (`config.xml`).
This method is applicable to locales other than `en_US`, `en`, and `ja`.
- For commands
Specify `-dateformat`, `-dateseparator`, and `-exportseparator` in the arguments when you execute commands. For details, see the chapter that describes commands in the manual *Job Management Partner 1/ Performance Management Reference*.
This method is applicable to all locales.

(a) Specifying tags for the date display format

For browsers, use the tags shown in the following table to specify the date display format in the initialization file (`config.xml`).

Table 5–18: List of tags for the date display format

Tag	Attribute	Description
<code>format</code>	--	Specifies the root tag for specifying the date display format.
<code>param</code>	<code>name</code>	Specify <code>selectFormat</code> .
	<code>value</code>	Values are as follows: <ul style="list-style-type: none"> • <code>pattern-ddMMyyyy</code> • <code>pattern-MMddyyyy</code> • <code>pattern-yyyyMMdd</code>

Legend:

--: Not applicable

(b) Example specification of date format

This example initialization file (`config.xml`) specifies the date display format for browsers when the locale is other than `en_US`, `en`, or `ja`.

Example:

This example specifies `pattern-MMddyyyy` as the pattern of the date format. The date is displayed as *MM dd yyyy*.

```
<format>
  <param name="selectFormat" value="pattern-MMddyyyy"/>
</format>
```

(4) Notes on the numeric format

The decimal mark and digits separator might depend on the region.

PFM - Web Console enables you to change the numeric format (decimal mark and digits separator). The following table lists the items whose numeric format can be changed.

Table 5–19: Items whose numeric format can be changed in PFM - Web Console

Item	
GUI (browser)	Browser display
	csv output
	User input (numeric values)
Command	html output
	csv output
	Values specified in command parameter files (numeric values)

The following table lists the values that can be specified in the numeric format.

Table 5–20: Values that can be specified in the numeric format handled by PFM - Web Console

Setting	Value that can be specified
Decimal mark	<ul style="list-style-type: none">• . (period)• , (single-byte comma)
Digits separator	<ul style="list-style-type: none">• Single-byte space• ' (single quotation mark)• . (period)• , (single-byte comma)

Note that the numeric format settings are not applied to the data shown in the following table.

Table 5–21: Items to which the numeric format settings are not applied in the windows of PFM - Web Console

Item	Window in which the item is displayed
Message text for alarms	<ul style="list-style-type: none">• Summary• Print Summary

Item	Window in which the item is displayed
Message text for alarms	<ul style="list-style-type: none"> • Event Monitor • Event History • Print Event History
Description of records and fields	<ul style="list-style-type: none"> • Record Description • Field Description • Quick Guide • Quick Guide > Search Fields (records) • Quick Guide > Search fields (list of field(s) found in record) • Search Fields • Edit Report Definition • Service Logif
Description of property information for services	<ul style="list-style-type: none"> • Properties method • Properties window • Distribute Properties

(a) Specifying tags for the decimal mark in numeric values

When you specify the decimal mark to be used for numeric values handled by PFM - Web Console in the initialization file (`config.xml`), specify the tags shown in the following table.

Table 5–22: Specification of tags for the decimal mark

Tag	Attribute	Description
<code>number-format</code>	--	Specifies the root tag for specifying the decimal mark.
<code>param</code>	<code>name</code>	Specify <code>decimalPointSymbol</code> .
	<code>value</code>	Values are as follows: <ul style="list-style-type: none"> • <code>period</code> • <code>comma</code>

Legend:

--: Not applicable

The following example initialization file (`config.xml`) specifies a comma as the decimal mark for numeric values in PFM - Web Console.

Example:

This example specifies `comma` as the decimal mark for numeric values.

For example, decimal value `99.1` is displayed as `99,1`.

```
<number-format>
  <param name="decimalPointSymbol" value="comma"/>
</number-format>
```

(b) Specifying tags for the digits separator in numeric values

When you specify the digits separator to be used for the numeric values handled by PFM - Web Console in the initialization file (`config.xml`), specify the tags shown in the following table.

Table 5–23: Specification of tags for the digits separator

Tag	Attribute	Description
number-format	--	Specifies the root tag for specifying the digits separator.
param	name	Specify numericSeparator.
	value	Values are as follows: <ul style="list-style-type: none"> • space • quotation • period • comma

Legend:

--: Not applicable

The following example initialization file (`config.xml`) specifies a period as the digits separator for numeric values in PFM - Web Console.

Example:

This example specifies `period` as the digits separator.

For example, value `2,000` is displayed as `2.000`.

```
<number-format>
  <param name="numericSeparator" value="period"/>
</number-format>
```

5.4.8 Setup and unsetup of Store 2.0

(1) Setup procedure

Store 2.0 can be used with version 08-11 or later of PFM - Manager or PFM - Base combined with the monitoring agent that is version 08-00 or later of PFM - Agent or PFM - RM. Store 2.0 is activated by default when you perform a new installation of PFM - Agent version 08-11 or PFM - RM.

Note:

Store 2.0 can only be used with the Store database of the Agent Store or Remote Monitor Store service. You cannot use Store 2.0 with the Store database of the Master Store service, which only supports Store 1.0. Store 1.0 cannot be used with the Remote Monitor Store service.

The setup procedure for Store 2.0 depends on the version of PFM - Agent and the method of installation. If you install version 08-11 or later of a Performance Management product into an environment that uses Store 1.0, the environment will continue to use Store 1.0. To migrate to Store 2.0, you need to execute the setup command for the Store database.

The following table lists the availability of Store 2.0 for each version of PFM - Agent, and how to implement it.

Table 5–24: For a single instance of PFM - Agent

PFM - Agent		Can Store 2.0 be used	Procedure for implementing Store 2.0
Version	Installation method		
07-00 or earlier	N/A	No	--
08-00	N/A	Yes but setup required	Execute setup command
08-11 or later	New installation	Yes	None required
	Upgrade installation	Yes	Execute setup command

Legend:

--: Not applicable

Table 5–25: For multiple instances of PFM - Agent

PFM - Agent		Can Store 2.0 be used	Procedure for implementing Store 2.0
Version	Timing of instance creation		
07-00 or earlier	N/A	No	--
08-00 or later	Before installing PFM - Base or PFM - Manager 08-11	Yes but setup required	Execute setup command
	After installing PFM - Base or PFM - Manager 08-11	Yes	Select the Store version when using the <code>jpccconf inst setup</code> command to create an instance

Legend:

--: Not applicable

For details about the procedure for setting up PFM - Agent to use Store 2.0, see the PFM - Agent manuals.

Note:

The data retention conditions for PD and PL-type records are set differently for each version of the Store database. When you migrate from Store 1.0 to Store 2.0, data that does not meet the data retention conditions of Store 2.0 is deleted. The default retention period in Store 2.0 differs depending on the PFM - Agent or PFM - RM.

For example, in PFM - Agent that the default retention period has been set to 10 days, suppose that Store 1.0 stores 10,000 PD records for the 365 days from January 1st 2006 to December 31st 2006. When you migrate to Store 2.0, the default retention period of 10 days will result in 355 days of data being deleted.

For this reason, before migrating to Store 2.0, use the `jpctool db dump` command to output the data from Store 1.0.

PI record data remains the same after migration.

(2) Unsetup procedure

Use the `jpccconf db vrset -ver 1.0` command to perform an unsetup of Store 2.0. This process initializes the data in the Store database and reverts the Store database to Store 1.0.

You can execute the `jpccconf db vrset -ver 1.0` command in either the interactive mode or the non-interactive mode. For details about the `jpccconf db vrset` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Note:

Performing an unsetup of Store 2.0 initializes the data in the Store database. For this reason, use the `jpctool db dump` command to output the data in the database before reverting to Store 1.0.

5.4.9 Enhancing file permissions

When using Performance Management in a Windows environment, you can modify user file permissions to enhance security.

You enhance file permissions by modifying folder permissions. When you set permissions on a parent folder, subfolders in the folder inherit these permissions.

Create a PFM users group, and assign the permissions from Modify downwards to the group. Once these permissions have been assigned, only users who belong to the PFM users group will be able to execute PFM commands that could be executed previously by users with general user permission. Modify the permissions for the folder *installation-folder* \jplpc\ as shown in the following table.

Table 5–26: Folder permissions

Permission	Access permissions			
	Administrators	SYSTEM	Backup Operators	PFM Users (specific users)
Full control	Y	Y	N	N
Modify	Y	Y	Y	Y
Read & execute	Y	Y	Y	Y
List folder contents	Y	Y	Y	Y
Read	Y	Y	Y	Y
Write	Y	Y	Y	Y

Legend:

Y: Assign permission

N: Do not assign permission

When using Performance Management in a logical host environment, we recommend that you configure the PFM users group as a domain group account. For users in a non-domain environment, assign the permissions in the above table to the PFM users group created on each of those users' machines.

5.4.10 Configuring the product name display function

You can change the format of keys and service IDs used for Performance Management to product names by enabling the product name display function. For details about the product name display function, see [4.1.2 Displaying and specifying services \(the product name display function\)](#).

Use the `jpcconf prodname` command to configure the product name display function. For details about the `jpcconf prodname` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

(1) Checking the current settings of the product name display function

To check the settings of the product name display function:

1. Log on to the host for which you want to check the current settings of the product name display function.
2. Execute the `jpcconf prodname display` command.

The current settings of the product name display function appear.

For the logical host operations, specify a logical host name that you want to check the current settings in the `-lhost` option.

(2) Enabling the product name display function

To enable the product name display function:

1. Log on to the host where you want to enable the product name display function.

2. Stop all Performance Management services on the host.

For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to stop the logical host on which Performance Management has been registered.

3. Execute the `jpccconf prodname enable` command.

The product name display function is enabled.

For the logical host operations, specify a logical host name that you want to enable the product name display function in the `-lhost` option.

4. Start all Performance Management services on the host.

For details about starting services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to start the logical host on which Performance Management has been registered.

(3) Disabling the product name display function

To disable the product name display function:

1. Log on to the host where you want to disable the product name display function.

2. Stop all Performance Management services on the host.

For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to stop the logical host on which Performance Management has been registered.

3. Execute the `jpccconf prodname disable` command.

The product name display function is disabled.

For the logical host operations, specify a logical host name that you want to enable the product name display function in the `-lhost` option.

4. Start all Performance Management services on the host.

For details about starting the services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to start the logical host on which Performance Management has been registered.

5.4.11 Configuring the function for outputting measurement values when alarms recover to the normal status

The function for outputting measurement values when alarms recover to the normal status enables you to output the alarm message texts when alarms for monitoring multi-instance records have recovered to their normal status. For details about this function, see the chapter that describes operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

To use the function for outputting measurement values when alarms recover to the normal status, the following system versions are required; PFM - Web Console can be of any version:

- PFM - Manager: 10-00 or later
- PFM - Agent or PFM - RM subject to alarm monitoring: 08-00 or later
- PFM - Manager or PFM - Base on the agent host: 10-00 or later

When you newly install PFM - Manager version 10-00 or later or upgrade PFM - Manager from version 09-00 or earlier to 10-00 or later, the function for outputting measurement values when alarms recover to the normal status is disabled by default. When you upgrade PFM - Manager from version 10-00 or later, the previous settings for the function for outputting measurement values when alarms recover to the normal status are inherited.

Configure the function for outputting measurement values when alarms recover to the normal status on the PFM - Manager host. This function is enabled if PFM - Agent or PFM - RM satisfies the version requirements described above and it is enabled on the PFM - Manager for the connection destination. The following table describes the settings for the function for outputting measurement values when alarms recover to the normal status on PFM - Agent and PFM - RM.

Version of PFM - Agent or PFM - RM	Version of PFM - Manager or PFM - Base on the same host	Settings for function for outputting measurement values when alarms recover to the normal status	
		Version of PFM - Manager for the connection destination is 10-00 or later	Version of PFM - Manager for the connection destination is earlier than 10-00
08-00 or later	10-00 or later	Depends on the settings on the PFM - Manager for the connection destination ^{#1}	Disabled ^{#2}
	Earlier than 10-00	Disabled ^{#3}	Disabled ^{#3}
Earlier than 08-00	Regardless of the version	Disabled ^{#3}	Disabled ^{#3}

#1

When the Agent Collector service or the Remote Monitor Collector service starts, the following message is output to the common message log on the PFM - Agent or PFM - RM host:

- If the function for outputting measurement values when alarms recover to the normal status was enabled when the service started:
KAVE00349-I
- If the function for outputting measurement values when alarms recover to the normal status was disabled when the service started:
KAVE00350-I

#2

When the Agent Collector service or the Remote Monitor Collector service starts, the KAVE00350-I message is output to the common message log on the PFM - Agent or PFM - RM host.

#3

No message on the settings for the function for outputting measurement values when alarms recover to the normal status is output to the common message log on the PFM - Agent or PFM - RM host.

To enable or disable the function for outputting measurement values when alarms recover to the normal status, directly edit the contents of the `jpccomm.ini` file on the PFM - Manager host. The `jpccomm.ini` file is stored at the following location:

Physical host

In Windows:

installation-folder

Logical host

In Windows:

environment-directory\jplpc

Reference note

Depending on how the function for outputting measurement values when alarms recover to the normal status is set on the PFM - Manager host, the following message is output to the common log on the PFM - Manager host when the Name Server service starts:

- When the function for outputting measurement values when alarms recover to the normal status is enabled:
KAVE00349-I
- When the function for outputting measurement values when alarms recover to the normal status is disabled:
KAVE00350-I
- A value other than 0 or 1 is specified in the Alarm Message Mode label in the `jpccomm.ini` file:
KAVE00350-I and KAVE00351-W

(1) Enabling the function for outputting measurement values when alarms recover to the normal status

To enable the function for outputting measurement values when alarms recover to the normal status:

1. Stop all PFM - Manager services.

If PFM - Manager services are running, use the `jpccspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.

3. Specify whether the function for outputting measurement values when alarms recover to the normal status is to be enabled or disabled.

Change the value of the following label in the Common Section section in the `jpccomm.ini` file:

```
Alarm Message Mode=1
```

4. Save the `jpccomm.ini` file and then close it.

5. Use the `jpccspm start` command to start the PFM - Manager services.

If you are running a cluster system, start the services from the cluster software.

6. Restart all PFM - Agents and PFM - RMs.

Use the `jpccspm stop` and `jpccspm start` commands to restart all PFM - Agents and PFM - RMs that are monitoring operation. The new settings do not take effect until the PFM - Agents and PFM - RMs are restarted.

(2) Disabling the function for outputting measurement values when alarms recover to the normal status

To disable the function for outputting measurement values when alarms recover to the normal status:

1. Stop all PFM - Manager services.

If PFM - Manager services are running, use the `jpcspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.

3. Specify whether the function for outputting measurement values when alarms recover to the normal status is to be enabled or disabled.

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

```
Alarm Message Mode=0
```

4. Save the `jpccomm.ini` file and then close it.

5. Use the `jpcspm start` command to start the PFM - Manager services.

If you are running a cluster system, start the services from the cluster software.

6. Restart all PFM - Agents and PFM - RMs.

Use the `jpcspm stop` and `jpcspm start` commands to restart all PFM - Agents and PFM - RMs that are monitoring operation. The new settings do not take effect until the PFM - Agents and PFM - RMs are restarted.

5.4.12 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts

If you use the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts, you can limit the hosts that can be manipulated by PFM - Base's commands to the local host.

For details about each option, see [4.9.4 Settings to limit the host subject to command processing](#).

To specify the settings for these options, directly edit the contents of the `jpccomm.ini` file. The `jpccomm.ini` file is stored at the following location:

When the target host is a physical host

In Windows:

installation-folder

When the target host is a logical host

In Windows:

environment-directory\jplpc

(1) Changing the settings for the option for limiting remote operation of Agent hosts

Specify the option for limiting remote operation of Agent hosts on the PFM - Manager host.

To change the settings for the option for limiting remote operation of Agent hosts:

1. Stop all PFM - Manager services.

If PFM - Manager services are running, use the `jpcspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.

3. Specify whether the option for limiting remote operation of Agent hosts is to be enabled or disabled.

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

To enable

```
Agent Remote Protection=1
```

To disable

```
Agent Remote Protection=0
```

4. Save the `jpccomm.ini` file and then close it.

5. Use the `jpcspm start` command to start the PFM - Manager services.

If you are running a cluster system, start the services from the cluster software.

(2) Changing the settings for the option for restricting viewing of service information from Agent hosts

The option for restricting viewing of service information from Agent hosts is a function for making status information unavailable on the host that is specified in the `-host` option during command execution. You must specify this option on the target host.

To change the settings for the option for restricting viewing of service information from Agent hosts:

1. Stop all Performance Management services on the PFM - Agent or PFM - RM host.

If Performance Management services are running, use the `jpcspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Agent or PFM - RM host.

3. Specify whether the option for restricting viewing of service information from Agent hosts is to be enabled or disabled:

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

To enable

```
Service List Protection=1
```

To disable

```
Service List Protection=0
```

4. Save the `jpccomm.ini` file and then close it.

5. Use the `jpcspm start` command to start the Performance Management services.
If you are running a cluster system, start the services from the cluster software.

5.5 Settings required to read manuals with a Web browser

In Performance Management, you can use a Web browser to read manuals. To read a manual with a Web browser, copy the manual from the manual distribution media (included with the program product) to the host where PFM - Web Console is installed. If PFM - Web Console is running on a cluster system, copy the manual to both the executing physical host and standby physical host.

5.5.1 Setting procedure

(1) To read manuals from the PFM - Web Console Help

To read manuals from the PFM - Web Console Help:

1. To register PFM - Agent or PFM - RM to PFM - Web Console (or perform an additional setup for PFM - Agent or PFM - RM), follow the PFM - Web Console setup procedures.
2. On the host where PFM - Web Console is installed, check the folders which you want to copy manuals to.

Table 5–27: Folders which the manuals are to be copied to

Manual	Copy destination folder
<i>Job Management Partner 1/Performance Management Planning and Configuration Guide</i>	<i>PFM - Web-Console-installation-folder\doc\language-code\pcsy\</i>
<i>Job Management Partner 1/Performance Management User's Guide</i>	<i>PFM - Web-Console-installation-folder\doc\language-code\pcop\</i>
<i>Job Management Partner 1/Performance Management Reference</i>	<i>PFM - Web-Console-installation-folder\doc\language-code\pcre\</i>
<i>Job Management Partner 1/Performance Management - Agent or RM manual</i>	<i>PFM - Web-Console-installation-folder\doc\language-code\XXXX\#</i>

#

You need to create a folder for the PFM - Agent manual or the PFM - RM manual. *XXXX* indicates a help-ID of PFM - Agent or PFM - RM. For details about help IDs, see the ID list in an appendix of each PFM - Agent or PFM - RM manual.

3. Copy the applicable files and folders from the manual distribution media to the folder you created in step 2 above.

Reference note

In the manual distribution media, manuals are stored in folders with manual numbers under *applicable-drive\MAN\3021*. If you want to know which manual corresponds to which product, check *INDEX.HTM* or the PDF manual under each folder with a manual number.

For HTML manuals:

All HTML files, CSS files, and *GRAPHICS* folder under *applicable-drive\MAN\3021\folder-with-manual-number* (such as *03004A0D*)

For PDF manuals:

PDF files under *applicable-drive\MAN\3021\folder-with-manual-number* (such as *03004A0D*)

When you copy the manuals, make sure that the `INDEX . HTM` file (for a HTML manual) or the actual PDF file (for a PDF manual) is located directly under the folder you created.

4. Restart the PFM - Web Console.

(2) To read manuals from your computer hard disk

Use `setup . exe` in the distribution media to install the manual, or directly copy the HTML, CSS, PDF, and GIF files to a desired folder. For HTML manuals, make sure that the files are located in the following folder configuration:

```
html (HTML and CSS files are stored here)
|- GRAPHICS (GIF files are stored here)
```

5.5.2 Reading manuals

1. Click the **Help** menu from the menu bar frame in the Main window of PFM - Web Console. This displays the Help window.
2. Click the name of the manual or **PDF** that follows the manual name.
If you click the manual name, the manual is displayed in the HTML format. Click the **PDF** icon to display the manual in the PDF format.

Note on displaying on a Web browser

If you use Windows OS, when you open the online manual from **Start** menu, the HTML manual might replace a Web page already opened in the Web browser.

6

Installation and Setup (in UNIX)

This chapter describes the procedures for installation and setup for Performance Management in UNIX.

6.1 Installation and setup

6.1.1 Before installation and setup

This subsection describes what you need to confirm before installing and setting up Performance Management.

(1) Supported OSs

The following table lists supported OSs for the Performance Management programs.

Table 6–1: Supported OSs (in UNIX)

OS name	PFM - Manager	PFM - Web Console	PFM - Base
HP-UX	--	--	Y
Solaris	Y	--	Y
AIX	Y	--	Y
Linux	Y	Y	Y

Legend:

- Y: Supported
- : Not enabled

The supported OSs are different between PFM - Agent and PFM - RM. For details, see the appropriate PFM - Agent or PFM - RM manual.

(2) Determining the system configuration

Determine the number of instances of PFM - Agent or PFM - RM that connect to PFM - Manager. For details about how to estimate the number of instances, see [A.1 System configuration](#).

(3) System estimates

Estimate and specify the resources required for the Performance Management system. For details about how to estimate resources, see [C. System Estimates](#) and each PFM - Agent manual.

(4) Network environment settings

(a) IP address settings

Specify an environment in which the IP addresses can be resolved by host names for all hosts in the Performance Management systems. (IP addresses do not need to be resolved to host names).

Performance Management cannot be installed if the environment does not provide the ability to resolve IP addresses.

You can use the real host name or the alias name as the monitoring host name (the host name for the Performance Management system). However, we recommend that you use aliases to minimize the influence caused by changing host names in the real environment.

- When using the alias name as the monitoring host name
Configure the environment so that the IP address can be resolved with the specified alias name.

- When using the real host name as the monitoring host name

Configure the environment so that the IP address can be resolved with the host name that has been obtained by executing either the `hostname` command (Windows system) or `uname -n` command (UNIX system).

For a UNIX system, you can also use the host name obtained with the `hostname` command. For details, see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

For details about how to set a monitoring host name, see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

Use one of the following methods to specify host names and IP addresses:

- `hosts` file
- DNS
- Host information configuration file for Performance Management
 - `jpchosts` file (for PFM - Manager, PFM - Agent, PFM - RM, and PFM - Base)

Notes:

- Performance Management can be used in a DNS environment but does not support a host name in the FQDN format. Therefore, you must exclude the domain name when you specify the monitoring host name.
- Use the `jpchosts` file to set IP addresses if you run the system in multiple LAN environments. For details, see [6.3.1 Specifying and changing the network configuration](#).
- Performance Management cannot be used in a DHCP environment on hosts to which IP addresses are allocated dynamically. You must allocate fixed IP addresses to all hosts where Performance Management is installed.
- A loopback address cannot be specified as the IP address of a host name that is to be resolved.
- A loopback address must be specified for `localhost` in the `hosts` file.
- If two or more host names are assigned to the PFM - Manager host, you must specify the name of the connection-target PFM - Manager host that is to be used, as described below, in the `jpccconfmgrhost define` command on the PFM - Agent or PFM - RM host in the system.

When the real host name is used as PFM - Manager's monitoring host name:

Host name obtained by executing the `hostname` command in a Windows system or the `uname -n` command in a UNIX system

When an alias is used as PFM - Manager's monitoring host name:

Alias name that has been specified

- If IP address translation (NAT) is performed between the PFM - Manager host and the PFM - Web Console host and JP1/ITSLM host, or multiple IP addresses are used between the PFM - Manager host and the PFM - Web Console host and JP1/ITSLM host, the host name to be used for communication must be specified.

For details, see the section that describe the specification of host names used for communication between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSLM in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

- In a Performance Management system, the host names of servers and the aliases used as monitoring host names must be unique.

The method of checking the host names of servers differs depending on how monitoring host names were determined.

When the `hostname` command was used to obtain a real host name used as a monitoring host name: Use the `hostname` command to check.

When the `uname` command was used to obtain a real host name used as a monitoring host name: Use the `uname -n` command to check.

- In a Performance Management system, the IP addresses of hosts must be unique.

(b) Port number settings

The port numbers listed in the following table are assigned to the Performance Management program services by default. For other services or programs, a port number that is not used by the system at that time is automatically assigned each time a service is started up. Use fixed port numbers if you use Performance Management in a firewall environment. For details about the procedure to fix port numbers, see [6.3.1\(1\)\(c\) Setting port numbers](#).

Table 6–2: Default port numbers and Performance Management program services (in UNIX)

Service	Service name	Parameter	Port number	Note
Service configuration information management function	Name Server	<code>jp1pcnsvr</code>	22285	The port number used by the PFM - Manager Name Server service. This port number is set for all hosts for Performance Management.
NNM linkage facility	NNM Object Manager	<code>jp1pcovsvr</code>	22292	The port number used for communications between a map manager and object manager in the NNM linkage facility of PFM - Manager and PFM - Base. This port number is set on a host where PFM - Manager or PFM - Base has been installed.
Service status management function	Status Server	<code>jp1pcstatsvr</code>	22350	The port number used by the Status Server service of PFM - Manager and PFM - Base. This port number is set on a host where PFM - Manager or PFM - Base has been installed.
Monitoring console communication function	View Server	<code>jp1pcvsvr</code>	22286	The port number used by the View Server service of PFM - Manager. This is set on PFM - Manager hosts.
Web Service function	Web Service	--	20358	The port number used by the Web Service in PFM - Web Console. This is used for communication between the monitoring console's Web browser and the PFM - Web Console host.
Web Container function	Web Console	--	20359 20360	The port number used by the Web Console service in PFM - Web Console.

Legend:

--: Not applicable

Set the network settings so that Performance Management can communicate through these port numbers.

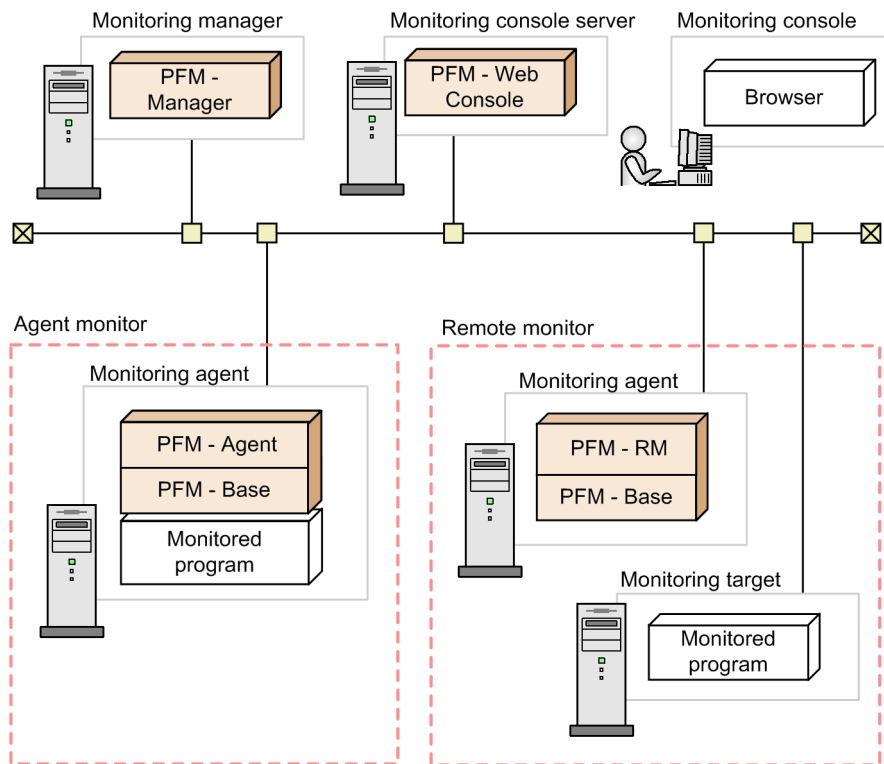
(5) OS user permission required for installation

Make sure that you are the root user when installing the Performance Management programs.

(6) Required programs

This subsection describes required programs to install Performance Management.

Figure 6–1: Program configuration



Legend:

- : Program provided by Performance Management
- : Required program

Notes:

- An SMTP server is required to send emails when alarm events are reported to the system administrator via emails. For details, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.
- The required programs might differ if you use linkage functions between Performance Management and other systems. For details about the linkage functions, see the chapter that describes operation monitoring linked with the integrated management product (JP1/IM), the chapter that describes monitoring linked with the service-level management product (JP1/ITSLM), and the chapter that describes operation monitoring linked with the network management product (NNM) in the *Job Management Partner 1/Performance Management User's Guide*.

(a) Programs required for the monitoring manager

PFM - Manager is required for the monitoring manager. Also, JP1/Base is required on the host running PFM - Manager to enable integrated authentication for JP1 users. For details, see the chapter that describes management of user accounts and business groups in the appropriate JP1/Base manual and the *Job Management Partner 1/Performance Management User's Guide*.

(b) Programs required for the monitoring console server

PFM - Web Console is required for the monitoring console server.

(c) Programs required for the monitoring agent

PFM - Agent or PFM - RM and PFM - Base are required for the monitoring agent. Since the PFM - Base program is required for PFM - Agent or PFM - RM, install PFM - Base first and then install PFM - Agent or PFM - RM.

However, PFM - Base is not required if you install PFM - Manager and either PFM - Agent or PFM - RM on the same host. In such cases, since PFM - Manager is the required program for PFM - Agent or PFM - RM, install PFM - Manager first and then install PFM - Agent or PFM - RM.

The programs to be monitored differ per the PFM - Agent or PFM - RM. For details about the programs monitored by PFM - Agent or PFM - RM, see the appropriate PFM - Agent or PFM - RM manual.

(d) Programs required for the monitoring console

A Web browser is required for the monitoring console in order to check the operation monitoring data collected by Performance Management or to change Performance Management settings.

The following Web browser is required for Performance Management when you are using the monitoring console in a UNIX environment:

Either of the following Web browsers is required for Performance Management:

- Internet Explorer
- Firefox

The settings for PFM - Web Console differ depending on the kind of Web browsers. For details, see the Release Notes.

(7) Installation and setup for a cluster system

For installation and setup in a cluster system, the required network environment and program configuration differ from the setup in usual configurations. Also, you need to perform procedures on the executing and standby nodes. For details, see the chapter that describes the cluster system configuration and operation in the *Job Management Partner 1/ Performance Management User's Guide*.

(8) Notes

(a) Notes on environment variables

Do not manually set `JPC_HOSTNAME` as an environment variable, because it is used for Performance Management as an environment variable. If this setting is made, Performance Management will not run correctly.

(b) Notes on installation and setup of multiple Performance Management programs on a single host

You can also install the following Performance Management programs on the same host:

- PFM - Manager
- PFM - Web Console
- PFM - Agent or PFM - RM

Supplemental information:

We recommend that you operate PFM - Manager, PFM - Web Console, PFM - Agent, and PFM - RM on separate hosts in order to improve the system performance and reliability.

The following notes apply to installing multiple Performance Management programs on the same host:

- PFM - Base is not required if you install PFM - Manager and either PFM - Agent or PFM - RM on the same host. In such cases, because PFM - Manager is required for PFM - Agent or PFM - RM, install PFM - Manager first and then install PFM - Agent or PFM - RM.
- You cannot install PFM - Base and PFM - Manager on the same host. To install PFM - Manager on a host that has PFM - Base and PFM - Agent or PFM - RM installed, uninstall all Performance Management programs, and then install PFM - Manager and either PFM - Agent or PFM - RM, in that order. To install PFM - Base on a host on which PFM - Manager and either PFM - Agent or PFM - RM is installed, first, uninstall all Performance Management programs and then install PFM - Base and either PFM - Agent or PFM - RM, in that order.
- If you install PFM - Agent or PFM - RM on a host that has PFM - Manager installed, PFM - Manager for the connection destination of PFM - Agent or PFM - RM is set to PFM - Manager on the local host. In such cases, you cannot change PFM - Manager for the connection destination of PFM - Agent or PFM - RM to PFM - Manager on the remote host. If you want to connect to PFM - Manager on the remote host, make sure that PFM - Manager is not installed on a host on which PFM - Agent or PFM - RM is to be installed.
- If you install a Performance Management program on a host that has PFM - Web Console installed, close all Web browser windows before you start the installation.
- If you use the function for setting monitoring-host names, you cannot install PFM - Agent 07-00 or earlier on the same host. If you want to install PFM - Agent 07-00 or earlier, you must reset the setting so that the function for setting monitoring-host names is not used. If you do not reset the setting, the installation of PFM - Agent 07-00 or earlier might fail. For details about how to set a monitoring host name, see [6.3.3 Specifying and changing the monitoring host name in a Performance Management system](#).

(c) Notes on version upgrade

The following gives cautionary notes on upgrading older versions of Performance Management programs:

For details about upgrading from version 07-00 or later, see [F. Migration Steps and Notes on Migration](#).

- When you install a Performance Management program (except for PFM - Web Console), stop all of the Performance Management programs and services on the local host. When you install PFM - Web Console, stop existing PFM - Web Console on the local host. All services on the physical host and logical host must be stopped. For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.
- You cannot install PFM - Base and PFM - Manager on the same host. To install PFM - Manager on a host that has PFM - Base and PFM - Agent or PFM - RM installed, uninstall all Performance Management programs and then install PFM - Manager and either PFM - Agent or PFM - RM, in that order. To install PFM - Base on a host on which PFM - Manager and either PFM - Agent or PFM - RM is installed, first, uninstall all Performance Management programs and then install PFM - Base and either PFM - Agent or PFM - RM, in that order.
- Note that the location of the Store service program files (`jpcsto` and `stpqlpr`) has been changed in versions 08-00 and later of the Performance Management programs. When you upgrade PFM - Manager and PFM - Agent to version 08-00 or later, the program files for the Store service will be deleted from their former location.
- For an upgrade installation, the destination disk temporarily requires twice as much free space as the Store database. Securing this free space enables the existing Store database to be automatically upgraded. Confirm that there is sufficient free disk space in the destination disk before conducting the upgrade installation.

Determine the required amount of free disk space based on the total size of the current Store database. For example, if the total size of the current Store database is 100 GB, the free disk space required for upgrading will be at least 200 GB. If you have changed the disk used for storing the Store database, determine the required free disk space based on the capacity of the new disk after the change.

(d) Notes on PFM - Web Console installation

- If you perform a new installation of PFM - Web Console in an environment that does not have a Performance management program installed, make sure that there are no files or folders in the installation directory.
- If the installation fails with the message `Installation failed` in the status bar, collect the `/etc/.hitachi/.hitachi.log` and `/etc/.hitachi/.install.log` files. Because the log files are overwritten with each installation of PFM - Web Console, make backups as necessary. Remove the cause of the problem, and then uninstall and reinstall PFM - Web Console.
- The install log is output to `/etc/.hitachi/.install.log` and `/etc/.hitachi/.install.log`.
- The initialization file (`config.xml`) stored in `/opt/jp1pcwebcon/conf` is not updated if you perform an overwrite installation of PFM - Web Console. However, the `config.xml` file stored in `/etc/jp1pcwebcon/sample/conf` is updated.

(e) Notes on linking with other systems

- When you install the program in an environment that is linked with Network Node Manager, stop the NNM linkage facility and `ovw`, and then install the program. For details about the NNM linkage facility, see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*. For the Network Node Manager environment variables and commands, see the HP NNM documentation.

(f) Other related notes

- If you install a new Performance Management program into an environment that does not have a Performance Management program installed, make sure that there are no files or folders in the installation directory.
- If the installation fails with the message `Installation failed` in the status bar, collect the `/etc/.hitachi/.hitachi.log` and `/etc/.hitachi/.install.log` files. Note that the log file is overwritten during installation; therefore, make backups as necessary.
- If a link is made to the installation directory of the Performance Management programs, some files and directories might remain in the linked directory even after uninstalling all the Performance Management programs. Manually delete the programs. Also, note that when installing the Performance Management programs to a linked directory, files and directories with the same name are overwritten.
- If there are setup files of PFM - Agent or PFM - RM in the `/opt/jp1pc/setup` directory, additional setup is performed for a new PFM - Agent or PFM - RM. When the additional setup of PFM - Agent or PFM - RM is successful, the execution results are logged as `KAVE05908-I New agent setup (pfm-agent-service-key) ended successfully. (version=version)` to the common message log. View the log to see if it was successful.
- When you install the Performance Management programs, make sure that the following security-related programs have not been installed. If they have been installed, follow the instructions below:
 - Security-monitoring program
Stop security-monitoring programs, or change the settings so that the programs do not interfere with the installation of the Performance Management programs.
 - Virus detection program
Stop virus detection programs before installing the Performance Management programs.
If a virus detection program is running, the installation might be slower, the installation might be aborted, or the programs might not be installed correctly.
 - Process-monitoring program

Stop process-monitoring programs, or change the settings so that the programs do not monitor the services and processes of Performance Management or shared components.

If these services or processes are started or terminated by a process-monitoring program while installing the Performance Management programs, the installation might fail.

- When you install version 08-00 or later of a Performance Management program, the setting for the status management function is as follows:
 - After a new installation of version 08-00 or later of PFM - Manager or PFM - Base on a host that does not already have a Performance Management program installed
Status management function setting: Enabled
 - Other cases[#]
Status management function setting: Remains the same

#: The following are under the other cases category:

- Upgrading version 06-70 to 07-00 of PFM - Manager to version 08-00 or later
- Performing a new installation of version 08-00 or later of PFM - Manager or PFM - Base in an environment where version 06-70 to 07-00 of PFM - Agent is installed

Because 06-70 to 07-00 versions of Performance Management do not have the status management function, the setting status in this case becomes *disabled*.

For details about changing the settings of the status management functions, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

- You can use the health check function with PFM - Manager version 08-11 or later. Depending on the PFM - Manager version and your installation environment, the settings of the health check function are as follows.
 - After a new installation of version 09-00 or later of PFM - Manager on an environment that does not already have a Performance Management program installed
Health check function setting: Enabled
 - Other cases[#]
Health check function setting: Remains the same

#: The following are under the other cases category:

- Upgrading version 06-70 to 08-00 of PFM - Manager to version 08-11 or later
- Newly installing PFM - Manager version 08-11 or later in an environment in which PFM - Agent version 06-70 to 08-00 has been installed

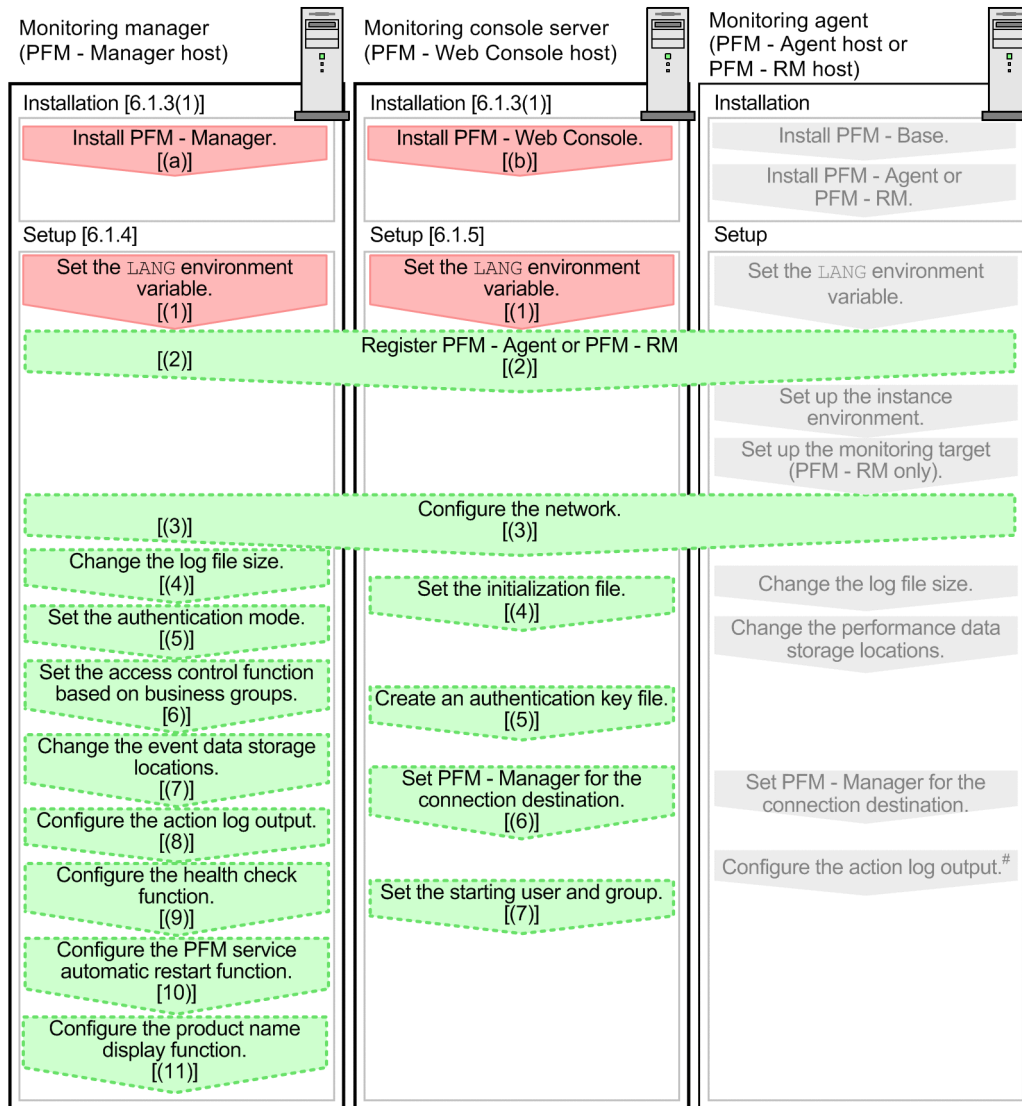
Because PFM - Manager versions 06-70 to 08-00 do not support the health check function, the health check function is set to **Disabled**.

For details about the health check function settings, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

- You can install PFM - Manager and specify it as the connection destination of the PFM - Web Console services while those services are running. However, you must then restart PFM - Web Console. If you do not, the functions of PFM - Manager might become unavailable.


6.1.2 Process flow for installation and setup

Figure 6–2: Process flow for installation and setup



Legend:

 : Mandatory setup

 : Described in the manuals for PFM - Agent.

 : Optional setup

[] : See the indicated section.

#: When you set the action log settings on a specific host, the settings apply to all instances of PFM - Agent version 08-00 or later installed on that host. For details, see *G. Outputting Action Log Data*.

This subsection describes the procedures to install and set up PFM - Manager. For details of the procedures to install PFM - Web Console, see *6.1.3(7) Installing the PFM - Web Console program*. For details of the procedures to set up PFM - Web Console, see *6.1.5 PFM - Web Console setup procedure*. The procedures to install and set up PFM - Agent or PFM - RM differ depending on the product. For details, see the appropriate PFM - Agent or PFM - RM manual.

You can elect to execute setup commands that require user entries in the interactive mode or the non-interactive mode.

If the commands are to be executed in the interactive mode, you must enter appropriate values as instructed by the commands.

If the commands are to be executed in the non-interactive mode, no user entries will be required because option specifications and definition files will be used in lieu of making entries manually. Batch processing and remote execution

enable the setup tasks to be automated, thereby reducing the administrator's workload and operating costs. Using the non-interactive mode for entering commands is useful in the following cases:

- Periodically changing the passwords used for establishing connection with monitoring targets
- Adding multiple monitoring targets efficiently

For details about the commands, see the manual *Job Management Partner 1/Performance Management Reference*.

6.1.3 Installation procedures

This subsection describes the order of installing Performance Management programs on hosts, and the procedure to install programs from the distribution media. It also describes the procedure to install the PFM - Web Console program.

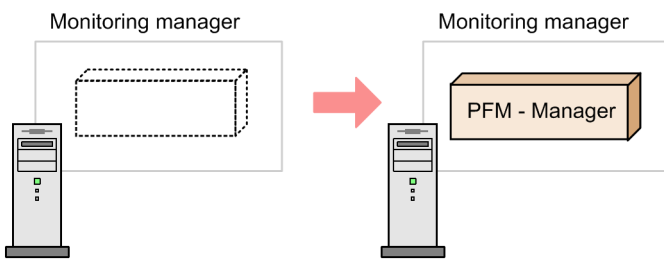
(1) Program installation steps

Note:

For Performance Management programs, you can install monitoring manager, monitoring console server, and monitoring agent in any order.

(a) Steps to install the monitoring manager

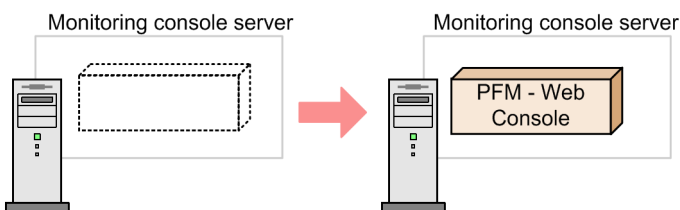
Install PFM - Manager on the monitoring manager.



1. Install PFM-Manager.

(b) Steps to install the monitoring console server

Install PFM - Web Console on the monitoring console server.

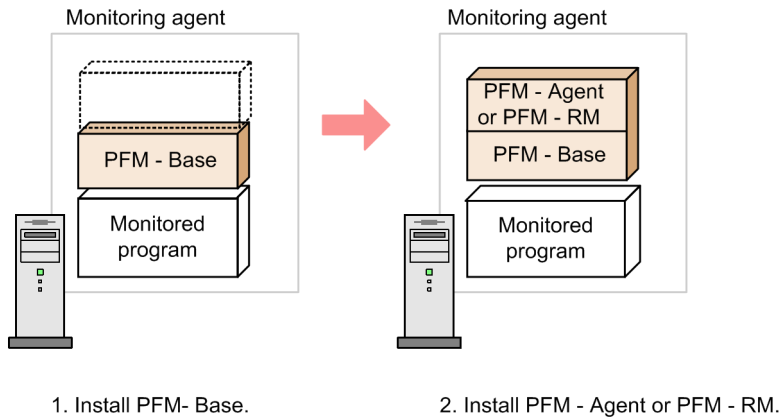


1. Install PFM - Web Console.

(c) Steps to install the monitoring agent

First Install PFM - Base and then install PFM - Agent or PFM - RM. You cannot install PFM - Agent or PFM - RM on a host that does not have PFM - Base installed.

If you install PFM - Agent or PFM - RM and PFM - Manager on the same host, install PFM - Manager first, and then PFM - Agent or PFM - RM.



For details about the installation procedure, see the appropriate PFM - Agent or PFM - RM manual.

(2) Installing programs

There are two ways to install Performance Management programs. One method is to install the programs from the distribution media, and the other is to remotely install the programs by using JP1/Software Distribution. For details about how to use JP1/Software Distribution, see the following manuals:

- *Job Management Partner 1/Software Distribution Manager Description and Administrator's Guide*
- *Job Management Partner 1/Software Distribution SubManager Description and Administrator's Guide*
- *Job Management Partner 1/Software Distribution Client Description and User's Guide*

Note:

If Performance Management programs and services are running on the host on which you intend to install the programs, stop all running programs and services. All services on the physical host and logical host must be stopped. For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

The procedures to install programs from the distribution media for respective OSs are as follows.

(3) In HP-UX

1. Log on as the root user to the host where you want to install the PFM - Base programs, or use the `su` command to assume root user privileges.
2. Stop all the PFM - Base programs and services on the local host.
3. Insert the distribution media containing the PFM - Base programs.
4. Execute the `mount` command to mount the applicable device.

For example, to mount the applicable device to the `mount` directory, execute the following command:

```
/usr/sbin/mount -F cdfs -r device-special-file-name mount-directory-name
```

Note that the command to execute varies depending on the environment.

5. Execute the following command to start Hitachi Program Product Installer:

```
mount-directory-name/IPFHPUX/SETUP mount-directory-name
```

Hitachi Program Product Installer starts and the initial window appears.

6. From the initial window, enter `I`.

A list of programs that can be installed is displayed.

7. Select a PFM - Base program you wish to install.

To select a program, move the cursor, and then select the target program with the space bar.

8. Enter `I`.

For a new installation of PFM - Base, the setting window of PFM - Manager for the connection destination is displayed. For an overwrite installation, first the existing information on PFM - Manager for the connection destination is inherited, and then the program is installed.

9. If the setting window of PFM - Manager for the connection destination is displayed, enter the host name of the PFM - Manager to be connected.

You do not have to set PFM - Manager for the connection destination during installation. You can set it later. If you do not set PFM - Manager for the connection destination during installation, the physical host name of the agent host is used. After the installation, change PFM - Manager for the connection destination. For details about changing PFM - Manager for the connection destination, see [6.3.2 Changing the PFM - Manager for the connection destination](#).

Important note

In this procedure, only one host name can be specified. If you want to create a multiple-monitoring configuration, do not specify the host name of PFM - Manager for the connection destination during installation. After you complete installing PFM - Base, change PFM - Manager for the connection destination.

10. Upon a successful installation, enter `Q`.

This returns to the initial window of Hitachi Program Product Installer.

(4) In Solaris

1. Log on as the root user to the host where you want to install the Performance Management programs, or use the `su` command to assume root user privileges.
2. Stop all the Performance Management programs and services on the local host.
3. Insert the distribution media containing the Performance Management programs.
4. Execute the following command to start Hitachi Program Product Installer[#]:

```
mount-directory-name/SOLARIS/SETUP mount-directory-name
```

Hitachi Program Product Installer starts and the initial window appears.

Note that the command to execute varies depending on the environment.

5. From the initial window, enter `I`.

A list of programs that can be installed is displayed.

6. Select a Performance Management program you wish to install.

To select a program, move the cursor, and then select the target program with the space bar.

7. Enter I.

For a new installation of PFM - Base, the setting window of PFM - Manager for the connection destination appears. The setting window appears only when performing a new installation of PFM - Base on a host that does not already have version 08-00 or earlier of PFM - Agent installed. If you install PFM - Base on a host that has version 08-00 or earlier of PFM - Agent installed, or if you perform an overwrite installation of PFM - Base, the existing settings of PFM - Manager for the connection destination are inherited.

Also, if you select a program other than PFM - Base, the selected program is installed.

8. If the setting window of PFM - Manager for the connection destination appears, enter a host name of PFM - Manager for the connection destination.

You do not have to set PFM - Manager for the connection destination during installation. You can set it later. If you do not set PFM - Manager for the connection destination during installation, the physical host name of the agent host is used. After the installation, change PFM - Manager for the connection destination. For details about changing PFM - Manager for the connection destination, see [6.3.2 Changing the PFM - Manager for the connection destination](#).

Important note

In this procedure, only one host name can be specified. If you want to create a multiple-monitoring configuration, do not specify the host name of PFM - Manager for the connection destination during installation. After you complete installing the Performance Management programs, change PFM - Manager for the connection destination.

9. Upon a successful installation, enter Q.

This returns to the initial window of Hitachi Program Product Installer.

#

In an environment where the automount function is disabled, use the `/usr/sbin/mount` command in the following manner to mount the applicable device prior to starting Hitachi Program Product Installer:

```
/usr/sbin/mount -F hsfs -r device-special-file-name mount-directory-name
```

Note that the command to execute varies depending on the environment.

(5) In AIX

1. Log on as the root user to the host where you want to install the Performance Management programs, or use the `su` command to assume root user privileges.
2. Stop the Performance Management programs and services on the local host.
3. Insert the distribution media containing the Performance Management programs.
4. Execute the `mount` command to mount the applicable device.

For example, to mount the applicable device to the mount directory, execute the following command:

```
/usr/sbin/mount -r -v cdrfs device-special-file-name mount-directory-name
```

5. Execute the following command to start Hitachi Program Product Installer:

```
mount-directory-name/AIX/SETUP mount-directory-name
```

Hitachi Program Product Installer starts and the initial window appears.

6. From the initial window, enter `I`.

A list of programs that can be installed is displayed.

7. Select a Performance Management program you wish to install.

To select a program, move the cursor, and then select the target program with the space bar.

8. Enter `I`.

For a new installation of PFM - Base, the setting window of PFM - Manager for the connection destination appears.

For an overwrite installation of PFM - Base, the existing settings of PFM - Manager for the connection destination are inherited and the PFM - Base programs are installed.

Also, if you select a program other than PFM - Base, the selected program is installed.

9. If the setting window of PFM - Manager for the connection destination appears, enter a host name of PFM - Manager for the connection destination.

You do not have to set PFM - Manager for the connection destination during installation. You can set it later. If you do not set PFM - Manager for the connection destination during installation, the physical host name of the agent host is used. After the installation, change PFM - Manager for the connection destination. For details about changing PFM - Manager for the connection destination, see [6.3.2 Changing the PFM - Manager for the connection destination](#).

Important note

In this procedure, only one host name can be specified. If you want to create a multiple-monitoring configuration, do not specify the host name of PFM - Manager for the connection destination during installation. After you complete installing the Performance Management programs, change PFM - Manager for the connection destination.

10. Upon a successful installation, enter `Q`.

This returns to the initial window of Hitachi Program Product Installer.

(6) In Linux

1. Log on as the root user to the host where you want to install the Performance Management programs, or use the `su` command to assume root user privileges.
2. Stop the Performance Management programs and services on the local host.
3. Insert the distribution media containing the Performance Management programs.
4. Execute the following command to start Hitachi Program Product Installer:

```
mount-directory-name/linux/setup /mount-directory-name
```

Hitachi Program Product Installer starts and the initial window appears.

Note that the command to execute varies depending on the environment.

5. From the initial window, enter `I`.

A list of programs that can be installed is displayed.

6. Select a Performance Management program you wish to install.

To select a program, move the cursor, and then select the target program with the space bar.

7. Enter **I**.

For a new installation of PFM - Base, the setting window of PFM - Manager for the connection destination appears.

For an overwrite installation of PFM - Base, the existing settings of PFM - Manager for the connection destination are inherited and the PFM - Base programs are installed.

Also, if you select a program other than PFM - Base, the selected program is installed.

8. If the setting window of PFM - Manager for the connection destination appears, enter a host name of PFM - Manager for the connection destination.

You do not have to set PFM - Manager for the connection destination during installation. You can set it later. If you do not set PFM - Manager for the connection destination during installation, the physical host name of the agent host is used. After the installation, change PFM - Manager for the connection destination. For details about changing PFM - Manager for the connection destination, see [6.3.2 Changing the PFM - Manager for the connection destination](#).

Important note

In this procedure, only one host name can be specified. If you want to create a multiple-monitoring configuration, do not specify the host name of PFM - Manager for the connection destination during installation. After you complete installing the Performance Management programs, change PFM - Manager for the connection destination.

9. Upon a successful installation, enter **Q**.

This returns to the initial window of Hitachi Program Product Installer.

Note:

If the installation directory points to a symbolic link, the symbolic link will be broken. Before installation, make sure that the following installation directory is a real directory:

```
/opt/jp1pc/*
```

(7) Installing the PFM - Web Console program

To install the PFM - Web Console program, use Hitachi Program Product Installer stored in the distribution media.

(a) Log in

Only the root user can install PFM - Web Console from the Hitachi Program Product Installer. Log in as the root user to the host where you want to install the program.

(b) Start the Hitachi Program Product Installer

The Hitachi Program Product Installer is supplied on the distribution media. Note the following when running the Hitachi Program Product Installer:

- The device special file and the mount directory for the distribution media differ depending on the OS, hardware configuration, and system environment. Review the relevant manuals and your operating environment prior to starting Hitachi Program Product Installer.
- Make sure that the language type used by Hitachi Program Product Installer matches that of the terminal where it is being run.

(c) Mount the file system

Execute the following command to mount the file system:

```
mount -r -o mode=0544 device-special-file-name mount-directory-name
```

(d) Start the setup program

When you enter the following command, the setup program installs Hitachi Program Product Installer and the autostart program for the resident process onto the hard disk. Hitachi Program Product Installer then starts automatically.

```
mount-directory-name/LINUX/setup mount-directory-name
```

The names of files and directories on the distribution media might appear differently depending on such factors as your hardware environment. Use the `ls` command to confirm the proper file and directory names, and enter them as they appear in the command output.

(e) Install programs

Specify the distribution media and start Hitachi Program Product Installer or the setup program. Place the distribution media for PFM - Web Console in the appropriate device drive.

Choose `I` from the main menu to display the following program installation window:

```
      PP-NO.          VR          PP-NAME
<@>001  PP-type      version-number  JP1/PFM - Web Console
      :
      :
F) Forward B) Backward J) Down K) Up Space) Select/Unselect I) Install Q)
Quit
```

Move the cursor to the program you want to install, and then select the program or multiple programs with the space bar. The characters `<@>` appear to the left of the program you selected. Once you have selected the programs you want to install, enter `I` again to proceed. The following message appears at the bottom of the screen:

```
Install PP? (y: install, n: cancel)==>
```

Enter `y` or `Y` to begin installation. If you enter any other character, the installation process is canceled and control is returned to the program installation window. You can also enter `Q` to return to the main menu.

(f) Display a list of programs

Choose `L` from the main menu to display the following window that lists the programs installed on the host.

```
      PP-NO.      VR          Install date          PP-NAME
001  PP-type    version-number  YYYY/MM/DD hh:mm  JP1/PFM - Web Console
      :
      :
F) Forward B) Backward Q) Quit P) Print to /tmp/hitachi_PPLIST ==>
```

Note:

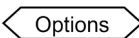
The Install date underlined above shows the time when the program was installed.

Choose P to output a list of installed programs to `/tmp/hitachi_PPLIST`. Choose Q to return to the main menu.

(g) Notes on installing programs using Hitachi Program Product Installer

- The disk space required for installation is equivalent to twice the capacity of the product disk. This is to allow for data to be copied from a temporary work directory to the product directory.
- The PFM - Web Console installation directory (`/opt/jp1pcwebcon/`) is fixed and cannot be changed.
- The PFM - Manager or PFM - Base installation directory (`/opt/jp1pc/`) is fixed and cannot be changed.
- Before performing an overwrite installation of PFM - Web Console, stop all PFM - Web Console services.
- Before performing an overwrite installation of PFM - Manager or PFM - Base, stop all Performance Management services on the host.
- If the installation fails with the message `Installation failed` in the status bar, collect the `/etc/.hitachi/.hitachi.log` and `/etc/.hitachi/.install.log` file and then contact the system administrator.
Because the log file will be overwritten the next time you start Hitachi Program Product Installer, make backups as necessary.
- When installing PFM - Web Console to a linked directory, files and directories with the same name at the link destination are overwritten.

6.1.4 PFM - Manager setup procedure

 indicates setup items required according to each environment and optional setup items used to change default settings.

Tip

The start information file (`jpccomm.ini`) is used to configure the operation of Performance Management.

(1) Setting the LANG environment variables

The following table lists the possible values that can be set to the LANG environment variables in Performance Management:

Before setting the LANG environment variables, verify that the language environment to set is properly installed and configured. If the language is not installed and configured properly, text might be garbled and definition data might be overwritten erroneously. For more information about operating in a mixed environment in which multiple languages are used, see [4.10.3 Notes on environments in which multiple languages are used](#).

Note 1:

The LANG environment variables set at the time of service startup or command execution determines the language of the common message log. Therefore, the log might contain a mixture of text with different language codes.

Note 2:

If the `LC_ALL` environment variable has been specified and its value differs from the value of the LANG environment variable, release the `LC_ALL` environment variable or change its value to the value of the LANG environment variable when you start the services of Performance Management and when you execute commands.

Changing the environment variable is required only on the shell that is used to perform the corresponding operations. There is no need to change the environment variable throughout the entire system. You use the following command to release the LC_ALL environment variable:

```
unset LC_ALL
```

Table 6–3: LANG environment variables available in Performance Management

OS	Language		LANG environment variable value
Linux	Japanese	UTF-8 encoding	<ul style="list-style-type: none"> ja_JP.UTF-8 ja_JP.utf8
	English (no Japanese)		C
	Chinese (Simplified Chinese)	GB18030	zh_CN.gb18030
		UTF-8 encoding	<ul style="list-style-type: none"> zh_CN.utf8 zh_CN.UTF-8
Solaris#	Japanese	Shift-JIS encoding	ja_JP.PCK
		EUC encoding	<ul style="list-style-type: none"> ja ja_JP.eucJP (Available only for Solaris 11 (SPARC))
		UTF-8 encoding	<ul style="list-style-type: none"> ja_JP.UTF-8 (Available only for Solaris 11 (SPARC))
	English (no Japanese)		C
	Chinese (Simplified Chinese)	GB18030	<ul style="list-style-type: none"> zh_CN.GB18030 zh_CN.GB18030@pinyin zh_CN.GB18030@radical zh_CN.GB18030@stroke
		UTF-8 encoding	<ul style="list-style-type: none"> zh.UTF-8 zh_CN.UTF-8 zh_CN.UTF-8@pinyin zh_CN.UTF-8@radical zh_CN.UTF-8@stroke
AIX	Japanese	Shift-JIS encoding	<ul style="list-style-type: none"> Ja_JP.IBM-932 Ja_JP
		EUC encoding	<ul style="list-style-type: none"> ja_JP.IBM-eucJP (not supported by PFM - Manager) ja_JP
	English (no Japanese)		C
	Chinese (Simplified Chinese)	GB18030	<ul style="list-style-type: none"> Zh_CN Zh_CN.GB18030
UTF-8 encoding		<ul style="list-style-type: none"> ZH_CN ZH_CN.UTF-8 	

If you link with Network Node Manager (NNM), you can only use the following LANG environment variables in the setup script.

Table 6–4: LANG environment variables available in the setup script when linking with NNM

OS	Language		LANG environment variable value
Solaris	Japanese	Shift-JIS encoding	ja_JP.PCK
		EUC encoding	ja
	English (no Japanese)		C

(2) Registering PFM - Agent or PFM - RM

You must register PFM - Agent or PFM - RM in PFM - Manager in order to perform integrated management of PFM - Agent or PFM - RM by using PFM - Manager and PFM - Web Console.

If the version of PFM - Manager is 09-00 or later, the registration is performed automatically, making the instructions described here unnecessary.

However, for PFM - Agent or PFM - RM released after PFM - Manager, you might need to perform a manual registration. For details, see the PFM - Manager Release Notes.

Reference note

The information on the automatically registered PFM - Agent or PFM - RM is displayed in PFM - Web Console at the following timing:

If the version of PFM - Web Console is 09-00 or later:

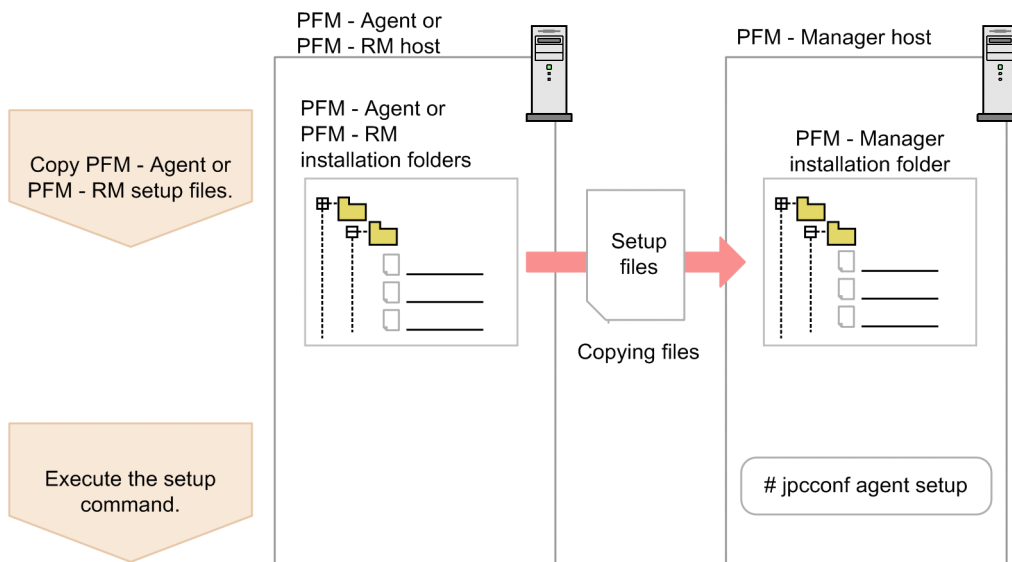
The information is displayed when you log into PFM - Web Console again after starting the registered PFM - Agent or PFM - RM.

If the version of PFM - Web Console is 08-11 or earlier:

The information is displayed when you restart PFM - Web Console after starting the registered PFM - Agent or PFM - RM.

If you want to register PFM - Agent or PFM - RM before starting the console, execute the `jpccconf agent setup` command with the `-register` option specified. For details about the `jpccconf agent setup` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Figure 6–3: Process flow for PFM - Agent or PFM - RM registration



Note

- Register PFM - Agent or PFM - RM before setting the instance environment of PFM - Agent or PFM - RM.
- You do not need to register PFM - Agent or PFM - RM when you add the same version of PFM - Agent or PFM - RM with the same product ID to a Performance Management system in which the PFM - Agent or PFM - RM information has been already registered.
- If you install a different version of PFM - Agent or PFM - RM with the same product ID on a different host, first set up the older version of PFM - Agent or PFM - RM, and then set up the newer version of PFM - Agent or PFM - RM.
- If you install PFM - Agent or PFM - RM on the same host that has PFM - Manager installed, the `jpcconf agent setup` command is executed automatically. In PFM - Agent or PFM - RM, the execution results are logged as `KAVE05908-I New agent setup (pfm-agent-service-key) ended successfully. (version=version)` to the common message log. Check the results. If the command has not been executed correctly, execute the command again. For details about how to execute the commands, see the chapters that describe commands in the *Job Management Partner 1/Performance Management Reference*.

Supplemental information:

Note the information that follows about performing manual registration (`jpcconf agent setup -key agtX` (with the `-register` option omitted)) on the PFM - Manager host.

Executing `jpcconf agent setup -key agtX` (with the `-register` option omitted) when PFM - Manager is a physical environment:

The registered PFM - Agent or PFM - RM information is displayed on PFM - Web Console at the following time:

- PFM - Web Console version 09-00 or later
The next time the user log on to PFM - Web Console
- PFM - Web Console version 08-11 or earlier
When PFM - Web Console is restarted

Executing `jpcconf agent setup -key agtX` (with the `-register` option omitted) on the executing host and the standby host when PFM - Manager is a logical host:

The registered PFM - Agent or PFM - RM information is displayed on PFM - Web Console at the following time:

- PFM - Web Console version 09-00 or later
After the registered PFM - Agent or PFM - RM has started or the next time the user executes `jpccconf agent setup -key agtX -register` on the executing host and the standby host to which the shared disk is connected and logs on to PFM - Web Console
- PFM - Web Console version 08-11 or earlier
After the registered PFM - Agent or PFM - RM has started or the next time the user executes `jpccconf agent setup -key agtX -register` on the executing host and the standby host to which the shared disk is connected and restarts PFM - Web Console

(a) Copying the PFM - Agent or PFM - RM setup file

Copy the setup file on a host that has PFM - Agent or PFM - RM onto a host that has PFM - Manager installed.

To copy the PFM - Agent setup file:

1. Copy the setup file of PFM - Agent or PFM - RM in binary mode.

The following table gives the locations where files are stored, and the location where files are to be copied.

Table 6–5: Setup files to be copied

Copy from		Copy to	
Host	File	Host	File
PFM - Agent, PFM - RM	<ul style="list-style-type: none"> • In UNIX: <code>/opt/jp1pc/setup/jpcxxxxu.Z</code> 	PFM - Manager	<code>/opt/jp1pc/setup/</code>

Legend:

`xxxx` indicates the service key of each PFM - Agent or PFM - RM. For details about service keys, see the appropriate PFM - Agent or PFM - RM manual.

(b) Executing the setup command on the PFM - Manager host

Execute the following command on the PFM - Manager host to set up PFM - Agent or PFM - RM.

```
jpccconf agent setup -key xxxx
```

`xxxx` indicates the service key of each PFM - Agent or PFM - RM.

For example, execute the following command to set up PFM - Agent for Oracle:

```
jpccconf agent setup -key Oracle
```

This example executes the `jpccconf agent setup` command in the interactive mode, but this command can also be executed in the non-interactive mode. For details about the `jpccconf agent setup` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Note:

An error might occur if you execute the `jpccconf agent setup` command when Performance Management programs and services have not completely stopped on the local host where you want to execute the command. In such cases, make sure that the Performance Management programs and services have completely stopped and then execute the `jpccconf agent setup` command again.

You can delete the setup file of PFM - Agent or PFM - RM after this procedure has finished.

(3) Specifying settings for the network

Settings described in this subsection are required if you change settings according to the network configuration on which Performance Management is used.

You can set the following four items for network settings:

- **Setting IPv6 communication**

This setting is required if you use IPv6 communication in Performance Management. To use IPv6 communication, execute the `jpccconf ipv6 enable` command on the PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

In a cluster system, this setting must be specified in both the executing system and the standby system.

Note that only IPv4 communication is supported between PFM - Manager and PFM - Web Console.

For details, see [6.3.1\(1\)\(a\) Setting IPv6 communication](#).
- **Setting IP addresses**

Set this item when Performance Management is used in a network with multiple LANs connected. To set multiple IP addresses, define the host name and IP address in the `jpchosts` file. Confirm that the settings in `jpchosts` files are the same throughout the entire Performance Management system.

For details, see [6.3.1\(1\)\(b\) Setting IP addresses](#).
- **Setting port numbers**

You can set the port numbers used by Performance Management. Use the same port numbers and service names for the entire Performance Management system to avoid confusion during operation.

For procedures on setting port numbers, see [6.3.1\(1\)\(c\) Setting port numbers](#).
- **Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSLM**

Define the host name or IP address of PFM - Manager in the `jpccvsrvr.ini` file on the PFM - Manager host in the following cases:

 - IP address translation (NAT) is performed between the PFM - Manager host and the PFM - Web Console host.
 - Multiple IP addresses are used between the PFM - Manager host and the PFM - Web Console host.
 - JP1/ITSLM is linked and IP address translation (NAT) is performed between the PFM - Manager host and the JP1/ITSLM host.
 - JP1/ITSLM is linked and multiple IP addresses are used between the PFM - Manager host and the JP1/ITSLM host.

For details, see [6.3.1\(1\)\(d\) Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSLM](#).

(4) Changing the log file size

The operating status of Performance Management is output to a Performance Management-specific log file. This log file is called the *common message log*. This setting is required when you wish to change this file size.

For details, see [6.4.1 Setting the size of the log file for the common message log](#).

(5) Specifying settings for the authentication mode

These settings are required when you wish to change the authentication mode of Performance Management from PFM authentication mode to JP1 authentication mode.

For details, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

(6) Setting the access control function based on business groups

Options

These settings are required if you want to use business groups to manage the users of Performance Management. Specify in the start information file (`jpccomm.ini`) whether the access control function based on business groups is to be used.

For details, see the chapter that describes user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

(7) Changing the storage locations of event data

Options

The settings below are required when you wish to change the storage destination, backup destination, or export destination of the event data managed by PFM - Manager.

By default, event data is stored in the following locations:

- Data storage directory: `/opt/jp1pc/mgr/store/`
- Backup directory: `/opt/jp1pc/mgr/store/backup/`
- Export directory: `/opt/jp1pc/mgr/store/dump/`

Note:

For the default folders when running Performance Management on a logical host, read `/opt/jp1pc/ as environment-directory\jp1pc\`.

For details about how to change the storage location, see [6.4.2 Changing the storage location of event data](#).

(8) Specifying settings for action log output

Options

These settings are required when you wish to output action log data when an alarm is issued. Action log data is output in cooperation with the alarm function, when an aspect of the system such as the system load exceeds a threshold. For details, see [H. Outputting Action Log Data](#).

(9) Configuring the health check function

Options

These settings are required when you wish to check the operation status of monitoring agents and their hosts. For details about how to specify this setting, see the chapter that describes detecting problems in the *Job Management Partner 1/Performance Management User's Guide*.

(10) Configuring the PFM service automatic restart function

Options

This setting is required if you want PFM services to automatically restart if they terminate abnormally. For details about how to specify this setting, see the chapter that describes detecting problems in Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

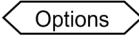
(11) Configuring the product name display function

Options

These settings are required if you want to enable the product name display function when you upgrade from version 08-11 or earlier, or when you perform a new installation. For details about the product name display function, see [4.1.2](#)

Displaying and specifying services (the product name display function). For details about how to specify these settings, see 6.4.9 *Configuring the product name display function*.

6.1.5 PFM - Web Console setup procedure

 indicates setup items required according to each environment and optional setup items used to change default settings.

Tip

The initialization file (`config.xml`) is used to set up the operating environment for PFM - Web Console.

(1) Setting the LANG environment variable

Before assigning a value to the LANG environment variable, make sure that the language environment you specify is installed and configured correctly. If the language is not installed and configured correctly, you might encounter issues such as characters appearing garbled or definition data being overwritten erroneously.

Note:

The LANG environment variables set at the time of service startup or command execution determines the language of the operation status log. Therefore, the log might contain a mixture of text with different language codes.

The following table shows LANG environment variables available in PFM - Web Console.

Table 6–6: LANG environment variables available in PFM - Web Console

OS	Language	LANG environment variable
Linux	Japanese	UTF-8 encoding
		<ul style="list-style-type: none">• <code>ja_JP.UTF-8</code>• <code>ja_JP.utf8</code>
	English (no Japanese)	C
	Chinese (Simplified Chinese)	GB18030
	UTF-8 encoding	<ul style="list-style-type: none">• <code>zh_CN.utf8</code>• <code>zh_CN.UTF-8</code>

If the language setting of the system locale of the server differs from that of the `usrconf.cfg` file, PFM - Web Console may not operate properly. Before setting up PFM - Web Console, check the system locale and the `usrconf.cfg` file, and if the language setting differs from each other, change the setting in the `usrconf.cfg` file.

Important note

Perform the settings after PFM - Web Console service is stopped.

(a) Changing the settings in the `usrconf.cfg` file

1. Use a text editor or a similar tool to open the `usrconf.cfg` file.

The `usrconf.cfg` file is stored in the following folder:

```
/opt/jp1pcwebcon/CPSB/CC/web/containers/PFMWebConsole/usrconf/
```


2. Edit the `usrconf.cfg` file.

You need to modify the parameters if the language setting was changed as follows:

- From Japanese to a language other than Japanese
- From a language other than Japanese to Japanese
- From English to Chinese
- From Chinese to English

For details about setting each parameter, see *6.1.5(1)(b) Parameters of the `usrconf.cfg` file*.

3. Save `usrconf.cfg` by overwriting the file.

(b) Parameters of the `usrconf.cfg` file

You need to modify the following parameters when changing the language setting.

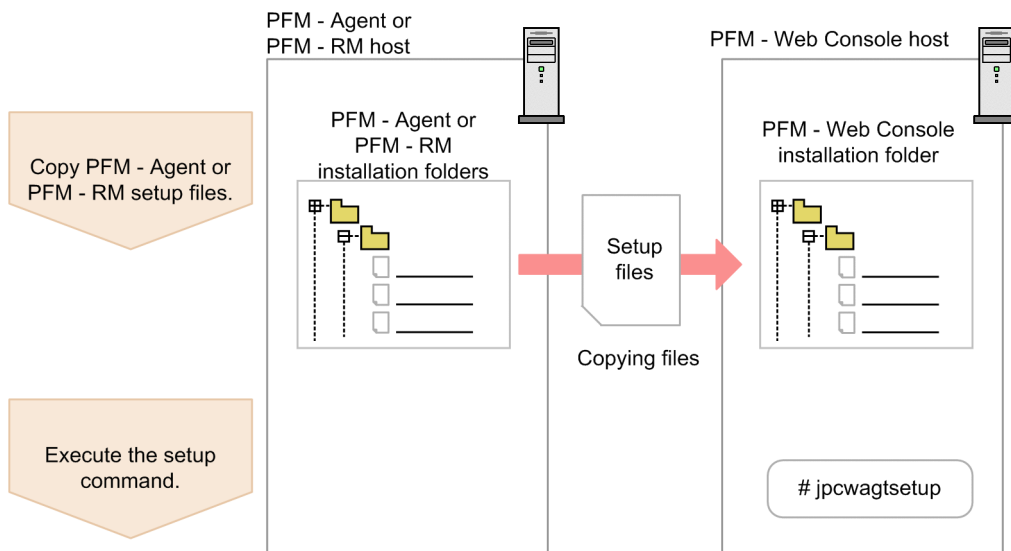
Item	Description
<code>add.jvm.arg=-Duser.language</code>	The default language setting used for PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• en• ja For Japanese, specify "ja". For others, specify "en".
<code>add.jvm.arg=-Duser.country</code>	The default country setting used for PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• US• JP For Japan, specify "JP". For others, specify "US".
<code>add.jvm.arg=-DprGB18030check</code>	The setting to use GB18030 as the encoding format of PFM - Web Console. Values are as follows: <ul style="list-style-type: none">• true• false When using Chinese (Simplified Chinese) and performing encoding in the GB18030 format, specify "true". In other cases, specify "false".

(2) Registering PFM - Agent or PFM - RM Options

You must register PFM - Agent or PFM - RM in PFM - Web Console in order to perform integrated management of PFM - Agent or PFM - RM by using PFM - Manager and PFM - Web Console.

If the version of PFM - Web Console is 09-00 or later, PFM - Agent or PFM - RM is automatically registered, following the instructions described here are unnecessary. However, for PFM - Agent or PFM - RM released after PFM - Web Console, you might need to perform manual registration. For details about whether you need to manually register PFM - Agent or PFM - RM, see the PFM -Web Console Release Notes.

Figure 6–4: Process flow for registering PFM - Agent or PFM - RM



Notes:

- You do not need to register PFM - Agent or PFM - RM when you add the same version of PFM - Agent or PFM - RM with the same product ID to a Performance Management system in which the PFM - Agent or PFM - RM information has been already registered.
- Set up the latest version of PFM - Agent or PFM - RM if you install a different version of PFM - Agent or PFM - RM with the same product ID on a different host.

(a) Copying the PFM - Agent or PFM - RM setup file

Copy the setup file on a host that has PFM - Agent or PFM - RM onto a host that has PFM - Web Console installed.

To copy the PFM - Agent setup file:

1. Stop PFM - Web Console if it is running.
2. Copy the setup file of PFM - Agent or PFM - RM in binary mode.

The following table gives the locations where the files are stored, and the location where the files are to be copied.

Table 6–7: Setup files to be copied

Copy from		Copy to	
Host	File	Host	File
PFM - Agent, PFM - RM	<ul style="list-style-type: none"> • In UNIX: /opt/jp1pc/setup/jpcxxxxu.Z 	PFM - Web Console	/opt/jp1pcwebcon/setup/

Legend:

xxxx indicates the service key of each PFM - Agent or PFM - RM. For details about service keys, see the appropriate PFM - Agent or PFM - RM documentation.

(b) Executing the setup command on the PFM - Web Console host

Execute the following command on PFM - Web Console to set up PFM - Agent or PFM - RM.

```
jpcwagtsetup
```

You can delete the PFM - Agent or PFM - RM setup file on the PFM - Web Console host after this procedure has finished.

Note:

Even though PFM - Web Console is installed on the same host as PFM - Agent or PFM - RM, you must execute the `jpcwagtsetup` command.

(3) Specifying settings for the network

The settings described in this subsection are required when adjusting the network configuration of PFM - Agent to match that used by Performance Management.

You can set the following item for network settings:

- Setting port numbers
Set port numbers to be used by PFM - Web Console.
For details about setting port numbers, see [6.4.7 Changing PFM - Web Console settings](#).

(4) Specifying settings in the initialization file (`config.xml`)

The settings required for operating PFM - Web Console are defined in the initialization file (`config.xml`). The settings described in this subsection are required when you want to change the initial settings in the file.

The `config.xml` file contains settings related to the log files for PFM - Web Console and the amount of data that can be displayed in the console window. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

(5) Creating an authentication key file for PFM - Web Console

If you want to execute the PFM - Web Console commands, you must first execute the `jpcmkkey` command. For details about the `jpcmkkey` command, see the chapter describing the command in the manual *Job Management Partner 1/Performance Management Reference*.

(6) Setting the connection-target PFM - Manager for PFM - Web Console

 Options

To set the connection-target PFM - Manager, edit the initialization file (`config.xml`).

For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

(7) Setting the starting user and group for PFM - Web Console

By default, the PFM - Web Console services are started with `nobody/root` permissions. If you fail to start PFM - Web Console with this user and group, the message `KAVJT0003-E` is output.

In this case, change the `User` and `Group` settings in the `/opt/jp1pcwebcon/CPSB/httpsd/conf/httpsd.conf` file to a system user (other than `root`) and the group to which that user belongs, respectively. In the following example, the words in italics indicate the points to be changed:

```
User nobody  
Group root
```

6.1.6 Configuring a Web browser to use the monitoring console

For details about how to configure a Web browser to use PFM - Web Console, see [5.1.6 Configuring a Web browser to use the monitoring console](#).

6.2 Uninstallation and unsetup

6.2.1 Before uninstallation and unsetup

The following gives cautionary notes on uninstalling and performing unsetup of Performance Management:

(1) Notes on the OS user permission required for uninstallation

Make sure you are the root user when uninstalling Performance Management programs.

(2) Notes on the network

Even though Performance Management programs are uninstalled, the port numbers defined in the `services` file are not deleted.

(3) Notes on programs

- Files or directories might remain if you uninstall Performance Management programs while other programs or services, or programs that reference Performance Management files are running. In such cases, manually delete all of the directories and files under the installation folder.
- If a host has PFM - Base and either PFM - Agent or PFM - RM installed, you have to uninstall PFM - Agent or PFM - RM first in order to uninstall PFM - Base. In such cases, uninstall PFM - Agent or PFM - RM, and then uninstall PFM - Base. Additionally, if a host has PFM - Manager and either PFM - Agent or PFM - RM installed, you have to uninstall PFM - Agent or PFM - RM first to uninstall PFM - Manager. In such cases, uninstall PFM - Agent or PFM - RM, and then uninstall PFM - Manager.

(4) Notes on services

- Stop all Performance Management programs and services in the entire Performance Management system before you uninstall PFM - Manager.
- Uninstalling only PFM - Agent or PFM - RM does not delete the service information that can be displayed by using the `jpctool service list` command or the `jpctool monitor list` command. In such cases, use the `jpctool service delete` command to delete the service information. For details about how to delete the service information, see [6.2.3 Deleting service information](#).
- If you uninstall PFM - Manager and then re-install it on the same machine, two Trap Generator services might be displayed when the `jpctool service list` command is executed. In such cases, start the PFM - Manager service and use the `jpctool service delete` command to delete the Trap Generator that is Inactive.

(5) Notes on PFM - Web Console

- In the initialization file (`config.xml`), if you have changed the settings for `logDir`, `bookmarkRepository`, and `processMonitoringTemplatesRepository` to directories other than the default directories, the usual uninstallation procedure will not delete those directories. Before you uninstall PFM - Web Console, check `config.xml` and manually delete the directories.
- The uninstall log is output to `/etc/.hitachi/.uninstall.log`.
- If uninstallation fails, back up the log (`/etc/.hitachi/.uninstall.log`) output during the uninstallation process, remove the cause of the problem, and then try again. If JP1/PFM - Web Console does not appear in the list of programs you can uninstall, then install it again, and then repeat the uninstallation process.

- When you uninstall Performance Management programs from a host that has PFM - Web Console installed, first close all Web browser windows that are logged in to PFM - Web Console and then uninstall the programs.

(6) Other related notes

- If an instance environment is set in PFM - Agent or PFM - RM, perform unsetup of the instance environment before uninstalling PFM - Agent or PFM - RM. For details about the unsetup procedure, see the chapters describing installation and setup in the appropriate PFM - Agent or PFM - RM documentation.
- If PFM - Manager or PFM - Base is uninstalled while Performance Management is linked with JP1/ITSMLM, the monitoring targets can no longer be checked in JP1/ITSMLM's Troubleshoot window. Therefore, before you uninstall PFM - Manager or PFM - Base, release the linkage between Performance Management and JP1/ITSMLM. For details about how to release the linkage, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes monitoring with a service level management product (JP1/ITSMLM) linked.
- If the NNM linkage facility is used, perform unsetup of the facility before uninstalling PFM - Manager or PFM - Base. For details about the unsetup procedure, see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
- If you uninstall or unsetup a PFM - Agent or PFM - RM to which alarm tables have been bound, use PFM - Web Console or the `jpctool alarm unbind` command to unbound all alarm tables before you start the uninstallation or unsetup procedure.
- If you have uninstalled or performed the unsetup procedure on PFM - Agent or PFM - RM, delete the agents, if necessary, that are no longer needed from the tree that is displayed when `User Agents` is selected from the Agents tree in PFM - Web Console. Also, delete any unneeded alarm and report definition information, if necessary. For details about how to delete agents from the Agents tree, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes monitoring of agents. For details about how to delete alarm definition information, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes operation monitoring by using alarms. For details about how to delete report definition information, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes creation of reports for operation analyses.
- If the Store database is not located in the default directory, uninstalling the Performance Management programs will not delete the files in the Store database storage directory. In such a case, manually delete all files and subdirectories under the Store database storage directory.

6.2.2 Uninstallation procedures

(1) Uninstallation procedure for Performance Management programs

1. Log on to the host from which you want to uninstall the Performance Management programs as the root user, or use the `su` command to assume root user privileges.
2. Stop the Performance Management programs and services on the local host.
Display the service information and make sure that the services are not running. Stop all Performance Management programs and services that are running on the local host. All services on the physical host and logical host must be stopped.
For details about how to stop services and displaying service information, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.
3. Execute the following command to start Hitachi Program Product Installer:

```
/etc/hitachi_setup
```

Hitachi Program Product Installer starts and the initial window appears.

4. From the initial window, enter D.

A list of programs that can be uninstalled is displayed.

5. Select the Performance Management program to uninstall, and then enter D.

The selected program is uninstalled. To select a program, move the cursor, then select the target program with the space bar.

To delete PFM - Manager or PFM - Base, you must uninstall all other Performance Management programs beforehand.

6. Upon a successful uninstallation, enter Q.

This returns to the initial window of Hitachi Program Product Installer.

(2) Uninstallation procedure for the PFM - Web Console program

Enter the following command to uninstall the PFM - Web Console program:

```
/etc/hitachi_setup
```

Choose D from the main menu to display the following window, from which you can delete programs.

```
PP-NO. VR PP-NAME
<@>001 PP-type version-number JP1/PFM - Web Console
:
:
F) Forward B) Backward J) Down K) Up Space) Select/Unselect D) Delete Q) Quit
```

Move the cursor to the program you want to uninstall, and then select the program with the space bar. The characters <@> appear to the left of the program you selected. You can also select multiple programs.

When you have selected the programs you want to uninstall, type D. The following message appears at the bottom of the screen:

```
Delete PP? (y: delete, n: cancel)==>
```

Enter y or Y to begin uninstallation. If you enter n or N, the installation process is canceled and control is returned to the program deletion window. You can also enter Q to return to the main menu.

(a) Notes on uninstalling the PFM - Web Console program

- If you uninstall the PFM - Web Console program while any of the following conditions apply, some files or directories might remain in the system. Manually delete the /opt/jp1pcwebcon directory and any files and directories remaining in the directory.
 - The service is running
 - The current directory is /opt/jp1pcwebcon or a subordinate directory when /etc/hitachi_setup is executed
 - A link was made to /opt/jp1pcwebcon/ when installing PFM - Web Console

- Attempts to delete the logical host environment fail

6.2.3 Deleting service information

You must delete the service information displayed by the `jpctool service list` command or the `jpctool monitor list` command in the following cases:

- When PFM - Agent or PFM - RM is uninstalled.
- When PFM - Manager for the connection destination is changed.
- When one of the following host names are changed after the operation starts.
 - PFM - Manager
 - PFM - Agent or PFM - RM
 - PFM - Base
- When unsetup of multiple monitoring is performed.

You can delete service information by using the `jpctool service delete` command. If communication is impossible because of physical reasons, such as when the LAN cable is disconnected from the PFM - Agent host, you cannot delete the service information normally. In this case, to forcibly delete service information, specify the `-force` option. To delete service information for PFM - Agent or PFM - RM to which alarm tables have been bound, you must first unbind all the alarm tables.

To delete the service information:

1. Use the PFM - Web Console or `jpctool alarm unbind` command to unbind PFM - Agent or PFM - RM service to be deleted.
2. Log on to the host where PFM - Manager is installed.
3. Execute the `jpctool service delete` command by specifying the service ID of the service you wish to delete.

For example, to delete the information on the Agent Store service of PFM - Agent for Oracle on the host02, specify as follows:

```
jpctool service delete -id "OS*" -host host02
```

4. Execute the `jpctool service sync` command.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

Important note

Notes on unsetup of remote agents of PFM - RM

After the unsetup procedure has been performed on the remote agents of PFM - RM (after the `jpccconf target unsetup` command has been executed), there is no need to execute the `jpctool service delete` command because the service information is deleted automatically.

However, for the new information to be applied to PFM - Web Console after the unsetup procedure, you must execute the `jpctool service sync` command.

The service information is deleted at the following time:

- If PFM - Manager and the PFM - RM service subject to deletion are running
When the `jpccconf target unsetup` command is executed, a service information deletion request is sent from PFM - RM to PFM - Manager and the service information is then deleted by PFM - Manager.
- If PFM - Manager or the PFM - RM service subject to deletion is stopped
When the `jpccconf target unsetup` command is executed, the service information is deleted by PFM - Manager the next time the PFM - RM service is started and connected to PFM - Manager.

6.3 Specifying and changing the Performance Management system configuration

When you have changed settings specified during setup and configuration of systems being monitored, you need to change the Performance Management system configuration. This section explains how to change the Performance Management system configuration.

Important note

You cannot change the system locale of the server while Performance Management is running. To change the system locale of the server, uninstall all the Performance Management programs and then change the system locale of the server. Afterwards, re-install the Performance Management programs.

Refer to the subsections listed below to set up and change the system configuration.

Table 6–8: Subsections to be referenced to set up and change the system configuration

Settings	Setup	Change
Setting up or changing the network configuration	6.3.1	6.3.1
Changing the PFM - Manager for the connection destination after operation has begun	--	6.3.2
Setting up or changing monitoring host names	6.3.3	6.3.3 to 6.3.7
Renaming physical hosts after operation has begun	--	6.3.8 to 6.3.13

Legend:

--: Not applicable

6.3.1 Specifying and changing the network configuration

This subsection explains how to change the Performance Management settings when you have set up or changed the network configuration.

For details about commands, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*. For details about settings and notes about communication through a firewall between PFM - Manager and PFM - Web Console, or between PFM - Manager and either PFM - Agent or PFM - RM, see the list of port numbers in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

(1) Procedure on the PFM - Manager host and either PFM - Agent host or PFM - RM host

(a) Setting IPv6 communication

Perform this setting if you use not only IPv4 communication but also IPv6 communication in Performance Management.

Note that only IPv4 communication is supported between PFM - Manager and PFM - Web Console.

To use IPv6 communication, you must execute the `jpccconf ipv6 enable` command in the PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

In a cluster system, this setting must be specified in both the executing system and the standby system.

Once the command has executed, IPv6 communication will be used by default thereafter.

To set IPv6 communication:

1. Execute the `jpccconf ipv6 enable` command for each PFM - Agent, PFM - RM, and PFM - Manager that will be using IPv6 communication.

You can enable IPv6 communication for each installed PFM program product in any order.

For details about the `jpccconf ipv6 enable` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

(b) Setting IP addresses

You need to set IP addresses if you wish to specify IP addresses to use Performance Management in a network environment connected to multiple LANs.

To set the IP address, directly edit the content of the `jpchosts` file.

Note:

- If you have set the `jpchosts` file, the definitions in the `hosts` file or DNS are not referenced for a host name defined in the `jpchosts` file. Therefore, the IP address obtained from a host name must be defined in the `jpchosts` file.
- The same host name cannot be specified more than once. If there are multiple lines that specify the same host name, only the definition in the first line specified will be used.

To set IP addresses:

1. Use a text editor or a similar tool to open the `jpchosts` file.

The `jpchosts` file is stored in the `/opt/jp1pc/` directory.

2. Edit the `jpchosts` file.

For example, if there is a `hostA` with the IP address `20.108.41.1` and a `hostB` with the IP addresses `20.108.41.2` and `20.108.41.3`, set the IP addresses of the hosts as follows:

```
hostA 20.108.41.1
hostB 20.108.41.2, 20.108.41.3
```

If you want to provide an alias name `aliasA` to a host whose IP address is `20.108.41.1`, specify the name as follows:

```
aliasA 20.108.41.1
```

- If multiple IP addresses are specified for a single host, the leftmost IPv4 and IPv6 addresses specified are used.
- IP address settings becomes invalid if any of the following conditions is met:
 - The host name length is 33 bytes or longer
 - The host name is `localhost`
 - The IP address (such as `172.16.233.12` or `ACE6:45:75:91::1`) is used as a host name
 - The host name starts with a hyphen (-)

- The host name includes any of the following characters or the space character:

`\ / : , ; * ? " > < | . =`

- For IPv4, specify the IP address in dotted decimal notation (example: 172.16.233.12). For IPv6, specify the IP address in colon hexadecimal notation (example: ACE6:45:75:91::1).
- A zone ID that is added at the end of an IPv6 address, such as in the format of %1 in Windows, cannot be specified. If specified, zone IDs are treated as invalid IPv6 addresses and ignored.
- You can specify up to 16 IP addresses for one host.

3. Stop Performance Management on the host whose IP address you set, and then copy the `jpchosts` file according to the instructions in note 2 below.

4. Restart Performance Management on the host.

The information settings for the `jpchosts` file become valid when Performance Management is restarted.

Note 1

In name resolution using the `jpchosts` file, if the IP address that was set first becomes invalid, the system does not simply continue and use the IP address that was set second. For the next and subsequent communications, an attempt is made to use the first IP address and then the following addresses in order.

Note 2

Determining whether to add settings for a PFM - Manager host to `jpchosts`

1. When the PFM - Manager host uses a single NIC:

`jpchosts` of PFM - Manager: Setting not required.

`jpchosts` of PFM - Agent or PFM - RM connected to PFM - Manager: Setting not required.

2. When the PFM - Manager host uses two or more NICs:

`jpchosts` of PFM - Manager: Specify the IP address you want to allocate to PFM - Manager.

`jpchosts` of PFM - Agent or PFM - RM connected to PFM - Manager: Specify the IP address you want to allocate to PFM - Manager.

Determining whether to add settings for a PFM - Agent or PFM - RM host to `jpchosts`

Perform the steps below for each PFM - Agent or PFM - RM host in the system.

1. When the PFM - Agent or PFM - RM host uses a single NIC:

`jpchosts` of PFM - Manager: Setting not required.

`jpchosts` of the confirmed instance of PFM - Agent or PFM - RM: Setting not required.

`jpchosts` of other instances of PFM - Agent or PFM - RM: Setting not required.

2. When the PFM - Agent or PFM - RM host uses two or more NICs:

`jpchosts` of PFM - Manager: Specify the IP address you want to allocate to the PFM - Agent or PFM - RM.

`jpchosts` of the confirmed instance of PFM - Agent or PFM - RM: Specify the IP address you want to allocate to the PFM - Agent or PFM - RM.

`jpchosts` of other instances of PFM - Agent or PFM - RM: Setting not required.

Note: If you want the PFM - Agent or PFM - RM to be able to communicate with another PFM - Agent host or PFM - RM host during operations such as using the `jpctool db backup` command, `jpctool db clear` command, `jpctool db dump` command, or `jpctool service list` command, you need to add the setting for the confirmed instance of PFM - Agent or PFM - RM to the `jpchosts` file.

Supplemental information:

If names are resolved between the PFM - Manager host and the PFM - Agent or PFM - RM host, there is no problem in the network settings. However, to avoid any confusion during operation, we recommend that you use the same definition in the `jpchosts` file among all target hosts.

■ IP addresses used between the PFM - Manager host and the PFM - Agent or PFM - RM host

This subsection describes the IP addresses that are used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host.

• IP address used by the services at the sending end

Source IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host

Performance Management executes the `connect` function and issues a connection request without specifying the source IP address. In this case, depending on the OS specifications, the OS assigns the IP address corresponding to the connection target. In general, the OS assigns the IP address corresponding to the NIC that is used for sending packets to the connection destination. For details, see the OS's TCP/IP control specifications.

Target IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host

For communication between the PFM - Manager host and the PFM - Agent or PFM - RM host, the target IP address is determined in the order described below.

When the target is not the Status Server service:

1. IP address used by the target service
2. IP address specified in the `jpchosts` file
3. `hosts` file or DNS

When the target is the Status Server service:

1. IP address specified in the `jpchosts` file
2. `hosts` file or DNS

Supplemental information:

All the services of Performance Management, except for the Status Server service, register their IP addresses in PFM - Manager when they start.

When communication is established with a service of Performance Management (other than the Status Server service), the IP address registered in PFM - Manager is used.

• IP address used by the services at the receiving end

This is the IP address used by the services of Performance Management to accept connection. In Performance Management's communication standby processing, data addressed to all IP addresses allocated to the host can be received. If you want to use only a specific IP address in a network environment connected to multiple LANs, you must specify the IP address in the `jpchosts` file.

Specify the local host name and IP address to be used in the `jpchosts` file on each host.

For example, if a host has host name `hostA` and IP addresses `20.108.41.0`, and `20.108.41.1`, and you want to use `20.108.41.1` as the IP address to be used by the services of Performance Management running on `hostA`, specify `hostA`'s `jpchosts` file as follows:

```
hostA 20.108.41.1
or
hostA 20.108.41.1, 20.108.41.0
```

Thus, if you want to specify the target IP address used for communication between the PFM - Manager host and the PFM - Agent or PFM - RM host, the `jpchosts` file must be specified at both the sending and the receiving ends.

The following shows an example of settings.

This example uses the following target IP on each host:

PFM - Manager: IP:C

PFM - Agent (A): IP:E

PFM - Agent (B): IP:G

This example specifies the following information in the `jpchosts` file on each host:

PFM - Manager

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

PFM - Agent (A)

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

PFM - Agent (B)

```
PFM - Manager IP:C IP:B
PFM - Agent (A) IP:E IP:D
PFM - Agent (B) IP:G IP:H
```

(c) Setting port numbers

Set a fixed port number for each service when you want to operate the Performance Management system with fixed port numbers for reasons such as to allow communication through a firewall between PFM - Manager and PFM - Web Console, or between PFM - Manager and either PFM - Agent or PFM - RM.

Use the `jpccconf port define` command to set a fixed port number for each service or change port numbers that have been set. Use the Windows initialization file (`config.xml`) to set the port numbers on the PFM - Web Console side. For details about how to edit the `config.xml` file on the PFM - Web Console host, see [6.4.7 Changing PFM - Web Console settings](#).

This subsection explains how to execute the `jpccconf port define` command in the interactive mode and the non-interactive mode. For details about the `jpccconf port define` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

For details about the port number settings, see the description of firewall routing in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

Supplemental information:

The same port number must be specified in the Name Server service on all hosts in the Performance Management system.

Also, the same port number must be specified in the Status Server service on all hosts in the Performance Management system.

To avoid confusion during operations, also use for other Performance Management services the same port numbers and service names throughout the entire Performance Management system.

■ Executing in the interactive mode

1. Execute the `jpccconf port define` command.

For example, to set the port numbers to fixed values for all services, execute the following command:

```
jpccconf port define -key all
```

2. Set a port number for the individual services.

Executing the `jpccconf port define` command displays the currently set port number or default port number.

For example, the current port number 22285 for the Name Server service is displayed as follows:

```
Component[Name Server]
ServiceID[PN1001]
Port[22285]
:
```

Actions vary depending on how you set the port number. The following table lists and describes the settings and actions. As long as there is no duplicate port numbers in the system, use the port number displayed by the `jpccconf port define` command as is.

Settings	Action
To use the displayed number as the fixed port number for a service	Press the return key.
To change the displayed port number to another number	Enter a port number between 1024 and 65535. However, you cannot specify the port numbers currently used by the system.
Port numbers that are not fixed	Enter 0. However, you cannot fix port numbers for the following services: If you enter 0, the default value is set. <ul style="list-style-type: none">• Name Server service• View Server service (between PFM - Web Console and View Server service)• NNM Object Manager service• Status Server service

Notes:

- If Performance Management programs and services are running when you set port numbers, stop the services and then execute the `jpccconf port define` command. After completing the port number settings, manually start the services.
- The port number cannot be set correctly if you use the **Ctrl+C** key command to interrupt execution of the `port define` command. Execute the `jpccconf port define` command again to set the port number.

3. Execute the `jpccconf port list` command again to check if the port number has been set correctly.

For example, to display the port numbers of all services, execute the following command:

```
jpccconf port list -key all
```

If `<error>` is displayed in the Service area or Port area, the port numbers have not been set correctly. Set the port numbers again. One of the following could be the cause of the error:

- The port number is not registered in the `services` file.
- The same port number is already registered in the `services` file.

■ Executing in the non-interactive mode

1. Use the `jpccconf port define` command to create a template for the definition file.

For example, to set the port numbers to fixed values for all services, execute the following command:

```
jpccconf port define -key all -template definition-file-name
```

A definition file containing the labels and values for all target services is output. The value of a label is set to the specified port number for a service whose port number has already been specified and to 0 for a service whose port number has not been specified.

2. Edit the template for the definition file that was created in step 1.

Edit the settings in the template according to the port numbers that you want to use.

For details about the specification format of the definition file, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

The following shows an example specification of a definition file:

```
[Common Definitions]
Definition File Version=0001

[Common]
Name Server=22285
Status Server=22350
OpenView=22292
[Manager]
Master Manager=auto
Master Store=auto
Correlator =auto
:
[UNIX]
Collector=0
Store=0
:
[Oracle]
[[oracle1]]
Collector=0
Store=0
```

3. Use the `jpccconf port define` command to import the edited definition file.

Execute the command as shown below. In the `-input` option, specify the definition file edited in step 2.

```
jpccconf port define -key all -input definition-file-name -noquery
```

(d) Setting the host name or IP address used for communication with PFM - Web Console and JP1/ITSLM

TCP/IP is used for communication between PFM - Manager and PFM - Web Console. This is true not only when PFM - Manager and PFM - Web Console are located on separate hosts but also when they are located on the same host. Therefore, to run Performance Management, a host name or an IP address that will always be available for communication must be specified on both the Performance Management and the PFM - Web Console hosts.[#] If this information has not been specified, the first IP address resolved from the PFM - Manager host name or the PFM - Web Console host name will be used.

Similarly, when Performance Management is linked with JP1/ITSLM, a host name or an IP address that will always be available for communication must be specified on both the PFM - Manager and the JP1/ITSLM host. If this information

has not been specified, the first IP address resolved from the PFM - Manager host name or the JP1/ITSMLM host name will be used.

#

If multiple PFM - Web Consoles connect to PFM - Manager, the specified host name or IP address must be available for communication from all PFM - Web Console hosts.

For example, if Performance Management is configured and run as described below, a host name or an IP address that is always available for communication must be specified in both the PFM - Manager and PFM - Web Console hosts or both the PFM - Manager and JP1/ITSMLM hosts.

- IP address translation (NAT) is used between the PFM - Manager and PFM - Web Console hosts or between the PFM - Manager and JP1/ITSMLM hosts.
- The PFM - Manager host is connected to two networks, a LAN for business and a LAN for monitoring, and Performance Management uses the LAN for monitoring for host-to-host communications.
- The LAN cable is disconnected from NIC temporarily during maintenance of the hosts (because the HP address assigned to NIC might be disabled).

For details about the host name and IP address settings, see the appendix of the manual *Job Management Partner 1/Performance Management Reference* as well as the section that describes the host names used for communication between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSMLM.

(2) Setting procedure on the PFM - Web Console host

Use the initialization file (`config.xml`) to specify and change the network settings on the PFM - Web Console host.

For details about how to edit the `config.xml` file, see [6.4.7 Changing PFM - Web Console settings](#).

6.3.2 Changing the PFM - Manager for the connection destination

This subsection describes how to change PFM - Manager for the connection destination after the Performance Management system is configured.

For details about how to start and stop services, see the chapter that describes stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(1) Setting procedure on the PFM - Agent or PFM - RM

Use the `jpccconf mgrhost define` command to change PFM - Manager for the connection destination of PFM - Agent or PFM - RM.

If you installed PFM - Agent or PFM - RM on the same host as PFM - Manager, or if you set PFM - Manager for the connection destination during the installation of PFM - Base, this step is unnecessary.

Notes:

- Except for the case of multiple monitoring, only one PFM - Manager can be set as the connection destination on a single monitoring agent. Therefore, if multiple instance of PFM - Agent or PFM - RM are installed on the same monitoring agent, you cannot set a different instance of PFM - Manager as the connection destination for each instance of PFM - Agent or PFM - RM. For details about multiple monitoring, see the chapter that describes multiple monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

- If PFM - Agent or PFM - RM and PFM - Manager are installed on the same host, PFM - Manager for the connection destination is set to PFM - Manager on the local host (unless multiple monitoring is used). In such cases, you cannot change PFM - Manager for the connection destination to that of one on the remote host. For details about multiple monitoring, see the chapter that describes multiple monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
- Before you attempt to change PFM - Manager for the connection destination, stop all Performance Management programs and services running on the local host.
- If the version of PFM - Base is 09-00 or later and you have installed PFM - Agent or PFM - RM, without setting PFM - Manager for the connection destination, you must change PFM - Manager for the connection destination.

To change the PFM - Manager for the connection destination of PFM - Agent:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running. Use the `jpcspm stop` command to stop services.

```
jpcspm stop -key jplpc
```

2. Change PFM - Manager for the connection destination.

Use the `jpccconf mgrhost define` command to change PFM - Manager for the connection destination. For example, if you wish to change PFM - Manager for the connection destination to PFM - Manager on the host `host02`, specify as follows:

```
jpccconf mgrhost define -host host02
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can execute this command also in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

3. After the change, make sure that PFM - Manager for the new connection destination is running.

4. Restart the Performance Management programs and services on the PFM - Agent host or PFM - RM host.

In addition, in PFM - Manager for the connection destination before the change, delete all service information of the Performance Management programs to which the host name of PFM - Agent or PFM - RM is added. For details about how to delete service information, see [6.2.3 Deleting service information](#).

(2) Procedure on the PFM - Web Console host

Change the information in the Windows initialization file (`config.xml`) to change PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

6.3.3 Specifying and changing the monitoring host name in a Performance Management system

The Performance Management system uses service IDs to run the system. For the service IDs, the Performance Management system uses the host names (*real host names*) obtained from the OS by using the `uname -n` command. Therefore, to change the physical host name on a server that has PFM - Manager, PFM - Agent, or PFM - RM installed, you must perform the procedure described in [6.3.8 Changing the physical host name of a server after operation has started](#).

To avoid this, use the *function for setting monitoring host names*. This function enables you to use host names (*alias names*) that do not depend on the host names obtained by the `uname -n` command to create service IDs, eliminating the need for changing the physical host name. Therefore, use the function for setting monitoring host names in an environment where a server's host name might be changed or multiple hosts have the same real name.

A host name that is used for the service ID of the Performance Management system is called a *monitoring host name*.

Reference note

If the function for setting monitoring host names is not used and PFM - Agent for Platform (UNIX) is installed on a host whose host name obtained by the `uname -n` command is `HostA`, the Agent Collector's service ID would be `UA1HostA`. If you use the product name display function, the service ID would be `HostA<UNIX>`.

If PFM - Agent for Platform (UNIX) is installed on a host whose host name has been set to `aliasA` by using the function for setting monitoring host names, the Agent Collector's service ID would be `UA1aliasA`. If you use the product name display function, the service ID would be `aliasA<UNIX>`.

To obtain the monitoring host name used currently by the PFM - Manager, PFM - Agent, or PFM - RM host, as well as the method used to obtain the monitoring host name, execute the command shown below on the corresponding host. In this command, `hostmode` represents the method used to obtain the monitoring host name and `hostname` represents the monitoring host name.

```
jpccconf host hostmode -display
```

Example

- When the function for setting monitoring host names is not used

```
hostmode : uname
hostname : hostA
```

- When the function for setting monitoring host names is used

```
hostmode : alias
hostname : aliasA
```

Table 6–9: Relationship between the monitoring host name and the method used to obtain the name

Method for acquiring a monitoring host name	Monitoring host name
<code>uname</code>	Real host name (value obtained by the <code>uname -n</code> command)
<code>alias</code>	Alias name

To set an alias name for the monitoring host name, you must execute the `jpccconf host hostmode` command to set `hostname` or `alias` as the method used to obtain the monitoring host name.

For details about the `jpccconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Note:

Do not execute any other commands while executing the `jpccconf host` command. If you execute another command, both the `jpccconf host` command and the executed command might fail.

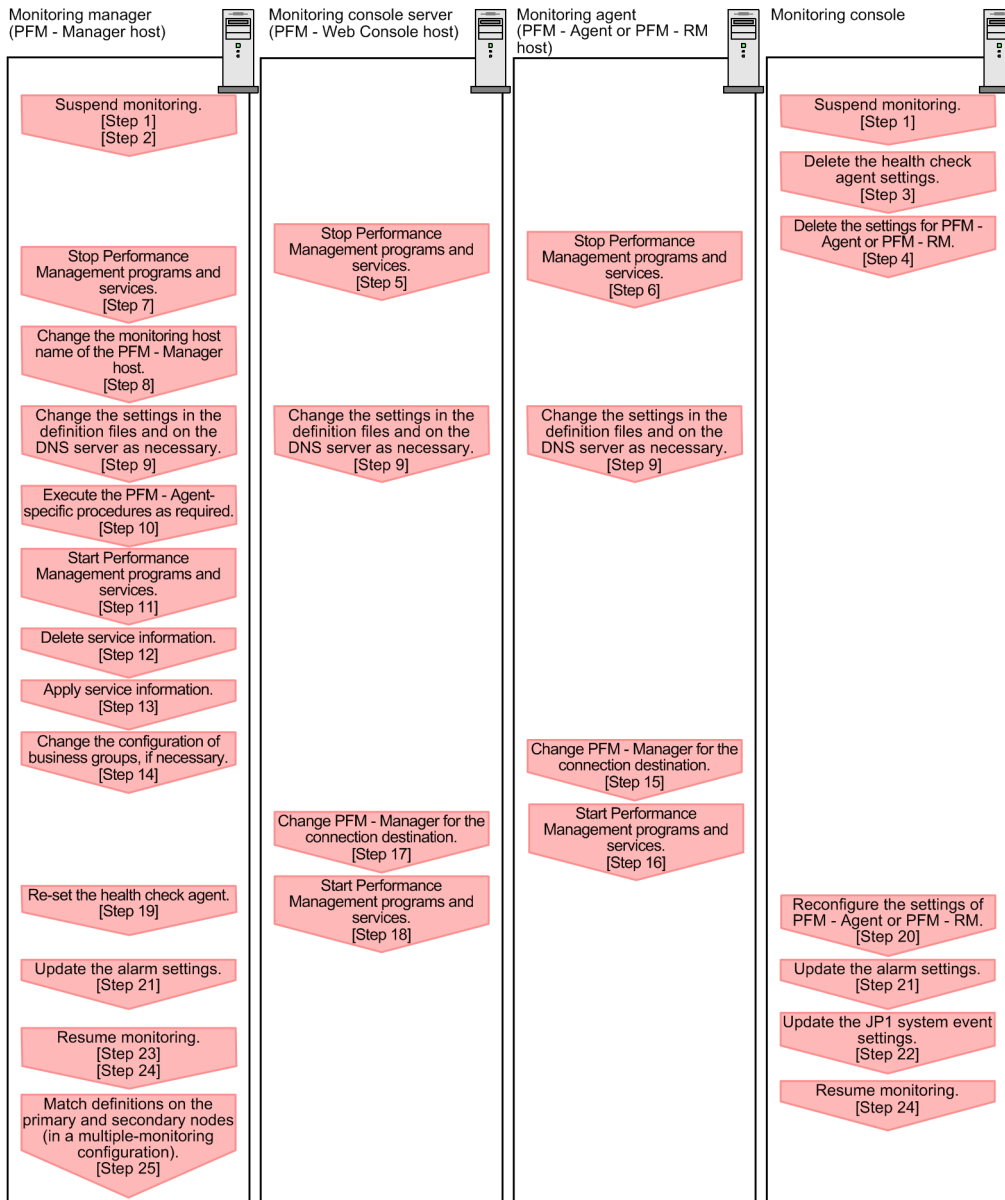
6.3.4 Changing the monitoring host name of PFM - Manager

You must perform operations on the following hosts when changing the monitoring host name of the PFM - Manager host:


- PFM - Manager host
- PFM - Web Console host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

Figure 6–5: Process flow for changing the monitoring host name of the PFM - Manager host



Legend:

-  : Step associated with a Performance Management program
- [] : See the indicated step.

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Manager host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for the health check agent.

If you have been using the health check function, use the PFM - Web Console to delete the definition for the health check agent. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Delete the settings for PFM - Agent or PFM - RM.

Use PFM - Web Console to delete the agent definition of the PFM - Agent or PFM - RM host that is installed on the same host as the PFM - Manager whose host name is to be changed (delete the definition from the management folder in the Agents tree and delete the alarm table associations).

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

5. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpctestop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

6. Stop the services on the PFM - Agent or PFM - RM host.

On the PFM - Agent or PFM - RM host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpctestpm stop` command.

7. Stop the services on the PFM - Manager host.

Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the host name. To stop the services, use the `jpctestpm stop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

8. Change the monitoring host name of the PFM - Manager host.

Execute the `jpccconf host hostmode` command on the target PFM - Manager host (whose name you want to change) to change the method of obtaining monitoring host names. The following shows examples of executing this command:

Changing the method for acquiring a monitoring host name to hostname

```
jpccconf host hostmode -mode hostname -d /var/tmp/backup -dbconvert
convert
```

Changing the method for acquiring a monitoring host name to an alias name (aliasA)

```
jpccconf host hostmode -mode alias -aliasname aliasA -d /var/tmp/backup -
dbconvert convert
```

For details about the `jpccconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

In a multiple-monitoring configuration, on the PFM - Manager host whose will not be changed, change the settings of PFM - Manager for the connection destination. For details, see the chapter that describes how to make PFM - Manager for the connection destination redundant in the *Job Management Partner 1/Performance Management User's Guide*.

Reference note

As a guideline, the directory specified for the `-d` option in the `jpccconf host hostmode` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if the health check agent, PFM - Agent for Platform, and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

9. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

10. Perform the PFM - Agent-specific procedure, if necessary.

If PFM - Agent is installed on the PFM - Manager host whose name has been changed, the PFM - Agent-specific procedure might be necessary.

Table 6–10: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent installed on the PFM - Manager host is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent installed on the PFM - Manager host is earlier than 09-00.	When the following PFM-Agent has been installed: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications 	The Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see 6.3.7 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed .
	For all other cases	The Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

11. Start the services on the PFM - Manager host.

Start the Performance Management programs and services on the PFM - Manager host. To start the services, use the `jpccspm start` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

12. Delete service information on the PFM - Manager host.

Even though the PFM - Manager host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id "*" -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id "???previous-host-name" -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id "*" -host previous-host-name -force  
jpctool service delete -id "???previous-host-name" -host new-host-name -force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

13. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

14. Change the configuration of business groups, if necessary.

If a PFM - Manager host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

15. Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host.

Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. Use the `jpccconf mgrhost define` command to change the settings for PFM - Manager for the connection destination. For example, if the host name of PFM - Manager for the connection destination is changed to *hostB*, specify and execute the command as follows:

```
jpccconf mgrhost define -host hostB
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

16. Start the services on the PFM - Agent or PFM - RM host.

Start the Performance Management programs and services on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccspm start` command.

17. Change the settings of PFM - Manager for the connection destination on the PFM - Web Console host.

Change the settings for PFM - Manager for the connection destination on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. Change the information in the Windows initialization file (`config.xml`) to change the settings for PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

18. Start the services on the PFM - Web Console host.

Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccwstart` command.

19. Reconfigure the definition for the health check agent.

If you have been using the health check function, reconfigure the definition (that was deleted in step 3) of the health check agent after changing the host name.

In a multiple-monitoring configuration, perform this step on the primary manager.

20. Reconfigure the definition for PFM - Agent or PFM - RM.

Reconfigure the definition of PFM - Agent or PFM - RM (the definition that was deleted in step 4) that is installed on the same host running PFM - Manager whose host name has been changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

21. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Manager host is specified for the action handler that executes actions.
Edit the alarm to set `PH1 <new-pfm-manager-host-name>` for the action handler that executes actions.
- JP1 events are issued by actions.
Set the JP1 event settings in the action again.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

22. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details about JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

23. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

24. Resume monitoring for the PFM - Manager host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring on the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

25. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

26. Check whether the JP1 system event settings have been properly updated.

Check the following items after the settings are changed:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpccrpt` command

Make sure that there is no problem in outputting the collected performance data.

- Check of the report definition and alarm definition

Make sure that there is no problem with the report definition and alarm definition created in the Web browser.

- Check of the actions

Make sure that there is no problem in executing the created alarm actions.

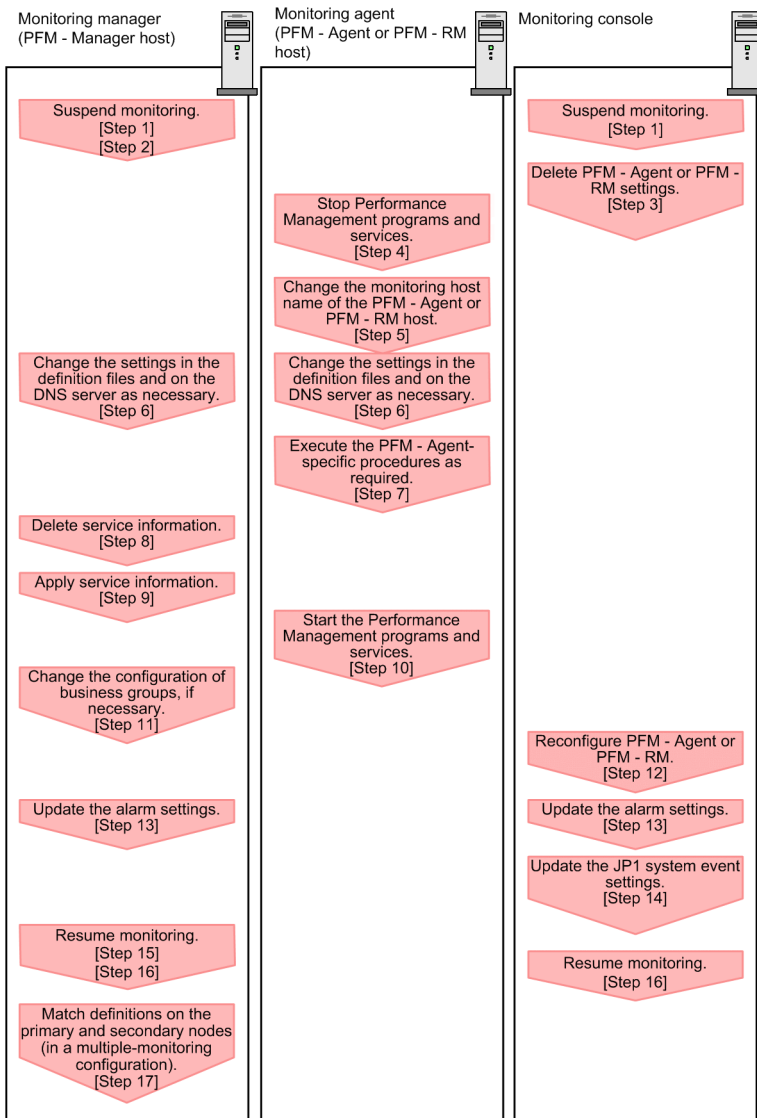
6.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM

You must perform operations on the following hosts when changing the monitoring host name of the PFM - Manager or PFM - RM host:

- PFM - Manager host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

Figure 6–6: Process flow for changing the monitoring host name of the PFM - Agent or PFM - RM host



Legend:
▾ : Step associated with a Performance Management program
 : See the indicated step.

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Agent or PFM - RM host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for PFM - Agent or PFM - RM.

Use the PFM - Web Console to delete the agent definition for the PFM - Agent or PFM - RM host whose name is to be changed. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Stop the services on the PFM - Agent or PFM - RM host.

Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the host name. To stop the services, use the `jpcspm stop` command.

5. Change the monitoring host name of the PFM - Agent or PFM - RM host.

Execute the `jpccconf host hostmode` command to change the method of acquiring a monitoring host name. The following shows examples of executing this command:

Changing the method for acquiring a monitoring host name to hostname

```
jpccconf host hostmode -mode hostname -d /var/tmp/backup -dbconvert
convert
```

Changing the method for acquiring a monitoring host name to an alias name (aliasA)

```
jpccconf host hostmode -mode alias -aliasname aliasA -d /var/tmp/backup -
dbconvert convert
```

For details about the `jpccconf host hostmode` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the directory specified for the `-d` option in the `jpccconf host hostmode` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if PFM - Agent for Platform and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

6. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

7. Perform the PFM - Agent-specific procedure, if necessary.

Table 6–11: Necessity of the PFM - Agent-specific procedure

Configuration	Necessity and reference
The version of PFM - Agent on which the monitoring host name is changed is 09-00 or later.	Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.

Configuration		Necessity and reference
The version of PFM - Agent on which the monitoring host name is changed is earlier than 09-00.	The following PFM - Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications 	The PFM - Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see 6.3.7 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed .
	For all other cases	The Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

8. Delete service information on the PFM - Manager host.

Even though the PFM - Agent or PFM - RM host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information from the PFM - Manager host. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id "*" -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id "???previous-host-name" -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id "*" -host previous-host-name -force
jpctool service delete -id "???previous-host-name" -host new-host-name -force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

9. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

10. Start the services on the PFM - Agent or PFM - RM host.

Start the Performance Management programs and services on the PFM - Agent or PFM - RM host for which you have changed the host name. To start the services, use the `jpccspm start` command.

11. Change the configuration of the business groups, if necessary.

If a PFM - Agent or PFM - RM host whose host name has been changed has been assigned to business groups, you must change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

12. Reconfigure the definition in step 3 as necessary.

Reconfigure the definition (that was deleted in step 3) of PFM - Agent or PFM - RM for which the host name was changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

13. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Agent or PFM - RM host is specified for the action handler that executes actions.
Edit the alarm to set `PH1<new-pfm-agent-or-pfm-rm-host-name>` for the action handler that executes actions.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

14. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

15. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

16. Resume monitoring for the PFM - Agent or PFM - RM host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring for the PFM - Agent or PFM - RM host.

In a multiple-monitoring configuration, perform this step on the primary manager.

17. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

18. Check whether the JP1 system event settings have been properly updated.

Check the following items after the settings are changed:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions
Make sure that there is no problem in executing the created alarm actions.

6.3.6 Notes on changing monitoring host names

- If you use an alias name, the IP address of the host must be resolved through the alias name. If you only want to resolve the IP address for the Performance Management system, use the `jpchosts` file to define the IP address resolution. For details about how to edit the `jpchosts` file, see [6.3.1 Specifying and changing the network configuration](#). To link the Performance Management system with other systems, you must configure the IP address to be resolved by either the `hosts` file or DNS definition.
- If you use the function for setting monitoring-host names, depending on the type of PFM - Agent or PFM - RM, the host name output to the common message log might be different from the actual operating host name.
- Even if you use the function for setting monitoring-host names immediately after installation, you must perform the steps described above in [6.3.4 Changing the monitoring host name of PFM - Manager](#) and [6.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM](#).

6.3.7 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed

This subsection describes the PFM - Agent-specific steps necessary to perform the following operations for each product:

- Changing the monitoring host name of the PFM - Manager host
- Changing the monitoring host name of the PFM - Agent or PFM - RM host

For details about when this procedure is required, see [6.3.4 Changing the monitoring host name of PFM - Manager](#) or [6.3.5 Changing the monitoring host name of PFM - Agent or PFM - RM](#).

(1) In PFM - Agent for Enterprise Applications

Execute the `jpccconf inst setup` command for all the created instance environments. For example, if an instance environment `o246bcisD500` exists in PFM - Agent for Enterprise Applications, execute the following command:

```
jpccconf inst setup -key agtm -inst o246bcisD500
```

This example executes the `jpccconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpccconf inst setup` command, specify a new host name in `ASHOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

6.3.8 Changing the physical host name of a server after operation has started

This subsection describes the procedures to be performed on the Performance Management system that are necessary to change the physical host name of the server on which PFM - Manager, PFM - Agent, or PFM - RM is installed after the Performance Management system has been configured.

The Performance Management system uses service IDs to run the system. For the service IDs, the Performance Management system uses the host names (real host names) obtained from the OS by the `uname -n` command. Therefore, to change the physical host name on a server that has PFM - Manager, PFM - Agent, or PFM - RM installed, you need to check the settings of the monitoring host name.

To obtain the monitoring host name used currently by the PFM - Manager, PFM - Agent, or PFM - RM host, as well as the method used to obtain the monitoring host name, execute the command shown below on the corresponding host. In this command, `hostmode` represents the method used to obtain the monitoring host name, and `hostname` represents the monitoring host name.

```
jpccconf host hostmode -display
```

Example

- When the function for setting monitoring host names is not used

```
hostmode : uname
hostname : hostA
```

- When the function for setting monitoring host names is used

```
hostmode : alias
hostname : aliasA
```


Table 6–12: Relationship between the monitoring host name and the method used to obtain the name

Method for acquiring a monitoring host name	Monitoring host name
uname	Real host name (value obtained by the <code>uname -n</code> command)
alias	Alias name

If the method used to obtain the monitoring host name is set to `alias` and the server's physical host name is changed, there is no need to change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server because the monitoring host name is an alias in the Performance Management system.

If the method used to obtain the monitoring host name is set to `hostname`, you must change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server. For details, see [6.3.9 Changing the physical host name of PFM - Manager](#) or [6.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).

For details about the `jpccconf host hostmode` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Important note

- Do not execute any other commands while executing the `jpccconf host` command. If you execute another command, both the `jpccconf host` command and the executed command might fail.
- Before you change the physical host name of the PFM - Manager, PFM - Agent, or PFM - RM server, you must perform the procedure described in [6.3.9 Changing the physical host name of PFM - Manager](#) or [6.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).
- You need to execute the `jpccconf host hostmode` command to change the method of obtaining monitoring host names in the Performance Management system from `alias` (aliases) to `uname` (real host names). For details about the `jpccconf host hostmode` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

6.3.9 Changing the physical host name of PFM - Manager

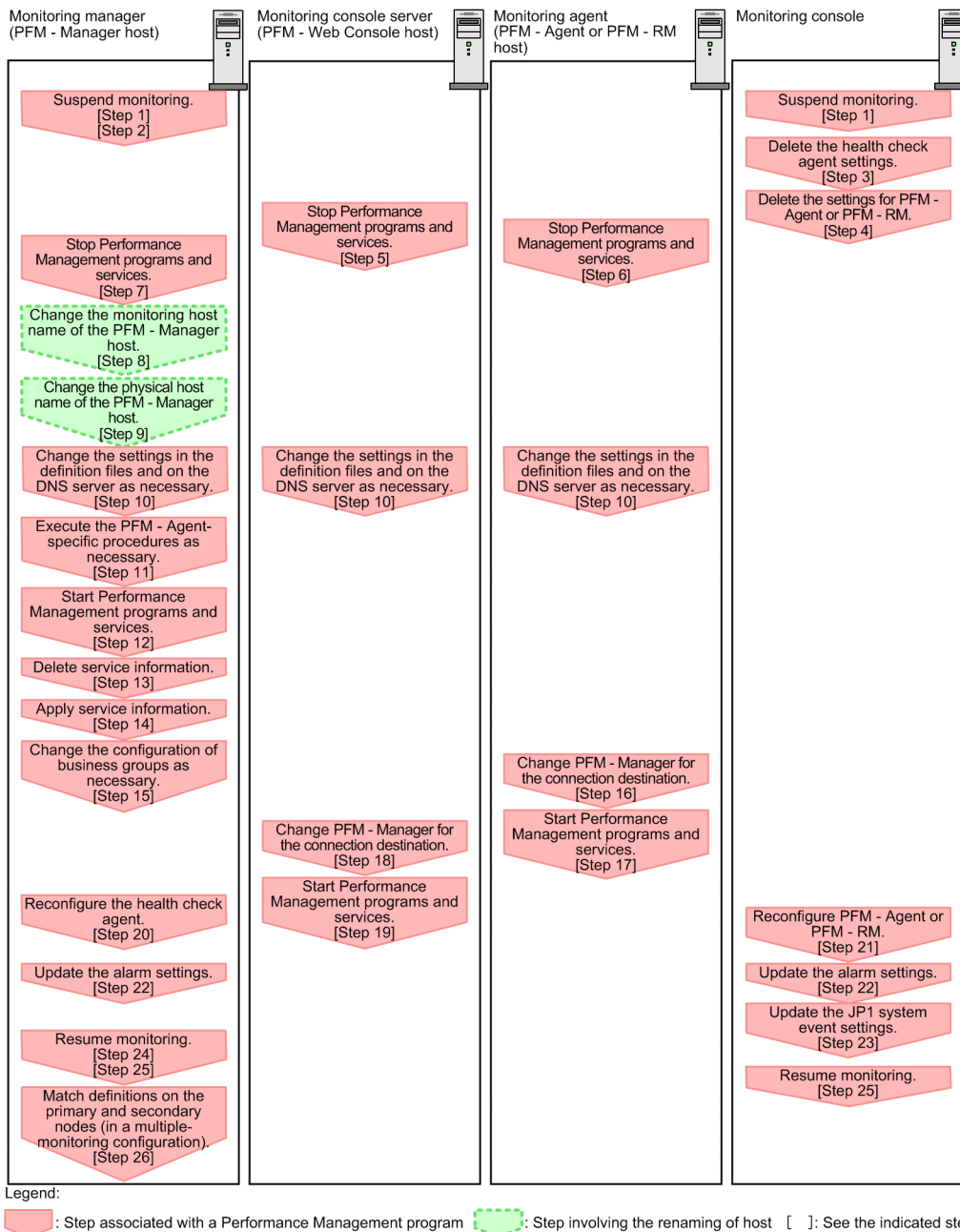
You must perform operations on the following hosts when changing the PFM - Manager host name:

- PFM - Manager host
- PFM - Web Console host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

If Performance Management is linked with JP1/ITSLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSLM.

Figure 6–7: Process flow for changing the PFM - Manager host name



Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Manager host whose host name is to be changed.

If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

2. Suspend monitoring with the new host name specified.

If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for the health check agent.

If you have been using the health check function, use the PFM - Web Console to delete the definition for the health check agent. (To delete an agent definition, delete the agent definition from a management folder in the Agents tree, and then delete the linkage with an alarm table.)

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Delete the settings for PFM - Agent or PFM - RM.

Use PFM - Web Console to delete the agent definition of the PFM - Agent or PFM - RM host that is installed on the same host as the PFM - Manager whose host name is to be changed (delete the definition from the management folder in the Agents tree and delete the alarm table associations).

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

5. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpcwstop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

6. Stop the services on the PFM - Agent or PFM - RM host.

On the PFM - Agent or PFM - RM host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpcspm stop` command.

7. Stop the services on the PFM - Manager host.

Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the host name. To stop the services, use the `jpcspm stop` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

8. Change the monitoring host name of the PFM - Manager host.

Execute the `jpcconf host hostname` command on the PFM - Manager host whose host name is to be changed to change the monitoring host name.

To change a physical host name to `hostB`:

```
jpcconf host hostname -newhost hostB -d /var/tmp/backup -dbconvert convert
```

Note:

After you execute the above command, do not execute other Performance Management commands until you change the physical host name in the next step.

For details about the `jpcconf host hostname` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the directory specified for the `-d` option in the `jpcconf host hostname` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories.

If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if the health check agent, PFM - Agent for Platform, and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

9. Change the physical host name of the PFM - Manager host.

Change the physical host name of the PFM - Manager host.

In a multiple-monitoring configuration, on the PFM - Manager host whose name will not be changed, change the settings of PFM - Manager for the connection destination. For details, see the chapter that describes how to make PFM - Manager for the connection destination redundant in the *Job Management Partner 1/Performance Management User's Guide*.

10. Change the settings in the `jpchosts` file, the `hosts` file, or the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

If the machines need to be restarted, change the settings of the Performance Management programs and services so that they will not start automatically when the machines restart. After the PFM - Manager host operation has finished, return the settings so that the Performance Management programs and services start automatically.

11. Perform the PFM - Agent-specific procedure, if necessary.

If PFM - Agent is installed on the PFM - Manager host whose name has been changed, the PFM - Agent-specific procedure might be necessary.

Table 6–13: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent installed on the PFM - Manager host is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent installed on the PFM - Manager host is earlier than 09-00.	When the following PFM-Agent has been installed: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications 	The PFM - Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see <i>6.3.13 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed</i> .
	For all other cases	The PFM - Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

12. Start the services on the PFM - Manager host.

Start the Performance Management programs and services on the PFM - Manager host. To start the services, use the `jpccspm start` command.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

13. Delete the service information on the PFM - Manager host.

Even though the PFM - Manager host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted.

```
jpctool service list -id "*" -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id "*" -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id "???previous-host-name" -host new-host-name
```

If the `KAVE05233-W` message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id "*" -host previous-host-name -force
jpctool service delete -id "???previous-host-name" -host new-host-name -force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

14. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

15. Change the configuration of the business groups, if necessary.

If a PFM - Manager host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

16. Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host. Change the settings for PFM - Manager for the connection destination on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. Use the `jpccconf mgrhost define` command to change the settings for PFM - Manager for the connection destination. For example, if the host name of PFM - Manager for the connection destination is changed to `hostB`, specify and execute the command as follows:

```
jpccconf mgrhost define -host hostB
```

This example executes the `jpccconf mgrhost define` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccconf mgrhost define` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

17. Start the services on the PFM - Agent or PFM - RM host. Start the Performance Management programs and services on the PFM - Agent or PFM - RM host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccspm start` command.
18. Change the settings of PFM - Manager for the connection destination on the PFM - Web Console host. Change the settings for PFM - Manager for the connection destination on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. Change the information in the Windows initialization file (`config.xml`) to change the settings for PFM - Manager for the connection destination. For details, see the section that describes the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.
19. Start the services on the PFM - Web Console host. Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccwstart` command.
20. Reconfigure the definition for the health check agent. If you have been using the health check function, reconfigure the definition (that was deleted in step 3) of the health check agent after changing the host name. In a multiple-monitoring configuration, perform this step on the primary manager.
21. Reconfigure the definition for PFM - Agent or PFM - RM. Reconfigure the definition of PFM - Agent or PFM - RM (the definition that was deleted in step 4) that is installed on the same host running PFM - Manager whose host name has been changed. In a multiple-monitoring configuration, perform this step on the primary manager.
22. Update the alarm settings. In the following cases, you must update the alarm settings by using the `jpccool alarm` command of the PFM - Manager host or the monitoring console. In a multiple-monitoring configuration, perform this step on the primary manager.
 - The action handler of the PFM - Manager host is specified for the action handler that executes actions.

Edit the alarm to set PH1<*new-pfm-manager-host-name*> for the action handler that executes actions.

- JP1 events are issued by actions.

Set the JP1 event settings in the action again.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

23. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.
- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

24. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

25. Resume monitoring for the PFM - Manager host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring on the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

26. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

27. Check whether the JP1 system event settings have been properly updated.

Check the following items after changed the settings:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions
Make sure that there is no problem in executing the created alarm actions.

28. If operation monitoring is performed with a network node manager (NNM) linked, restart the NNM.

If Performance Management is linked with a network node manager (NNM), restart the network node manager.

For details about the NNM linkage facility, see the chapter that describes operation monitoring linked with a network node manager (NNM) in the *Job Management Partner 1/Performance Management User's Guide*.

6.3.10 Changing the physical host name of PFM - Agent or PFM - RM

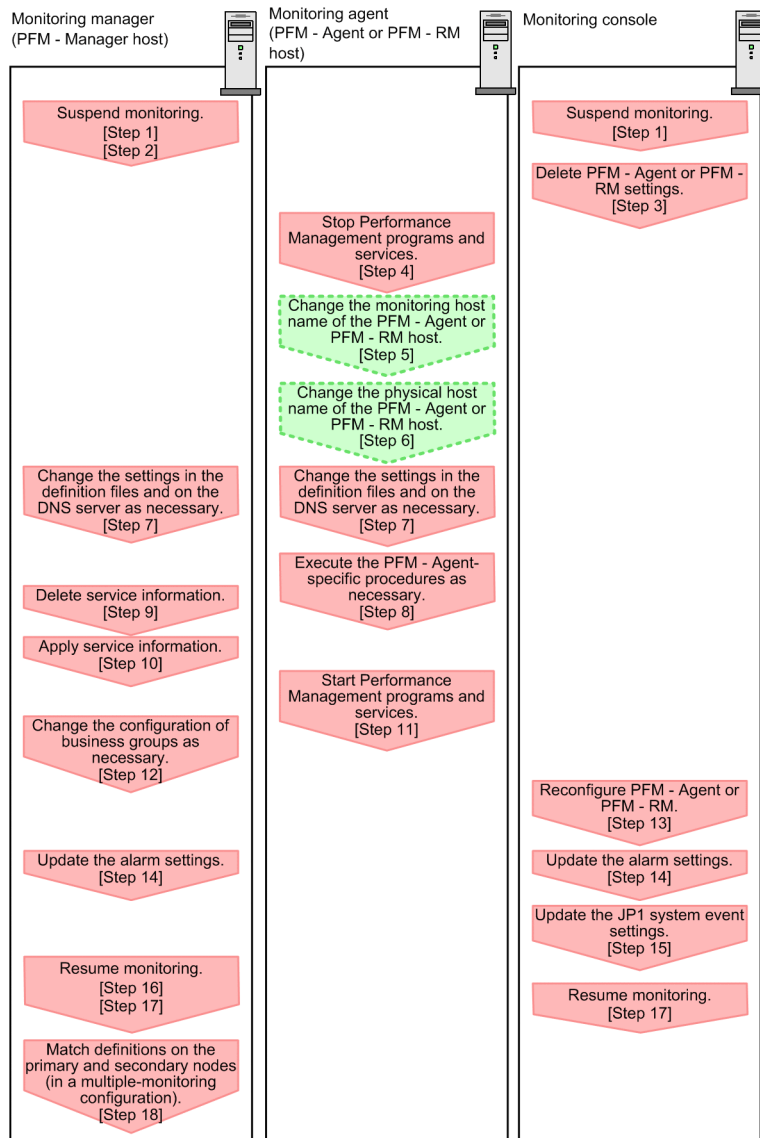
You must perform operations on the following hosts when changing the PFM - Agent or PFM - RM host name:

- PFM - Manager host
- PFM - Agent or PFM - RM host
- Monitoring console

The following figure shows the process flow.

If Performance Management is linked with JP1/ITSMLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSMLM.

Figure 6–8: Process flow for changing the physical host name of the PFM - Agent or PFM - RM host



Legend:
▾ : Step associated with a Performance Management program
▾ : Step involving the renaming of host
[] : See the indicated step

Use the following procedure to set the display conditions (Each step corresponds to the step number in the figure above):

1. Suspend monitoring for the PFM - Agent or PFM - RM host whose host name is to be changed.
 If you do not want health check events to occur while changing the host name, suspend monitoring for the host whose name is to be changed. You can do so by using the `jpctool monitor suspend` command of the PFM - Manager host or from the monitoring console.
 In a multiple-monitoring configuration, perform this step on the primary manager.
 For details about suspending monitoring, see the chapter that describes suspending and resuming of monitoring in the *Job Management Partner 1/Performance Management User's Guide*.
2. Suspend monitoring with the new host name specified.
 If you suspended monitoring in step 1, you also need to suspend monitoring with the new host name specified.

In this case, use the `-force` option of the `jpctool monitor suspend` command of the PFM - Manager host. In a multiple-monitoring configuration, perform this step on the primary manager.

3. Delete the settings for PFM - Agent or PFM - RM.

Use your PFM - Web Console to delete the agent definitions from the PFM - Agent or PFM - RM host whose host name is to be changed (by deleting the definitions from the management folder in the Agents tree and disassociating any alarm tables from them).

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure for changing the agent definition, see the chapter that describes monitoring agents or the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

4. Stop the services on the PFM - Agent or PFM - RM host.

Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the host name. To stop services, use the `jpccspm stop` command.

5. Change the monitoring host name of the PFM - Agent or PFM - RM host.

Execute the `jpccconf host hostname` command to change the monitoring host name.

To change a physical host name to `hostB`:

```
jpccconf host hostname -newhost hostB -d /var/tmp/backup -dbconvert convert
```

Note:

After you execute the above command, do not execute other Performance Management commands until you change the physical host name in the next step.

For details about the `jpccconf host hostname` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

Reference note

As a guideline, the directory specified for the `-d` option in the `jpccconf host hostname` command must have empty disk space that is equal to or greater than the sum of the total size of the PFM - Agent and PFM - RM Store databases on the specified host and the total size of the databases in the import directories. If the Store database storage directory and the import directory have been changed, determine the required disk space based on the sizes of the databases in the new directories.

For example, if PFM - Agent for Platform and PFM - Agent for Oracle are on the specified host, empty disk space equal to or greater than the sum of the total size of the Store databases of those agents and the total size of the databases in the import directories is required. However, you do not need to include the size of Store database for the PFM - Manager Master Store service in the total size.

6. Change the physical host name of the PFM - Agent or PFM - RM host.

Change the physical host name of the PFM - Agent or PFM - RM host.

7. Change the settings in the `jpchosts` file, in the `hosts` file, or on the DNS server as necessary so that the new host names in the Performance Management system can be resolved to IP addresses.

If the machines need to be restarted, change the settings of the Performance Management programs and services so that they will not start automatically when the machines restart. After the PFM - Manager host operation has finished, return the settings so that the Performance Management programs and services start automatically.

8. Perform the PFM - Agent-specific procedure, if necessary.

Table 6–14: Necessity of the PFM - Agent-specific procedure

Configuration		Necessity and reference
The version of PFM - Agent on which the monitoring host name is changed is 09-00 or later.		Whether the PFM - Agent-specific procedure is necessary depends on PFM - Agent. For details about the PFM - Agent-specific procedure, see the chapters describing the installation and setup in the PFM - Agent manuals.
The version of PFM - Agent on which the monitoring host name is changed is earlier than 09-00.	The following PFM-Agent: <ul style="list-style-type: none"> PFM - Agent for Enterprise Applications 	The PFM - Agent-specific procedure is necessary. For details about the PFM - Agent-specific procedure, see <i>6.3.13 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed</i> .
	For all other cases	The PFM - Agent-specific procedure is not necessary.

If the PFM - Agent-specific procedure is necessary, perform the procedure indicated in the table above, and then proceed to the following steps.

9. Delete service information on the PFM - Manager host.

Even though the PFM - Agent or PFM - RM host name is changed, the service information of the Performance Management programs with the previous host name remains the same. Therefore, you need to delete unnecessary information from the PFM - Manager host. In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The types of service information that you need to delete and the method of checking the service information are described as follows:

Service information on the host with the previous host name

All the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information whose service ID contains the previous host name

Items whose Service ID column contains the previous host name of the items that are displayed by executing the following command must be deleted:

```
jpctool service list -id "*" -host previous-host-name
```

Service information can be deleted by using the `jpctool service delete` command.

Delete service information on the host with the previous host name by using the following command:

```
jpctool service delete -id "*" -host previous-host-name
```

Additionally, delete service information whose service ID contains the previous host name by using the following command:

```
jpctool service delete -id "???previous-host-name" -host new-host-name
```

If the KAVE05233-W message is issued during command execution because of a service information deletion error, re-execute the command as follows:

```
jpctool service delete -id "*" -host previous-host-name -force
jpctool service delete -id "???previous-host-name" -host new-host-name -force
```

Reference note

Even though you execute the `jpctool service list` command, old service information that contains the previous host name might not be displayed. Because such service information also needs to be deleted from the database, you must execute the `jpctool service delete` command shown above.

For details about the commands, see the chapter that describes the commands in the manual *Job Management Partner 1/Performance Management Reference*.

10. Apply PFM - Manager's service information.

To apply the deletion of service information to PFM - Web Console, synchronize the service information between PFM - Manager and PFM - Web Console. Use the `jpctool service sync` command to synchronize service information.

In a multiple-monitoring configuration, perform this step on both the primary and secondary managers.

The time when the service information, which is synchronized by using the `jpctool service sync` command, is applied to PFM - Web Console differs depending on the version of PFM - Web Console. For details about the `jpctool service sync` command, see the chapter describing commands in the manual *Job Management Partner 1/Performance Management Reference*.

11. Start the services on the PFM - Agent or PFM - RM host.

Start the Performance Management programs and services on the PFM - Agent or PFM - RM host for which you have changed the host name. To start the services, use the `jpccspm start` command.

12. Change the configuration of the business groups, if necessary.

If a PFM - Agent or PFM - RM host whose host name has been changed has been assigned to business groups, you need to change the configuration of the business groups.

In a multiple-monitoring configuration, perform this step on the primary manager.

For details about the procedure, see the chapter that describes management of user accounts and business groups in the *Job Management Partner 1/Performance Management User's Guide*.

13. Reconfigure the definition in step 3 as necessary.

Reconfigure the definition (that was deleted in step 3) of PFM - Agent or PFM - RM for which the host name was changed.

In a multiple-monitoring configuration, perform this step on the primary manager.

14. Update the alarm settings.

In the following cases, you must update the alarm settings by using the `jpctool alarm` command of the PFM - Manager host or the monitoring console.

In a multiple-monitoring configuration, perform this step on the primary manager.

- The action handler of the PFM - Agent or PFM - RM host is specified for the action handler that executes actions. Edit the alarm to set `PH1<new-pfm-agent-or-pfm-rm-host-name>` for the action handler that executes actions.

For details about how to edit alarms, see the chapter that describes the operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

15. Update the JP1 system event settings.

If one of the following conditions is met, you need to update the JP1 system event settings by using the PFM - Web Console:

In a multiple-monitoring configuration, perform this step on the primary manager.

- The previous host name has been specified as the name of the event server to which JP1/Base connects.

- The previous host name has been specified as the host name of the monitoring console for JP1 system events.

For details on JP1 system events, see the chapter that explains operation monitoring linked with the integrated management program (JP1/IM) in the *Job Management Partner 1/Performance Management User's Guide*.

16. Resume monitoring with the previous host name specified.

If you suspended monitoring in step 1, you need to resume monitoring with the previous host name specified to delete the settings information of monitoring suspension for the previous host name.

In this case, use the `-force` option of the `jpctool monitor resume` command of the PFM - Manager host.

In a multiple-monitoring configuration, perform this step on the primary manager.

17. Resume monitoring for the PFM - Agent or PFM - RM host whose host name was changed.

If you suspended monitoring in step 2, use the `jpctool monitor resume` command of the PFM - Manager host or use the monitoring console to resume monitoring for the PFM - Agent or PFM - RM host.

In a multiple-monitoring configuration, perform this step on the primary manager.

18. Match the definitions on the primary manager and the secondary manager (in a multiple-monitoring configuration).

Export the definitions for the multiple-monitoring configuration from the primary manager and import them to the secondary manager so that the primary manager and the secondary manager have the same definitions.

For details about how to match definitions on the primary and secondary managers, see the description regarding duplication of definitions in the *Job Management Partner 1/Performance Management User's Guide*.

19. Check whether the JP1 system event settings have been properly updated.

Check the following items the settings are changed:

- Collection of performance data
Make sure that performance data can be collected for a period at least twice as long as the time period specified as the collection interval (**Collection Interval**).
- Execution of the `jpcrept` command
Make sure that there is no problem in outputting the collected performance data.
- Check of the report definition and alarm definition
Make sure that there is no problem with the report definition and alarm definition created in the Web browser.
- Check of the actions
Make sure that there is no problem in executing the created alarm actions.

6.3.11 Changing the physical host name of the monitoring target of PFM - RM

(1) If you do not change the monitored host name

You must change the monitored host name of the remote agent that corresponds to the monitoring target. Assuming that you change the monitored host name of the remote agent (instance name = `inst1`) from `hostA` to `hostB`, the commands are executed as follows:

To change the monitored host name of the remote agent that corresponds to the monitoring target:

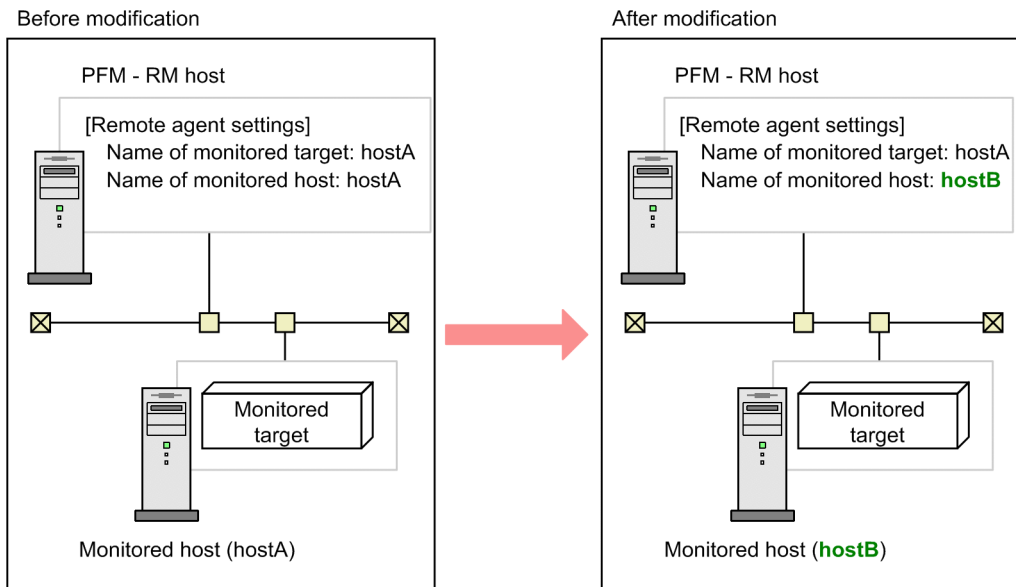
1. Execute the `jpccconf target setup -key RMPlatform -inst inst1 -target hostA` command.

This example executes the `jpccnf target setup` command in the interactive mode. You can also execute this command in the non-interactive mode. For details about the `jpccnf target setup` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

2. Enter `Target Host:hostB`.

Follow the instructions to enter the setting items for the monitored host. When you are finished, press the **Enter** key to confirm the setting.

Figure 6–9: Example of changing the monitored host name for PFM - RM (if you do not change the monitored host name)



(2) If you change the monitored host name

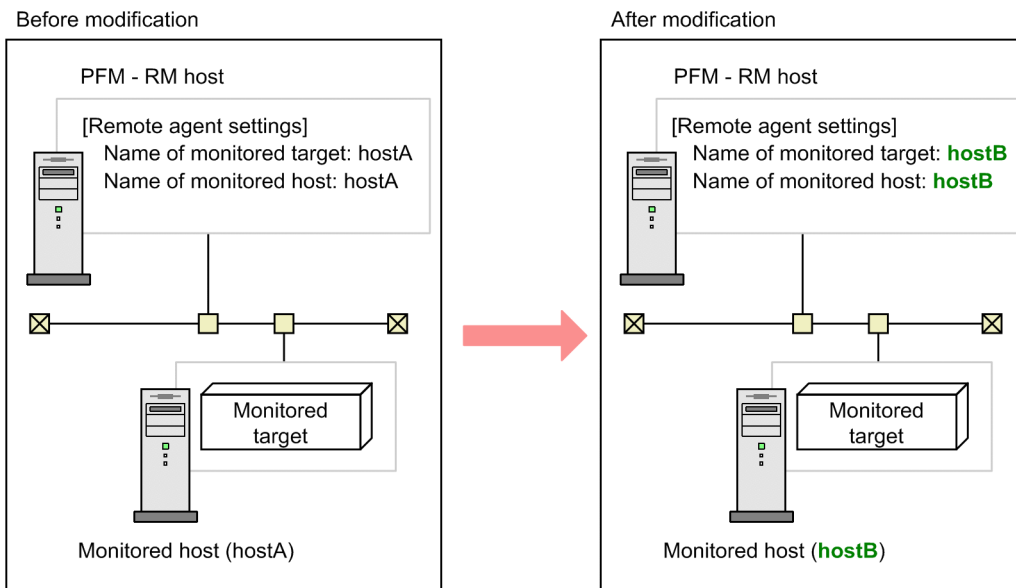
You must re-create the remote agent that corresponds to the monitoring target.

To re-create the remote agent:

1. Execute the `jpccnf target unsetup` command to delete the remote agent that corresponds to the monitoring target.
2. Execute the `jpccnf target setup` command to add the remote agent with a new monitored host name.

Note that the performance data for the monitored host cannot be inherited.

Figure 6–10: Example of changing the monitored host name for PFM - RM (if you change the monitored host name)



For details about the `jpccconf target setup` and `jpccconf target unsetup` commands, see the chapter explaining the commands in the manual *Job Management Partner 1/Performance Management Reference*.

6.3.12 Changing the physical host name of PFM - Web Console

If Performance Management is linked with JP1/ITSLM, before you start the procedure described below, see the section in the *Job Management Partner 1/Performance Management User's Guide* that describes the general procedure for changing host names after Performance Management has been linked with JP1/ITSLM.

1. Stop the services on the PFM - Web Console host.

On the PFM - Web Console host connected to PFM - Manager for which you intend to change the host name, stop all Performance Management programs and services. To stop the services, use the `jpccwstop` command.

2. If the PFM - Web Console host name has been changed in the settings of host names used for communications, change that host name to the new name.

This step applies if the PFM - Manager host cannot access the IP address used by the PFM - Web Console host. In this case, if the PFM - Web Console host name is specified in the initialization file (`config.xml`), change the host name to the new name.

For details about how to change host names, see the sections that describe settings of host names used for communications between PFM - Manager and PFM - Web Console and between PFM - Manager and JP1/ITSLM in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

3. If the integrated management product (JP1/IM) is linked for operation monitoring, change the host name of the PFM - Web Console host at the following locations.

Depending on the configured event, change the applicable host name to the new host name.

- If a JP1 user event is used
Change the host name in the definition files for the tool launcher and for opening monitor windows.
- If a JP1 system event is used
Change the **Monitoring Console Host** property setting of **JP1 Event Send Host** to the new host name.

For details about an integrated management product (JP1/IM), see the chapter that describes the linkage with the integrated management product JP1/IM for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

4. If the network management product (NNM) is linked for operation monitoring, change the host name of the PFM - Web Console host in the applicable file.

Change the host name of the PFM - Web Console in `jpccnm.ini` file to the new host name.

For details about a network management product (NNM), see the chapter that describes the linkage with Network Node Manager (NNM) for operation monitoring in the *Job Management Partner 1/Performance Management User's Guide*.

5. Change the PFM - Web Console physical host name.

Change the PFM - Web Console physical host name. When the machine requires restarting, change the settings so that the Performance Management programs and services will not automatically start after the machine is restarted. After the PFM - Web Console host operation has finished, return the settings so that the Performance Management programs and services start automatically.

6. Start the services on the PFM - Web Console host.

Start the Performance Management programs and services on the PFM - Web Console host connected to PFM - Manager for which you have changed the host name. To start the services, use the `jpccwstart` command.

7. Restart the integrated management product (JP1/IM), if linking with JP1/IM.

6.3.13 Optional PFM - Agent-specific procedure to be performed when the monitoring host name is changed

This subsection describes the PFM - Agent-specific steps necessary to perform the following operations for each product:

- Changing the PFM - Manager host name
- Changing the PFM - Agent or PFM - RM host name

For details about when this procedure is needed, see [6.3.9 Changing the physical host name of PFM - Manager](#) or [6.3.10 Changing the physical host name of PFM - Agent or PFM - RM](#).

(1) In PFM - Agent for Enterprise Applications

Execute the `jpccconf inst setup` command for all the created instance environments. For example, if an instance environment `o246bcisd500` exists in PFM - Agent for Enterprise Applications, execute the following command:

```
jpccconf inst setup -key agtm -inst o246bcisd500
```

This example executes the `jpccconf inst setup` command in the interactive mode. You can also execute this command in the non-interactive mode.

When you execute the `jpccconf inst setup` command, specify a new host name in `ASHOST` and leave other items blank. For the items with no value specified, the settings prior to executing the command are used.

6.3.14 Changing the storage directory for bookmark definition information

You can specify the storage folder for bookmark definition information in `bookmarkRepository` in the initialization file (`config.xml`).

This subsection explains how to specify the storage folder for bookmark definition information in the initialization file (`config.xml`). If you use logical hosts, the same storage folder must be specified for both the executing and the standby nodes.

To change the storage directory for bookmark definition information:

1. Open the initialization file (`config.xml`).

The initialization file (`config.xml`) is at the following location:

```
/opt/jplpcwebcon/conf/config.xml
```

2. Specify the folder in which the bookmark definition information is to be stored.

Specify the storage folder in the `<bookmark>` tag located immediately after the `<format>` tag in the `<vsa>` tag in the initialization file (`config.xml`).

The specified storage folder is created automatically when the PFM - Web Console service starts.

In a non-cluster system

For example, to use `/opt/jplpcwebcon/bookmarks` as the storage folder, specify as follows:

```
</format>

<bookmark>
<!-- The directory where bookmark repository is stored. Default :
<install directory>/bookmarks -->
<param name="bookmarkRepository" value="/opt/jplpcwebcon/bookmarks"/>
</bookmark>

</vsa>
```

When a logical host is used

Specify a folder on the shared disk as the storage for the bookmark definition information.

For example, to use `environment-directory/opt/jplpcwebcon/bookmarks` as the storage folder, specify as follows:

```
</format>

<bookmark>
<!-- The directory where bookmark repository is stored. Default :
<install directory>/bookmarks -->
<param name="bookmarkRepository" value="environment-directory/opt/
jplpcwebcon/bookmarks"/>
</bookmark>

</vsa>
```

3. Save the initialization file (`config.xml`) that was edited in step 2.
4. Restart the PFM - Web Console service.

The initialization file (`config.xml`) is imported when the PFM - Web Console service starts. To apply the settings changed in the initialization file, restart the PFM - Web Console service. Note that there is no need to restart the PFM - Web Console service on the standby node because it will be restarted in the event of a failover.

Note 1

Do not change any other settings in the initialization file (`config.xml`). If other settings are changed, PFM - Web Console might not function correctly.

Note 2

If you are running a cluster system, restart the PFM - Web Console service from the cluster software.

Note 3

If bookmark definition information already exists in a directory and you want to move the bookmark definition information to another directory, perform the following procedure:

1. Back up and delete the bookmark definition information.

Back up the bookmark definition information in the current storage directory and then delete the bookmark definition information from the directory. When you perform this step, make sure that you back up and then delete all the data in the old directory specified for `bookmarkRepository` in the initialization file (`/opt/jplpcwebcon/conf/config.xml`).

2. Move the bookmark definition information to another directory.

Move the bookmark definition information you backed up in step 1 to the new storage directory. When you perform this step, make sure that you move all the backed up data to the new directory specified for `bookmarkRepository` in the initialization file (`/opt/jplpcwebcon/conf/config.xml`).

6.4 Changing the Performance Management operation method

You might need to change the operation method for the Performance Management system due to changes in the system administrator of the operation monitoring system, or changes to the operational procedure for the collected operation monitoring data.

6.4.1 Setting the size of the log file for the common message log

Common message logs are output in PFM - Manager, PFM - Base, PFM - Agent, and PFM - RM. The common message log file uses by default, two 8,192-KB files. This setting is required only when you wish to change the common message log file size.

Directly edit the content of the `jpccomm.ini` file to change the file size. The `jpccomm.ini` file is stored in the following locations:

On physical hosts:

In UNIX:

`/opt/jp1pc/`

On logical hosts:

In UNIX:

`environment-directory/jp1pc/`

The following table lists and describes the label name to be edited and the range of values that can be set in the `jpccomm.ini` file.

Table 6–15: Settings for the file size of the common message log ("Common Section" section in `jpccomm.ini`)

Setting item	Label name	Available value	Default value
Size of the file that stores the common message log (kilobytes)	Common Msglog Size	4 to 32768	8192 [#]

#

For a new installation, the size is 8,192 kilobytes. For an upgrade installation, the value set prior to upgrading is used.

To change the size of the common message log file:

1. Stop Performance Management programs and services.
Stop all Performance Management programs and services that are running.
2. Use a text editor or a similar tool to open the `jpccomm.ini` file.
3. Change the size of the common message log file.
Correct the shaded parts indicated below:

```
:  
[Common Section]  
Common Msglog Size=8192  
:
```

Notes:

- Do not enter spaces at the beginning of the coding, or before and after an equals sign (=).
- The `jpccomm.ini` file contains the definition information besides the common message log file size. Change values only for `Common Msglog Size` in the `Common Section` section. Performance Management might not operate correctly if you change values other than the required items.

4. Save and then close the `jpccomm.ini` file.

Notes:

- You need to make the settings the same for the common message log file in all Performance Management programs running on the same host.
- To return the settings of the `jpccomm.ini` file to the default status at installation, copy the `jpccomm.ini.model` file located in the installation directory of the `jpccomm.ini` file into the `jpccomm.ini` file.

6.4.2 Changing the storage location of event data

The event data that occurs in PFM - Agent or PFM - RM is managed by the Store database of the Master Store service that PFM - Manager provides.

To change the following storage folders for the event data managed by the Store database, directly edit the contents of the `jpcsto.ini` file:

- Installation directory
- Backup directory
- Export directory

The `jpcsto.ini` file is stored in the following locations:

On physical hosts:

In UNIX:

```
/opt/jp1pc/mgr/store/jpcsto.ini
```

On logical hosts:

In UNIX:

```
environment-directory/jp1pc/mgr/store/jpcsto.ini
```

(1) Items to set in the `jpcsto.ini` file

The following table lists and describes the label name to be edited and the range of values that can be set in the `jpcsto.ini` file.

Table 6–16: Settings for the storage location of the event data (Data Section section in `jpcsto.ini`)

Setting item	Label name	Available value ^{#1}	Default value
Directory in which the event data is created	<code>Store Dir</code> ^{#2}	Absolute path 1 - 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In UNIX: <code>/opt/jplpc/mgr/store/</code> On logical hosts: <ul style="list-style-type: none"> In UNIX: <code>environment-directory/jplpc/mgr/store/</code>
Backup directory for the event data	<code>Backup Dir</code> ^{#2}	Absolute path 1 - 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In UNIX: <code>/opt/jplpc/mgr/store/backup/</code> On logical hosts: <ul style="list-style-type: none"> In UNIX: <code>environment-directory/jplpc/mgr/store/backup/</code>
Maximum number of generations of event data to back up	<code>Backup Save</code>	1 - 9	5
Export directory for the event data	<code>Dump Dir</code> ^{#2}	Absolute path 1 - 127 bytes in length	On physical hosts: <ul style="list-style-type: none"> In UNIX: <code>/opt/jplpc/mgr/store/dump/</code> On logical hosts: <ul style="list-style-type: none"> In UNIX: <code>environment-directory/jplpc/mgr/store/dump/</code>

#1

- Specify absolute path for all directory names.
- You can use alphanumeric characters, symbols, and spaces except for the following:
 `; , * ? ' " < > |`
- When invalid values are specified, the Master Store service cannot be started.

#2

You cannot specify a duplicated directory for `Store Dir`, `Backup Dir`, and `Dump Dir`.

(2) Procedure to edit the `jpcsto.ini` file

To edit the `jpcsto.ini` file:

- Stop the Master Store service of PFM - Manager.
- Use a text editor or a similar tool to open the `jpcsto.ini` file.
- Change the storage locations and other information related to event data.
As needed, correct the part indicated by shading in the following figure.

```

:
[Data Section]
Store Dir=.
Backup Dir=.\backup
Backup Save=5
Dump Dir=.\dump
:

```

Notes:

- Do not enter spaces at the beginning of the coding, or before and after the equals sign (=).
- A period (.) in the value of each label represents the default storage directory of the Store database of the Master Store service. The default storage directory is as follows:

On physical hosts:

In UNIX:

```
/opt/jp1pc/mgr/store/
```

On logical hosts:

In UNIX:

```
environment-directory/jp1pc/mgr/store/
```

To store the Store database in a different location, specify the relative path from the default folder, or the absolute path to the location.

- Create a directory to be specified beforehand to change the installation location of the Store database.
- The `jpcasto.ini` file contains the definition information in addition to the information on the database installation directory. Change values only in the `Data Section` section. Performance Management might not operate correctly if you change values other than the required items.

4. Save and then close the `jpcasto.ini` file.
5. Start Performance Management programs and services.

6.4.3 Specifying communication line disconnection settings

Performance Management does not disconnect the communication line for 70 seconds after the communication with the connection destination ends. Therefore, keep this setting in mind when you use Performance Management in an environment that charges by connection time.

To edit the `jpccomm.ini` file in order to disconnect the line immediately after the communication ends:

1. Stop Performance Management programs and services.
Stop all Performance Management programs and services that are running.
2. Use a text editor or a similar tool to open the `jpccomm.ini` file.
3. Change the connection mode of the communication line.
Change the following label value in all sections in the `jpccomm.ini` file.

```
NS Keepalive Mode=0
```

4. Save and then close the `jpccomm.ini` file.
5. Start Performance Management programs and services.

Note:

The line is always connected between PFM - Web Console and PFM - Manager in order to periodically communicate with each other. For that reason, Hitachi does not recommend that you use networks such as a WAN environment for communications between hosts because the environment usage fees are based on the communication time or the volume.

6.4.4 Configuring the functionality for binding multiple alarm tables

You must be using version 09-00 or later of PFM - Manager and PFM - Web Console to use the functionality for binding multiple alarm tables. While the functionality for binding multiple alarm tables is enabled, you cannot connect from PFM - Web Console whose version is earlier than 09-00.

The following table describes the configuration of the monitoring agents that can bind multiple alarm tables. In order to use a monitoring agent to bind multiple alarm tables, the configuration in the table must be marked as Y. Even if a monitoring agent with an N marked configuration exists in the system, you can still use the functionality for binding multiple alarm tables. However, you cannot use the function to bind multiple alarm tables with the applicable monitoring agent. If you use a monitoring agent with an N marked configuration to bind multiple alarm tables, evaluation results cannot be guaranteed for the alarm of the applicable monitoring agent.

PFM - Agent version	PFM - Manager or PFM - Base version on a same host		
	09-00 or later	Earlier than 09-00	None
08-00 or later	Y	N	--
Before 08-00	N	N	N

Legend:

- Y: Multiple alarm tables can be bound.
- N: Multiple alarm tables cannot be bound.
- : Unavailable

To enable or disable the functionality for binding multiple alarm tables, directly edit the contents of the `jpccomm.ini` file on the PFM - Manager host. The `jpccomm.ini` file is stored in the following locations:

On physical hosts:

In UNIX:
`/opt/jp1pc/`

On logical hosts:

In UNIX:
`environment-directory/jp1pc/`

(1) Enabling the functionality for binding multiple alarm tables

To enable the functionality for binding multiple alarm tables:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running by using the `jpcspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file.

3. Enable the functionality for binding multiple alarm tables.

Change the following label value in the [Common Section] section in the `jpccomm.ini` file.

```
Multiple Alarm Table Bind=1
```

4. Save and then close the `jpccomm.ini` file.

5. Start Performance Management programs and services by using the `jpcspm start` command.

If the programs are running on a cluster system, start them from the cluster software.

6. Restart the PFM - Web Console.

(2) Disabling the functionality for binding multiple alarm tables

To disable the functionality for binding multiple alarm tables:

1. Stop Performance Management programs and services.

Stop all Performance Management programs and services that are running by using the `jpcspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file.

3. Disable the functionality for binding multiple alarm tables.

Change the following label value in the [Common Section] section in the `jpccomm.ini` file.

```
Multiple Alarm Table Bind=0
```

4. Save and then close the `jpccomm.ini` file.

5. Start Performance Management programs and services by using the `jpcspm start` command.

If the programs are running on a cluster system, start them from the cluster software.

6. Restart the PFM - Web Console.

Note:

If you disable the functionality for binding multiple alarm tables when multiple alarm tables are bound with PFM - Agent or PFM - RM, the message `KAVE00317-W` is output the next time you start the Master Manager service. In addition, all the alarm tables bound with the applicable PFM - Agent or PFM - RM are unbound. As a result, it might take some time to start the Master Manager service after the functionality has been disabled. For the operating PFM - Agent or PFM - RM, the multiple alarm tables stay bound until the applicable PFM - Agent or PFM - RM is restarted. If you disabled the functionality for binding multiple alarm tables, in order for the binding status update to take effect, you must restart the PFM - Agent or PFM - RM that outputs the `KAVE00317-W` message.

6.4.5 Changing IP address settings

(1) Changing the IP address of the PFM - Manager host

To change the IP address of the PFM - Manager host:

1. Log out from PFM - Web Console.
Log out from all PFM - Web Console hosts that connect to the PFM - Manager host for which you intend to change the IP address.
2. Stop all Performance Management services on the PFM - Manager host.
Stop all Performance Management programs and services on the PFM - Manager host for which you intend to change the IP address. To stop services, use the `jpccspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.
3. Change the IP address of the PFM - Manager host.
Change the IP address of the PFM - Manager host.
4. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Manager host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
5. Restart the Performance Management services on the PFM - Manager host.
Start the Performance Management programs and services on the PFM - Manager host. If the programs are running on a cluster system, stop them from the cluster software.
6. Log on to PFM - Web Console.
Log on to PFM - Web Console.

(2) Changing the IP address of the PFM - Web Console host

To change the IP address of the PFM - Web Console host:

1. Stop all Performance Management services on the PFM - Web Console host.
Stop all Performance Management programs and services on the PFM - Web Console host for which you intend to change the IP address. Use the `jpccwstop` command to stop services. If running the programs on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Web Console host.
Change the IP address of the PFM - Web Console host.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the connection-destination PFM - Manager host and the PFM - Web Console host whose IP address you changed.
Also, allow HTTP communication from the monitoring console to the host whose IP address you changed.
4. Restart the Performance Management services on the PFM - Web Console host.
Start the Performance Management programs and services on the PFM - Web Console host. If the programs are running on a cluster system, stop them from the cluster software.
5. Log on to PFM - Web Console

Connect to PFM - Web Console from the monitoring console, using the new IP address (or host name) in the URL.

(3) Changing the IP address of the PFM - Base host

To change the IP address of the PFM - Base host:

1. Stop all Performance Management services on the PFM - Base host.
Stop all Performance Management programs and services on the PFM - Base host for which you intend to change the IP address. Use the `jpccspm stop` command to stop services. If the programs are running on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Base host.
Change the IP address of the host where PFM - Base is installed.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Base host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
4. Restart the Performance Management services on the PFM - Base host.
Start the Performance Management programs and services on the host where PFM - Base is installed. If the programs are running on a cluster system, stop them from the cluster software.

(4) Changing the IP address of the PFM - Agent or PFM - RM host

To change the IP address of the PFM - Agent or PFM - RM host:

1. Stop all Performance Management services on the PFM - Agent or PFM - RM host.
Stop all Performance Management programs and services on the PFM - Agent or PFM - RM host for which you intend to change the IP address. To stop services, use the `jpccspm stop` command. If the programs are running on a cluster system, stop them from the cluster software.
2. Change the IP address of the PFM - Agent or PFM - RM host.
Change the IP address of the host where PFM - Agent or PFM - RM is installed.
3. Configure the network.
Modify the `jpchosts` file, `hosts` file, and DNS server settings so that name resolution is possible between the PFM - Agent or PFM - RM host whose IP address you changed and the following hosts: all PFM - Agent hosts, the PFM - RM host, the PFM - Base host, the PFM - Web Console host, and the PFM - Manager host.
4. Restart the Performance Management services on the PFM - Agent or PFM - RM host.
Start the Performance Management programs and services on the host where PFM - Agent or PFM - RM is installed. If the programs are running on a cluster system, start them from the cluster software.

6.4.6 About the operation settings of PFM - Manager, PFM - Agent, and PFM - RM

The operations of PFM - Manager, PFM - Agent, and PFM - RM are specified in the start information file (`jpccomm.ini`). The `jpccomm.ini` file is stored in the installation directory of each product.

For details about the settings in the `jpccomm.ini` file and how to change the settings, see the appendix that describes the start information file (`jpccomm.ini`) in the manual *Job Management Partner 1/Performance Management Reference*.

6.4.7 Changing PFM - Web Console settings

Use the initialization file (`config.xml`) to configure the environment necessary to operate PFM - Web Console.

The initialization file (`config.xml`) is stored in `/opt/jp1pcwebcon/conf/`.

Note:

The initialization file (`config.xml`) is loaded when a PFM - Web Console service starts. Restart the PFM - Web Console service to enable the settings you changed in the initialization file. Change only the required information. PFM - Web Console might not operate correctly if you change locations other than the specified ones.

The items to set in the initialization file are described below.

(1) Items to set in the initialization file (config.xml)

For details about the initialization file (`config.xml`), see the chapter that describes the initialization file in the manual *Job Management Partner 1/Performance Management Reference*.

(2) Procedure to return a changed initialization file (config.xml) to the default

The configuration of the `config.xml` file might be changed when you perform an upgrade installation of PFM - Web Console. After the upgrade, use the following procedure to apply the edited content to the new `config.xml` file.

1. Take note of the edited content in `/opt/jp1pcwebcon/conf/config.xml`.
2. Back up `/opt/jp1pcwebcon/conf/config.xml`.
3. Replace `/opt/jp1pcwebcon/conf/config.xml` with the file at `/opt/jp1pcwebcon/sample/conf/config.xml`.
4. Apply the edited content you checked in step 1 to `config.xml` (`/opt/jp1pcwebcon/conf/config.xml`) copied by step 3.
5. Restart PFM - Web Console.

Note:

When you wish to return the data of the `config.xml` file to the status of the initial installation, copy the `config.xml` file in `installation-folder\sample\conf\` and overwrite on the above folder.

(3) Notes on the date format

For browsers, the default date format is specified using the *locale settings*. For commands, the default date format is set by the locale used to execute the commands. The following table shows the default pattern and format of the date that is displayed for each locale.

Table 6–17: Default pattern and format of the date that is displayed for each locale

Locale	Default pattern	Format
en_US	pattern-MMddyyyy	MM Δ dd Δ yyyy
en	pattern-ddMMyyyy	dd Δ MM Δ yyyy
ja	pattern-yyyyMMdd	yyyy Δ MM Δ dd
Other (browser)	pattern-yyyyMMdd (selectFormat in the initialization file (config.xml))	yyyy Δ MM Δ dd
Other (command)	pattern-ddMMyyyy	dd Δ MM Δ yyyy

Legend:

dd: Date

MM: Month

yyyy: Year

Δ : Separator (a single-byte space)

You can change the date format for a locale from the default display format by the following methods:

- For browsers
Specify `selectFormat` in the `<format>` tag in the initialization file (`config.xml`).
This method is applicable to locales other than `en_US`, `en`, and `ja`.
- For commands
Specify `-dateformat`, `-dateseparator`, and `-exportseparator` in the arguments when you execute commands. For details, see the chapter that describes commands in the manual *Job Management Partner 1/ Performance Management Reference*.
This method is applicable to all locales.

(a) Specifying tags for the date display format

For browsers, use the tags shown in the following table to specify the date display format in the initialization file (`config.xml`).

Table 6–18: List of tags for the date display format

Tag	Attribute	Description
<code>format</code>	--	Specifies the root tag for specifying the date display format.
<code>param</code>	<code>name</code>	Specify <code>selectFormat</code> .
	<code>value</code>	Values are as follows: <ul style="list-style-type: none"> • <code>pattern-ddMMyyyy</code> • <code>pattern-MMddyyyy</code> • <code>pattern-yyyyMMdd</code>

Legend:

--: Not applicable

(b) Example specification of date format

This example initialization file (`config.xml`) specifies the date display format for browsers when the locale is other than `en_US`, `en`, or `ja`.

Example:

This example specifies `pattern-MMddyyyy` as the pattern of the date format. The date is displayed as *MM dd yyyy*.

```
<format>
  <param name="selectFormat" value="pattern-MMddyyyy"/>
</format>
```

(4) Notes on the numeric format

The decimal mark and digits separator might depend on the region.

PFM - Web Console enables you to change the numeric format (decimal mark and digits separator). The following table lists the items whose numeric format can be changed.

Table 6–19: Items whose numeric format can be changed in PFM - Web Console

Item	
GUI (browser)	Browser display
	csv output
	User input (numeric values)
Command	html output
	csv output
	Values specified in command parameter files (numeric values)

The following table lists the values that can be specified in the numeric format.

Table 6–20: Values that can be specified in the numeric format handled by PFM - Web Console

Setting	Value that can be specified
Decimal mark	<ul style="list-style-type: none">• . (period)• , (single-byte comma)
Digits separator	<ul style="list-style-type: none">• Single-byte space• ' (single quotation mark)• . (period)• , (single-byte comma)

Note that the numeric format settings are not applied to the data shown in the following table.

Table 6–21: Items to which the numeric format settings are not applied in the windows of PFM - Web Console

Item	Window in which the item is displayed
Message text for alarms	<ul style="list-style-type: none">• Summary• Print Summary

Item	Window in which the item is displayed
Message text for alarms	<ul style="list-style-type: none"> • Event Monitor • Event History • Print Event History
Description of records and fields	<ul style="list-style-type: none"> • Record Description • Field Description • Quick Guide • Quick Guide > Search Fields (records) • Quick Guide > Search fields (list of field(s) found in record) • Search Fields • Edit Report Definition • Service Logif
Description of property information for services	<ul style="list-style-type: none"> • Properties method • Properties window • Distribute Properties

(a) Specifying tags for the decimal mark in numeric values

When you specify the decimal mark to be used for numeric values handled by PFM - Web Console in the initialization file (`config.xml`), specify the tags shown in the following table.

Table 6–22: Specification of tags for the decimal mark

Tag	Attribute	Description
<code>number-format</code>	--	Specifies the root tag for specifying the decimal mark.
<code>param</code>	<code>name</code>	Specify <code>decimalPointSymbol</code> .
	<code>value</code>	Values are as follows: <ul style="list-style-type: none"> • <code>period</code> • <code>comma</code>

Legend:

--: Not applicable

The following example initialization file (`config.xml`) specifies a comma as the decimal mark for numeric values in PFM - Web Console.

Example:

This example specifies `comma` as the decimal mark for numeric values.

For example, decimal value `99.1` is displayed as `99,1`.

```
<number-format>
  <param name="decimalPointSymbol" value="comma"/>
</number-format>
```

(b) Specifying tags for the digits separator in numeric values

When you specify the digits separator to be used for the numeric values handled by PFM - Web Console in the initialization file (`config.xml`), specify the tags shown in the following table.

Table 6–23: Specification of tags for the digits separator

Tag	Attribute	Description
number-format	--	Specifies the root tag for specifying the digits separator.
param	name	Specify numericSeparator.
	value	Values are as follows: <ul style="list-style-type: none"> • space • quotation • period • comma

Legend:

--: Not applicable

The following example initialization file (`config.xml`) specifies a period as the digits separator for numeric values in PFM - Web Console.

Example:

This example specifies `period` as the digits separator.

For example, value `2,000` is displayed as `2.000`.

```
<number-format>
  <param name="numericSeparator" value="period"/>
</number-format>
```

6.4.8 Setup and unsetup of Store version 2.0

(1) Setup procedure

Store 2.0 can be used with version 08-11 or later of PFM - Manager or PFM - Base combined with the monitoring agent that is version 08-00 or later of PFM - Agent or PFM - RM. Store 2.0 is activated by default when you perform a new installation of PFM - Agent version 08-11 or PFM - RM.

Note:

Store 2.0 can only be used with the Store database of the Agent Store or Remote Monitor Store service. You cannot use Store 2.0 with the Store database of the Master Store service, which only supports Store 1.0. Store 1.0 cannot be used with the Remote Monitor Store service.

The setup procedure for Store 2.0 depends on the version of PFM - Agent and the method of installation. If you install version 08-11 or later of a Performance Management product into an environment that uses Store 1.0, the environment will continue to use Store 1.0. To migrate to Store 2.0, you need to execute the setup command for the Store database.

The following table lists the availability of Store 2.0 for each version of PFM - Agent, and how to implement it.

Table 6–24: For a single instance of PFM - Agent

PFM - Agent		Can Store 2.0 be used	Procedure for implementing Store 2.0
Version	Installation method		
07-00 or earlier	N/A	No	--
08-00	N/A	Yes but setup required	Execute setup command
08-11 or later	New installation	Yes	None required
	Upgrade installation	Yes	Execute setup command

Legend:

--: Not applicable

Table 6–25: For multiple instances of PFM - Agent

PFM - Agent		Can Store 2.0 be used	Procedure for implementing Store 2.0
Version	Timing of instance creation		
07-00 or earlier	N/A	No	--
08-00 or later	Before installing PFM - Base or PFM - Manager 08-11	Yes but setup required	Execute setup command
	After installing PFM - Base or PFM - Manager 08-11	Yes	Select the Store version when using the <code>jpccconf inst setup</code> command to create an instance

Legend:

--: Not applicable

For details about the setup procedure for using Store 2.0 with PFM - Agent, see the PFM - Agent manuals.

Note:

The data retention conditions for PD and PL-type records are set differently for each version of the Store database. When you migrate from Store 1.0 to Store 2.0, data that does not meet the data retention conditions of Store 2.0 is deleted. The default retention period in Store 2.0 differs depending on PFM - Agent or PFM - RM.

For example, in PFM - Agent that the default retention period has been set to 10 days, suppose that Store 1.0 stores 10,000 PD records for the 365 days from January 1st 2006 to December 31st 2006. When you migrate to Store 2.0, the default retention period of 10 days will result in 355 days of data being deleted.

For this reason, before migrating to Store 2.0, use the `jpctool db dump` command to output the data from Store 1.0.

PI record data remains the same after migration.

(2) Unsetup procedure

Use the `jpccconf db vrset -ver 1.0` command to perform unset of Store 2.0. This process initializes the data in the Store database and reverts the Store database to Store 1.0.

You can execute the `jpccconf db vrset -ver 1.0` command in either the interactive mode or the non-interactive mode. For details about the `jpccconf db vrset` command, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Note:

Performing unsetup of Store 2.0 initializes the data in the Store database. For this reason, use the `jpctool db dump` command to output the data in the database before reverting to Store 1.0.

6.4.9 Configuring the product name display function

You can change the format of keys and service IDs used for Performance Management to product names by enabling the product name display function. For details about the product name display function, see [4.1.2 Displaying and specifying services \(the product name display function\)](#).

Use the `jpccconf prodname` command to configure the product name display function. For details about the `jpccconf prodname` command, see the chapters that describe commands in the manual *Job Management Partner 1/Performance Management Reference*.

(1) Checking the current settings of the product name display function

To check the settings of the product name display function:

1. Log on to the host for which you want to check the current settings of the product name display function.
2. Execute the `jpccconf prodname display` command.
The current settings of the product name display function appears.
For the logical host operations, specify a logical host name that you want to check the current settings in the `-lhost` option.

(2) Enabling the product name display function

To enable the product name display function:

1. Log on to the host where you want to enable the product name display function.
2. Stop all Performance Management services on the host.
For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to stop the logical host on which Performance Management has been registered.
3. Execute the `jpccconf prodname enable` command.
The product name display function is enabled.
For the logical host operations, specify a logical host name that you want to enable the product name display function in the `-lhost` option.
4. Start all Performance Management services on the host.
For details about starting the services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to start the logical host on which Performance Management has been registered.

(3) Disabling the product name display function

To disable the product name display function:

1. Log on to the host where you want to disable the product name display function.
2. Stop all Performance Management services on the host.
For details about how to stop services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to stop the logical host on which Performance Management has been registered.

3. Execute the `jpccnf prodname disable` command.

The product name display function is disabled.

For the logical host operations, specify a logical host name that you want to enable the product name display function in the `-lhost` option.

4. Start all Performance Management services on the host.

For details about starting services, see the chapter that describes starting and stopping Performance Management in the *Job Management Partner 1/Performance Management User's Guide*. For the logical host operations, use the cluster software to start the logical host on which Performance Management has been registered.

6.4.10 Configuring the function for outputting measurement values when alarms recover to the normal status

The function for outputting measurement values when alarms recover to the normal status enables you to output the alarm message texts when alarms for monitoring multi-instance records have recovered to their normal status. For details about this function, see the chapter that describes operation monitoring with alarms in the *Job Management Partner 1/Performance Management User's Guide*.

To use the function for outputting measurement values when alarms recover to the normal status, the following system versions are required; PFM - Web Console can be of any version:

- PFM - Manager: 10-00 or later
- PFM - Agent or PFM - RM subject to alarm monitoring: 08-00 or later
- PFM - Manager or PFM - Base on the agent host: 10-00 or later

When you newly install PFM - Manager version 10-00 or later or upgrade PFM - Manager from version 09-00 or earlier to 10-00 or later, the function for outputting measurement values when alarms recover to the normal status is disabled by default. When you upgrade PFM - Manager from version 10-00 or later, the previous settings for the function for outputting measurement values when alarms recover to the normal status are inherited.

Configure the function for outputting measurement values when alarms recover to the normal status on the PFM - Manager host. This function is enabled if PFM - Agent or PFM - RM satisfies the version requirements described above and it is enabled on the PFM - Manager for the connection destination. The following table describes the settings for the function for outputting measurement values when alarms recover to the normal status on PFM - Agent and PFM - RM.

Version of PFM - Agent or PFM - RM	Version of PFM - Manager or PFM - Base on the same host	Settings for function for outputting measurement values when alarms recover to the normal status	
		Version of PFM - Manager for the connection destination is 10-00 or later	Version of PFM - Manager for the connection destination is earlier than 10-00
08-00 or later	10-00 or later	Depends on the settings on the PFM - Manager for the connection destination ^{#1}	Disabled ^{#2}
	Earlier than 10-00	Disabled ^{#3}	Disabled ^{#3}
Earlier than 08-00	Regardless of the version	Disabled ^{#3}	Disabled ^{#3}

#1

When the Agent Collector service or the Remote Monitor Collector service starts, the following message is output to the common message log on the PFM - Agent or PFM - RM host:

- If the function for outputting measurement values when alarms recover to the normal status was enabled when the service started:
KAVE00349-I
- If the function for outputting measurement values when alarms recover to the normal status was disabled when the service started:
KAVE00350-I

#2

When the Agent Collector service or the Remote Monitor Collector service starts, the KAVE00350-I message is output to the common message log on the PFM - Agent or PFM - RM host.

#3

No message on the settings for the function for outputting measurement values when alarms recover to the normal status is output to the common message log on the PFM - Agent or PFM - RM host.

To enable or disable the function for outputting measurement values when alarms recover to the normal status, directly edit the contents of the `jpccomm.ini` file on the PFM - Manager host. The `jpccomm.ini` file is stored at the following location:

Physical host

In UNIX:
`/opt/jp1pc/`

Logical host

In UNIX:
`environment-directory/jp1pc/`

Reference note

Depending on how the function for outputting measurement values when alarms recover to the normal status is set on the PFM - Manager host, the following message is output to the common log on the PFM - Manager host when the Name Server service starts:

- When the function for outputting measurement values when alarms recover to the normal status is enabled:
KAVE00349-I
- When the function for outputting measurement values when alarms recover to the normal status is disabled:
KAVE00350-I
- A value other than 0 or 1 is specified in the Alarm Message Mode label in the `jpccomm.ini` file:
KAVE00350-I and KAVE00351-W

(1) Enabling the function for outputting measurement values when alarms recover to the normal status

To enable the function for outputting measurement values when alarms recover to the normal status:

1. Stop all PFM - Manager services.

If PFM - Manager services are running, use the `jpccsp stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.

3. Specify whether the function for outputting measurement values when alarms recover to the normal status is to be enabled or disabled.

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

```
Alarm Message Mode=1
```

4. Save the `jpccomm.ini` file and then close it.
5. Use the `jpccspm start` command to start the PFM - Manager services.
If you are running a cluster system, start the services from the cluster software.
6. Restart all PFM - Agents and PFM - RMs.
Use the `jpccspm stop` and `jpccspm start` commands to restart all PFM - Agents and PFM - RMs that are monitoring operation. The new settings do not take effect until the PFM - Agents and PFM - RMs are restarted.

(2) Disabling the function for outputting measurement values when alarms recover to the normal status

To disable the function for outputting measurement values when alarms recover to the normal status:

1. Stop the PFM - Manager services.
If PFM - Manager services are running, use the `jpccspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.
2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.
3. Specify whether the function for outputting measurement values when alarms recover to the normal status is to be enabled or disabled.

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

```
Alarm Message Mode=0
```

4. Save the `jpccomm.ini` file and then close it.
5. Use the `jpccspm start` command to start the PFM - Manager services.
If you are running a cluster system, start the services from the cluster software.
6. Restart all PFM - Agents and PFM - RMs.
Use the `jpccspm stop` and `jpccspm start` commands to restart all PFM - Agents and PFM - RMs that are monitoring operation. The new settings do not take effect until the PFM - Agents and PFM - RMs are restarted.

6.4.11 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts

If you use the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts, you can limit the hosts that can be manipulated by PFM - Base's commands to the local host.

For details about each option, see [4.9.4 Settings to limit the host subject to command processing](#).

To specify the settings for these options, directly edit the contents of the `jpccomm.ini` file. The `jpccomm.ini` file is stored at the following location:

When the target host is a physical host

In UNIX:

```
/opt/jp1pc/
```

When the target host is a logical host

In UNIX:

```
environment-directory/jp1pc/
```

(1) Changing the settings for the option for limiting remote operation of Agent hosts

Specify the option for limiting remote operation of Agent hosts on the PFM - Manager host.

To change the settings for the option for limiting remote operation of Agent hosts:

1. Stop all PFM - Manager services.

If PFM - Manager services are running, use the `jpccspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Manager host.

3. Specify whether the option for limiting remote operation of Agent hosts is to be enabled or disabled.

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

To enable

```
Agent Remote Protection=1
```

To disable

```
Agent Remote Protection=0
```

4. Save the `jpccomm.ini` file and then close it.

5. Use the `jpccspm start` command to start the PFM - Manager services.

If you are running a cluster system, start the services from the cluster software.

(2) Changing the settings for the option for restricting viewing of service information from Agent hosts

The option for restricting viewing of service information from Agent hosts is a function for making status information unavailable on the host that is specified in the `-host` option during command execution. You must specify this option on the target host.

To change the settings for the option for restricting viewing of service information from Agent hosts:

1. Stop all Performance Management services on the PFM - Agent or PFM - RM host.

If Performance Management services are running, use the `jpccspm stop` command to stop all such services. If you are running a cluster system, stop these services from the cluster software.

2. Use a text editor or a similar tool to open the `jpccomm.ini` file on the PFM - Agent or PFM - RM host.

3. Specify whether the option for restricting viewing of service information from Agent hosts is to be enabled or disabled:

Change the value of the following label in the `Common Section` section in the `jpccomm.ini` file:

To enable

```
Service List Protection=1
```

To disable

```
Service List Protection=0
```

4. Save the `jpccomm.ini` file and then close it.
5. Use the `jpccspm start` command to start the Performance Management services.
If you are running a cluster system, start the services from the cluster software.

6.5 Settings required to read manuals with a Web browser

In Performance Management, you can use a Web browser to read manuals. To read a manual with a Web browser, copy the manual from the manual distribution media (included with the program product) to the host where PFM - Web Console is installed. If PFM - Web Console is running on a cluster system, copy the manual to both the executing physical host and standby physical host.

6.5.1 Setting procedure

(1) To read manuals from the PFM - Web Console Help

To read manuals from the PFM - Web Console Help:

1. To register PFM - Agent or PFM - RM to PFM - Web Console (or perform an additional setup for PFM - Agent or PFM - RM), follow the PFM - Web Console setup procedures.
2. On the host where PFM - Web Console is installed, check the directories which you want to copy manuals to.

Table 6–26: Directories which the manuals are copied to

Manual	Copy destination directory
<i>Job Management Partner 1/Performance Management Planning and Configuration Guide</i>	<code>/opt/jp1pcwebcon/doc/language-code/pcsy/</code>
<i>Job Management Partner 1/Performance Management User's Guide</i>	<code>/opt/jp1pcwebcon/doc/language-code/pcop/</code>
<i>Job Management Partner 1/Performance Management Reference</i>	<code>/opt/jp1pcwebcon/doc/language-code/pcre/</code>
<i>Job Management Partner 1/Performance Management - Agent or RM manual</i>	<code>/opt/jp1pcwebcon/doc/language-code/XXXX/#</code>

#

You need to create a directory for the PFM - Agent manual or the PFM - RM manual.

XXXX indicates a help-ID of PFM - Agent or PFM - RM. For details on help IDs, see the ID list in an appendix of each PFM - Agent or PFM - RM manual.

3. Copy the applicable files and directories from the manual distribution media to the directory you created in step 2 above.

Reference note

In the manual distribution media, manuals are stored in directories with manual numbers under *applicable-mount-point*/MAN/3021. If you want to know which manual corresponds to which product, check INDEX.HTM or the PDF manual under each directory with a manual number.

For HTML manuals:

All HTML files, CSS files, and GRAPHICS directory under */distribution-media-mount-point*/MAN/3021/*directory-with-manual-number* (such as 03004A0D)

For PDF manuals:

PDF files under */distribution-media-mount-point/MAN/3021/directory-with-manual-number* (such as 03004A0D)

When you copy the manuals, make sure that the `INDEX.HTM` file (for a HTML manual) or the actual PDF file (for a PDF manual) is located directly under the directory you created.

4. Restart the PFM - Web Console.

(2) To read manuals from your computer hard disk

Directly copy the HTML, CSS, PDF, and GIF files from the distribution media to a desired directory.

For HTML manuals, make sure that the files are located in the following directory configuration:

```
html (HTML and CSS files are stored here)
|- GRAPHICS (GIF files are stored here)
```

6.5.2 Reading manuals

To read manuals:

1. In the Main window of PFM - Web Console, in the menu bar frame, click the **Help** menu to display the Help window.
2. Click the name of the manual or **PDF** that follows the manual name.
If you click the manual name, the manual is displayed in the HTML format. Click the **PDF** icon to display the manual in the PDF format.

Note on displaying in a Web browser

If you use Windows OS, when you open the online manual from **Start** menu, the HTML manual might replace a Web page already opened in the Web browser.

Appendixes

A. Limits

A.1 System configuration

(1) Number of PFM - Web Consoles that can connect to a PFM - Manager

The maximum number of PFM - Web Consoles that can connect to a single PFM - Manager is 20.

(2) Number of PFM - Agents and PFM - RMs that can connect to a PFM Manager

The maximum number of PFM - Agents and PFM - RMs that can connect to a PFM - Manager is 1,200. However, frequent issuance of alarm events by PFM - Agents and PFM - RMs or issuance of alarm events simultaneously by a number of PFM - Agents and PFM - RMs might result in delays in PFM - Manager's alarm event processing.

To ensure that PFM - Manager is able to process alarm events efficiently, design your system so that the maximum number of alarms that occur throughout the system does not exceed 150 per minute at a peak time.

However, the load on system performance caused by programs other than Performance Management is not considered. Check the specifics of system operation before starting operations, because the number of PFM - Agents and PFM - RMs and the maximum number of alarms per unit of time are estimated values.

Calculate the number of connectable PFM - Agents and PFM - RMs as follows:

- For PFM - Agent

The number of PFM - Agents indicates the number of operating Agent Collector services.

If a host contains two multi-instance agents and one single-instance agent, the number of PFM - Agents on the host is three.

- For PFM - RM:

The number of PFM - RMs indicates the total number of operating RM Collector services, monitoring remote agents, and group agents.

PFM - RM creates one group agent per instance. If a host contains two PFM - RM instances, and each instance is monitoring 10 remote agents, the number of PFM - RMs on the host is calculated as follows:

```
Number of PFM - RM
=2(RM-Collector-services)+20(number-of-remote-agents)+2(number-of-group-agents)
=24
```

Notes:

- If the number of PFM - Agents or PFM - RMs exceeds the maximum number of connections for a system, operate the system by deploying PFM - Manager at each site and distributing the PFM - Agents and PFM - RMs. In this case, operate the system by connecting PFM - Web Console to the PFM - Manager at each site.
- Frequent issuance of alarm events by PFM - Agents and PFM - RMs or issuance of alarm events simultaneously by a number of PFM - Agents and PFM - RMs might result in delays in PFM - Manager's alarm event processing. In such cases, manage the system by deploying PFM - Manager at each site, and distributing PFM - Agents and PFM - RMs.
- If you set an action for an alarm and select anything other than **LOCAL** for the **Action handler** in the **Command** field of the New Alarm > Action Definitions window on the PFM - Web Console, the workload might become concentrated on PFM - Manager. When an alarm triggers an action in a large system, select **LOCAL** for the

Action handler in the **Command** field on the New Alarm > Action Definitions window to prevent the load on the PFM - Manager host from increasing severely.

- If you set an alarm and select **Always notify** or **Evaluate all data** in the **Advanced settings** area on the New Alarm > Main Information window of the PFM - Web Console, alarm events will be issued more frequently. If you select these in a large system, do not increase the load on the system by setting the interval to high under **Damping**.
- Starting PFM - Manager while many PFM - Agents and PFM - RMs are being started sometimes delays the start of PFM - Manager. In such cases, start PFM - Manager before starting the PFM - Agents and PFM - RMs.

(3) Number of PFM - Agents and PFM - RMs to which PFM - Web Console can connect

This number is the maximum number of PFM - Agents and PFM - RMs to which a single PFM - Manager can connect.

(4) Number of hosts that can be managed

The maximum number of hosts that can be managed by one PFM - Manager is 1,024. This is the total number of physical hosts, logical hosts, and remote hosts that are monitored by PFM - RM. If PFM - Agent and PFM - RM are not located on a PFM - Manager, that PFM - Manager is not counted.

The following example illustrates how to determine the number of hosts.

Environment for the example Performance Management system

- Host 1 has PFM - Manager installed, but has neither PFM - Agent nor PFM - RM.
- Host 2 has PFM - Agent for Platform and PFM - Agent for Oracle (two instances are created).
- Host 3 has two instances of PFM - RM, each of which monitors ten remote agents.
- Host 4 has one logical instance of PFM - Agent for Oracle in a logical configuration.

How to determine the number of hosts

In this example, the total number of hosts is $0 + 1 + 21 + 2 = 24$.

The following explains how to determine the number of hosts for each host.

- For host 1, the number of hosts is zero because this host has neither PFM - Agent nor PFM - RM.
- For host 2, the number of hosts is one although it has multiple PFM - Agents.
- For host 3, the number of hosts on the same host is one although there are two instances of PFM - RM and the number of hosts monitored by remote agents is 20. Therefore, $1 + 20 = 21$.
- For host 4, PFM - Agent for Oracle has a logical configuration. The number of hosts is two because PFM services are located on both physical and logical hosts.

A.2 Displaying PFM - Web Console

(1) Number of View Report windows displayable in PFM - Web Console

The following table describes the estimated number of View Report windows displayable in PFM - Web Console.

Table A–1: The number of View Report windows displayable in PFM - Web Console

Contents	Recommended number
View Report windows displayable in a single PFM - Web Console	4
View Report windows that can display information on a single PFM - Agent or PFM - RM in multiple PFM - Web Consoles	10

(2) Maximum number of data items displayed in a report

In real-time reports, data from a maximum of 30 collection times can be displayed. To change the maximum number of data items displayed in a report, change `maxRealtimeCache` in the initialization file (`config.xml`).

(3) Number of displayed real-time reports

If multi-instance records are collected in PFM - Agent or PFM - RM, the maximum number of instances handled by a collection is 32,767.

(4) Number of fields displayed in a report

Although there are no restrictions on the number of fields in a report, the system might be unable to display the graph or legend in part or in its entirety when the report contains too many fields. We recommend that you set about 20 fields per report.

(5) Number of tiled charts displayed

By default, a report can display a maximum of fifty tiled charts. If tiling charts puts a heavy load on the server, separate the target bookmark into multiple bookmarks to reduce the number of charts to be displayed.

If you want to change the maximum number of tiled charts for a report, modify the `maxTileReports` value in the initialization file (`config.xml`).

(6) Number of user accounts that can log in concurrently

The maximum number of sessions that can log in concurrently to a single PFM - Web Console is five for both PFM and JP1 authentication modes.

A.3 Store database size

(1) With Store 2.0

With Store 2.0, data is stored in multiple files, each covering a specific time period. Also, the data for each record type is stored in a different data file. For this reason, a size limit of 2 GB applies to each individual data file, rather than to the total amount of data in the database. Also, you cannot exceed the file size limit imposed by the `ulimit` command on UNIX systems or other restrictions on the file system.

(2) With Store 1.0

The maximum overall file size of the Store database used in Performance Management is 2 GB. Also, you cannot exceed the file size limit set by the `ulimit` command on UNIX systems or other restrictions on the file system.

A.4 Number limits for alarms and alarm tables

Table A–2: Maximum numbers of alarms and alarm tables

Description	Maximum
Number of alarms that can be set throughout the entire Performance Management system	20,000
Number of alarms that can be defined per alarm table	250
Number of actions that can be set per alarm	9
Number of reports that can be set per alarm	1
Number of alarm tables that can be used throughout the entire Performance Management system	10,000
Number of alarm tables that can be bound to one agent	50
Number of alarms that can be bound to one agent	250 [#]

#

The maximum number of alarms that can be handled by PFM - Manager is 2,500. However, processing of PFM - Manager, PFM - Agent, or PFM - RM slows down if the number of alarms exceeds 250.

A.5 Maximum numbers of users and business groups that can be managed by Performance Management

Table A–3: Maximum numbers of users and business groups

Description	Authentication mode	Maximum
Number of users	PFM authentication mode	100
	JP1 authentication mode	5,000 [#]
Number of business groups	PFM authentication mode	10,000
	JP1 authentication mode	

#

As the number of users increases, new users might experience delays in logging in.

A.6 Limits related to folder management

Table A–4: Maximum numbers of agents, bookmarks, folders, and folder hierarchies

Description	Maximum
Number of PFM - Agents that can be placed directly under one folder	128
Number of bookmarks that can be placed directly under one folder	64
Number of folders that can be created directly under one folder	64
Number of folder hierarchies that can be created	8

A.7 Limits related to monitoring of performance data

Table A–5: Maximum numbers of action, report, and bookmark definitions

Description		Maximum number
Number of action definitions	SNMPs	60,000 ^{#1}
	Commands	60,000 ^{#1}
	Emails	60,000 ^{#1}
Number of report definitions		10,000
Total number of bookmarks and combination bookmarks		10,000
Total number of reports and baselines that can be registered with a combination bookmark		10
Number of reports that can be registered with a bookmark		256 ^{#2}

#1

Because this is the total number of abnormal, warning, and normal checks, and the maximum number of alarms is 20,000, the maximum number of action definitions for each type is $20,000 \times 3 = 60,000$.

#2

If you register too many reports with a bookmark, they might take some time before they appear on the screen. We recommend that you register approximately 50 reports with a bookmark at most.

A.8 Limit to the actions that are associated with alarms

The maximum number of actions that can be set for one Action Handler service is 60,000.

The number of actions is the total number of abnormal, warning, and normal counts in commands and emails (SNMPs are excluded because they use a trap generator).

Examples of actions that can and cannot be set in one Action Handler service are shown below.

These examples assume that there are 20,000 alarms and check whether the specified actions can be set for one Action Handler service.

(1) Examples of actions that can be set

Setting abnormal, warning, and normal counts for emails

In this example, the number of action types is three (abnormal, warning, and normal for emails), and the total number of actions is $20,000 \times 3 = 60,000$.

These actions can be set because the total number of actions does not exceed the maximum number of actions (60,000).

Setting an abnormal count for SNMPs, a warning count for commands, and an abnormal count for emails

In this example, the number of action types is two (warning for commands and abnormal for emails), and the total number of actions is $20,000 \times 2 = 40,000$ (SNMPs are excluded).

These actions can be set because the total number of actions does not exceed the maximum number of actions (60,000).

(2) Examples of actions that cannot be set

Setting a warning count for commands and abnormal, warning, and normal counts for emails

In this example, the total number of action types is four (warning for commands and abnormal, warning, and normal for emails), and the total number of actions is $20,000 \times 4 = 80,000$.

These actions cannot be set because the total number of actions exceeds the maximum number of actions (60,000).

Setting warning and normal counts for commands and abnormal, warning, and normal counts for emails

In this example, the number of action types is five (warning and normal for commands and abnormal, warning, and normal for emails), and the total number of actions is $20,000 \times 5 = 100,000$.

These actions cannot be set because the total number of actions exceeds the maximum number of actions (60,000).

B. Naming Rules

B.1 Naming rules for service IDs and service keys

Performance Management services are managed by using the GUI for PFM - Web Console and various commands. The service ID and service key are used to identify the services. The following describes naming rules for service IDs and service keys.

The service ID and service key formats vary, depending on whether the product name display function is enabled. For details, see [4.1.2 Displaying and specifying services \(the product name display function\)](#).

(1) Service ID

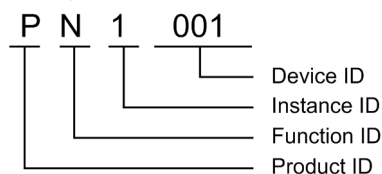
A service of Performance Management is assigned a unique ID. This ID is called the *service ID*. When you use a command to verify the system configuration for Performance Management or back up the performance data for an individual agent, specify a Performance Management service ID to execute the command.

(a) If the product name display function is disabled

If the product name display function is disabled, the service ID format is the same for all services. The configuration of a service ID is shown below:

Figure B–1: Example when the service ID is PN1001

Example of the service ID "PN1001"



The following describes components that make up the service ID.

- Product ID

The product ID is a one-byte identifier that indicates the Performance Management program product that provides this service.

For the PFM - Manager services and the Action Handler service, the product ID is P. For the health check agent, the product ID is 0.

For details about the product ID for each PFM - Agent or PFM - RM, see the list of identifiers in the appendixes of each PFM - Agent or PFM - RM manual.

- Function ID

The function ID is a one-byte identifier that indicates the function type for this service.

The following table lists the function IDs and the service name for each function ID, and provides an overview of each function.

Table B–1: Service names and function IDs

Function ID	Service name	Overview of function
A	Agent Collector	Collects performance data
	Remote Monitor Collector	

Function ID	Service name	Overview of function
A	Remote agent	Collects performance data
	Group agent	
C	Trap Generator	Issues client functions and SNMP traps
E	Correlator	Controls event sending between services
H	Action Handler	Executes actions
M	Master Manager	Contains the main functionality of Performance Management
N	Name Server	Manages the service configuration information within the system
P	View Server	The communication server between PFM - Web Console and PFM - Manager
S	Agent Store	Manages performance data and event data
	Remote Monitor Store	
	Master Store	
T	Status Server	Manages the status of services

- Instance Number

The instance number is an identifier that is a one-byte control number used by internal processing.

- Device ID

The device ID is an identifier containing characters (1-255 bytes) that indicate the host (for example) on which this service has been started in the Performance Management system. The device ID differs in settings depending on the services.

The following table describes the service name and the contents of the device ID.

Table B–2: Service names and device IDs

Service name	Settings of device ID
Name Server	Defaults to 001 and cannot be modified.
Master Manager	Defaults to 001 and cannot be modified.
View Server	Sets the host name.
Correlator	Defaults to 001 and cannot be modified.
Action Handler	Sets the host name.
Trap Generator	Sets the host name.
Agent Collector	Sets the host name when in a non-instance configuration.
Remote Monitor Collector	In an instance configuration, <i>instance-name</i> [<i>host-name</i>] is set.
Agent Store	Sets the host name when in a non-instance configuration.
Remote Monitor Store	In an instance configuration, <i>instance-name</i> [<i>host-name</i>] is set.
Remote agent	Sets the <i>instance-name</i> [<i>monitored-target-name@Remote-Monitor-Collector-service-operating-host-name</i>].
Group agent	Sets the <i>instance-name</i> [<i>group-name@Remote-Monitor-Collector-service-operating-host-name</i>].
Master Store	Defaults to 001 and cannot be modified.

Service name	Settings of device ID
Status Server	Sets the host name.

(b) If the product name display function is enabled

If the product name display function is enabled, the service ID format will vary for each service. The following table describes the service name and the contents of the service ID.

Table B-3: Service names and service IDs

Service name	Service ID
Name Server	<Name Server>
Master Manager	<Master Manager>
View Server	<View Server>
Correlator	<Correlator>
Action Handler	<i>device-ID</i> <Action Handler>
Trap Generator	<Trap Generator>
Agent Collector	<i>device-ID</i> < <i>product-name</i> >
Remote Monitor Collector	
Remote agent	
Group agent	
Agent Store	<i>device-ID</i> < <i>product-name</i> >(Store)
Remote Monitor Store	
Master Store	<Master Store>
Status Server	<i>device-ID</i> <Status Server>
Web Console [#]	<Web Console>

This service is only used for output from the `jpctool service list` command.

The following describes components that make up the service ID.

- **Device ID**
The device ID is an identifier containing characters (1-255 bytes) that indicate the host (for example) on which this service has been started in the Performance Management system. The device ID differs in settings depending on the services. The service ID format is the same as the one used when the product name display function is disabled. For details about the contents of device IDs, see [Table B-2 Service names and device IDs](#).
- **Product name**
This indicates the product name of the PFM - Agent or PFM - RM.

(2) Service key

Specify an identifier called a *service key* to execute a command when starting or stopping each Performance Management service.

When you specify a service key to execute commands, you can use the formats listed below in (a) and (b), regardless of the status of the product name display function for the host that executes the commands.

Also, if you specify the service keys to execute `jpccspm start`, `jpccspm stop`, and `jpctool service list` commands, some service keys will indicate different services. For details, see the chapters that describe the corresponding command in the manual *Job Management Partner 1/Performance Management Reference*.

(a) If the product name display function is disabled

Table B–4: Service key list (if the product name display function is disabled)

Service key	Meaning
all	Indicates the services of all Performance Management programs. PFM - Web Console services are included if you specify links for start and stop with PFM - Web Console in the same host, and specify the services to execute the <code>jpccspm start</code> , <code>jpccspm stop</code> , and <code>jpctool service list</code> commands.
jp1pc	Indicates the services of all Performance Management programs. PFM - Web Console services are not included. You can only set this service key to execute <code>jpccspm start</code> , <code>jpccspm stop</code> , and <code>jpctool service list</code> commands.
mgr	Indicates the PFM - Manager service (except for the Action Handler service).
act	Indicates the Action Handler service.
stat	Indicates the Status Server service.
agt0	Indicates the services (Agent Collector and Agent Store) of the health check agent.
wc	Indicates the PFM - Web Console services.

For details about service keys for each PFM - Agent or PFM - RM, see the corresponding manual for each PFM - Agent or PFM - RM.

(b) If the product name display function is enabled

Table B–5: Service key list (if the product name display function is enabled)

Service key	Description
Manager	Indicates the PFM - Manager services (except the Action Handler service).
AH	Indicates the Action Handler service.
StatSvr	Indicates the Status Server service.
HC	Indicates the health check agent services (Agent Collector and Agent Store).
WebConsole	Indicates the PFM - Web Console services.

Service keys specified during command execution are not case sensitive.

For details about service keys for each PFM - Agent or PFM - RM, see the corresponding manual for each PFM - Agent or PFM - RM. However, for PFM - Agent version 08-11 or earlier, see [B.3 List of service keys for PFM - Agent version 08-11 or earlier \(when the product name display function is enabled\)](#).

B.2 Correspondence between the service names in Performance Management and in Windows

The service names of Performance Management programs differ from the service names in Windows. In Windows, the Services window displays the Windows service names.

Table B–6: Correspondence between the service names of PFM - Manager and the service names in Windows

Service name	Service name in Windows
Name Server	PFM - Name Server
Master Manager	PFM - Master Manager
View Server	PFM - View Server
Correlator	PFM - Correlator
Action Handler	PFM - Action Handler
Trap Generator	PFM - Trap Generator
Master Store	PFM - Master Store
Status Server	PFM - Status Server
Agent Collector	PFM - Agent for HealthCheck
Agent Store	PFM - Agent Store for HealthCheck

Table B–7: Correspondence between the service names of PFM - Web Console and the service names in Windows

Service name	Service name in Windows
Web Console	PFM - Web Console
Web Service	PFM - Web Service

Table B–8: Correspondence between the service names of PFM - Base and the service names in Windows

Service name	Service name in Windows
Action Handler	PFM - Action Handler
Status Server	PFM - Status Server

Table B–9: Correspondence between the service names of PFM - Agent and the service names in Windows

Service name	Service name in Windows
Agent Collector	PFM - Agent for <i>XXXX</i> ^{#1} [<i>instance-name</i>] ^{#2}
Agent Store	PFM - Agent Store for <i>XXXX</i> ^{#1} [<i>instance-name</i>] ^{#2}

#1

XXXX indicates the name of the monitored program for each PFM - Agent.

#2

For a PFM - Agent monitoring an application program that can start multiple service sets on a single host, the instance name is displayed.

Table B–10: Correspondence between the service names of PFM - RM and the service names in Windows

Service name	Service name in Windows
Remote Monitor Collector	PFM - RM for <i>XXXX</i> [#] [<i>instance-name</i>]
Remote Monitor Store	PFM - RM Store for <i>XXXX</i> [#] [<i>instance-name</i>]

XXXX indicates the name of the monitored program of each PFM - RM.

B.3 List of service keys for PFM - Agent version 08-11 or earlier (when the product name display function is enabled)

The following table lists the service keys for when the product name display function is enabled. This table is for PFM - Agent version 08-11 or earlier.

Table B–11: PFM - Agent service key list

Product name	Service key (if the product name display function is enabled)
PFM - Agent for Enterprise Applications	EAP
PFM - Agent for JPI/AJS	AJS3
PFM - Agent for Microsoft SQL Server	SQL
PFM - Agent for Oracle	Oracle
PFM - Agent for Platform (UNIX)	UNIX
PFM - Agent for Platform (Windows)	Windows
PFM - Agent for Service Response	SR
PFM - Agent for Virtual Machine	VM

C. System Estimates

Before you configure a system that will use Performance Management, you must determine whether the computer is powerful enough to run Performance Management.

You must also determine for PFM - Agent or PFM - RM whether the computer is powerful enough to run PFM - Agent or PFM - RM. For details about the system estimates for PFM - Agent, see the system estimates in an appendix of each PFM - Agent or PFM - RM manual.

C.1 Memory requirements

Memory requirements might change according to the settings status or use status of Performance Management. For details about the memory requirements, see the *Release Notes*.

C.2 Disk space requirements

The disk space requirements sometimes change according to the number of records that collect the performance data. For details about the disk space requirements, see the *Release Notes*.

C.3 Disk space requirements when running on a cluster system

For details about the amount of disk space required on the shared disks when Performance Management runs on a cluster system, see the *Release Notes*.

C.4 Disk space requirements when executing the `jpctool db backup` and `jpctool db dump` commands on the Store database

(1) Master Store service

This subsection explains for each OS the disk space required when the `jpctool db backup` and `jpctool db dump` commands are executed on the Store database of the Master Store service of a PFM - Manager.

(a) Windows

Table C–1: Disk space required for performing operations on the Store database of the Master Store service (Windows)

Operation	Formula for estimating the disk space required (megabytes)
Backing up the Store database (executing the <code>jpctool db backup</code> command)	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$
Exporting the Store database (executing the <code>jpctool db dump</code> command)	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$

Legend:

a: Number of PFM - Agents or PFM - RMs that are connected (if instances are run, this number also includes the number of instances)

b: Number of PA records to be retained (1,000 in the initial status)[#]

#

For *b*, specify a value that satisfies $a \times b \times 0.015 < 2,000$ (megabytes).

By default, the following disk areas are used.

Operation	Disk area used (by default)	
	Physical host operation	Logical host use
Backing up the Store database (executing the <code>jpctool db backup</code> command)	Under <i>installation-folder</i> \jp1pc\mgr\store\backup\	Under <i>environment-directory</i> \jp1pc\mgr\store\backup\
Exporting the Store database (executing the <code>jpctool db dump</code> command)	Under <i>installation-folder</i> \jp1pc\mgr\store\dump\	Under <i>environment-directory</i> \jp1pc\mgr\store\dump\

(b) UNIX

Table C–2: Disk space required for performing operations on the Store database of the Master Store service (UNIX)

Operation	Formula for estimating the disk space required (megabytes)		
	Solaris	AIX	Linux
Backing up the Store database (executing the <code>jpctool db backup</code> command)	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$
Exporting the Store database (executing the <code>jpctool db dump</code> command)	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$	$2 \times (1 + 0.1 \times a + 0.015 \times a \times b)$

Legend:

a: Number of PFM - Agents or PFM - RMs that are connected (if instances are run, this number also includes the number of instances)

b: Number of PA records to be retained (1,000 in the initial status)[#]

#

For *b*, specify a value that satisfies $a \times b \times 0.015 < 2,000$ (megabytes).

By default, the following disk areas are used.

Operation	Disk area used (by default)	
	Physical host operation	Logical host use
Backing up the Store database (executing the <code>jpctool db backup</code> command)	Under <code>/opt/jp1pc/mgr/store/backup/</code>	Under <i>environment-directory</i> / <code>jp1pc/mgr/store/backup/</code>
Exporting the Store database (executing the <code>jpctool db dump</code> command)	Under <code>/opt/jp1pc/mgr/store/dump/</code>	Under <i>environment-directory</i> / <code>jp1pc/mgr/store/dump/</code>

(2) PFM - Agent or PFM - RM

This subsection explains for each Store version the disk space required when the `jpctool db backup` and `jpctool db dump` commands are executed on the Store database of a PFM - Agent or PFM - RM.

(a) Store version 2.0

Table C–3: Disk space required for performing operations on the Store database of a PFM - Agent or PFM - RM (Store version 2.0)

Operation	Formula for estimating the disk space required (megabytes)
Performing full backup of the Store database (executing the <code>jpctool db backup</code> command)	S
Performing partial backup of the Store database (executing the <code>jpctool db backup</code> command with the <code>-partial</code> option specified)	The part of S that corresponds to the period and range of records specified in the <code>-partial</code> option as being subject to backup
Exporting the Store database (executing the <code>jpctool db dump</code> command)	The part of S that corresponds to the period and range of records specified as being subject to export processing

Legend:

S : Disk space required for the Store database of the PFM - Agent or PFM - RM[#]

#

For details about how to obtain the value of S , see the *Release Notes*.

The following tables show for each OS the default disk areas that are used.

Table C–4: Disk areas used by default (Windows)

Operation	Agent type	Disk area used (by default) [#]	
		Physical host operation	Logical host use
Performing full backup of the Store database (executing the <code>jpctool db backup</code> command)	Single-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\backup\	Under <i>environment-directory</i> \jplpc\agtX\store\backup\
	Multi-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\ <i>instance-name</i> \backup\	Under <i>environment-directory</i> \jplpc\agtX\store\ <i>instance-name</i> \backup\
Performing partial backup of the Store database (executing the <code>jpctool db backup</code> command with the <code>-partial</code> option specified)	Single-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\partial\	Under <i>environment-directory</i> \jplpc\agtX\store\partial\
	Multi-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\ <i>instance-name</i> \partial\	Under <i>environment-directory</i> \jplpc\agtX\store\ <i>instance-name</i> \partial\
Exporting the Store database (executing the <code>jpctool db dump</code> command)	Single-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\dump\	Under <i>environment-directory</i> \jplpc\agtX\store\dump\
	Multi-instance agent	Under <i>installation-folder</i> \jplpc\agtX\store\ <i>instance-name</i> \dump\	Under <i>environment-directory</i> \jplpc\agtX\store\ <i>instance-name</i> \dump\

#

X in *agtX* is the applicable PFM - Agent's or PFM - RM's product ID.

Table C–5: Disk areas used by default (UNIX)

Operation	Agent type	Disk area used (by default) [#]	
		Physical host operation	Logical host use
Performing full backup of the Store database (executing the <code>jpctool db backup</code> command)	Single-instance agent	Under <code>/opt/jp1pc/agtX/store/backup/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/backup/</code>
	Multi-instance agent	Under <code>/opt/jp1pc/agtX/store/instance-name/backup/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/instance-name/backup/</code>
Performing partial backup of the Store database (executing the <code>jpctool db backup</code> command with the <code>-partial</code> option specified)	Single-instance agent	Under <code>/opt/jp1pc/agtX/store/backup/partial/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/backup/partial/</code>
	Multi-instance agent	Under <code>/opt/jp1pc/agtX/store/instance-name/backup/partial/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/instance-name/backup/partial/</code>
Exporting the Store database (executing the <code>jpctool db dump</code> command)	Single-instance agent	Under <code>/opt/jp1pc/agtX/store/backup/dump/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/backup/dump/</code>
	Multi-instance agent	Under <code>/opt/jp1pc/agtX/store/instance-name/backup/dump/</code>	Under <i>environment-directory</i> / <code>jp1pc/agtX/store/instance-name/backup/dump/</code>

#

X in *agtX* is the applicable PFM - Agent's or PFM - RM's product ID.

(b) Store version 1.0

Table C–6: Disk space required for performing operations on the Store database of a PFM - Agent or PFM - RM (Store version 1.0)

Operation	Formula for estimating the disk space required (megabytes)
Backing up the Store database (executing the <code>jpctool db backup</code> command)	$2 \times S$
Exporting the Store database (executing the <code>jpctool db dump</code> command)	$2 \times S$

Legend:

S: Disk space required for the Store database of the PFM - Agent or PFM - RM[#]

#

For details about how to obtain the value of *S*, see the *Release Notes*.

For the disk areas that are used by default, see [Table C-4 Disk areas used by default \(Windows\)](#) or [Table C-5 Disk areas used by default \(UNIX\)](#).

C.5 Disk space requirements when using report cache files

This section explains the disk space that is required for report cache files when the report cache file function is enabled. For details about the report cache file function, see the chapter that describes reports in the *Job Management Partner 1/Performance Management User's Guide*.

(1) Estimation formula

The report cache files consist of the three types of files listed below. The disk space required for the report cache files is the sum of the sizes of all three types of files.

- Row data file
- Time and position information file
- Row data file pointer lists file

Each time a report is displayed or output while the report cache file function is enabled, a new directory is created under the report cache file storage directory and then the report cache files are stored in that directory.

Reference note

If multiple reports are displayed concurrently, disk space equivalent to the total size of the report cache files for all the reports is required.

The following shows the formula for estimating the disk space required for report cache files:

$$C = t \times (i \times (f + d + 9) + 12)$$

Legend:

C: Disk space required for report cache files

t: Output data time value^{#1}

i: Number of record instances

f: Number of fields per record^{#2}

d: Total length of field data per record (bytes)^{#2, #3}

#1

This value is obtained from the formula $(report-interval \times display-period) + 1$. For example, if the report interval is **Hours** and the report display period is the past seven days, the output data time value is 24 hours \times 7 days + 1 = 169. Note that the report interval available for PD and PL record types is always **Minutes**.

#2

Include in the estimate the fields that are added automatically based on the report type, as shown below.

Report type	Fields added automatically
Real-time report	<ul style="list-style-type: none">• Record Time• Record-specific ODBC key field (multi-instance records only)
Historical report (single agent)	<ul style="list-style-type: none">• Date and Time• Record-specific ODBC key field (multi-instance records only)
Historical report (multiple agents)	<ul style="list-style-type: none">• Date and Time• Agent Host• Agent Instance

#3

For the length of the data in each field, check the field's data type, which is added only when the field is recorded in each record and Store database, as described in the PFM - Agent or PFM - RM manual, and then obtain the corresponding data length from the table shown below.

The length of a field whose data type is `char(n)` or `string(n)` is variable. Therefore, use the maximum value for *n*. For non-ASCII double-byte characters stored in the Store database, each character is saved as three bytes, not two bytes, because these characters are converted to UTF-8 when they are recorded in the report cache files. This means that the formula depends on the lengths of the characters stored in the fields.

Data type	Data length (bytes)
<ul style="list-style-type: none">• <code>char(n)</code>• <code>string(n)</code>	<i>n</i> + 4 (for single-byte characters) (<i>n</i> × 1.5) + 4 (for double-byte characters)
<code>float</code>	4
<code>double</code>	8
<code>short</code>	2
<ul style="list-style-type: none">• <code>ushort</code>• <code>long</code>• <code>word</code>	4
<code>ulong</code>	8
<ul style="list-style-type: none">• <code>time_t</code>• <code>timeval</code>• <code>utime</code>	8
<code>uchar</code>	4

For a combination report, the disk space required for the report cache files is the sum of the report cache files for all the reports included in the combination report. The following shows the formula for estimating the disk space required for a combination report:

$$C = C_1 + C_2 + \dots + C_R$$

Legend:

C: Disk space required for the report cache files for a combination report

*C*₁, *C*₂, ..., *C*_{*R*}: Disk space required for the report cache files for each report

R: Number of reports included in the combination report

(2) Example estimate

This example displays a health check agent's `PI_HAVL` records in a report.

The following are the prerequisites:

- Report type: Historical report (single agent)
- Number of record instances (number of monitored agents): 4
- Display period: Past seven days
- Report interval: Minutes
- Fields to be included in the report: Availability, Total Available Time, and Total Monitoring Time

Prior to the estimate, this example obtains the data length of each field contained in the report. Considering the ODBC key field and the fields that are added automatically based on the report type, the fields included in the report and their data lengths are as follows:

Field	Data type	Data length
Date and Time	time_t	8
Host	string (256)	260
Availability	float	4
Total Available Time	ulong	8
Total Monitoring Time	ulong	8

In this example, the values of the variables shown in *C.5(1) Estimation formula* are as follows:

- $t: 60 \times 24 \times 7 + 1 = 10,081$
- $i: 4$
- $f: 5$
- $d: 8 + 260 + 4 + 8 + 8 = 288$

From the above, the disk space required for the report cache files is as follows:

$$\begin{aligned}
 C &= t \times (i \times (f + d + 9) + 12) \\
 &= 10,081 \times (4 \times (5 + 288 + 9) + 12) \\
 &= 10,081 \times (1,208 + 12) \\
 &= 12,298,820 \text{ (bytes)} \\
 &= \text{approximately } 12 \text{ (megabytes)}
 \end{aligned}$$

C.6 Estimates and settings when multiple PFM - Agents and PFM - RMs are connected to PFM - Manager

(1) How to increase the upper limit of connected PFM - Agents and PFM - RMs

When the number of PFM - Agents or PFM - RMs connected to PFM - Manager exceeds the upper limit of connection, connection stalls or reconnection between PFM - Agent and PFM - Manager (or PFM - RM and PFM - Manager) frequently occurs. This might lead to a significant increase of the load on PFM - Manager, making it unable to maintain a connection for an extended period of time. As a result, the following problems might occur:

- Operations in PFM - Web Console time-out
- When starting PFM - Agent or PFM - RM, it takes a long time for PFM - Manager to switch from the stand-alone mode to the normal operation mode

If these problems occur, perform the following procedure in PFM - Manager:

1. Do the following to estimate the maximum time for an idle timeout for PFM - Manager:
 - (1) Obtain the minimum record collection interval (in seconds) for each PFM - Agent and PFM - RM connected to PFM - Manager.

- (2) From the values obtained in step 1 above, determine the maximum record collection interval (in seconds).
- (3) Compare 360 with the collection interval obtained in (2) + 60. Whichever is larger is the maximum time (in seconds) for an idle timeout for PFM - Manager.

2. Edit the NS Connection Timeout and NS Maximum Connections labels in the Name Server Section, Master Manager Section, and Correlator Section sections of the `jpccomm.ini` file. The `jpccomm.ini` file is stored in the following destination. The *environment-directory* indicates the directory specified when the `jpccconf ha setup` command was executed.

OS	Storage location for the <code>jpccomm.ini</code> file
In Windows:	<ul style="list-style-type: none"> • PFM - Manager (for physical host use) <i>installation-folder</i>\<code>jpccomm.ini</code> • PFM - Manager (for logical host use) <i>environment-directory</i>\<code>jp1pc</code>\<code>jpccomm.ini</code>
In UNIX:	<ul style="list-style-type: none"> • PFM - Manager (for physical host use) <code>/opt/jp1pc/jpccomm.ini</code> • PFM - Manager (for logical host use) <i>environment-directory</i>/<code>jp1pc</code>/<code>jpccomm.ini</code>

Edit the following sections in the `jpccomm.ini` file:

[Before change]

```
NS Connection Timeout=70
      :
NS Maximum Connections=100
```

[After change]

```
NS Connection Timeout=Maximum time for an idle timeout for PFM - Manager
that was obtained in step 1
      :
NS Maximum Connections=1500
```

3. Restart PFM - Manager.

If this problem still occurs even after changing the settings as above, see [C.6\(2\) If reconnection occurs frequently because the collection interval is too short](#) for details about how to change the record collection period.

Reference note

In an environment where PFM - Manager 09-00 or later is newly installed, NS Maximum Connections is set as 1500 by default.

(a) Example of estimating the idle timeout for PFM - Manager

The example described below assumes the following conditions:

- Records collected by instance A for PFM - Agent for Oracle
Collection interval of Record a: 180 seconds
Collection interval of Record b: 300 seconds
- Records collected by instance B for PFM - Agent for Microsoft SQL Server
Collection interval of Record a: 360 seconds

Collection interval of Record b: 3,600 seconds

The following shows how to estimate the maximum time for an idle timeout for PFM - Manager:

1. Obtain the minimum record collection interval for each PFM - Agent.
The minimum record collection interval for Instance A: 180 seconds
The minimum record collection interval for Instance B: 360 seconds
2. Use the record collection intervals obtained in step 1 to determine the maximum record collection interval.
180 seconds (Instance A) < 360 seconds (Instance B)
Therefore, 360 seconds for Instance B is the maximum value.
3. Compare 360 with the value obtained in step 2 + 60.
 $360 + 60 (=420) > 360$
Because whichever value is larger is the maximum time for an idle timeout, the value is 420 seconds in this example.

(2) If reconnection occurs frequently because the collection interval is too short

If PFM - Manager or PFM - Base on the same device is version 09-00 or earlier and if the minimum record collection interval for all collected records is set as 60 seconds or more for PFM - Agent and 300 seconds or more for PFM - RM, reconnection to PFM - Manager is performed each time records are collected.

Thus, if multiple PFM - Agents or PFM - RMs is connected, attempts to reconnect to PFM - Manager are repeatedly performed. This might cause a connection failure, such as events being sent from PFM - Agent to PFM - Manager (or from PFM - RM to PFM - Manager).

If this problem occurs, we recommend that you reduce the load on PFM - Manager. To reduce the load, perform the following setting on the PFM - Agent host (with a minimum record collection interval of at least 60 seconds) or the PFM - RM host (with a minimum record collection interval of at least 300 seconds).

1. Obtain the minimum record collection interval for the PFM - Agent host or PFM - RM host.
 - (a) For each instance of PFM - Agent or PFM - RM, obtain the minimum record collection interval (in seconds) set for records collected by PFM - Agent or PFM - RM, or for records used to evaluate an alarm.
 - (b) If there are several instances of the same PFM - Agent or PFM - RM product, compare the minimum values obtained in step (a) to determine the maximum value. If there is only a single instance of the same PFM - Agent or PFM - RM product, use the value obtained in step (a).

2. Edit the `NS Cache Maintenance Time` label in the `Agent Collector x` Section of the `jpccomm.ini` file.

In the `Agent Collector x` Section, `x` represents the product ID specific to each PFM - Agent or PFM - RM. For details about the product ID for PFM - Agent or PFM - RM, see the list of identifiers in the appendix of each PFM - Agent or PFM - RM manual.

The `jpccomm.ini` file is stored in the following destination. The *environment-directory* indicates the directory specified when the `jpccconf ha setup` command was executed.

OS	Storage location for the <code>jpccomm.ini</code> file
In Windows:	<ul style="list-style-type: none">• PFM - Agent or PFM - RM (for physical host use) <code>installation-folder\jpccomm.ini</code>• PFM - Agent (for logical host use) <code>environment-directory\jp1pc\jpccomm.ini</code>

OS	Storage location for the jpccomm.ini file
In UNIX:	<ul style="list-style-type: none"> PFM - Agent or PFM - RM (for physical host use) /opt/jplpc/jpccomm.ini PFM - Agent (for logical host use) environment-directory/jplpc/jpccomm.ini

Edit the following sections in the jpccomm.ini file:

[Before change]

```
NS Cache Maintenance Time=70
```

[After change]

```
NS Cache Maintenance Time=minimum-collection-interval-calculated-in-Step-1 + 10
```

3. Restart PFM - Agent.

(a) Example of estimating the collection interval

The example described below assumes the following conditions:

- The record collection interval for Instance A of host 1 (PFM - Agent for Oracle)
Record a: 180 seconds
Record b: 300 seconds
- The record collection interval for Instance B of host 1 (PFM - Agent for Oracle)
Record a: 300 seconds
Record c: 600 second
- The record collection interval for Instance C of host 2 (PFM - Agent for Microsoft SQL Server)
Record a: 60 seconds
Record b: 600 seconds

You can estimate and adjust the record collection interval for host 1 and host 2 by performing the following steps:

For host 1:

- Use PFM - Agent for Oracle on host 1 to obtain the minimum record collection interval for each instance.
Instance A: 180 seconds
Instance B: 300 seconds
- Because there are several instances, you must compare the record collection intervals to determine the maximum value.
180 seconds (instance A) < 300 seconds (instance B)
As a result, 300 seconds for Instance B is the maximum value for PFM - Agent for Oracle.
- Add 10 to the maximum value obtained in step 2.
300 + 10 = 310 seconds
- The setting value for the Agent Collector O Section section in the jpccomm.ini file is as follows:

```
NS Cache Maintenance Time=310
```

For host 2:

For PFM - Agent for Microsoft SQL Server on host 2, the minimum record collection interval is 60 seconds. Therefore, you do not need to modify the `Agent Collector Q Section` section in the `jpccomm.ini` file.

C.7 Estimating the memory size when the report display function or the monitoring suspension function is used

(1) Before estimating the memory size

When a report containing a large amount of data is displayed, a large amount of memory might be used. Therefore, estimate the memory requirements based on operations, and then set the appropriate reports.

- The report cache file function added in PFM - Web Console version 09-10 and later uses a disk, and not memory, to display reports. As a result, you do not need to include the amount of memory for displaying reports when estimating memory as described in this section. Use of this function enables a larger amount of data to be displayed in reports than could be displayed by PFM - Web Console version 09-00 or earlier. For details about the report cache file function, see *C.5 Disk space requirements when using report cache files* and the chapter that describes reports in the *Job Management Partner 1/Performance Management User's Guide*.
- If you use the monitoring suspension function of version 10-50 and later, it might require a large amount of memory when many agents exist in the environment. However, memory of such size is only required when the monitoring suspension function is executed. As a result, you do not need to include the amount of memory for suspending monitoring when estimating memory as described in this section.

If you do not use the report cache file function or if you use the monitoring suspension function, you must estimate the memory size as explained here. When you use both the report display function and the monitoring suspension function at the same time, note that memory that is sufficient to use both functions concurrently is required. If you meet the conditions that require you to estimate memory, estimate the memory size by applying the procedure described below.

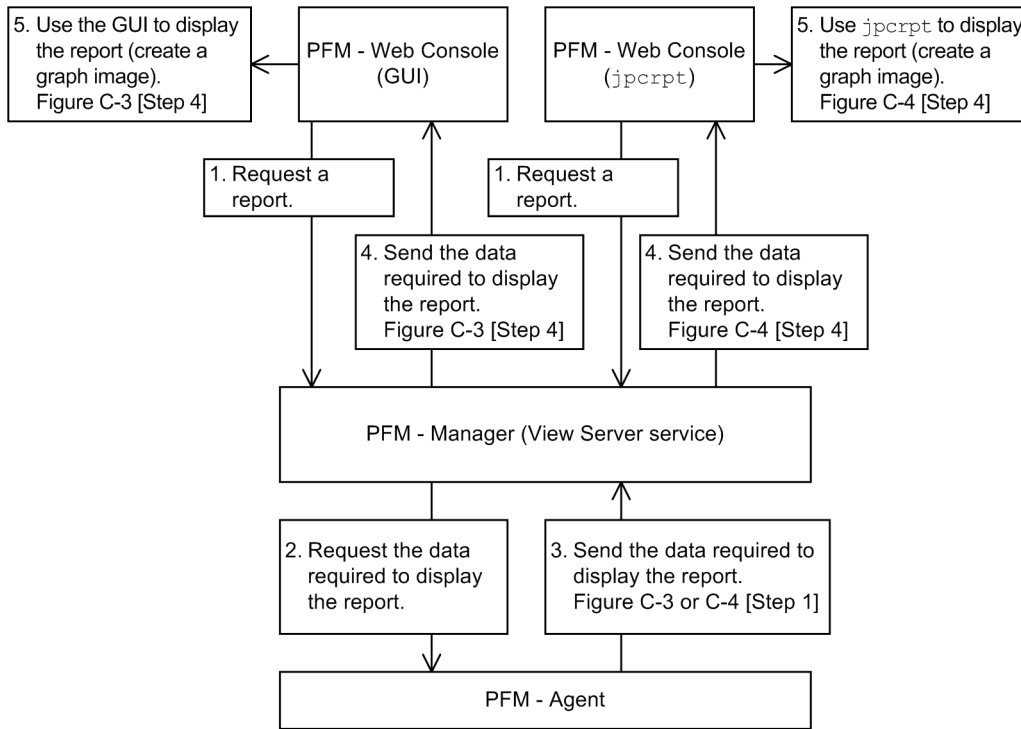
This section explains how to estimate the memory size required in PFM - Manager (View Server service) and PFM - Web Console when the GUI (PFM - Web Console window) is used to display reports, when the `jpccrpt` command is used to display reports, and when the monitoring suspension function is used. Estimate the memory size based on the information provided here.

The target memory for this estimate is a Java heap area. The Java heap area available to a program is limited. For example, in an environment where four gigabytes of physical memory are available, a program uses a heap area that has been allocated separately, regardless of the available physical memory. Therefore, the required memory must always be estimated.

The memory requirements for PFM - Manager (View Server service) and PFM - Web Console described in the system estimates above include the Java heap memory whose estimate procedure is discussed here. If you extend the memory, you must evaluate the system by adding the extended memory size to the memory requirements for the PFM - Manager (View Server service) and PFM - Web Console products.

(a) Data communication processing when using the report display function

Figure C-1: Overview of data communication processing for report display in PFM



The following explains the general procedure for displaying a report.

To display a report:

1. Request a report.

When a process that uses PFM - Web Console's GUI or the `jpcrpt` command to display a report is initiated, a report display request is issued to PFM - Manager (View Server service). The information required to display the report (such as the name of the target PFM - Agent, the records, and the display period) is sent to PFM - Manager.

2. Request the data required to display the report.

The View Server service that received the report display request issues a request to the target PFM - Agent to obtain the data required to display the report. The View Server service sends the information required to display the report (such as the target records and the display period) to the PFM - Agent.

3. Send the data required to display the report.

The PFM - Agent that received the request for the data required to display the report sends the corresponding data (operating information) to the View Server service.

4. Send the data required to display the report.

The View Server service that received the data required to display the report sends that data to the GUI or to the `jpcrpt` command that initiated the report display process.

5. Use the GUI or the `jpcrpt` command to display the report (create a graph image).

The GUI or the `jpcrpt` command that received the data required to display the report creates the report using the received data and then displays the report. If the report definition contains graph display settings, the GUI or `jpcrpt` command generates a graph image.

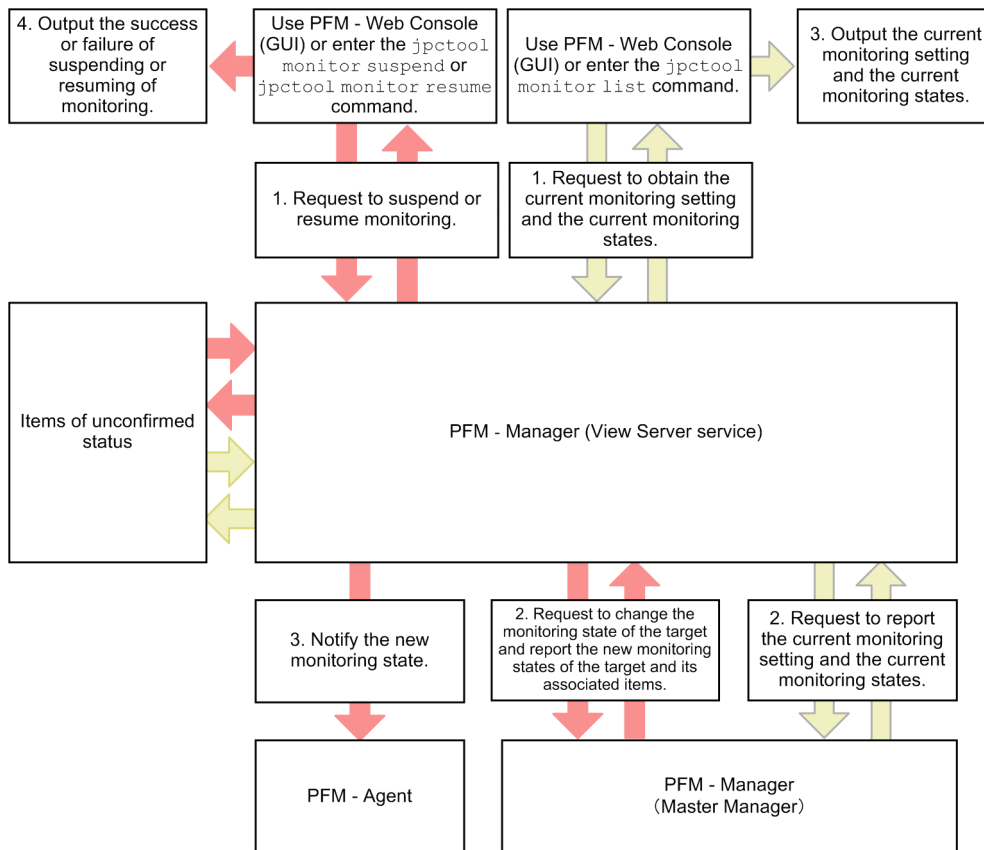
Because the GUI and the `jpccrpt` command run as different processes, they use different memory areas. Therefore, you need to estimate the memory requirements for both. On the other hand, the View Server service uses the same memory area whether the report display request is issued from the GUI or from the `jpccrpt` command.

Reference note



There is no need to estimate the size of the memory for 1 and 2 in the figure because their memory sizes are very small.

(b) Data communication processing when using the monitoring suspension function

Figure C-2: Data communication processing when using the monitoring suspension function



Legend:

-  : Flow for the `jpccrpt monitor suspend` or `jpccrpt monitor resume` command or the equivalent operation on PFM - Web Console (GUI)
-  : Flow for the `jpccrpt monitor list` command or the equivalent operation on PFM - Web Console (GUI)

The following explains the general procedure for suspending or resuming monitoring, and the general procedure for acquiring the monitoring statuses.

- Suspending or resuming monitoring (by using PFM - Web Console (GUI) or the `jpccrpt monitor suspend` or `jpccrpt monitor resume` command)
 1. Request the suspension or resumption of monitoring.^{#1}
Follow the user-operation process to request the suspension or resumption of a host or service.
 2. Request the acquisition of the monitoring status changes and the monitoring statuses after the change.

The Master Manager updates the monitoring statuses that it manages according to the request. The Master Manager also acquires a list of monitoring statuses for the agents affected by the request.

3. Each agent is notified of the monitoring status.

Each agent is notified of the new monitoring statuses. If a failure to notify an agent occurs, that information is managed as Items of unconfirmed status^{#2}.

4. The result of the suspension or resumption is output.

The result of the procedure is output.

• Acquiring the monitoring status (by using PFM - Web Console (GUI) or the `jpctool monitor list` command)

1. Request the acquisition of the monitoring statuses.^{#1}

Follow the user-operation process to request the acquisition of the monitoring statuses of the required agents.

2. Request the acquisition of the monitoring statuses.

The Master Manager acquires the monitoring statuses that it manages according to the request. If an agent for which notification failed is registered in the information indicating that application to the agent could not be confirmed^{#2}, this fact will be attached to the monitoring status for that agent.

3. The result of the acquisition of the monitoring statuses is output.

The result of the procedure is output.

#1

In one request, you can specify all agents in the environment.

#2

The information might include information about hosts that do not exist in the environment.

Reference note

The procedures described below can be executed at the same time.

- Steps 1 to 4 of the procedure for suspending or resuming monitoring, and steps 1 to 3 of the procedure for acquiring the monitoring statuses.

- Steps 1 to 3 in the procedure for acquiring the monitoring statuses

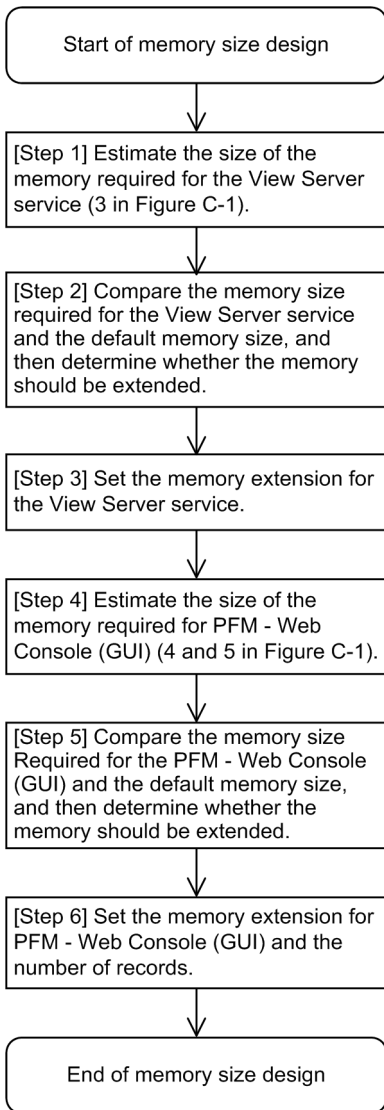
The processes described below cannot be executed at the same time because of an internal system lock.

- Steps 2 to 3 of the procedure for suspending or resuming monitoring

(2) Estimating the size of the memory required when the GUI is used to display reports

Use the procedure shown below to estimate the size of the memory (memory size design) required to display reports when you use the GUI.

Figure C-3: Flow chart for estimating the size of the memory required when you use the GUI to display reports



Perform the memory size design for the View Server service ([Step 1] through [Step 3]), and then perform the memory size design for the GUI ([Step 4] through [Step 6]).

(a) [Step 1] Estimating the size of the memory required for the View Server service

Estimate the size of the memory required for the View Server service, taking into account the memory required when the GUI is used, when the `jpcrpt` command is used, and when the monitoring suspension function is used.

When the GUI is used to display reports, use the *maximum amount of data required for receiving report data at one time (B1)* and the *number of users* based on the assumption that multiple login users display reports concurrently.

When the `jpcrpt` command is used to display reports, use the *maximum amount of data required for receiving report data at one time (B1)* for the estimation.

When the monitoring suspension function is used, the amount of data to be handled increases as the number of agents increases. Use the *theoretical memory requirements for each agent*, the *total number of agents in the environment*, and the *number of users* based on the assumption that multiple login users use the function concurrently.

In addition, because the View Server service uses about 30 megabytes of memory when active, the estimation formula is as follows:

Size of memory required for the View Server service...(A1)

- = maximum amount of data required for receiving report data at one time (B1) x 2 x number of users^{#1, #2} (report display by the GUI)
- + maximum amount of data required for receiving report data at one time (B1) x 2 (report display by `jpccrpt`)
- + (0.025 megabytes + 0.01 megabytes x number of users^{#2, #3}) x total number of users in the environment^{#4} (monitoring suspension function)
- + 30 megabytes (memory used by the active services)

#1: This is the number of users logged in concurrently to Performance Management. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are logged in concurrently from PFM - Web Console, the total number of users is four.

#2: PFM - Web Console version 09-00 or later enables you to control multiple logins by the same user by specifying the `enableDuplicateLogin` parameter in `config.xml`. By using this function, you can prevent an unexpected increase in the number of user logins in the system that might be caused by multiple logins by the same user name. If you use PFM - Web Console version 08-50 or earlier, prevent an unexpected increase in the number of concurrent logins by multiple users by using an appropriate operational means.

#3: This is the number of users logged in concurrently to Performance Management or the number of users who are executing commands. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are logged in concurrently from PFM - Web Console, and any of the following commands is being executed in two Command Prompt windows, the total number of users is six.

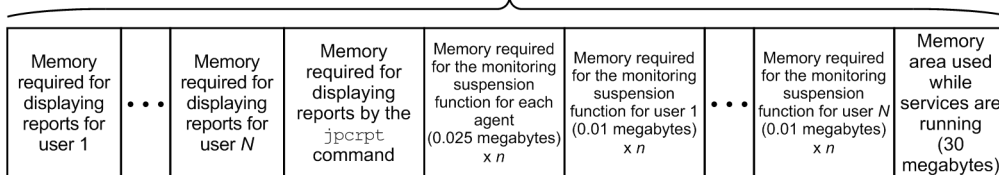
- `jpccrpt monitor list`
- `jpccrpt monitor resume`
- `jpccrpt monitor suspend`

#4: Total number of PFM - Agents (Agent Collector service), PFM - RMs (RM Collector service), and remote agents and group agents managed by PFM - RM

Reference note

Schematic diagram of the memory size required for the View Server service

Memory area required by the View Server service



Legend:

n: Total number of agents in the environment (PFM - Agents (Agent Collector service), PFM - RMs (RM Collector service), and remote agents and group agents managed by PFM - RM)

To obtain the **maximum amount of data required for receiving report data at one time (B1)**, obtain the **amount of data required for receiving report data at one time (B1)** for the reports to be displayed, and then select the largest of the values obtained. Estimate the maximum amount of data required for receiving report data at one time (B1) for report display using the GUI separately from that for report display using the `jpccrpt` command.

Formula for determining the amount of data required for receiving report data at one time (B1)

Amount of data required for receiving report data at one time = record size (C1) × number of records...(B1)

The **record size** is the amount of data per record (*amount of one row of data* when reports are output as tables or in CSV format).

The **number of records** is the *number of rows of data* when a table for one report is output or when a report is output in CSV format.

Because the number of records greatly affects the amount of data, when you calculate the **amount of data required for receiving report data at one time (B1)**, we recommend that you estimate the memory size for reports that have many records.

Formula for determining the record size

Record size (bytes) = total size of all selected fields[#] + number of selected fields[#] × 2 + 34...(C1)

The table below shows the correspondence between field format and size. Note that the sizes provided in this table are those required for displaying reports, not the sizes provided in the list of data types in each PFM - Agent manual.

Table C–7: Correspondence between field format and size

No.	Field format	Size (bytes)
1	Character string: <code>char</code> , <code>string</code>	Length of character string + 2
2	Date/time: <code>time_t</code> , <code>timeval</code>	16
3	All other fields	13

#: When historical reports are displayed, the Date and Time field and the ODBC key field are always acquired even if they are not included in the report display. For real-time reports, the Record time field and the ODBC key field are always acquired.

Formula for determining the number of records

Determine the number of records from the input conditions for the target report (such as the number of record instances, the data collection period, and the report display period). For details about the calculation method, see [C.7\(8\) Estimating the number of records](#).

Reference note

- For details about how to estimate the number of instances for each record, see each PFM - Agent manual. [Table C-21 Guidelines for the number of records](#) provides the number of records based on a typical data collection interval, number of instances, report display, number of records, and report display period. Use this information for reference.
For examples of estimating memory sizes, see [C.7\(6\) Example estimate](#).
- Reducing the memory load of the View Server service by an operational means
If report display using the GUI, report display using the `jpcrpt` command, and the monitoring suspension function execute concurrently, a memory shortage might occur on the View Server service depending on the environment. The shortage might occur because the View Server service uses a common memory area. If you use separate time periods for executing report display by the GUI, for executing report display by the `jpcrpt` command, or for executing the monitoring suspension function, you can reduce the memory load of the View Server service. You can also use PFM's report display function or monitoring suspension function efficiently with small memory size. This is possible because each function uses memory only while it is running. (Example operation: report display by the GUI is performed from 09:00 to 20:00 daily, report display by the `jpcrpt` command is performed from midnight 0:00 to 1:00 daily, and report display is not performed when the monitoring suspension function is running.)

To estimate the required memory size for the monitoring suspension function, and the report display by the GUI, and by `jpcrpt` in *[Step 1]*, use the formula for determining required memory for the View Server service. Add the required memory size for the functions that might be performed concurrently for each time period. Determine the maximum value and add the memory used by active services. The result is the estimate you want.

(b) [Step 2] Comparing the memory size required for the View Server service and the default memory size, and then determining whether to extend memory

Comparing the memory size required for the View Server service and the default memory size

Check if the value (A1) obtained in *[Step 1]* is less than the available default memory size. If it is, you have completed the estimation of the memory size for the View Server service. In such a case, skip *[Step 3]* and go to *[Step 4]*.

The following tables show the default memory size and the extendable range of the memory size for the View Server service.

Table C–8: View Server service version 08-00 or earlier

Target	Default value (megabytes)	Extendable range (megabytes)
View Server service (all OSs)	64	Through 384

Table C–9: View Server service version 08-11 or earlier

Target	Default value (megabytes)	Extendable range (megabytes)
View Server service (Windows)	64	Through 384
View Server service (UNIX)	128	Through 384

Table C–10: View Server service version 09-00 or later

Target	Default value (megabytes)	Extendable range (megabytes)
View Server service (all OSs)	256	Through 384

Determining whether to extend memory

If the value (A1) obtained in *[Step 1]* is equal to or greater than the available default memory size, determine whether to extend memory. If memory can be extended and the value of (A1) is within the extendable range, set the memory extension in *[Step 3]*, and then go to *[Step 4]*.

Re-estimating after evaluating the operation

If the value of (A1) is equal to or greater than the available memory size after you have performed *Determining whether to extend memory*, see *C.7(4) Reducing memory usage when displaying reports* and re-estimate the memory size for the View Server service.

(c) [Step 3] Setting memory extension for the View Server service (not needed if memory extension is not performed)

Set the memory size determined in *Determining whether to extend memory* according to the procedure for setting the memory size for the View Server service. For details, see *C.7(7) Extending the memory for the View Server service and the PFM - Web Console (GUI and jpcrpt)*. After you have set the memory extension, go to *[Step 4]*. If you do not perform memory extension, skip this step.

(d) [Step 4] Estimating the size of the memory required for PFM - Web Console (GUI)

Estimate the size of the memory required for PFM - Web Console. In this case, use the **amount of memory required per login user to display reports** and the **number of users** based on the assumption that multiple login users display reports concurrently on PFM - Web Console. Also, take into account the **maximum amount of memory required for creating graphs** and the **amount of data required for receiving report data at one time (B1)** (memory required for CSV output or print screen display from the View Report window) (the print window display function is applicable to version 08-11 or later). Because PFM - Web Console's active services use about 50 megabytes of memory, the estimation formula is as follows:

Size of memory required for PFM - Web Console (GUI)...(D1)

= memory size required for report display per login user (E1)

× number of users[#]

+ maximum memory size required for graph creation (F1)

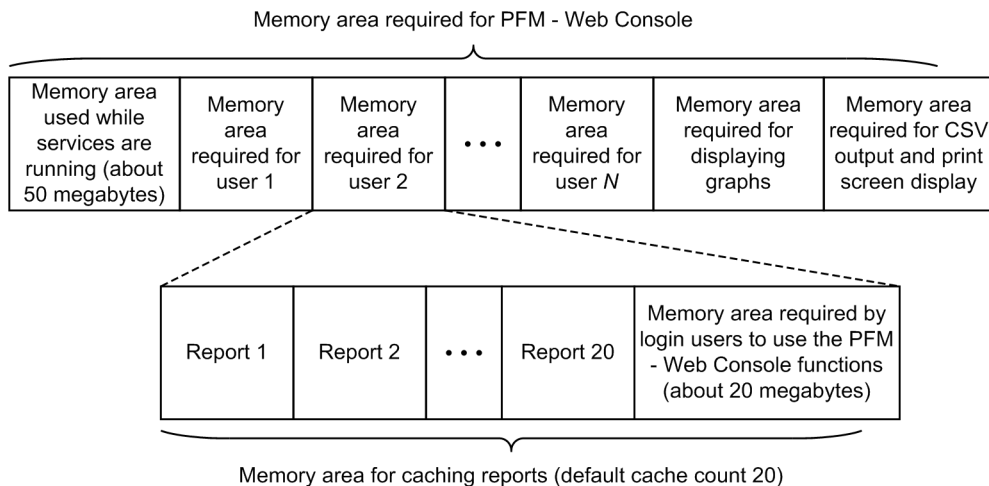
+ amount of data required for receiving report data at one time (B1) (used in CSV output or print screen display)

+ 50 megabytes (memory size used while services are running)

#: This is the number of users logged in concurrently to Performance Management. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are logged in concurrently from PFM - Web Console, the total number of users is four. PFM - Web Console version 09-00 or later enables you to control multiple logins by the same user by specifying the `enableDuplicateLogin` parameter in `config.xml`. By using this function, you can prevent an unexpected increase in the number of user logins in the system that might be caused by multiple logins by the same user name.

Reference note

Schematic diagram of the memory size required for the PFM - Web Console



The following subsections explain how to estimate the memory area required for each of these.

Estimating the memory size required for report display per login user

In PFM - Web Console, a maximum of 20 historical report data items are cached per login user.[#] Therefore, estimate the required memory size by taking into account the **maximum amount of data required for receiving report data at one time (B1)** and the **cache count**. Also, about 20 megabytes of memory are required for one login user to use the Performance Management functions. The estimation formula is shown below. For the **maximum amount**

of data required for receiving report data at one time (B1), use the maximum value for the GUI (B1) obtained in [\[Step 1\]](#).

Memory size required for report display per login user...(E1)

= maximum amount of data required for receiving report data at one time (B1) (maximum value for the GUI (B1) obtained in [\[Step 1\]](#))

× 20[#]

+ 20 megabytes (memory required for one login user to use the PFM - Web Console functions)

#: You can change the cache retention count with the `condCacheSize` parameter in the `config.xml` initialization file.

If you use PFM - Web Console version 08-11 or earlier, add the `condCacheSize` parameter line. The following example sets the cache count to 5.

Example:

```
<!-- The maximum limits of the records.
      Specifiable values: 1 to 2,147,483,647
      Default             : 1,440
-->
  <param name="maxFetchCount" value="1440"/>

<param name="condCacheSize" value="5"/>   <-- Added line

  <!-- The display count per a page.
      Specifiable values: 1 to 2,147,483,647
      Default             : 20
-->
```

If you use a newly installed PFM - Web Console version 09-00 or later, the `condCacheSize` parameter is included by default. The permitted value range is from 5 to 20. If this parameter is set to 5 and the user opens a sixth report while five historical reports are already open, graph images in the first report can no longer be manipulated (such as zooming in) and a cache expiration message is displayed.

Estimating the maximum size of memory required for graph creation (not required if no graph is displayed)

PFM - Web Console uses a large amount of memory temporarily when graph images are created. The memory areas required for graph creation for each report are always used in order even when multiple reports are executed concurrently. Therefore, first estimate the **memory size required for graph creation** for each report and then use the largest value as the **maximum memory size required for graph creation (F1)**. If none of the reports contains graphs, skip this estimation step.

PFM - Web Console enables the user to select eight types of graphs for reports. The memory estimation methods can be classified into three types according to the characteristics of graph drawing.

a) Clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts (most-recent graphs)

Estimate the memory size required for creating clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts by referencing the table below.

Clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts display the records (= instances) acquired by a single collection in the past minute. Therefore, use the maximum number of instances that are obtained by one collection in the display period. For details about the approach to estimating the memory size required for graph creation, see [C.7\(5\) Approach to estimating the memory size required for graph creation](#).

Table C–11: Guidelines for the memory size required for creating most-recent graphs

Maximum number of instances	Guideline for required memory size (megabytes)
1 to 50 [#]	2

#

When the maximum number of instances exceeds 50, it becomes difficult to check the data in graphs. Therefore, evaluate setting filters in the report definition to keep the number of instances in check.

Reference note

For details about how to estimate the number of instances for each record, see each PFM - Agent manual.

b) Line graphs and area charts (time-series graphs)

Estimate the memory size required for creating line graphs and pie charts by referencing the table below. For the number of records, use the maximum value obtained in *[Step 1]*.

Table C–12: Guidelines for the memory size required for creating line graphs and area charts

Number of records (maximum value obtained in <i>[Step 1]</i>)	Guideline for required memory size (megabytes)
1 to 1,000	5
1,001 to 10,000	10
10,001 to 30,000	30
30,001 to 70,000	50
70,001 to 100,000	80
100,001 or greater	See the formula below [#]

#

If the number of records exceeds 100,000, use the following formula to estimate the memory size:

Memory size required for graph creation = (number of records (maximum value obtained in *[Step 1]*) ÷ 100,000) × 80 megabytes

c) Stacked area charts

Estimate the memory size required for creating stacked area charts by referencing the table below.

Table C–13: Guidelines for the memory size required for creating stacked area charts

Number of records ^{#1}	Guideline for required memory size (megabytes)
1 to 1,000	20
1,001 to 10,000	50
10,001 to 30,000	80
30,001 to 70,000	120
70,001 to 100,000	200
100,001 to 300,000	See the formula below ^{#2}
300,001 or greater	Charts cannot be displayed ^{#3}

#1

When you estimate the memory size required for creating stacked area charts, obtain the number of records by using the following formula:

Number of records (G1) = data acquisition count × total number of instances

The total number of instances means the total number of instances that existed even once during the data collection period. Therefore, a very large amount of memory is used to create stacked area charts. For details about the approach to estimating the memory size required for graph creation, see *C.7(5) Approach to estimating the memory size required for graph creation*.

#2

If the number of records is from 100,001 to 300,000, estimate the required memory size by using the following formula:

Memory size required for graph creation = (number of records (G1) ÷ 100,000) × 200 megabytes

#3

Do not display reports containing stacked area charts when the number of records exceeds 300,000. If such a report is displayed, almost all of PFM - Web Console's extendable memory (1,024 bytes) will be used up. Evaluate reducing the number of records by adjusting the display period and data collection interval and by specifying filters in the report definitions.

Of the **memory sizes required for graph creation** obtained above, use the largest value as the **maximum memory size required for graph creation (F1)**.

Estimating the size of memory required for CSV output or print screen display from the View Report window

PFM - Web Console enables you to output reports in CSV format and display print screens in HTML format from reports displayed by using the GUI. The memory required for one report display is needed to output a report in CSV format or to display a print screen in HTML format. Therefore, when you estimate the required memory size, use the **maximum amount of data required for receiving report data at one time (B1)** obtained in *[Step 1]*.

For an example estimate, see *C.7(6) Example estimate*.

(e) [Step 5] Comparing the memory size required for the PFM - Web Console (GUI) and the default memory size, and then determining whether to extend memory

Comparing the memory size required for the PFM - Web Console (GUI) and the default memory size

Check if the value (D1) obtained in *[Step 4]* is less than the available default memory size. If it is, you have completed the estimation of memory size for the PFM - Web Console. Go to *[Step 6]* and set the maximum number of records to be acquired.

The following tables show the default memory size and the extendable range of memory size for the PFM - Web Console.

Table C–14: PFM - Web Console version 08 -50 or earlier

Target	Default value (megabytes)	Extendable range (megabytes)
PFM - Web Console (all OSs)	256	Through 1,024

Table C–15: PFM - Web Console version 09-00 or later

Target	Default value (megabytes)	Extendable range (megabytes)
PFM - Web Console (all OSs)	512	Through 1,024

Determining whether to extend memory

If the value (D1) obtained in *[Step 4]* is equal to or greater than the available default memory size, determine whether to extend memory. Once you have decided to extend memory and the value of (D1) is within the extendable range, this step is completed. Go to *[Step 6]* to set the memory extension and the maximum number of records to be acquired.

Re-estimating after evaluating the operation

If the value of (D1) is equal to or greater than the available memory size after you have performed *Determining whether to extend memory*, see *C.7(4) Reducing memory usage when displaying reports* and re-estimate the memory size for the PFM - Web Console.

(f) [Step 6] Setting memory extension for PFM - Web Console (GUI) and the number of records

Set the memory extension for PFM - Web Console (GUI) (not needed if memory extension is not performed)

Set the memory size determined in *Determining whether to extend memory* according to the procedure for setting the memory size for PFM - Web Console. For details, see *C.7(7) Extending the memory for the View Server service and the PFM - Web Console (GUI and jpcrpt)*. If you do not perform memory extension, skip this step.

Specifying the maximum number of records to be acquired for PFM - Web Console (GUI)

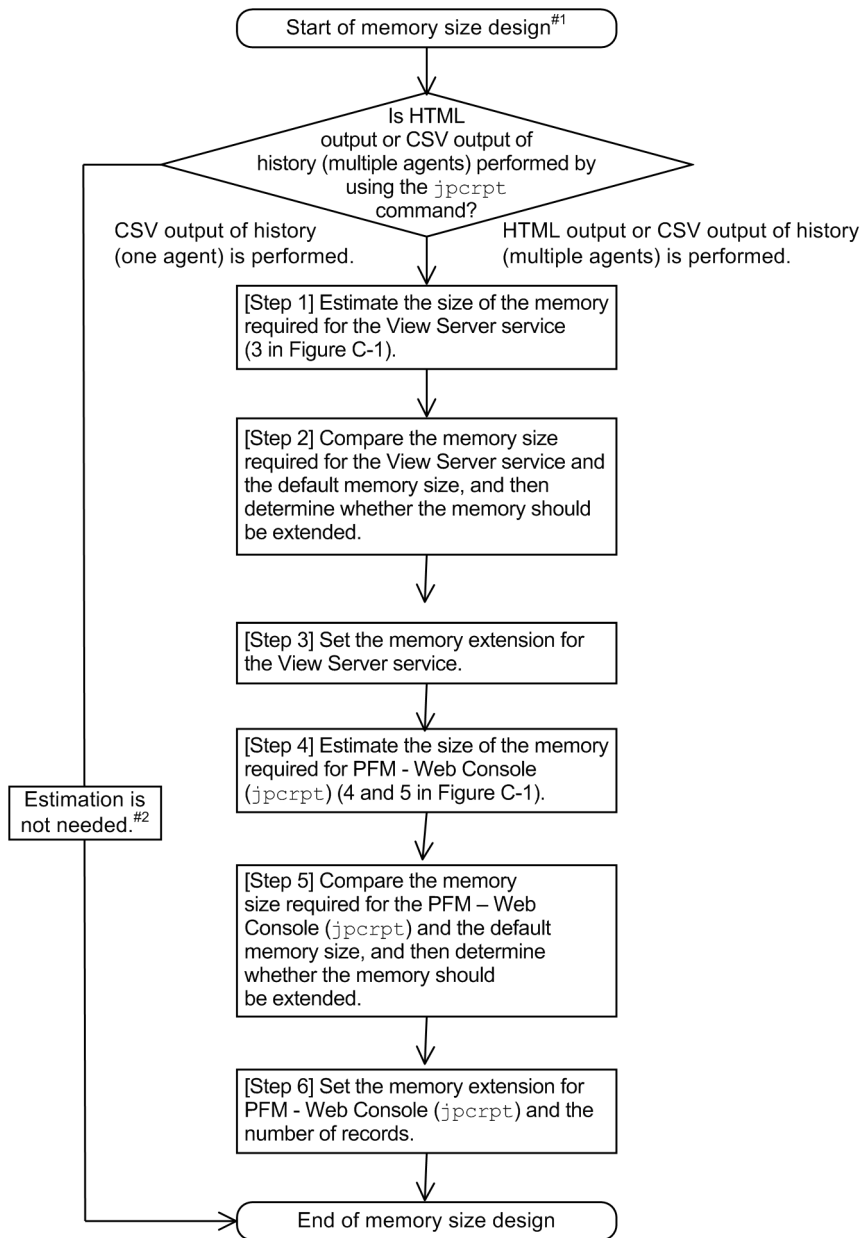
Of the numbers of records obtained in *[Step 1]*, specify the largest value in the `maxFetchCount` parameter (under the `<vsa>` tag) in `config.xml`.

Note: If you use the `jpcrpt` command to output reports, specify the maximum number of records to be acquired in the `maxFetchCount` parameter under the `<command>` tag.

(3) Estimating the size of the memory required when the jpcrpt command is used to display reports

Use the procedure shown below to estimate the size of the memory (memory size design) required to display reports when you use the `jpcrpt` command.

Figure C-4: Flow chart for estimating the size of the memory required when you use the `jpccrpt` command to display reports



#1: If multiple instances of the `jpccrpt` command are executed concurrently, a memory shortage might occur in the View Server service, which might result in problems using the Performance Management functions. If the `jpccrpt` command is to be executed multiple times in succession, design the system so that only one instance of the `jpccrpt` command can be executed at a time (for example, first check the return value of the `jpccrpt` command and then execute the next `jpccrpt` command).

#2: When a historical report (for one agent) is output in CSV format, a maximum of about one million records of data can be handled per execution. To handle more than one million records of data, execute CSV output multiple times by handling one million records at a time.

The `jpccrpt` command is useful for handling a large amount of data because it transmits data in segments when historical reports (for one agent) are output in CSV format. Therefore, there is no need to estimate the memory size.[#] When you handle a large amount of data in report output, perform CSV output on historical reports (for one agent) by using the `jpccrpt` command.

#: When historical reports (for one agent) are output in CSV format, a maximum of about one million records of data can be handled per execution. To handle more than one million records of data, perform CSV output multiple times by handling one million records at a time.

On the other hand, if the `jpccrpt` command is used to perform HTML output (PFM - Web Console version 08-11 or later) or CSV output on historical reports (for multiple agents), you must perform the memory size design based on the estimated memory size, because the `jpccrpt` command is not designed to handle a large amount of data without using segment transmission.

Perform memory size design for the View Server service (*[Step 1]* through *[Step 3]*), and then perform memory size design for PFM - Web Console (`jpccrpt`) (*[Step 4]* through *[Step 6]*).

(a) [Step 1] Estimating the size of the memory required for the View Server service

See *[Step 1]* in *C.7(2) Estimating the size of the memory required when the GUI is used to display reports*.

(b) [Step 2] Comparing the memory size required for the View Server service and the default memory size, and then determining whether to extend memory

See *[Step 2]* in *C.7(2) Estimating the size of the memory required when the GUI is used to display reports*.

(c) [Step 3] Setting memory extension for the View Server service (if you do not perform memory extension, skip this step)

See *[Step 3]* in *C.7(2) Estimating the size of the memory required when the GUI is used to display reports*.

(d) [Step 4] Estimating the size of the memory required for PFM - Web Console (jpccrpt)

Estimate the size of the memory required for the `jpccrpt` command on PFM - Web Console. To do this, take into account the **maximum amount of data required for receiving report data at one time (B1)** (*[Step 1]* **maximum value of (B1)**) and the **maximum memory size required for graph creation**.

Size of memory required for the `jpccrpt` command (D1)

= **maximum amount of data required for receiving report data at one time (B1)** (*[Step 1]* **maximum value of (B1) in `jpccrpt`**)

+ **maximum memory size required for graph creation (F1)**

The following explains how to estimate each memory size.

Estimating the maximum amount of data required for receiving report data at one time

Use the maximum value of **(B1)** obtained in *[Step 1]*.

Estimating the maximum size of the memory required for graph creation (not required if no graph display is specified in report definitions)

If graph display is specified in report definitions, the `jpccrpt` command can output reports containing graphs in HTML format. However, a large amount of memory is used temporarily to create graph images. To estimate the memory size required for graph creation, first estimate the **memory size required for graph creation** for each report and then use the largest value as the **maximum memory size required for graph creation (F1)**. If the definitions of reports that are to be output by `jpccrpt` do not contain graphs, skip this estimation step.

PFM - Web Console enables the user to select eight types of graphs for reports. The memory estimation methods can be classified into three types according to the characteristics of graph drawing.

a) Clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts (most-recent graphs)

Estimate the memory size required for creating clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts by referencing the table below.

Clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts display the records (= instances) acquired by a single collection in the past minute. Therefore, use the maximum number of instances that are obtained by one collection in the display period. For details about the approach to estimating the memory size required for graph creation, see *C.7(5) Approach to estimating the memory size required for graph creation*.

Table C–16: Guidelines for the memory size required for creating the most-recent graphs

Maximum number of instances	Guideline for required memory size (megabytes)
1 to 50 [#]	2

#

When the maximum number of instances exceeds 50, it becomes difficult to check the data in graphs. Therefore, evaluate setting filters in the report definition to keep the number of instances in check.

Reference note

For details about how to estimate the number of instances for each record, see each PFM - Agent manual.

b) Line graphs and area charts (time-series graphs)

Estimate the memory size required for creating line graphs and pie charts by referencing the table below. For the number of records, use the maximum value obtained in *[Step 1]*.

Table C–17: Guidelines for the memory size required for creating line graphs and area charts

Number of records (maximum value obtained in <i>[Step 1]</i>)	Guideline for required memory size (megabytes)
1 to 1,000	5
1,001 to 10,000	10
10,001 to 30,000	30
30,001 to 70,000	50
70,001 to 100,000	80
100,001 or greater	See the formula below [#]

#

If the number of records exceeds 100,000, use the following formula to estimate the memory size:

$$\text{Memory size required for graph creation} = (\text{number of records (maximum value obtained in [Step 1])} \div 100,000) \times 80 \text{ megabytes}$$

c) Stacked area charts

Estimate the memory size required for creating stacked area charts by referencing the table below.

Table C–18: Guidelines for the memory size required for creating stacked area charts

Number of records ^{#1}	Guideline for required memory size (megabytes)
1 to 1,000	20

Number of records ^{#1}	Guideline for required memory size (megabytes)
1,001 to 10,000	50
10,001 to 30,000	80
30,001 to 70,000	120
70,001 to 100,000	200
100,001 to 300,000	See the formula below ^{#2}
300,001 or greater	Charts cannot be displayed ^{#3}

#1

When you estimate the memory size required for creating stacked area charts, obtain the number of records by using the following formula:

Number of records (G1) = data acquisition count × total number of instances

The total number of instances means the total number of instances that existed even once during the data collection period. Therefore, a very large amount of memory is used to create stacked area charts. For details about the approach to estimating the memory size required for graph creation, see [C.7\(5\) Approach to estimating the memory size required for graph creation](#).

#2

If the number of records is from 100,001 to 300,000, estimate the required memory size by using the following formula:

Memory size required for graph creation = (number of records (G1) ÷ 100,000) × 200 megabytes

#3

Do not display reports containing stacked area charts when the number of records exceeds 300,000. If such a report is displayed, almost all of PFM - Web Console's extendable memory (1,024 bytes) will be used up. Evaluate reducing the number of records by adjusting the display period and data collection interval and by specifying filters in the report definitions.

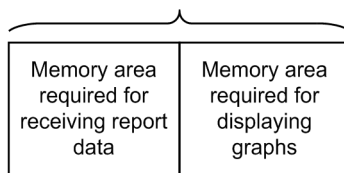
Of the memory sizes required for graph creation obtained above, use the largest value as the **maximum memory size required for graph creation (F1)**.

For an example estimate, see [C.7\(6\) Example estimate](#).

Reference note

Schematic diagram of the memory size required for the PFM - Web Console (jpcrpt)

Memory area required for report output by the jpcrpt command



(e) [Step 5] Comparing the memory size required for the PFM - Web Console (jpcrpt) and the default memory size, and then determining whether to extend memory

Comparing the memory size required for the PFM - Web Console (jpcrpt) and the default memory size

Check if the value (D1) obtained in [\[Step 4\]](#) is less than the available default memory size. If it is, you have completed the estimation of memory size for the PFM - Web Console. Go to [\[Step 6\]](#) and set the maximum number of records to be acquired.

The following table shows the default memory size and the extendable range of memory size for the PFM - Web Console (jpcrpt).

Table C–19: jpcrpt command for version 08-00 or later

Target	Default value (megabytes)	Extendable range (megabytes)
PFM - Web Console (all OSs)	64	Through 1,024

Determining whether to extend memory

If the value (D1) obtained in [Step 4] is equal to or greater than the available default memory size, determine whether to extend memory. Once you have decided to extend the memory and the value of (D1) is within the extendable range, this step is completed. Go to [Step 6] to set the memory extension and the maximum number of records to be acquired.

Re-estimating after evaluating the operation

If the value of (D1) is equal to or greater than the available memory size after you have performed *Determining whether to extend memory*, see C.7(4) *Reducing memory usage when displaying reports* and re-estimate the memory size for the PFM - Web Console (jpcrpt).

(f) [Step 6] Setting memory extension for PFM - Web Console (jpcrpt) and the number of records

Set the memory extension for PFM - Web Console (jpcrpt) (not needed if memory extension is not performed)

Set the memory size determined in *Determining whether to extend memory* according to the procedure for setting the memory size for PFM - Web Console. For details, see C.7(7) *Extending the memory for the View Server service and the PFM - Web Console (GUI and jpcrpt)*. If you do not perform memory extension, skip this step.

Specifying the maximum number of records to be acquired for PFM - Web Console (jpcrpt)

Of the numbers of records obtained in [Step 1], specify the largest value in the maxFetchCount parameter (under the <command> tag) in config.xml.

Note: If use the GUI to output reports, specify the maximum number of records to be acquired in the maxFetchCount parameter under the <vsa> tag.

(4) Reducing memory usage when displaying reports

To reduce memory usage, evaluate the items listed in the following table, and then re-estimate the required memory.

Table C–20: Memory requirement items to be re-evaluated

Item	Item to be re-evaluated	Method
View Server service	Adjusting the record size	Reduce the number of selected fields.
	Adjusting the number of records	Take some or all of the following actions: <ol style="list-style-type: none"> 1. Reduce the display period. 2. Reduce the number of instances (set filters in the report definitions). 3. Increase the data collection interval or the report display interval.
PFM - Web Console (GUI)	Changing the cache retention count	Reduce the condCacheSize parameter value in config.xml.
	Adjusting the number of records	Take some or all of the following actions: <ol style="list-style-type: none"> 1. Reduce the display period. 2. Reduce the number of instances (set filters in the report definitions). 3. Increase the data collection interval or the report display interval.

Item	Item to be re-evaluated	Method
PFM - Web Console (GUI)	Controlling multiple logins by the same user	Specify the <code>enableDuplicateLogin</code> parameter in <code>config.xml</code> . (applicable only to version 09-00 or later)
PFM - Web Console (jpcrpt)	Adjusting the record size	Reduce the number of selected fields.
	Adjusting the number of records	Take some or all of the following actions: 1. Reduce the display period. 2. Reduce the number of instances (set filters in the report definitions). 3. Increase the data collection interval or the report display interval.

You can adjust the number of records to be acquired by adjusting the data collection interval and the report display period. If you adjust the number of records, use the guidelines shown in the following table for evaluation.

Table C–21: Guidelines for the number of records

No.	Maximum number of records to be acquired	Data collection interval	Number of instances	Report display interval	Report display period
1	1,440 (default)	1 minute	1	Minute	1 day
		5 minutes	1	Minute	5 days
		5 minutes	5	Minute	1 day
		1 minute	1	Hour	60 days
2	10,080	1 minute	1	Minute	7 days
		5 minutes	1	Minute	35 days
		5 minutes	5	Minute	7 days
		1 minute	1	Hour	420 days
3	44,640	1 minute	1	Minute	31 days
		5 minutes	1	Minute	155 days
		5 minutes	5	Minute	31 days
		1 minute	1	Hour	1,860 days

(5) Approach to estimating the memory size required for graph creation

This subsection explains an approach to estimating the memory size required for graph creation for each type of graph.

In the figure below, each cell containing an alphabetical letter represents one record.

The figure indicates that records A and B were collected at 12:01, A, C, and D at 12:02, and A, B, and C at 12:03.

Clustered column charts, stacked column charts, clustered bar charts, stacked bar charts, and pie charts (most-recent graphs)

The records collected at the most recent time are used to draw graphs.

Figure C–5: Records required for creating most-recent graphs



To draw a graph, the three records indicated by shading in the figure are required. (The records indicated by dashed lines are collected as data but they not used for drawing graphs).

About the maximum number of instances

This subsection explains the maximum number of instances used for estimating the memory size required for graph creation. The maximum number of instances means the largest number of records collected (= number of instances) at each collection time within the display period.

In this figure, the number of records is two at collection time 12:00, three at 12:01, three at 12:02, and zero at 12:03. Therefore, the maximum number of instances is three.

Because the estimation of the maximum number of instances depends on the records, evaluate the appropriate value by referencing each PFM - Agent manual.

Line graphs and area charts (time-series graphs)

All records in the display period are used to draw graphs.

Figure C–6: Records required for drawing time-series graphs



A total of eight records, as indicated by shading in this figure, are needed to draw graphs.

Stacked area charts (collection-target records stacked up by time in time series)

All records in the display period are used to draw graphs. Because the records collected at each time must be stacked in the same order, null records (dummy (B) , dummy (C) , and dummy (D)) are added when there is no corresponding record.

Figure C–7: Records required for drawing stacked area charts

Collection time	12:00	12:01	12:02	12:03
	A	A	A	
	B	dummy (B)	B	
	dummy (C)	C	C	
	dummy (D)	D	dummy (C)	
	Records collected at 12:01	Records collected at 12:02	Records collected at 12:03	

A total of 12 records, as indicated by shading in this figure, are needed to draw graphs.

About the total number of instances

This subsection explains the total number of instances used for estimating the memory size required for graph creation. The total number of instances means the total number of instances that existed even once during the data collection period.

In this figure, the instances that existed at least once in the display period (12:00 to 12:03) are A, B, C, and D. Therefore, the total number of instances is four.

For records whose instances change dramatically by collection period (such as the PD record of PFM - Agent for Platform), the total number of instances might become very large. Because the total number of instances depends on the characteristics of instances of each record, estimate the required memory size by referencing each PFM - Agent manual.

(6) Example estimate

(a) Example estimate for report display using the GUI

The prerequisites are shown below. In this example, report display by the `jspcrpt` command is not considered in the memory estimate for the View Server service because report display by the GUI is performed in separate time periods.

Prerequisites

Memory settings for the View Server service	256 megabytes (this example assumes an environment in which memory cannot be extended)
Memory settings for PFM - Web Console	512 megabytes (this example assumes an environment in which memory cannot be extended)
Number of users	Accounts: Administrator: <code>administrator</code> Non-administrator: <code>public1, public2, public3</code> The above accounts are used by four users.
Whether the concurrent login control setting is specified (<code>enableDuplicateLogin</code> parameter)	Yes
Cache retention count (<code>condCacheSize</code> parameter)	20
Report A	UNIX Agent for Platform PI_DEVD record Busy % field Write % field ODBC key field: Device Name field (in this example, <code>string(10)</code>) Number of instances: 20

Report A	Data collection interval: 60 seconds Report display interval: Hour (60 minutes) Report display period: Past month Graph type: Line
Report B	UNIX Agent for Platform PD_FSL record Mbytes Free % field ODBC key field: File System field (in this example, string (50)) Number of instances: 50 Data collection interval: 300 seconds Report display interval: Minute (one minute) Report display period: Past week Graph type: Clustered column chart
Report C	Windows Agent for Platform PI record CPU % field ODBC key field: None Number of instances: 1 Data collection interval: 60 seconds Report display interval: Minute (one minute) Report display period: Past week Graph type: Pie chart
Report D	Windows Agent for Platform PD record Virtual Kbytes field ODBC key field: Program field (in this example, string (30)), PID field Number of instances: 50 Data collection interval: 60 seconds Report display interval: Minute (one minute) Report display period: Past 24 hours Graph type: Line

Starting the memory size design

First, to enable concurrent login control, change the `enableDuplicateLogin` parameter setting in `config.xml` from `true` to `false`.

[Step 1] Estimating the memory size required for the View Server service

To estimate the memory size required for the View Server service, determine the **maximum amount of data required for receiving report data at one time (B1)** from the **amount of data required for receiving report data at one time (B1)** for each report to be displayed.

To effectively perform estimation for multiple reports, we recommend that you use reports that have many records for estimation. To obtain the number of records for individual reports A, B, C, and D:

From the prerequisites, **report A** satisfies the following condition:

b) *Data collection interval < report display interval*

Number of data collections = report display period ÷ report display interval, therefore

Number of data collections = 31 (days) × 24 (hours) × 60 (minutes) ÷ 60 (minutes) = 744 (count)

Number of records = 744 × 20 = 14,880 records

From the prerequisites, **report B** satisfies the following condition:

a) *Data collection interval* \geq *report display interval*

Number of data collections = report display period \div data collection interval, therefore

$$\text{Number of data collections} = 7 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 5 \text{ (minutes)} = 2,016 \text{ (count)}$$

$$\text{Number of records} = 2,016 \times 50 = 100,800 \text{ records}$$

From the prerequisites, **report C** satisfies the following condition:

a) *Data collection interval* \geq *report display interval*

Number of data collections = report display period \div data collection interval, therefore

$$\text{Number of data collections} = 7 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 1 \text{ (minutes)} = 10,080 \text{ (count)}$$

$$\text{Number of records} = 10,080 \times 1 = 10,080 \text{ records}$$

From the prerequisites, **report D** satisfies the following condition:

a) *Data collection interval* \geq *report display interval*

Number of data collections = report display period \div data collection interval, therefore

$$\text{Number of data collections} = 1 \text{ (day)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 1 \text{ (minutes)} = 1,440 \text{ (count)}$$

$$\text{Number of records} = 1,440 \times 50 = 72,000 \text{ records}$$

As a result, this example performs memory size estimation for reports B and D that have many records.

Next, the example obtains the **amount of data required for receiving report data at one time (B1)** for reports B and D.

Amount of data required for receiving report data at one time = record size (C1) \times number of records...(B1)

First, the example calculates the **amount of data required for receiving report data at one time (B1)** for report B.

The record size of report B is as follows:

Record size (bytes)

= **total size of all selected fields[#] + number of selected fields[#] \times 2 + 34...(C1)**, therefore

$$(16 \text{ [date and time field]}) + (13 \text{ [Mbytes Free \% field]}) + \{(50 + 2) \text{ [File System field]}\} + 3 \times 2 + 34 = 121 \text{ (bytes)}$$

Amount of data required for receiving report data at one time (B1)

$$= 121 \text{ (bytes)} \times 100,800 \text{ records} = 12,196,800 \text{ (bytes)} \doteq 12 \text{ megabytes}$$

#: When historical reports are displayed, the Date and Time field and the ODBC key field are always acquired even if they are not included in the report display. For real-time reports, the Record time field and the ODBC key field are always acquired.

Next, the example calculates the **amount of data required for receiving report data at one time (B1)** for report D.

The record size of report D is as follows:

Record size (bytes)

= **total size of all selected fields[#] + number of selected fields[#] \times 2 + 34...(C1)**, therefore

$$(16 \text{ [date and time field]}) + (13 \text{ [Virtual Kbytes field]}) + \{(30 + 2) \text{ [program field]}\} + (13 \text{ [PID field]}) + 4 \times 2 + 34 = 116 \text{ (bytes)}$$

Amount of data required for receiving report data at one time (B1)

$$= 116 \text{ (bytes)} \times 72,000 \text{ records} = 8,352,000 \text{ (bytes)} \doteq 8 \text{ megabytes}$$

As a result, the size of the memory required for the View Server service (the `jspcrpt` command is not considered) is as follows:

Size of memory required for the View Server service

= maximum amount of data required for receiving report data at one time (B1) × 2 × number of users[#] + 30 megabytes...(A1)

Of the amount of data required for receiving report data at one time (B1) obtained for each report, the largest value is 12 megabytes, which belongs to report B.

Size of memory required for the View Server service

= 12 megabytes × 2 × 4 + 30 megabytes = 126 megabytes

#: This is the number of users logged in concurrently to Performance Management. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are concurrently logged in concurrently from PFM - Web Console, the total number of users is four. PFM - Web Console version 09-00 or later enables you to control multiple logins by the same user by specifying the `enableDuplicateLogin` parameter in `config.xml`. By using this function, you can prevent an unexpected increase in the number of user logins that might be caused by multiple logins by the same user name. If you use PFM - Web Console version 08-11 or earlier, inhibit the number of concurrent logins by multiple users by operational means.

[Step 2] Comparing the memory size required for the View Server service and the default memory size, and then determining whether to extend memory

Because the size of the memory required for the View Server service is 256 megabytes or less, there is no problem in the memory settings for the View Server service.

[Step 3] Setting the memory extension for the View Server service

This step is not required because this example does not extend memory for the View Server service.

[Step 4] Estimating the size of the memory required for running PFM - Web Console

Next, the example estimates the size of the memory required for PFM - Web Console.

Memory size required for report display per login user...(E1)

= maximum amount of data required for receiving report data at one time (B1) × 20
+ 20 megabytes (memory required for one login user to use the PFM - Web Console functions)

As a result of the calculation performed for each report at [Step 1], the largest value belongs to report B. Therefore, the maximum amount of data required for receiving report data at one time (B1) is 12 megabytes.

Memory size required for report display per login user (E1) = 12 megabytes × 20 + 20 = 260 megabytes

From the graph type and the number of records for reports B and D, the memory sizes required for graph creation for these reports are as follows:

Memory size required for graph creation for report B is 2 megabytes

Memory size required for graph creation for report D is 80 megabytes

As a result, the maximum memory size required for graph creation (F1) is 80 megabytes.

Size of memory required for PFM - Web Console (GUI)...(D1)

= memory size required for report display per login user (E1)
× number of users[#]
+ maximum memory size required for graph creation (F1)
+ amount of data required for receiving report data at one time (B1) (used in CSV output or print screen display)
+ 50 megabytes (memory size used while services are running)

Memory required for PFM - Web Console = 260 megabytes × 4 + 80 megabytes + 12 megabytes + 50 megabytes = 1,182 megabytes

#: This is the number of users logged in concurrently to Performance Management. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are logged in concurrently from PFM - Web Console, the total number of users is four. PFM - Web Console version 09-00 or later enables you to control multiple logins by the same user by specifying the `enableDuplicateLogin` parameter in `config.xml`. By using this function, you can prevent an unexpected increase in the number of user logins that might be caused by multiple logins by the same user name. If you use PFM - Web Console version 08-11 or earlier, inhibit the number of concurrent logins by multiple users by operational means.

[Step 5] Checking the memory size required for PFM - Web Console and evaluating memory extension

The estimation reveals that the memory size required for PFM - Web Console exceeds the available default value of 512 megabytes. In this example, memory extension cannot be evaluated. Therefore, the example evaluates the report display operation, changes the cache retention count for reports (`condCacheSize` parameter in `config.xml`) from 20 to 5, changes the data collection interval for report B from 300 seconds to 360 seconds, and then re-calculates the required memory size for PFM - Web Console.

[Step 4] Re-estimating the memory size required for PFM - Web Console (re-estimation)

[Re-calculating the memory size required for PFM - Web Console]

First, re-calculate the number of records for report B.

$$\text{Number of data collections} = 7 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 6 \text{ (minutes)} = 1,680 \text{ (count)}$$

$$\text{Number of records} = 1,680 \times 50 = 84,000 \text{ records}$$

Amount of data required for receiving report data at one time (B1)

$$= 121 \text{ (bytes)} \times 84,000 \text{ records} = 10,164,000 \text{ (bytes)} \doteq 10 \text{ megabytes}$$

Memory size required for report display per login user...(E1)

$$= \text{maximum amount of data required for receiving report data at one time (B1)} \times 20$$

$$+ 20 \text{ megabytes (memory required for one login user to use the PFM - Web Console functions)}$$

Change the cache retention count from 20 to 5.

As a result of the calculation for each report, the largest value of the **amount of data required for receiving report data at one time (B1)** is 10 megabytes, which belongs to report B. Therefore,

$$\text{Memory size required for report display per login user (E1)} = 10 \text{ megabytes} \times 5 + 20 = 70 \text{ megabytes}$$

The **maximum memory size required for graph creation (F1)** is 80 megabytes.

Size of memory required for PFM - Web Console (GUI) (D1)

$$= \text{memory size required for report display per login user (E1)}$$

$$\times \text{number of users}^\#$$

$$+ \text{maximum memory size required for graph creation (F1)}$$

$$+ \text{amount of data required for receiving report data at one time (B1) (used in CSV output or print screen display)}$$

$$+ 50 \text{ megabytes (memory size used while services are running)}$$

$$\text{Memory size required for PFM - Web Console} = 70 \text{ megabytes} \times 4 + 80 \text{ megabytes} + 10 \text{ megabytes} + 50 \text{ megabytes} = 420 \text{ megabytes}$$

#: This is the number of users logged in concurrently to Performance Management. For example, in an environment where A represents the administrator users and B the non-administrator users, if one administrator user A and three non-administrator users B are logged in concurrently from PFM - Web Console, the total number of users is four. PFM - Web Console version 09-00 or later enables you to control multiple logins by the same user by specifying the `enableDuplicateLogin` parameter in `config.xml`. By using this function, you can prevent an unexpected increase in the number of user logins that might be caused by multiple logins by the same user name.

If you use PFM - Web Console version 08-11 or earlier, inhibit the number of concurrent logins by multiple users by operational means.

[Step 5] Checking the memory size required for PFM - Web Console and evaluating the memory extension (re-check)

Because the memory size required for PFM - Web Console is now 512 megabytes or less, there is no problem in the memory settings for PFM - Web Console.

[Step 6] Specifying the memory extension and the number of records for PFM - Web Console

There is no need to specify memory extension settings because this example does not extend the memory for PFM - Web Console. Lastly, specify the `maxFetchCount` parameter (under the `<vsa>` tag) in `config.xml`. This example specifies 84,000, which is the largest number of records for all reports calculated as (B1) in [\[Step 1\]](#).

The memory size design is now completed.

(b) Example estimate for report display using the `jpccrpt` command

The prerequisites are shown below. In this example, report display by the GUI is not considered in the memory estimate for the View Server service because report display by the `jpccrpt` command is performed in separate time periods.

Prerequisites

Memory settings for the View Server service	256 megabytes (this example assumes an environment in which memory cannot be extended)
Memory settings for PFM - Web Console (<code>jpccrpt</code>)	64 megabytes (this example assumes an environment in which memory cannot be extended)
Report A	UNIX Agent for Platform#: <ul style="list-style-type: none"> PI_DEVD record Busy % field Write % field ODBC key field: Device Name field (in this example, <code>string(10)</code>) Number of instances: 20 Data collection interval: 60 seconds Report display interval: Hour (60 minutes) Report display period: Past month Graph type: Line
Report B	UNIX Agent for Platform#: <ul style="list-style-type: none"> PD_FSL record Mbytes Free % field ODBC key field: File System field (in this example, <code>string(50)</code>) Number of instances: 50 Data collection interval: 300 seconds Report display interval: Minute (one minute) Report display period: Past week Graph type: Clustered column chart
Report C	Windows Agent for Platform#: <ul style="list-style-type: none"> PI record CPU % field ODBC key field: None Number of instances: 1 Data collection interval: 60 seconds Report display interval: Minute (one minute) Report display period: Past week

Report C	Graph type: Pie chart
Report D	Windows Agent for Platform#: PD record Virtual Kbytes field ODBC key field: Program field (in this example, string(30)), PID field Number of instances: 50 Data collection interval: 60 seconds Report display interval: Minute (one minute) Report display period: Past 24 hours Graph type: Line

Historical report (for one agent)

Because reports A, B, C, and D are all historical reports (for one agent), the memory size must be estimated for all reports.

Starting the memory size design

[Step 1] Estimating the memory size required for the View Server service

To estimate the memory size required for the View Server service, determine the **maximum amount of data required for receiving report data at one time (B1)** from the **amount of data required for receiving report data at one time (B1)** for each report to be displayed.

To effectively perform estimation for multiple reports, we recommend that you use reports that have many records for estimation. To obtain the number of records for individual reports A, B, C, and D:

From the prerequisites, **report A** satisfies the following condition:

b) *Data collection interval < report display interval*

Number of data collections = report display period ÷ report display interval, therefore

$$\text{Number of data collections} = 31 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 60 \text{ (minutes)} = 744 \text{ (count)}$$

$$\text{Number of records} = 744 \times 20 = 14,880 \text{ records}$$

From the prerequisites, **report B** satisfies the following condition:

a) *Data collection interval ≥ report display interval*

Number of data collections = report display period ÷ data collection interval, therefore

$$\text{Number of data collections} = 7 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 5 \text{ (minutes)} = 2,016 \text{ (count)}$$

$$\text{Number of records} = 2,016 \times 50 = 100,800 \text{ records}$$

From the prerequisites, **report C** satisfies the following condition:

a) *Data collection interval ≥ report display interval*

Number of data collections = report display period ÷ data collection interval, therefore

$$\text{Number of data collections} = 7 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 1 \text{ (minutes)} = 10,080 \text{ (count)}$$

$$\text{Number of records} = 10,080 \times 1 = 10,080 \text{ records}$$

From the prerequisites, **report D** satisfies the following condition:

a) *Data collection interval ≥ report display interval*

Number of data collections = report display period ÷ data collection interval, therefore

$$\text{Number of data collections} = 1 \text{ (day)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \div 1 \text{ (minutes)} = 1,440 \text{ (count)}$$

$$\text{Number of records} = 1,440 \times 50 = 72,000 \text{ records}$$

As a result, this example performs memory size estimation for reports B and D that have many records.

Next, the example obtains the **amount of data required for receiving report data at one time (B1)** for reports B and D.

Amount of data required for receiving report data at one time = record size (C1) × number of records...(B1)

First, the example calculates the **amount of data required for receiving report data at one time (B1)** for report B.

The record size of report B is as follows:

Record size (bytes)

$$= \text{total size of all selected fields}^{\#} + \text{number of selected fields}^{\#} \times 2 + 34 \dots (\text{C1}), \text{ therefore}$$

$$(16 [\text{date and time field}]) + (13 [\text{Mbytes Free \% field}]) + \{(50 + 2) [\text{File System field}]\} + 3 \times 2 + 34 = 121 \text{ (bytes)}$$

Amount of data required for receiving report data at one time (B1)

$$= 121 \text{ (bytes)} \times 100,800 \text{ records} = 12,196,800 \text{ (bytes)} \cong 12 \text{ megabytes}$$

Next, the example calculates the **amount of data required for receiving report data at one time (B1)** for report D.

The record size of report D is as follows:

Record size (bytes)

$$= \text{total size of all selected fields}^{\#} + \text{number of selected fields}^{\#} \times 2 + 34 \dots (\text{C1}), \text{ therefore}$$

$$(16 [\text{date and time field}]) + (13 [\text{Virtual Kbytes field}]) + \{(30 + 2) [\text{program field}]\} + (13 [\text{PID field}]) + 4 \times 2 + 34 = 116 \text{ (bytes)}$$

Amount of data required for receiving report data at one time (B1)

$$= 116 \text{ (bytes)} \times 72,000 \text{ records} = 8,352,000 \text{ (bytes)} \cong 8 \text{ megabytes}$$

As a result, the size of the memory required for the View Server service (GUI report display is not considered) is as follows:

Size of memory required for the View Server service

$$= \text{maximum amount of data required for receiving report data at one time (B1)} \times 2 + 30 \text{ megabytes} \dots (\text{A1})$$

Of the **amount of data required for receiving report data at one time (B1)** obtained for each report, the largest value is 12 megabytes, which belongs to report B.

$$\text{Size of memory required for the View Server service} = 12 \text{ megabytes} \times 2 + 30 \text{ megabytes} = 54 \text{ megabytes}$$

[Step 2] Comparing the memory size required for the View Server service and the default memory size, and then determining whether to extend memory

Because the size of the memory required for the View Server service is 256 megabytes or less, there is no problem in the memory settings for the View Server service.

[Step 3] Setting the memory extension for the View Server service

This step is not required because this example does not extend memory for the View Server service.

[Step 4] Estimating the size of the memory required for running PFM - Web Console (jpcrpt)

Next, the example estimates the size of the memory required for PFM - Web Console (jpcrpt).

As a result of the calculation performed for each report at [Step 1], the largest value belongs to report B. Therefore, the **maximum amount of data required for receiving report data at one time (B1)** is 12 megabytes.

From the graph type and the number of records for reports B and D, the **memory sizes required for graph creation** for these reports are as follows:

Memory size required for graph creation for report B is 2 megabytes

Memory size required for graph creation for report D is 80 megabytes

As a result, the **maximum memory size required for graph creation (F1)** is 80 megabytes.

Size of memory required for the jpcrpt command...(D1)

= **maximum amount of data required for receiving report data at one time (B1) (value of (B1) for jpcrpt in [Step 1])**

+ **maximum memory size required for graph creation (F1)**

Memory required for the jpcrpt command = 12 megabytes + 80 megabytes = 92 megabytes

[Step 5] Checking the memory size required for PFM - Web Console and evaluating memory extension

The estimation reveals that the memory size required for the jpcrpt command exceeds the available default value of 64 megabytes. In this example, memory extension cannot be evaluated. Of the memory sizes estimated, the size required for graph creation is very large compared to the available default memory size (64 megabytes). Therefore, the example evaluates the report display operation, changes the data collection interval for report D from 60 seconds to 300 seconds, and then re-calculates the required memory size for the jpcrpt command.

[Step 4] Re-estimating the memory size required for PFM - Web Console (jpcrpt) (re-estimation)

Re-calculating the memory size required for PFM - Web Console (jpcrpt)

First, re-calculate the number of records for report D.

Number of data collections = 1 (day) × 24 (hours) × 60 (minutes) ÷ 5 (minutes) = 288 (count)

Number of records = 288 × 50 = 14,400 records

Maximum memory size required for graph creation (F1) is 30 megabytes.

Size of memory required for the jpcrpt command (D1)

= **maximum amount of data required for receiving report data at one time (B1) (value of (B1) for jpcrpt in [Step 1])**

+ **maximum memory size required for graph creation (F1)**

Memory size required for the jpcrpt command = 12 megabytes + 30 megabytes = 42 megabytes

[Step 5] Checking the memory size required for PFM - Web Console and evaluating the memory extension (re-check)

Because the memory size required for PFM - Web Console is now 64 megabytes or less, there is no problem in the memory settings for PFM - Web Console.

[Step 6] Specifying the memory extension and the number of records for PFM - Web Console (jpcrpt)

There is no need to specify memory extension settings because this example does not extend the memory for PFM - Web Console (jpcrpt). Lastly, specify the `maxFetchCount` parameter (under the `<command>` tag) in `config.xml`. This example specifies 100,800, which is the largest number of records for all reports calculated as (B1) in [Step 1].

The memory size design is now completed.

(7) Extending the memory for the View Server service and the PFM - Web Console (GUI and jpcrpt)

(a) Extending the memory for the View Server service

In Windows:

The following explains how to extend the maximum memory available to the View Server service.

1. Stop PFM - Manager.
2. Create an empty file named `jvmopt.ini` immediately under `installation-directory\mgr\viewsvr`.
3. Use a text editor to open `jvmopt.ini` and add the following two lines:
 - Xmxmaximum-memory-used-by-View-Server-service
 - Djava.rmi.dgc.leaseValue=172800000
4. Save `jvmopt.ini` by overwriting the file.
5. Restart PFM - Manager.

Example

This example sets the maximum memory available to the View Server service to 384 megabytes.

```
-Xmx384M
-Djava.rmi.dgc.leaseValue=172800000
```

Note 1:

The numeric value specified in the `-Xmx` option is the maximum memory size available to the View Server service. Specify this value in megabytes (multiple of two) (only single-byte alphanumeric characters are permitted).

Note 2:

The `-Xmx` option specifies the maximum memory size available to the View Server service. This does not mean that the View Server service constantly uses the specified amount of memory.

Note 3:

If you run PFM - Manager in a logical host environment, edit the `jvmopt.ini` file in the installation directory in both the executing system and the standby system.

In UNIX:

The following explains how to extend the maximum memory available to the View Server service.

1. Stop PFM - Manager.
2. Use a text editor to open `/opt/jplpc/mgr/viewsvr/jpcvsvr` and search for the following line:
 - Xmxmaximum-memory-used-by-View-Server-service \
3. Save `/opt/jplpc/mgr/viewsvr/jpcvsvr` by overwriting the file.
4. Restart PFM - Manager.

Example

This example sets the maximum memory available to the View Server service to 384 megabytes.

```
-Xmx384m Δ \
```

Δ : Single-byte space

Note 1:

The numeric value specified in the `-Xmx` option is the maximum memory size available to the View Server service. Specify this value in megabytes (multiple of two) (only single-byte alphanumeric characters are permitted).

Note 2:

The `-Xmx` option specifies the maximum memory size available to the View Server service. This does not mean that the View Server service constantly uses the specified amount of memory.

Note 3:

If you perform overwrite installation, the `/opt/jplpc/mgr/viewsvr/jpcvsvr` file is overwritten. If you have extended the maximum memory available to the View Server service, back up the `/opt/jplpc/mgr/viewsvr/jpcvsvr` file before performing overwrite installation. Then perform overwrite installation and specify the settings again.

Note 4:

If you run PFM - Manager in a logical host environment, edit the `/opt/jplpc/mgr/viewsvr/jpcvsvr` file in the installation directory in both the executing system and the standby system.

(b) Extending the memory for PFM - Web Console

To extend the maximum memory available to the PFM - Web Console services:

1. Stop PFM - Web Console.
2. Use a text editor to open the `usrconf.cfg` file and edit the following line:

Version 08-50 or earlier

```
#add.jvm.arg=-Xmx256m
```

Version 09-00 or later

```
add.jvm.arg=-Xmx512m
```

`usrconf.cfg` file storage location:

Windows

```
installation-directory \CPSB\CC\web\containers\PFMWebConsole\usrconf\usrconf.cfg
```

UNIX

```
/opt/jplpcwebcon/CPSB/CC/web/containers/PFMWebConsole/usrconf/usrconf.cfg
```

3. Save the `usrconf.cfg` file by overwriting it.
4. Start PFM - Web Console.

Example

This example sets the maximum memory available to the PFM - Web Console services to 1,024 megabytes.

```
add.jvm.arg=-Xmx1024m (remove the hash mark (#) at the beginning)
```

Note 1:

The numeric value specified in the `-Xmx` option is the maximum memory size available to the PFM - Web Console service. Specify this value in megabytes (multiple of two) (only single-byte alphanumeric characters are permitted).

Note 2:

The `-Xmx` option specifies the maximum memory size available to the PFM - Web Console services. This does not mean that the PFM - Web Console services constantly use the specified amount of memory.

Note 3:

If you run PFM - Web Console in a logical host environment, edit the `usrconf.cfg` file in both the executing system and the standby system.

(c) Extending the memory for the `jpcrpt` command

This subsection explains how to extend the maximum memory available to the `jpcrpt` command. To extend the maximum memory size for the `jpcrpt` command, specify the maximum heap size in the `-mx` option. For details, see the chapter that describes commands in the manual *Job Management Partner 1/Performance Management Reference*.

Example command line to extend the maximum memory to 256 megabytes

jpcrpt -o output-file -mx 256 input-file

(8) Estimating the number of records

To calculate the number of records, use the following formula:

Number of records = number of data collections × number of instances

The number of data collections depends on the display period and collection interval, as shown below:

a) **Data collection interval ≥ report display interval:**

Number of data collections = report display period ÷ data collection interval

b) **Data collection interval < report display interval:**

Number of data collections = report display period ÷ report display interval

Reference note

For details about how to estimate the number of instances for each record, see each PFM - Agent manual.

Example:

This example assumes the conditions shown below for each report.

Prerequisites

Report A	Number of instances: 20 Data collection interval: 60 seconds Report display interval: Hour (60 minutes) Report display period: Past month
Report B	Number of instances: 50 Data collection interval: 300 seconds Report display interval: Minute (one minute) Report display period: Past week

Report A

This satisfies b) *Data collection interval < report display interval*, meaning that the **number of data collections = report display period ÷ report display interval**.

Therefore,

Number of data collections = 31 (days) × 24 (hours) × 60 (minutes) ÷ 60 (minutes) = 744 (count)

Number of records = 744 × 20 = 14,880 records

Report B

This satisfies a) *Data collection interval ≥ report display interval*, meaning that the **number of data collections = report display period ÷ data collection interval**.

Therefore,

Number of data collections = 7 (days) × 24 (hours) × 60 (minutes) ÷ 5 (minutes) = 2,016 (count)

Number of records = 2,016 × 50 = 100,800 records

(9) Using the GUI to display reports that use data with many records

Not unexpectedly, data with the minute as the display interval and a display period of the past month might consist of a large number of records. However, report display by the GUI is not suitable for referencing data with many records.

This subsection explains how to use the GUI and Performance Management's record characteristics display reports whose data consists of many records.

PFM handles three major types of records (PI, PD, PL). The following table explains the characteristics of each type.

Table C–22: Characteristics of the record types

Historical data format	Characteristics and usage	Recommended report operation
PI record (summary record)	Automatically creates and records summary records, such as per-minute, hourly, and daily records, based on the collected performance data. Suitable for checking changes and trends in performance data.	Changes and trends in performance data can be checked by selecting graphs whose abscissa is time-series, such as line graphs, area charts, and stacked area charts. A period in which a problem occurred can be identified quickly by drilling down from reports with long intervals to reports with short intervals.
PD and PL records (non-summary record)	Records the collected performance data as is. Suitable for obtaining detailed information at a specific time.	Detailed information at a specific time can be checked by selecting graphs that display information at a specific time, such as bar graphs and pie charts.

The following subsections present example operations and explain how to display reports by using the GUI and the characteristics of each record when the data consists of many records. The examples use data for which the display period is set to *month* and *minute*.

(a) Example operation 1

Displaying a report of PI records for the past month

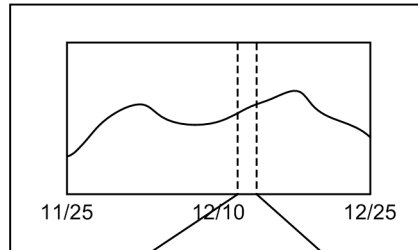
A report of PI records can be obtained by using drilldown reports.

The following provides an overview of the drilldown functions and explains how to specify the settings.

- Using the drilldown functions from historical reports of PI records

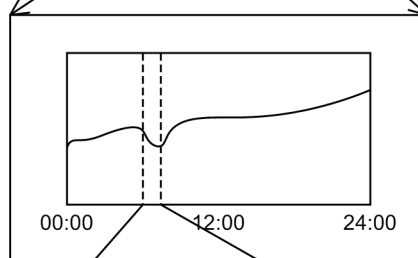
Some drilldown functions of Performance Management must be associated explicitly by the user and some are set automatically for the historical reports of PI records. This example uses the typical drilldown functions used for historical reports of PI records.

- (1) Display a report with the report interval set to **Day** for a one-month period. For a day with extreme changes, display a drilldown report.



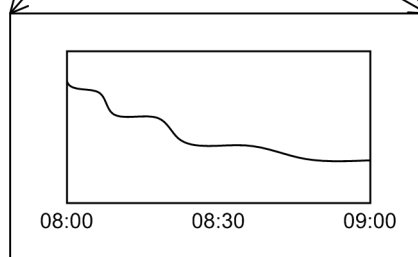
Period: One month
Report interval: Day
Note: Records for 31 samples

- (2) A report with the report interval set to **Hour** is displayed for the selected one-month period. For an hour with extreme changes, display a drilldown report.



Period: One day
Report interval: Hour
Note: Records for 24 samples

- (3) A report with the report interval set to **Minute** is displayed for the selected one-hour period.



Period: One hour
Report interval: Minute
Note: Records for 60 samples

To create:

The following explains how to create drilldown reports:

1. On the **Reports** page, create a report.
2. Set a record of the **PI** record type.
3. In **Settings for the report display period**, specify **Within the past month** for **Date range** and **Day** for **Report interval**.
4. For **Display Style**, specify **Table** and **Graph**.
5. For **Graph type**, specify **Stacked area**.
6. Skip Drilldown settings.#

#: You specify here settings for report drilldown and field drilldown. However, for the **PI** record type, you drill down automatically to the next report interval without having to specify these settings.

To check:

The following explains how to display the report created with the procedure under *To create* by using the drilldown report functions:

1. A report whose date range is **Within the past month** and report interval is **Day** is displayed.
2. In the **Date and time** field of **Table** in the report displayed in step 1, click **Day** to be checked.
3. Twenty-four hours worth of the selected **Day** is displayed in **hours**.
4. In the **Date and time** field of **Table** in the report displayed in step 3, click **Time** to be checked.
5. One hour of the selected **Time** is displayed in **minutes**.

(b) Example operation 2

Displaying a report of PD and PL records for the past month

Drilldown reports are not available for PD and PL records, because they are for PI records. Therefore, use the following operations to reference data:

- CSV output by the `jpcrpt` command

This example uses the `jpcrpt` command to reference data that consists of many records. See the chapter that describes commands in the manual to edit the sample file stored at the following location to create an input file for `jpcrpt`:

Windows: `installation-directory\sample\conf`

UNIX: `/opt/jp1pcwebcon/sample/conf`

- Reducing the number of records to display reports

Reduce the number of records by the methods described below and then display reports (see [C.7\(4\) Reducing memory usage when displaying reports](#)).

- Reduce the report display period and split the report display period into multiple periods to display reports.
- Use the report filtering function.
- Set the data collection interval to a large value.

Taking into account the above guidelines, evaluate the report display settings that are appropriate to the system operation and design a system that can achieve safe operations.

C.8 Estimating the amount of data flowing over a network

To estimate the amount of data flowing over the network for using Performance Management, you need to estimate the amount of data that flows when Performance Management performs monitoring[#].

#

When you change the Performance Management settings, they are sent over the network. However, you do not need to include such data exchange in the system estimates because they are temporary and used only for designing and building a Performance Management system.

Usually, two types of data are exchanged over a network when Performance Management performs monitoring:

- Communication data that is generated when alarms occur
- Communication data that is generated when obtaining report information

(1) Estimating the amount of communication data that is generated when alarms occur

When an alarm occurs, PFM - Agent or PFM - RM sends an alarm event to PFM - Manager. The amount of data that is generated is approximately 5 kilobytes per event. As the amount is negligible, you do not need to include it in the system estimates.

(2) Estimating the amount of communication data that is generated when obtaining report information

The largest amount of communication data that is generated while Performance Management performs monitoring is the data that is generated when obtaining report information. If you periodically obtain reports, we recommend that you estimate the amount of this communication data.

The action of obtaining report information generates communication data. This data is sent from PFM - Agent or PFM - RM to PFM - Manager. The amount of data changes depending on the amount of report information. For this reason, you need to calculate the amount of communication data for each report. You can use the formula in *Formula for determining the amount of data required for receiving report data at one time (B1)* in [Step 1] in C.7(2) *Estimating the size of the memory required when the GUI is used to display reports*.

D. List of System Resources for Which Kernel Parameters Need to Be Adjusted

When you use Performance Management in a UNIX environment, adjust the kernel parameter of the OS to allocate the resources required for executing Performance Management. For a list of system resources for which kernel parameters need to be adjusted, see the *Release Notes*.

E. Checking Version Information

E.1 How to check the version information of PFM - Manager

You can check the version information of PFM - Manager as follows.

(1) For Windows

Check the following file:

```
installation-folder\mgr\VERSION.TXT
```

Description inside the file

```
program-product-model VV-RR[-SS]
```

(2) For UNIX

Use Hitachi Program Product Installer to check the version information.

1. Execute the following command to start Hitachi Program Product Installer.

```
/etc/hitachi_setup
```

2. In the initial window of Hitachi Program Product Installer, enter L.

A list of installed Hitachi products appears.

E.2 How to check the version information of PFM - Web Console

You can check the version information of PFM - Web Console as follows.

(1) For Windows

Check the following file:

```
installation-folder\VERSION.TXT
```

Description inside the file

```
program-product-model VV-RR[-SS]
```

(2) For UNIX

Use Hitachi Program Product Installer to check the version information.

1. Execute the following command to start Hitachi Program Product Installer.

```
/etc/hitachi_setup
```

2. In the initial window of Hitachi Program Product Installer, enter L.
A list of installed Hitachi products appears.

(3) Using the monitoring console to check the version information

You can also use the monitoring console to check the version information of PFM - Web Console.

For details, see the section that describes the About window in the manual *Job Management Partner 1/Performance Management Reference*.

E.3 How to check the version information of PFM - Base

You can check the version information of PFM - Base as follows.

(1) For Windows

Check the following file:

```
installation-folder\agtp\VERSION.TXT
```

Description inside the file

```
program-product-model VV-RR[-SS]
```

(2) For UNIX

Use Hitachi Program Product Installer to check the version information.

1. Execute the following command to start Hitachi Program Product Installer.

```
/etc/hitachi_setup
```

2. In the initial window of Hitachi Program Product Installer, enter L.
A list of installed Hitachi products appears.

E.4 How to check the version information of PFM - Agent and PFM - RM

You can check the version information of PFM - Agent and PFM - RM as follows.

(1) For Windows

Check the following file:

```
installation-folder\agtX#\VERSION.TXT
```

#

The X in agtX indicates the product ID of the PFM - Agent or PFM - RM. For details about product IDs, see the relevant PFM - Agent manual or PFM - RM manual.

Description inside the file

```
program-product-model VV-RR[-SS]
```

(2) For UNIX

Use Hitachi Program Product Installer to check the version information.

1. Execute the following command to start Hitachi Program Product Installer.

```
/etc/hitachi_setup
```

2. In the initial window of Hitachi Program Product Installer, enter L.
A list of installed Hitachi products appears.

F. Migration Steps and Notes on Migration

This section describes the migration from old versions of Performance Management (version upgrades from 07-10 or earlier to 09-00 or later).

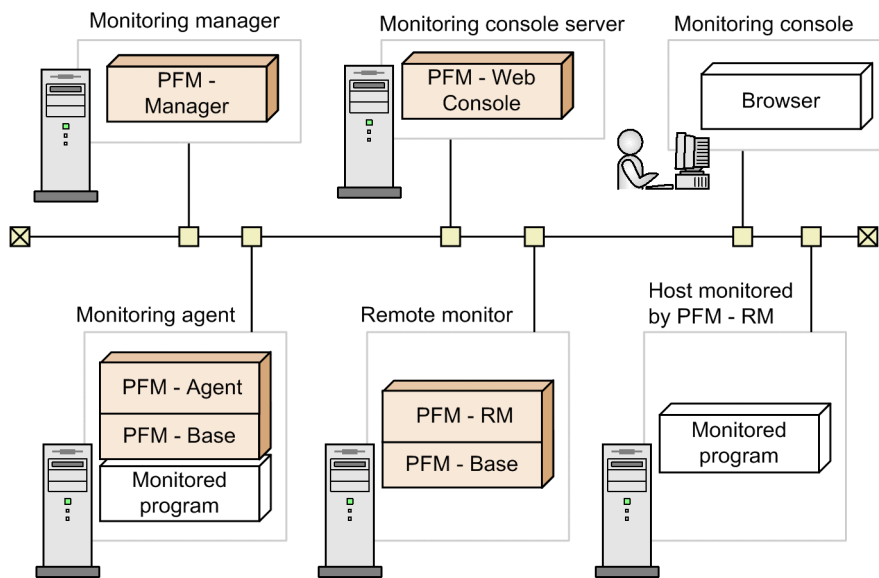
F.1 Changing the product configuration for Performance Management

The differences between Performance Management product configurations of version 09-00 or later and 07-10 or earlier are described below.


(1) Product configuration for 09-00 or later of Performance Management

Version 09-00 or later of Performance Management consists of five products, PFM - Manager, PFM - Web Console, PFM - Base, PFM - Agent, and PFM - RM.

Figure F-1: Product configuration for version 09-00 or later of Performance Management



Legend:

 : Programs provided by Performance Management

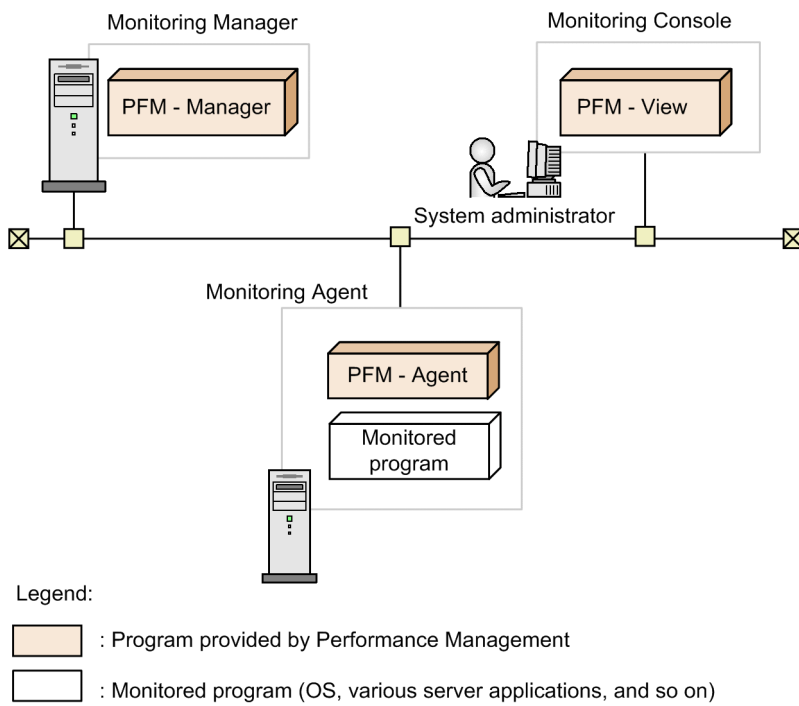
PFM - Base is a prerequisite product for PFM - Agent and PFM - RM. PFM - Agent and PFM - RM cannot be installed unless PFM - Base is installed. However, there is no need to install PFM - Base if PFM - Manager and PFM - Agent or PFM - RM are installed on the same host. You cannot install PFM - Manager and PFM - Base on the same host because they are mutually exclusive products.

PFM - RM is the product that performs remote monitoring. You can use a single PFM - RM to monitor multiple targeted programs. You do not need to have a PFM - RM for each target program to be monitored.

(2) Product configuration for 07-10 or earlier of Performance Management

Version 07-10 or earlier of Performance Management consists of three products, PFM - Manager, PFM - View, and PFM - Agent.

Figure F–2: Product configuration for version 07-10 or earlier of Performance Management



F.2 Relation between 08-00 or later of PFM - Web Console and 07-00 or earlier of PFM - View

Version 08-00 or later of PFM - Web Console is a different product from 07-00 or earlier of PFM - View. Version 08-00 or later of the PFM - View product does not exist.

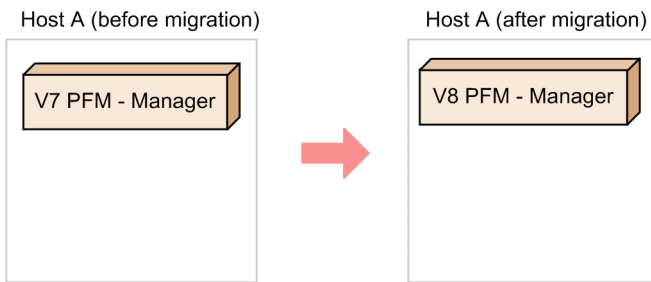
PFM - Web Console can be installed on the same host as the other Performance Management programs, but we recommend that it be installed on a different host from PFM - Manager and PFM - Agent to take the load off the computer. However, when they are installed on the same host, there is no installation order or mutually exclusive products between PFM - Web Console and other Performance Management programs.

F.3 Installation order during migration from 07-10 or earlier to 08-00 or later

This section describes the installation order when upgrading Performance Management program from 07-10 or earlier to 08-00 or later. The uninstallation order is in the reverse order of installation.

(1) When migrating to PFM - Manager to 08-00 or later

(a) When migrating to PFM - Manager to 08-00 or later



Legend:

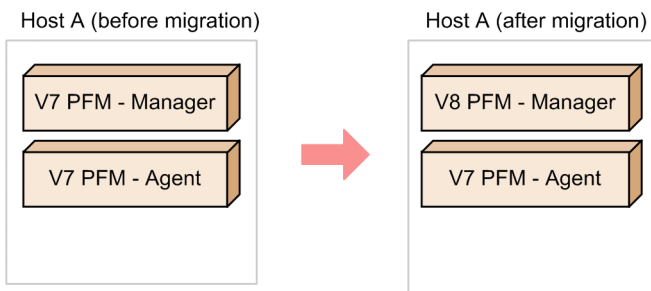
V7: 07-10 or earlier

V8: 08-00 or later

Installation order

1. Perform an overwrite installation of 08-00 or later of PFM - Manager over the previous installation.

(b) When migrating only PFM - Manager to 08-00 or later in an environment where 07-10 or earlier of PFM - Manager and PFM - Agent have been installed on the same host



Legend:

V7: 07-10 or earlier

V8: 08-00 or later

Installation order

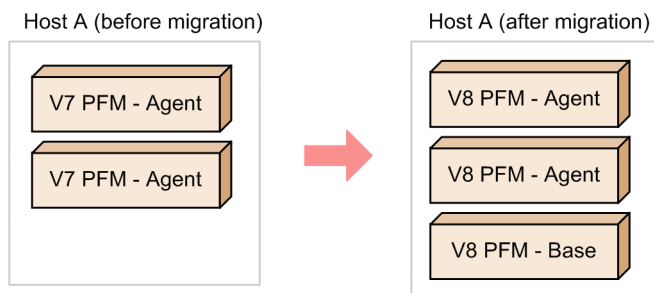
1. Perform an overwrite installation of 08-00 or later of PFM - Manager over the previous installation.

Note:

In this configuration, when uninstalling PFM - Manager, also uninstall 07-00 or earlier of PFM - Agent.

(2) When migrating to PFM - Agent to 08-00 or later

(a) When migrating all of one or more PFM - Agents to 08-00 or later



Legend:
V7: 07-00 or earlier
V8: 08-00 or later

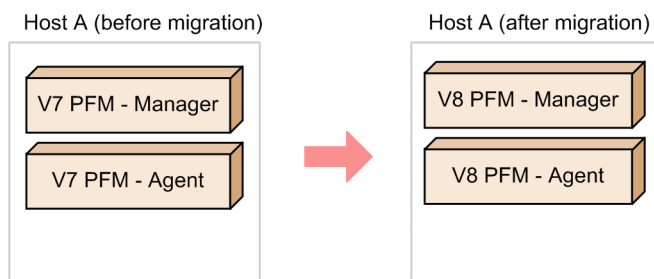
Installation order

1. Perform a new installation of 08-00 or later of PFM - Base.
2. Perform an overwrite installation of 08-00 or later of PFM - Agent over the previous installation.

Note:

You need only install one PFM - Base even if multiple PFM - Agents are installed on a single host. Additionally, there is no installation order between PFM - Agents.

(b) When migrating PFM - Manager and PFM - Agent to 08-00 or later in the environment where 07-10 or earlier of PFM - Manager and PFM - Agent have been installed on the same host



Legend:
V7: 07-10 or earlier
V8: 08-00 or later

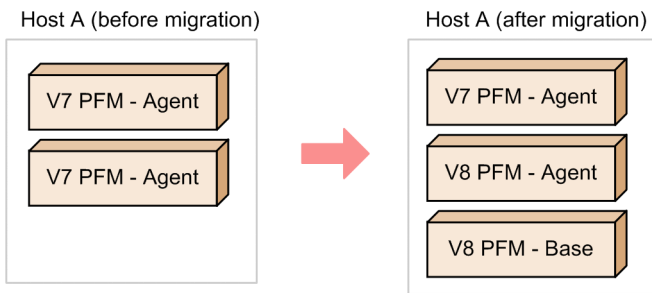
Installation order

1. Perform an overwrite installation of 08-00 or later of PFM - Manager over the previous installation.
2. Perform an overwrite installation of 08-00 or later of PFM - Agent over the previous installation.

Note:

When you install PFM - Manager and PFM - Agent on the same host, there is no need to install PFM - Base.

(c) When migrating only parts of PFM - Agent to 08-00 or later in an environment where 07-00 or earlier of multiple PFM - Agents have been installed on a single host



Legend:

- V7: 07-00 or earlier
- V8: 08-00 or later

Installation order

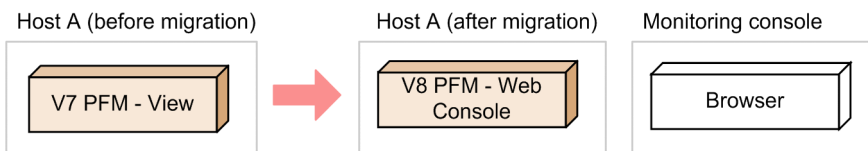
1. Perform a new installation of 08-00 or later of PFM - Base.
2. Perform an overwrite installation of 08-00 or later of PFM - Agent over the previous PFM - Agent to be upgraded.

Note:

When uninstalling PFM - Base in this configuration, also uninstall 07-00 or earlier and 08-00 or later of PFM - Agent.

(3) When migrating to PFM - View to 08-00 or later

(a) When migrating 07-00 or earlier of PFM - View to 08-00 or later of PFM - Web Console



Legend:

- V7: 07-10 or earlier
- V8: 08-00 or later

Installation order

1. Perform a new installation of 08-00 or later of PFM - Web Console.

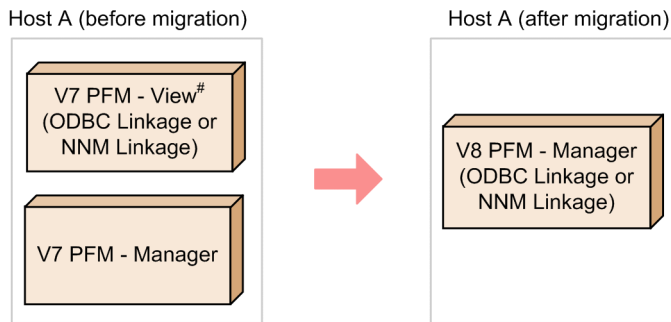
Note:

When you use only PFM - Web Console as a monitoring console environment, you are permitted to uninstall 07-00 or earlier of PFM - View.

(b) When migrating the ODBC or NNM linkage function for 07-00 or earlier of PFM - View to 08-00 or later

You can use the following two methods for this migration:

- Migrate to 08-00 or later of PFM - Manager:



Legend:

V7: 07-10 or earlier

V8: 08-00 or later

#

PFM - View is 07-00 or earlier

Installation order

1. Perform an overwrite installation of 08-00 or later of PFM - Manager over the previous installation.

- Migrate to 08-00 or later of PFM - Base:



Legend:

V7: 07-10 or earlier

V8: 08-00 or later

Installation order

1. Perform a new installation of 08-00 or later of PFM - Base.

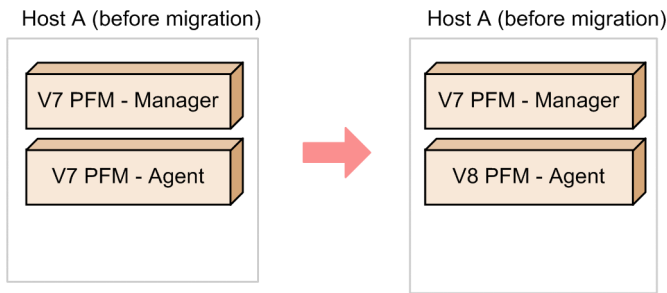
Note:

When you use only PFM - Web Console in the monitoring console environment, you are permitted to uninstall 07-00 or earlier of PFM - View.

(4) Configurations of Performance Management that must not be combined

Performance Management cannot be used in the following configuration.

- Migrating only PFM - Agent to 08-00 or later in the environment where 07-10 or earlier of PFM - Manager and PFM - Agent have been installed on the same host.



Legend:

V7: 07-10 or earlier
V8: 08-00 or later

Note:

When PFM - Manager and PFM - Agent are installed on the same host, the prerequisite product of PFM - Agent of 08-00 or later becomes PFM - Manager 08-00 or later. As a result, if you are using PFM - Agent 08-00 or later, you must use PFM - Manager 08-00 or later. However, PFM - Base cannot be installed in this environment, because PFM - Manager and PFM - Base are mutually exclusive regardless of version.

F.4 Upgrading Performance Management programs

To upgrade Performance Management programs, perform overwrite installations of the Performance Management programs.

To upgrade Performance Management programs:

1. If NNM linkage is used, stop the NNM linkage facility and ovw.
For details about how to stop a linkage function, see the description of each linkage function in the appropriate chapter.
2. Stop all services of Performance Management programs on the local host.
For details about how to do this, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes how to start and stop Performance Management.
3. Perform an overwrite installation of Performance Management programs over the previous ones.
4. Set up Performance Management to run.
5. Restart the Performance Management linkage function.

Tip

If PFM - Manager is running on a cluster environment when you perform the upgrade, you must place a shared disk online on either an executing or a standby node. If PFM - Web Console is running on a cluster environment when you perform the upgrade, you do not have to place a shared disk online.

For details about installation, see [5. Installation and Setup \(in Windows\)](#) or [6. Installation and Setup \(in UNIX\)](#).

F.5 Notes on migration (version 10-00 or later)

- In PFM - Web Console version 10-00 or later, the default series colors used for charts have been changed. You can customize chart series colors by editing the initialization file (`config.xml`). For details, see the chapter that describes report creation for operations analysis in the *Job Management Partner 1/Performance Management User's Guide*.
- In PFM - Web Console version 10-00 or later, changes have been made in how graphs are displayed in reports. The following table describes the changes.

Table F–1: Changes to the appearance of graphs

Graph type	Area of change	PFM - Web Console 09-00 or earlier	PFM - Web Console 10-00 or later
All graphs	Background color	Gray	White
	Data labels and series colors	Even if multiple series have the same name, the names are displayed as is.	If multiple series have the same name, a sequence number is added at the end of each name.
	3D graph shape	Solid	<ul style="list-style-type: none"> • Bar charts: Gradient plane • Pie charts: Solid
Clustered column charts	Data labels	If adjacent data labels overlap, the corresponding character strings are displayed with some characters removed.	If adjacent data labels overlap, the overlapping part is displayed as an ellipsis (. . .).
Clustered bar charts	Data labels	If adjacent data labels overlap, the corresponding character strings are displayed with some characters removed.	If adjacent data labels overlap, the labels are displayed in a smaller font size.
	Series colors	Colored sequentially from bottom to top of graphs.	Colored sequentially from top to bottom of graphs.
Pie charts	Start point of percentage wedges	Depends on the number of data items.	Always at 12 o'clock position
	Placement of graphs	When multiple graphs are displayed, they are left-aligned.	When multiple graphs are displayed, they are centered.
Area and stacked area charts	Display of missing data (when the Show missing data in graphs option is selected)	No area is displayed for missing data.	<ul style="list-style-type: none"> • Assumes 0 for the missing data and displays an area that is created when the missing data is connected with existing data by a straight line. • If data is missing over multiple intervals, displays an area that is created when the last missing data (value is 0) is connected with the immediately preceding extant data by a straight line.
Stacked area charts	Display of border lines	Displayed.	Not displayed.
Combination reports	Grid	Displayed for the Y-axis of the graphs in series group 1.	Displayed for the Y-axis of the graph displayed in the foreground.
	Placement of Y-axis labels	Placed in order of series starting from the inside.	Placed in order from front to back starting from the inside
	Legend	Centered.	Left-aligned.
	Series colors	Colored in ascending order starting from the first series group.	Colored in ascending order starting from the last series group.

- PFM - Web Console 09-00 or earlier cannot connect to a PFM - Manager10-00 or later in which the access control function based on business groups is enabled.

- When PFM - Base or PFM - Manager 10-00 or later is installed, either as a new installation or an upgrade installation, the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts are disabled. If you wish to enable the option for limiting remote operation of Agent hosts or the option for restricting the viewing of service information from Agent hosts, see [5.4.12 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts](#) (in Windows) or [6.4.11 Specifying the option for limiting remote operation of Agent hosts and the option for restricting viewing of service information from Agent hosts](#) (in UNIX).

F.6 Notes on migration (version 09-00 or later)

- When you perform a new or an upgrade installation of PFM - Manager 10-00 or later, the following message texts might be output as agent events depending on the agent's alarm check status:
 - State change (Unconfirmed)
 - State information
 - State information (Unconfirmed)

For details, see the section that describes the start information file (`jpccomm.ini`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.

- When you perform an upgrade installation of Performance Management from version 09-00 or earlier to 10-00 or later, the `Log` property of each field might be set to `Yes` or `No` in PFM - Agent or PFM - RM. If the existing `Log` property setting is set to a different value, the `KAVE00352-W` message will be output to the common message log and the setting will be changed. For details about the records whose `Log` property is affected, see each PFM - Agent or PFM - RM manual.
- When you perform a new installation of PFM - Base or PFM - Manager 10-00 or later or an upgrade installation from 09-00 or earlier to 10-00 or later, the function for outputting measurement values when alarms recover to the normal status is disabled. When you perform an upgrade installation from 10-00 or later, the function for outputting measurement values when alarms recover to the normal status inherits the previous settings. If you wish to enable the function for outputting measurement values when alarms recover to the normal status, see [5.4.11 Configuring the function for outputting measurement values when alarms recover to the normal status](#) (in Windows) or [6.4.10 Configuring the function for outputting measurement values when alarms recover to the normal status](#) (in UNIX).
- When you perform a new installation of PFM - Web Console 10-00 or later, the report series paging function is enabled by default. If you perform an upgrade installation from 10-00 or later, the report series paging function inherits the previous settings. When you perform an upgrade installation from 09-00 or earlier to 10-00 or later, the report series paging function is disabled. If you wish to enable the report series paging function, see the section that describes the data collection and display settings in the initialization file (`config.xml`) in the appendix of the manual *Job Management Partner 1/Performance Management Reference*.
- When you perform a new installation of PFM - Base or PFM - Manager version 09-00 or later, the product name display function is enabled by default. If you upgrade from 09-00 or later, the product name display function inherits the existing settings. If you upgrade from 08-11 or earlier to 09-00 or later, the product name display function is disabled. To enable the product name display function, see [5.4.10 Configuring the product name display function](#) (in Windows) or [6.4.9 Configuring the product name display function](#) (in UNIX).
- PFM - Web Console 09-00 or later does not support Mozilla as the monitoring console Web browser. If the monitoring console runs on UNIX, use Firefox as the Web browser. For details, see the Release Notes.

F.7 Notes on migration (version 08-00 or later)

- For 09-00 or later, there are prerequisite patches for Solaris that must be applied. If these patches are not applied, the Performance Management programs will not start. For the prerequisite patches that you must apply, see the *Release Notes*.
 - When upgrading, do not uninstall old versions of Performance Management programs. If you uninstall them, you cannot use the report definition, alarm definition, performance data and other information created in the old version, because they will be deleted during the uninstallation.
 - When 08-00 or later of PFM - Manager has been installed with 07-10 or earlier of Performance Management programs, before uninstalling 08-00 or later of PFM- Manager, you must first uninstall the Performance Management programs other than PFM - Web Console.
 - When 08-00 or later of PFM- Base has been installed with 07-10 or earlier of Performance Management programs, before uninstalling 08-00 or later of PFM - Base, you must first uninstall the Performance Management programs other than PFM - Web Console.
 - If you perform an overwrite installation of Performance Management programs over existing ones, the following items are automatically updated:
 - Store database files for Agent Store and Remote Monitor Store services
 - The *ini* file
 - The PFM - Agent or PFM - RM instance environment in which a single PFM - Agent or PFM - RM monitors an application program that can start multiple services on a single host
 - If you perform a new installation of a Performance Management program, the status management function is available by default. However, if you perform a version upgrade installation from 07-10 to 08-00 or later, the settings status for the status management function remains unchanged.
 - When you install version 08-00 or later of a Performance Management program, the setting for the status management function is as follows:
 - After a new installation of version 08-00 or later of PFM - Manager or PFM - Base on a host that does not already have a Performance Management program installed
Status management function setting: Enabled
 - Other cases[#]
Status management function setting: Remains the same
- #: The following fall under the *other cases* category:
- Upgrading version 06-70 to 07-10 of PFM - Manager to version 08-00 or later
 - Performing a new installation of version 08-00 or later of PFM - Manager or PFM - Base in an environment where version 06-70 to 07-00 of PFM - Agent is installed
- The setting status in this case becomes *invalid*, because versions 06-70 to 07-00 of Performance Management do not have the status management function.
- Note that the location of the executable files for the Store service (*jpcsto.exe* and *stpqlpr.exe* in Windows, *jpcsto* and *stpqlpr* in UNIX) has been changed in versions 08-00 and later of the Performance Management programs. When you upgrade PFM - Manager and PFM - Agent to version 08-00 or later, the executable files for the Store service will be deleted from their former location.

G. Version Compatibility

This section describes compatibility among versions of the system configuration and among data models in Performance Management programs (PFM - Manager and PFM - Agent).

However, the version of PFM - Base corresponding to PFM - Agent depends on each PFM - Agent. For the version compatibility of PFM - Base, verify each PFM - Agent.

G.1 Version compatibility of the system configuration

This section describes the system configuration of Performance Management to be combined when versions are mixed in the system configuration of Performance Management.

(1) When PFM - Manager is 10-50 or later

In a system configuration that uses PFM - Manager 10-50 or later, all versions of PFM - Agent and PFM - RM can be monitored. Note also that PFM - Web Console 09-00 or later is required as the monitoring console server. Not all versions of PFM - View can be connected.

If PFM - Manager and PFM - Agent or PFM - RM are installed on the same host, the version of PFM - Agent or PFM - RM must be 08-00 or later.

If you want to use the following functions, the required versions of Performance Management programs differ. For details about precise prerequisites for each function, see the description about the applicable function.

- Monitoring suspension function
PFM - Web Console 10-50 or later is required as the monitoring console server. PFM - Base 10-50 or later is required on the monitoring agent host. PFM - Agent or PFM - RM must be version 10-00 or later.
- Synchronous execution controller for actions
PFM - Base 10-50 or later is required on the monitoring agent host.
- Common account information function
PFM - RM for Platform must be version 10-50 or later and the prerequisite program (PFM - Manager or PFM - Base) on the host installed with PFM - RM for Platform must also be version 10-50 or later.
- History collection priority function (function that prioritizes collection of historical data over display of real-time reports)
PFM - Web Console 10-10-20 or later is required as the monitoring console server. PFM - Base 10-10-20 or later is required on the monitoring agent host. PFM - Agent or PFM - RM must be version 10-00 or later.
- Dispersion of the reconnection
PFM - Base 10-10-20 or later is required on the monitoring agent host. PFM - Agent or PFM - RM must be version 10-00 or later.

(2) When PFM - Manager is 10-10 or later

In a system configuration that uses PFM - Manager 10-10 or later, all versions of PFM - Agent and PFM - RM can be monitored. Note also that PFM - Web Console 09-00 or later is required as the monitoring console server. Not all versions of PFM - View can be connected.

If PFM - Manager and PFM - Agent or PFM - RM are installed on the same host, the version of PFM - Agent or PFM - RM must be 08-00 or later.

If you want to use the following functions, the required versions of Performance Management programs differ.

- When using two PFM - Manager hosts to monitor the same agents
PFM - Web Console 10-10 or later is required as the monitoring console server. Monitoring agent hosts require PFM - Base 10-10 or later. In addition, the version of PFM - Agent or PFM - RM must be 10-00 or later.
- When using one alarm definition to monitor the instances of multiple records
PFM - Web Console 10-10 or later is required as the monitoring console server. Monitoring agent hosts require PFM - Base 10-10 or later. In addition, the version of PFM - Agent or PFM - RM must be 10-00 or later.
- When making the restart of agents unnecessary after restoring a PFM - Manager host using backup data
Monitoring agent hosts require PFM - Base 10-00-10 or later.

(3) When PFM - Manager is 10-00 or later

In a system configurations that uses PFM - Manager 10-00 or later, all versions of PFM - Agent and PFM - RM can be monitored. Note also that PFM - Web Console 09-00 or later is required as the monitoring console server. Not all versions of PFM - View can be connected.

If PFM - Manager and PFM - Agent or PFM - RM are installed on the same host, the version of PFM - Agent or PFM - RM must be 08-00 or later.

If you want to use the following functions, the version of PFM - Agent or PFM - RM installed on the same host as PFM - Manager must be 10-00 or later:

- Linking with JP1/ITSLM
- IPv6 communication

(4) When the PFM - Manager version is 10-00

In a system configuration that uses PFM - Manager 10-00, all versions of PFM - Agent and PFM - RM can be monitored. Note also that PFM - Web Console 08-00 or later[#] is required as the monitoring console. Not all versions of PFM - View can be connected.

#

When operating PFM - RM, see *G.4 Version compatibility of system configurations when operating PFM - RM*.

PFM - Manager 10-00 might issue agent events containing the following message texts:

- State change (Unconfirmed)
- State information
- State information (Unconfirmed)

If the access control function based on business groups is enabled in PFM - Manager, the PFM - Web Console version must be 10-00 or later. PFM - Manager cannot be connected from PFM - Web Console version 09-00 or earlier.

(5) When the PFM - Manager version is 09-00

In a system configuration that uses PFM - Manager 09-00, all versions of PFM - Agent and PFM - RM can be monitored. Note also that PFM - Web Console 08-00 or later[#] is required as a monitoring console. Not all versions of PFM - View can be connected.

#

When operating PFM - RM, see *G.4 Version compatibility of system configurations when operating PFM - RM*.

In regards to agent events, events beginning with the message text `KAV` indicate the events issued when PFM - Base 09-00 or later is installed on an event-issuing agent host.

If you want to use the following functions, PFM - Web Console 09-00 or later must be installed on the same host as PFM - Manager or PFM - Base.

- Use the `jpcspm` command to start or stop the PFM - Web Console services
- Use the `jpctool service list` command to display the operating status of PFM - Web Console services

(6) When PFM - Manager is 08-00 or later and 08-11 or earlier

For a system configuration using PFM - Manager 08-00 or later and 08-11 or earlier, you can monitor all versions of PFM - Agent. Additionally, 08-00 or later of PFM - Web Console or 07-00 of PFM - View is required as a monitoring console. PFM - View 06-70 or earlier cannot be connected. The version available depends on the function you want to use.

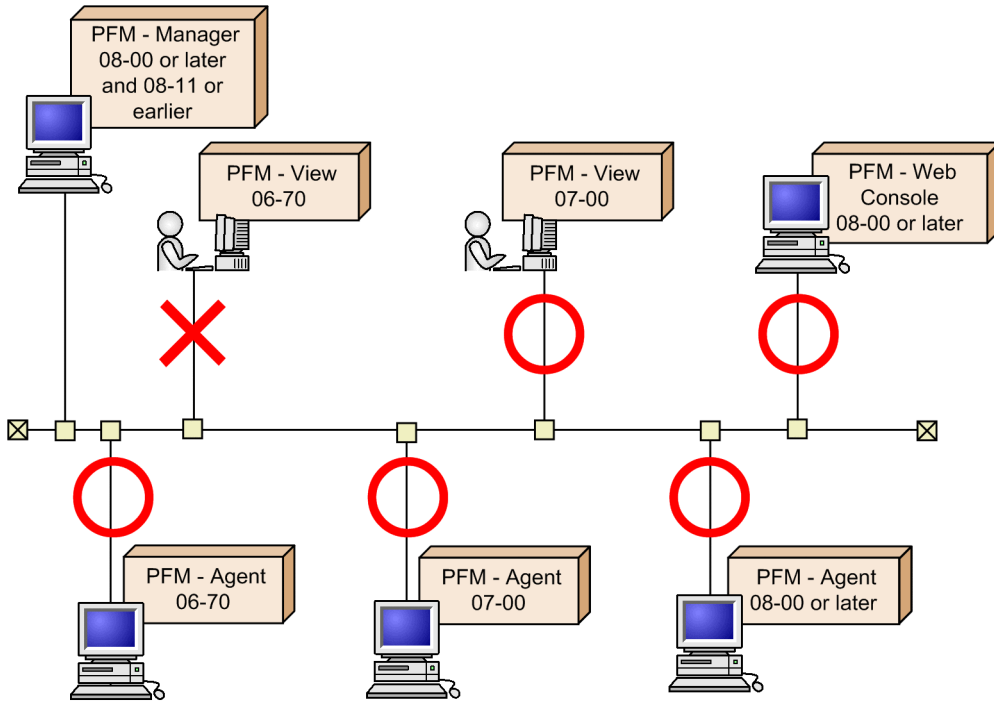
- PFM - View does not support the health check function. This function is supported by PFM - Web Console 08-11 or later. For details about the available versions, see the chapter in the *Job Management Partner 1/Performance Management User's Guide* that describes how to detect problems in Performance Management.
- PFM - View does not support the distribution of agent-specific properties as a batch. This function is supported by PFM - Web Console 08-11 or later.
- The functionality for binding multiple alarm tables is supported by PFM - Manager 09-00 or later and PFM - Web Console 09-00 or later. This function is also supported by PFM - Agent 08-00 or later, and PFM - Base 09-00 or later on the same host as PFM - Agent.

When PFM - Agent is used in a Linux environment where UTF-8 encoding is specified in the LANG environment variable, you can only use double-byte characters in the following items if the connection-target PFM - Manager for the PFM - Agent and the PFM - Base on the same host as the PFM - Agent are version 08-11 or later.

- Settings in alarm tables and alarm definitions
- Filter condition expressions included in report definitions
- Conditional expressions for field-level drilldown reports included in report definitions
- LOGIF conditional expressions for specifying the collection conditions for performance data
- Conditional expressions used by the ODBC driver to extract performance data

With version 08-00 of PFM - Manager or PFM - Base, use only 7-bit ASCII characters. Other characters might not display correctly in PFM - Web Console or PFM - View, or might cause the programs to not work correctly.

The following figure illustrates the system configuration that can be connected when PFM - Manager is 08-00 or later and 08-11 or earlier.

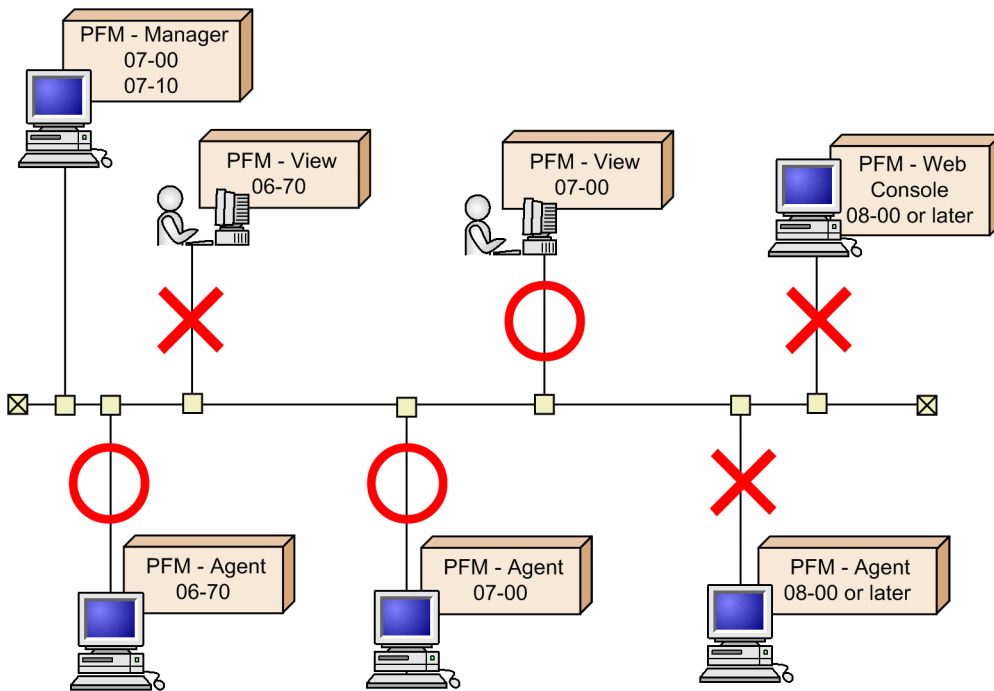


(7) When PFM - Manager is 07-00 or 07-10

In a system configuration using 07-00 or 07-10 of PFM - Manager, 07-00 or earlier of PFM - Agent can be monitored. 08-00 or later of PFM - Agent cannot be monitored.

Additionally, 07-00 of PFM - View is required as a monitoring console. Version 07-00 or later of PFM - Manager cannot connect to 08-00 or later of PFM - Web Console.

The following figure shows the system configurations that can be connected when PFM - Manager is 07-00 or 07-10.

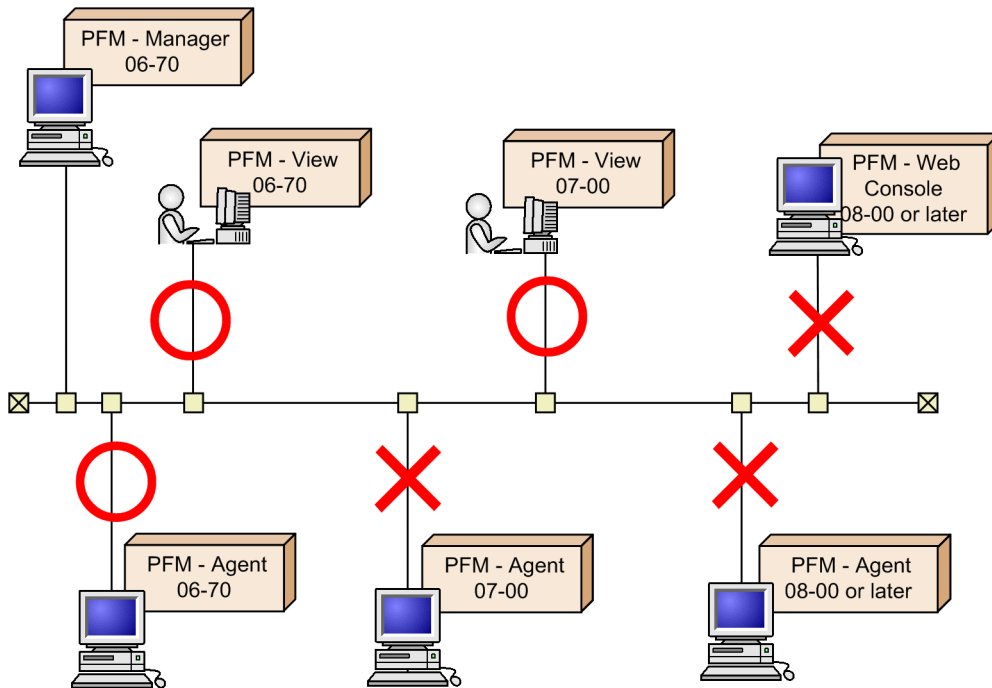


(8) When PFM - Manager is 06-70

In a system configuration using 06-70 of PFM - Manager, only 06-70 of PFM - Agent can be monitored. Version 07-00 or later of PFM - Agent cannot be monitored.

Additionally, 07-00 or earlier of PFM - View is required. Version 06-70 or later of PFM - Manager cannot connect to 08-00 or later of PFM - Web Console.

The following figure shows the system configurations that can be connected when PFM - Manager is 06-70.



G.2 Compatibility among data model versions

In PFM - Agent, data model versions as well as product versions exist.

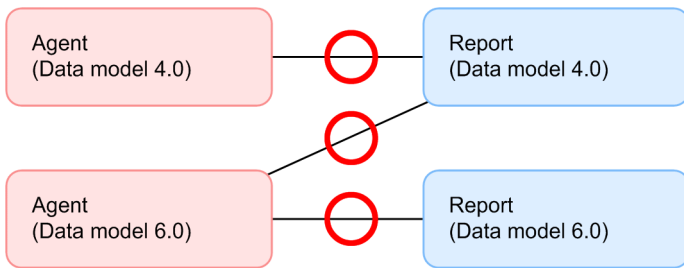
When PFM - Agent is upgraded, the data model might be upgraded as well. The report definitions and alarm definitions defined in the old version can be used in a new data model version, because the data model ensures forward compatibility.

For details about data model versions for an Agent, see the description of version compatibility in an appendix of each PFM - Agent manual.

The following describes version compatibility using the example when the version 4.0 of the data model mixes with version 6.0 of the data model.

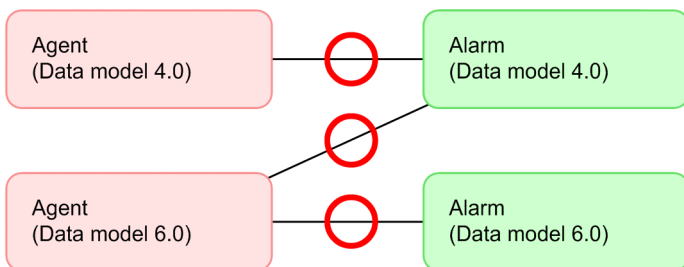
(1) When displaying reports

An Agent defined in data model version 4.0 or 6.0 can display a report defined in data model version 4.0. Only an Agent defined in data model version 6.0 can display a report defined in data model version 6.0.



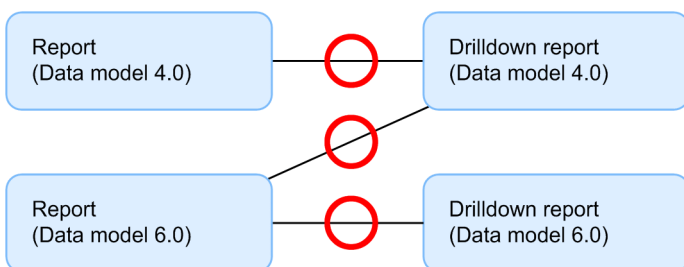
(2) When binding the alarm table

An Agent defined in data model version 4.0 or 6.0 can display an alarm table defined in data model version 4.0. Only an Agent defined in data model version 6.0 can display an alarm table defined in data model version 6.0.



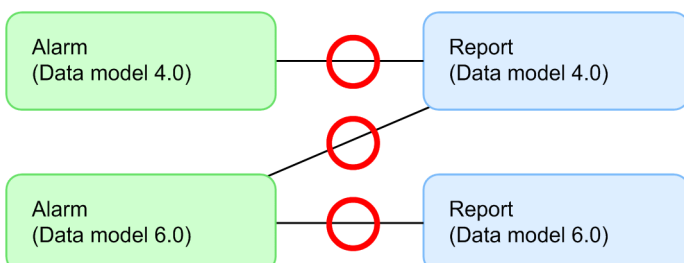
(3) When associating a drilldown report with a report

An Agent defined in data model version 4.0 or 6.0 can display a drilldown report defined in data model version 4.0. Only an Agent defined in data model version 6.0 can display a drilldown report defined in data model version 6.0.



(4) When associating a report with an alarm

An alarm defined in data model version 4.0 or 6.0 can be associated with a report defined in data model version 4.0. Only an alarm defined in data model version 6.0 can be associated with a report defined in data model version 6.0.



G.3 Displaying data models in PFM - Web Console

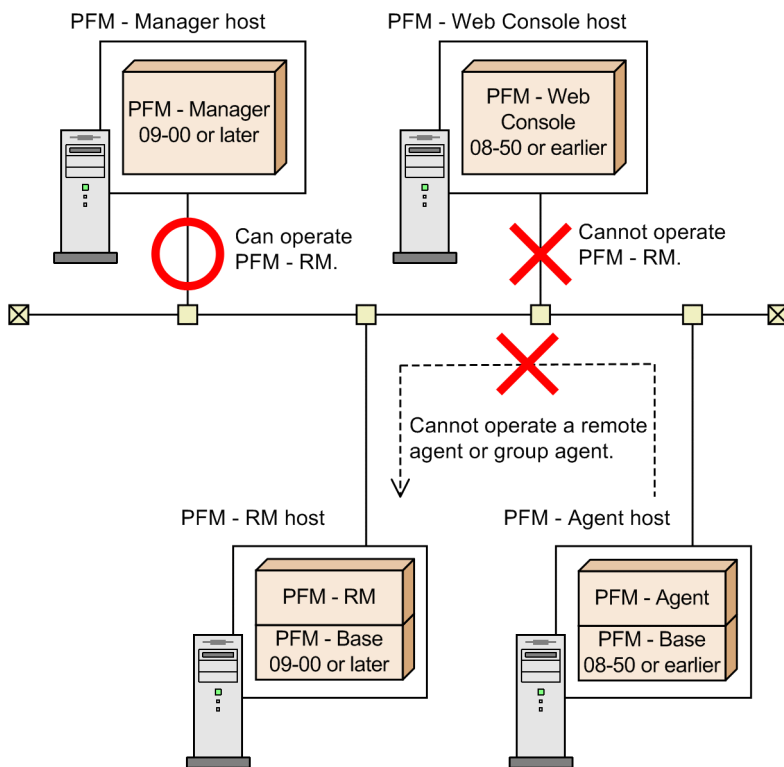
If PFM - Agent contains multiple versions of data models, those versions are displayed in the PFM - Web Console window. For example, multiple versions of data models are displayed by the alarm monitoring template, the window used to define reports, and the window used to define alarms.

For details about versions of data models for an Agent, see the description of version compatibility in an appendix of each PFM - Agent manual.

G.4 Version compatibility of system configurations when operating PFM - RM

When you operate PFM - RM, the PFM - Manager, PFM - Web Console, and PFM - Base version must all be 09-00 or later. Likewise, you cannot use the `jpccctrl` command to perform operations for remote agents and group agents from hosts using PFM - Manager or PFM - Base version earlier than 09-00.

Figure G–1: Version compatibility of the system configuration used when operating PFM - RM



Legend:

---> : Agent operations performed by using the `jpccctrl` command

H. Outputting Action Log Data

Action log data is history information output in cooperation with the alarm function, when an aspect of the system such as the system load exceeds a threshold.

For example, when an alarm is generated in response to a threshold being exceeded in the system, information about which service generated the alarm, and at what time, is output to the action log.

Action log data can be output in version 08-11 or later of PFM - Manager or PFM - Base. The action log is a text file in CSV format. The information in the action log can be used for operation analysis by saving the file periodically and processing it using spreadsheet software.

Action log data can be output by enabling a setting in the `jpccomm.ini` file. The following describes the content output in action logs, and how to configure Performance Management to output action logs.

H.1 Types of events output to the action log

The following table describes the types of events output to the action log, and what causes Performance Management to output each type of event. The event type is an ID used to categorize the events output to the action log.

Table H-1: Types of events output to the action log

Event type	Description	Time when event is output by Performance Management
StartStop	Indicates that software has started or stopped.	<ul style="list-style-type: none">When Performance Management services are started and stoppedWhen stand-alone mode begins and ends
Authentication	Indicates that an attempt was made by a system administrator or user to connect or pass authentication, and the attempt succeeded or failed.	When login authentication results are received from PFM - Web Console (for PFM users and JP1 users)
ConfigurationAccess	Indicates that a system administrator has executed a permitted operation, and the operation succeeded or failed.	<ul style="list-style-type: none">When an alarm or action definition is created, updated, or deletedWhen an alarm is bound or unboundWhen a PFM use is added, deleted, or updatedWhen a multiple-monitoring definition is importedWhen monitoring is suspended or resumed
ExternalService	Indicates the result of communication between a JP1 product and an external service.	<ul style="list-style-type: none">PFM - Agent or PFM - RM When the status of the connection to PFM - Manager changesPFM - Manager When PFM - Agent (or PFM - RM) is connected or disconnected
AnomalyEvent	Indicates that an error has occurred such as an aspect of the system exceeding a threshold.	When an alarm is generated
	Indicates that abnormal communication has occurred.	
ManagementAction	Indicates that a program has executed an important action. This event type indicates that an action is triggered by an event of other category.	When an automated action is executed

H.2 Format for saving action log files

Action log data is output to a default file (the current output file). When the log file becomes full, it is then saved as a separate file (a shift file). The following describes the manner in which switching takes place between these files.

1. Action log data is output sequentially to the current output file `jpcaudit.log`.
2. When the current output file becomes full, the action log data in the file is saved to a shift file.
Shift files have the same name as the current output file, but with a number appended onto the end of them. When a new shift file is created, the number on the end of the shift file names are all increased by one. Essentially, the higher the number, the older the file is.

Example:

When the current output file `jpcaudit.log` becomes full, its contents are stored in a shift file `jpcaudit1.log`.

When the current output file fills again, its logs are shifted to the file `jpcaudit1.log`, and the existing shift file `jpcaudit1.log` is renamed to `jpcaudit2.log`.

When the number of log files exceeds the maximum specified in the `jpccomm.ini` file, the oldest log files are deleted first.

3. The current output file is cleared, and the system resumes writing action log data to the file.

The settings that determine whether action logs are output, the location to which the logs are output, and the maximum number of log files that can be made are in the `jpccomm.ini` file. For details about how to enter these settings in the `jpccomm.ini` file, see [H.4 Settings for outputting action log data](#).

H.3 Format of output action log data

The action logs in Performance Management provide information related to system monitoring functions. Action logs are output to a single file on each host (physical host and logical host). The host to which the action log data is output depends on the action that was performed.

- Event resulting from service execution: the action log data is output to the host where the service was executed
- Event resulting from command execution: the action log data is output to the host where the command was executed

The following describes the output format, output destination, and output items of an action log.

(1) Output format

```
CALFHM x.x, output-item-1=value-1, output-item-2=value-2, ..., output-item-  
n=value-n
```

(2) Output destination

On physical hosts

- In Windows
`installation-folder\auditlog\`
- In UNIX
`/opt/jp1pc/auditlog/`

On logical hosts

- In Windows
`environment-directory\jp1pc\auditlog\`
- In UNIX
`environment-directory/jp1pc/auditlog/`

You can change the output destination for action logs in the `jpccomm.ini` file. For details about how to change this setting in the `jpccomm.ini` file, see [H.4 Settings for outputting action log data](#).

(3) Output items

The items in an action log fall into the following two categories:

- Common output items
Items common to all JP1 products that output action log data.
- Fixed output items
Optional items each JP1 product can output in action log data.

(a) Common output items

The following table lists the values output as common output items, and the content of each item.

Table H–2: Common output items in action logs

No.	Output item		Value	Content
	Item name	Output attribute name		
1	Common specification identifier	--	CALFHM	An ID indicating that the information is formatted as an action log
2	Common specification revision number	--	<i>x.x</i>	The revision number used to manage the action log
3	Sequence number	seqnum	<i>sequence-number</i>	The sequence number of the action log record
4	Message ID	msgid	KAVExxxxx-x	The message ID from the product
5	Date and time	date	<i>YYYY-MM-DDThh:mm:ss.sssTZD[#]</i>	The time (including time zone) when the action log was output
6	Generated program name	progid	JP1PFM	The name of the program where the event occurred
7	Generated component name	compid	<i>service-ID</i>	The name of the component where the event occurred
8	Generated process ID	pid	<i>process-ID</i>	The ID of the process associated with the event
9	Generated location	ocp:host	<ul style="list-style-type: none">• <i>host-name</i>• <i>IP-address</i>	The location where the event occurred

No.	Output item		Value	Content
	Item name	Output attribute name		
10	Event type	ctgry	<ul style="list-style-type: none"> StartStop Authentication ConfigurationAccess ExternalService AnomalyEvent ManagementAction 	The name of the category to which the event output to the action log belongs
11	Event result	result	<ul style="list-style-type: none"> Success Failure Occurrence 	The result of the event
12	Subject identification information	subj:pid	<i>process-ID</i>	Any of the following information: <ul style="list-style-type: none"> The ID of the user-operated process The ID of the process that generated the event The username of the user who generated the event Identification information unique to a particular user
		subj:uid	<i>account-ID</i> (PFM user or JP1 user)	
		subj:euid	<i>execution-user-ID</i> (OS user)	

Legend:

--: None.

#

T is used to separate the date and time.

TZD specifies the time zone. One of the following is output:

+hh:mm: Indicates a time zone *hh:mm* ahead of UTC.

-hh:mm: Indicates a time zone *hh:mm* behind UTC.

Z: Indicates a time zone equivalent to UTC.

(b) Fixed output items

The following table lists the values output as fixed output items, and the content of each item.

Table H-3: Fixed output items in action logs

No.	Output item		Value	Content
	Item name	Output attribute name		
1	Object information	obj	<ul style="list-style-type: none"> <i>service-ID-for-PFM-Agent-or-PFM-RM</i> <i>name-of-added-deleted-or-updated-user</i> (PFM user) 	The target of the operation.
		obj:table	<i>alarm-table-name</i>	
		obj:alarm	<i>alarm-name</i>	
2	Action information	op	<ul style="list-style-type: none"> Start Stop Add 	The action that generated the event.

No.	Output item		Value	Content
	Item name	Output attribute name		
2	Action information	op	<ul style="list-style-type: none"> • Update • Delete • Change Password • Activate • Inactivate • Bind • Unbind 	The action that generated the event.
3	Permissions information	auth	<ul style="list-style-type: none"> • Administrator Management • Ordinary user Ordinary • Windows Administrator • UNIX SuperUser 	The permission held by the user who performed the operation.
		auth:mode	<ul style="list-style-type: none"> • PFM authentication mode pfm • JPl authentication mode jpl • OS user os 	The authentication mode of the user who performed the operation.
4	Location of output source	dtp:host	<i>host-name-for-PFM-Agent-or-PFM-RM</i>	The host where the alarm was generated.
5	Origin of instructions	subjp:host	<ul style="list-style-type: none"> • <i>login-host-name</i> • <i>execution-host-name</i> (when executing the <code>jpctool</code> alarm command) 	The host where the instructions to perform the operation originated from.
6	Free description	msg	<i>message</i>	The message output at alarm generation or at automated action execution.

The fixed output items output in an action log and the content of those fixed items depends on the type of event that caused the action log to be output. The following describes the message IDs and the content of the fixed output items in action logs for each event type.

■ When a PFM service starts or stops (StartStop)

- Output host: The host where the service runs
- Output component: Each service that is started or stopped

Item name	Attribute name	Value
Message ID	msgid	Starting service: KAVE03000-I Stopping service: KAVE03001-I
Action information	op	Starting service: Start Stopping service: Stop

■ When a service enters or leaves stand-alone mode (StartStop)

- Output host: PFM - Agent or PFM - RM host
- Output component: Agent Collector and Agent Store services for PFM - Agent host. Remote Monitor Collector and Remote Monitor Store services for PFM - RM host.

Item name	Attribute name	Value
Message ID	msgid	Beginning stand-alone mode: KAVE03002-I Ending stand-alone mode: KAVE03003-I

Note 1: No fixed output items are output.

Note 2: Each PFM - Agent or PFM - RM service connects to the PFM - Manager host at startup, and begins such tasks as registering node information and acquiring the latest alarm definition information. If the PFM - Agent service is unable to connect to the PFM - Manager host, its functionality will be restricted to certain functions such as collecting operating information. This is called *stand-alone mode*. In this case, the message KAVE03002-I is output to indicate that the PFM - Agent has entered stand-alone mode. While in stand-alone mode, PFM - Agent makes periodic attempts to connect to PFM - Manager and perform the intended tasks such as registering node information and acquiring definition information. When such an attempt is successful, PFM - Agent exits stand-alone mode and the message KAVE03003-I is output. By reviewing the action log, you can see that PFM - Agent or PFM - RM was running with limited functionality during the time between KAVE03002-I and KAVE03003-I were output.

■ When login authentication results are received from PFM - Web Console (Authentication)

- Output host: The host where PFM - Manager (ViewServer) is running
- Output component: ViewServer

Item name	Attribute name	Value
Message ID	msgid	Successful login: KAVE03050-I Failed login: KAVE03051-W
Permissions information	auth	Administrator: Management Ordinary user: Ordinary
	auth:mode	PFM authentication mode: pfm JP1 authentication mode: jp1
Origin of instruction	subjp:host	The host from which the login attempt was made (PFM - Web Console)

■ When an alarm or action definition is created, updated, or deleted (ConfigurationAccess)

- Output host: The host where PFM - Manager (ViewServer) is running or where the `jpctool alarm` command was executed
- Output component: ViewServer / `jpctool alarm` command

Item name	Attribute name	Value
Message ID	msgid	Create: KAVE03150-I Update: KAVE03151-I Delete: KAVE03152-I Enable: KAVE03153-I Disable: KAVE03154-I
Object information	obj:table	The name of the alarm table that is the target of the operation
	obj:alarm	The name of the alarm that is the target of the operation (omitted when not applicable)
Action information	op	Create: Add Update: Update

Item name	Attribute name	Value
Action information	op	Delete: Delete Activate: Activate Deactivate: Inactivate
Permissions information	auth	Administrator: Management
	auth:mode	PFM authentication mode: pfm JP1 authentication mode: jp1 OS user: os
Origin of instruction	subjp:ipv4	For ViewServer only: IP address from which the user logged in (PFM - Web Console)
	subjp:host	Execution host name (for jpctool alarm command execution only)

Note 1: When an alarm definition is created from PFM-Web Console in an environment where PFM - Manager or PFM - Web Console version 10-00 or earlier is used, KAVE03151-I (op=Update) is output instead of KAVE03150-I (op=Add).

Note 2: When an alarm definition is activated from PFM-Web Console, KAVE03151-I (op=Update) is output instead of KAVE03153-I (op=Activate).

Note 3: When an alarm definition is deactivated from PFM-Web Console, KAVE03151-I (op=Update) is output instead of KAVE03154-I (op=Inactivate).

Note 4: When an alarm definition is updated from PFM-Web Console, KAVE03151-I (op=Update) or KAVE03152-I (op=Delete) is output.

Note 5: When an alarm definition is copied, KAVE03150-I (op=Add) is output. This is common to PFM-Web Console, and the jpctool alarm command.

■ When an alarm is bound or unbound (ConfigurationAccess)

- Output host: The host where PFM - Manager is running or where the jpctool alarm command was executed
- Output component: ViewServer / Master Manager / jpctool alarm command

Item name	Attribute name	Value
Message ID	msgid	Bind: KAVE03155-I Unbind: KAVE03156-I
Object information	obj	Service ID for PFM - Agent or PFM - RM
	obj:table	The name of the alarm table
Action information	op	Bind: Bind Unbind: Unbind
	op:mode	Only for when the functionality for binding multiple alarm tables is enabled, and you have not unbound the alarm tables: Add
Permissions information	auth	Administrator: Management
	auth:mode	PFM authentication mode: pfm JP1 authentication mode: jp1 OS user: os
Origin of instruction	subjp:ipv4	For ViewServer only: IP address from which the user logged in (PFM - Web Console)
	subjp:host	Only for the jpctool alarm command and Master Manager: execution host name
Free description	msg	Only when the functionality for binding multiple alarm tables is disabled, and Master Manager has unbound the alarm tables: ext=auto-unbind

■ **When a PFM user is added, deleted, or updated (ConfigurationAccess)**

- Output host: The host where PFM - Manager (ViewServer) is running
- Output component: ViewServer

Item name	Attribute name	Value
Message ID	msgid	Add: KAVE03157-I Delete: KAVE03158-I Update: KAVE03159-I Change password: KAVE03160-I
Object information	obj	Name of added, deleted, or updated user (PFM user)
Action information	op	Create: Add Delete: Delete Update: Update Change password: Change Password
Permissions information	auth	Administrator: Management
	auth:mode	PFM authentication mode: pfm
Origin of instruction	subjp:ipv4	IP address from which the user logged in (PFM - Web Console)

■ **When a multiple-monitoring definition is imported (ConfigurationAccess)**

- Output host: The PFM - Manager host that imports the definition
- Output component: `jpctool config mgrimport` command

Item name	Attribute name	Value
Message ID	msgid	When the definition does not match: KAVE03550-E When import is successful: KAVE03551-I Start of each definition: KAVE03552-I End of each definition: KAVE03553-I When import failed: KAVE03554-E
Free description	exhost	Host name of the host installed with PFM - Manager that exported the definition

■ **When monitoring is suspended or resumed (ConfigurationAccess)**

- Output host: The host where PFM - Manager (ViewServer) is running
- Output component: Master Manager

Item name	Attribute name	Value
Message ID	msgid	Suspension of monitoring: KAVE03600-I Resumption of monitoring: KAVE03601-I
Object information	obj:serv	Only when the change of status for a service is indicated: Service ID of the target service
	obj:host	Only when the change of status for a host is indicated: Target host name (hosts, jpchosts, alias)
Action information	op	Suspension of monitoring: Suspend Resumption of monitoring: Resume
	op:mode	Only when operation information is stored and monitoring is suspended: log

Item name	Attribute name	Value
Origin of instruction	subjp:host	For Master Manager only: Execution host name

Note: When a host is specified, log data is output to the specified host. When an agent is specified, log data is output to the specified agent.

■ When the status of the connection to PFM - Manager changes (ExternalService)

- Output host: PFM - Agent or PFM - RM host
- Output component: Agent Collector and Agent Store services for PFM - Agent host. Remote Monitor Collector and Remote Monitor Store services for PFM - RM host.

Item name	Attribute name	Value
Message ID	msgid	When an attempt to send an event to PFM - Manager fails (and queuing begins): KAVE03300-I When an event was resent to PFM - Manager: KAVE03301-I

Note 1: No fixed output items are output.

Note 2: If the Agent Store and Remote Monitor Store services fail in an attempt to send an event to PFM - Manager, it begins to queue events, storing up to three occurrences of each event in the queue. The message KAVE03300-I is output at the point when queuing begins after a failed attempt at event transmission. When the connection to PFM - Manager is restored, the message KAVE03301-I is output once the service has finished sending the queued events. By reviewing the action log, you can learn that events were not being sent to PFM - Manager in real time during the time between when KAVE03300-I and KAVE03301-I were output.

Note 3: Under normal circumstances, the Agent Collector or Remote Monitor Collector service sends events to PFM - Manager through the Agent Store or Remote Monitor Store service. If the Agent Store or Remote Monitor Store service is unavailable for some reason, the Agent Collector or Remote Monitor Collector service sends events directly to PFM - Manager. If this fails, the message KAVE03300-I is output. In this case, the message KAVE03301-I is not output because queuing is not started. By reviewing the action log, you can learn that some events occurred that were never sent to PFM - Manager.

■ When PFM - Agent or PFM - RM connects or disconnects (ExternalService)

- Output host: PFM - Manager host
- Output component: Name Server service (only applies to connection and disconnection with the Agent Connector and Remote Monitor Collector, as well as Agent Store and Remote Monitor Store)

Item name	Attribute name	Value
Message ID	msgid	Connection with PFM - Agent or PFM - RM established: KAVE03304-I Connection with PFM - Agent or PFM - RM released: KAVE03305-I
Object information	obj	<i>service-ID-for-PFM-Agent-or-PFM-RM</i>

■ When an alarm is generated (AnomalyEvent)

- Output host: PFM - Manager host
- Output component: Correlator service

Item name	Attribute name	Value
Message ID	msgid	KAVE03450-I
Location where event was detected	dtp:host	<i>host-name-for-PFM-Agent-or-PFM-RM</i>
Free description	msg	<i>serviceid=service-ID-for-PFM-Agent-or-PFM-RM, severity={E W I}, date=alarm-generation-date, text=message-text</i>

■ When an automated action is executed (ManagementAction)

- Output host: The host that executed the action
- Output component: Action Handler service

Item name	Attribute name	Value
Message ID	msgid	When generation of the command execution process was successful: KAVE03500-I When generation of the command execution process failed: KAVE03501-W When E-mail transmission was successful: KAVE03502-I When E-mail transmission failed: KAVE03503-W
Free description	msg	Command execution: <i>cmd=executed-command-line</i> E-mail transmission: <i>mailto=destination-email-address</i>

Note: The message KAVE03500-I is output at the point when the command execution process is successfully generated. Subsequent information such as logs indicating whether command execution took place and the execution results is not output to the action log.

(4) Output example

The following shows an example of action log output.

```
CALFHM 1.0, seqnum=1, msgid=KAVE03000-I, date=2007-01-18T22:46:49.682+09:00,  
progid=JP1PFM, compid=TA1host01, pid=2076,  
ocp:host=host01, ctgry=StartStop, result=Occurrence,  
subj:pid=2076,op=Start
```

H.4 Settings for outputting action log data

The settings that govern action log output are defined in the `jpccomm.ini` file. Action logs are not output unless the file contains these settings. The following describes the settings required to output action logs, and the setting procedure.

(1) Setting procedure

1. Stop all Performance Management services on the host.
2. Use a text editor or a similar tool to edit the `jpccomm.ini` file.
3. Save and then close the `jpccomm.ini` file.

(2) Details about the `jpccomm.ini` file

(a) Storage directory

On physical hosts

- In Windows
installation-folder
- In UNIX
/opt/jp1pc/

On logical hosts

- In Windows

environment-directory\jplpc

- In UNIX

environment-directory/jplpc/

(b) Format

Define the following information in the `jpccomm.ini` file.

- Whether action logs are output
- The location to which action logs are output
- The maximum number of log files
- The size of each action log file

Specify each item in the following format:

"item-name"=value

The following table lists the available settings.

Table H–4: Items available in the `jpccomm.ini` file and their default values

No.	Item	Description
1	[Action Log Section]	The section name. It cannot be changed.
2	Action Log Mode	Specify whether to output action logs. This item is mandatory. <ul style="list-style-type: none">• Initial value: 0 (do not output)• Available values: 0 (do not output), 1 (output) If you specify any other value, an error message is output, and Performance Management will not output action logs.
3	Action Log Dir#	Specify the output destination for action logs as an absolute path. In a logical host environment, specify a directory on the shared disk. If the directory you specify is not on the shared disk, Performance Management will output action logs to each physical host that forms the basis for the logical host. If you specify a path that exceeds the maximum allowable length or the system is unable to access the directory, an error message is output to the common message log and Performance Management will not output action logs. <ul style="list-style-type: none">• Initial value: Omitted• Value used when item is omitted (default): On physical hosts: Windows: <i>installation-folder\auditlog\</i> UNIX: <i>/opt/jplpc/auditlog/</i> On logical hosts: Windows: <i>environment-directory\jplpc\auditlog\</i> UNIX: <i>environment-directory/jplpc/auditlog/</i>• Available values: Character strings from 1 to 185 bytes in length
4	Action Log Num	Specify the maximum number of action log files to save. The value you specify includes the current output file and all shift files. <ul style="list-style-type: none">• Initial value: Omitted

No.	Item	Description
4	Action Log Num	<ul style="list-style-type: none"> Value used when item is omitted (default): 5 Available values: Integers from 2 to 10. <p>If you specify a character string that contains non-numeric characters, an error message is output and the default of 5 is used.</p> <p>If you specify a value outside the allowable range, an error message is output, and the integer from 2 to 10 that is closest to the specified value is used.</p>
5	Action Log Size	<p>Specify the size of each log file in kilobytes.</p> <ul style="list-style-type: none"> Initial value: Omitted Value used when item is omitted (default): 2,048 Available values: Integers from 512 to 2,096,128 <p>If you specify a character string that contains non-numeric characters, an error message is output and the default of 2,048 is used.</p> <p>If you specify a value outside the allowable range, an error message is output, and the integer from 512 to 2,096,128 that is closest to the specified value is used.</p>

#

When you use the `jpccconf ha setup` command to set up a logical host after you configure action log output on the physical host, the settings in the `jpccomm.ini` file of the physical host apply to the logical host. If the logical host and the physical host are being used simultaneously, make sure that the action logs are output to different directories.

I. Health Check Agent

Performance Management provides data models and monitoring templates for the health check agent. This appendix describes the data model and monitoring template for the health check agent.

I.1 Records

(1) Data model

The following table shows the data model versions for the health check agent that correspond to the PFM - Manager versions.

PFM - Manager version	Data model version
08-11	3.0
09-00	4.0
	5.0
10-00	5.2
10-50 or later	5.4

The following table shows the records that support data model versions.

Record name (record ID)	Data model version			Description
	3.0	4.0	5.0 or later	
Health Check Detail(PD_HC)	Y	Y	Y	Detailed information of health check results
Host Availability(PI_HAVL)	--	Y	Y	Performance and running rate of each host
Host Detail(PD_HOST)	--	Y	Y	Details on the health check result for each host
Reserved Interval(PI)	Y	Y	Y	Reserved record
Reserved Detail(PD)	Y	Y	Y	Reserved record
System Overview(PI_SYS)	--	Y	Y	Operational status summary of hosts in the system

Legend:

Y: Supported

--: Unsupported

(2) Format of record explanations

The explanation of each record consists of the following items.

Function

Provides an overview of the performance data stored in the record and related notes.

Default values and values that can be changed

Shows in table format the default values for the performance data collection conditions that are set in the record and the values that can be changed by the user. The table below shows the items that are described for the default values, the values that can be changed, and their meanings. For details about each item shown in this table, see the chapter that explains management of operation monitoring data in the *Job Management Partner 1/Performance Management User's Guide*.

Table I–1: Default values and values that can be changed

Item	Meaning	Changeable
Collection Interval	Performance data collection interval (seconds)	Yes: Can be changed. No: Cannot be changed.
Collection Offset ^{#1}	Offset (in seconds) for starting performance data collection. For details about offsets, see the chapter that explains management of operation monitoring data in the <i>Job Management Partner 1/Performance Management User's Guide</i> . For details about the performance data collection start time, see 4. Performance Management Functions .	
Log	Whether to record collected performance data in the Store database. Yes: Record performance data. However, performance data will not be recorded if Collection Interval=0. No: Do not record performance data.	
LOGIF	Condition to be used to determine whether to record collected performance data in the Store database	
Sync Collection With ^{#2}	Whether to collect performance data that is to be synchronized with the records displayed in the value of the Description record property. For details, see the chapter that explains management of operation monitoring data in the <i>Job Management Partner 1/Performance Management User's Guide</i> .	
Over 10 Sec Collection Time ^{#3}	Whether the collection of records takes 10 seconds or longer Yes: Sometimes takes 10 seconds or longer. No: Takes less than 10 seconds.	

#1

A value between 0 and 32,767 seconds (within the value specified in Collection Interval) can be specified. When multiple data items are being collected, the system load will increase if they are all collected at the same time. Therefore, a collection offset is used to distribute the workload of the collection processing. Note that the data collection recording time is the same as that specified in Collection Interval regardless of the value specified in Collection Offset.

#2

When Sync Collection With is displayed, Collection Interval and Collection Offset are not displayed.

#3

This item appears when the collection of historical data takes precedence over the display of real-time reports. For details, see the chapter that describes troubleshooting in the *Job Management Partner 1/Performance Management User's Guide*.

ODBC key field

To use an SQL from PFM - Manager or PFM - Base to utilize the data of a record stored in the Store database, you need an ODBC key field. Some ODBC key fields are common to all records, while others are unique to particular records. ODBC key fields unique to specific records are listed under this heading in each record's description. Only multi-instance records have unique ODBC key fields.

For the ODBC key fields common to all records, see [I.1\(3\) List of ODBC key fields](#). For details about how to use ODBC key fields, see the chapter that explains operation analysis linked with ODBC-compatible application programs in the *Job Management Partner 1/Performance Management User's Guide*.

Lifetime

Lifetime is the period during which the integrity of the performance data collected in the record is guaranteed. For details about lifetime, see [4. Performance Management Functions](#).

Record size

Size of the performance data that is stored in the record during a single collection operation.

Fields

A table in which the record's fields are listed and described. The components of this table for each field are explained below.

PFM - View name (PFM - Manager name)

- PFM - View name
Field name (PFM - View name) displayed on PFM - Web Console.
- PFM - Manager name
Field name (PFM - Manager name) to be specified in the SQL when you want to use the SQL from PFM - Manager to utilize the data of the field stored in the Store database.
In the SQL statement, the field name is described in a format that begins with the record's record ID. For example, in the case of the Interval (INTERVAL) field of the Host Machine Status (PD) record, the field name is specified as PD_INTERVAL.

Explanation

Explanation of the performance data that is stored in the field.

You can obtain any of the following as a field's performance data:

- The average or percentage from the most recently collected data and the data collected during the previous intervals
- Performance data only from the most recently collected data (including values accumulated internally by the OS)
- Data from other fields (see *Data source* in the table of fields for each record)

Unless otherwise specified, the value obtained from a data collection interval is used.

Summary

The method (summary rule) used by Agent Store to summarize the data. For details about summary rules, see [I.1\(4\) Summary rules](#).

Format

The data type, such as `char` and `float`, of the value in the field. For details about data types, see [I.1\(5\) List of data types](#).

Delta

When data is collected as a cumulative value, a *delta* value is used to display the data as the amount of change in the value. For details about delta values, see [I.1\(6\) Field values](#).

Data source

The calculation method for or the source of the field's value. For details about field values, see [I.1\(6\) Field values](#).

(3) List of ODBC key fields

Some ODBC key fields are common to all records, while others are specific to individual records. This section lists the ODBC key fields common to all records. With PFM - Manager, ODBC key fields are required in order for SQL statements to be used to access record data stored in the Store database.

For details about the ODBC key fields that are specific to each record, see the individual record descriptions.

Table I-2: List of ODBC key fields common to all records

ODBC key field	ODBC format	Data	Explanation
<i>record-ID_DATE</i>	SQL_INTEGER	Internal	Record key that indicates the record's creation date
<i>record-ID_DATETIME</i>	SQL_INTEGER	Internal	Combination of <i>record ID_DATE</i> field and <i>record ID_TIME</i> field
<i>record-ID_DEVICEID</i>	SQL_VARCHAR	Internal	Name of the host on which the health check agent is running
<i>record-ID_DRAWER_TYPE</i>	SQL_VARCHAR	Internal	Category. The valid values are as follows: m: Minute H: Hour D: Day W: Week M: Month Y: Year
<i>record-ID_PROD_INST</i>	SQL_VARCHAR	Internal	Instance name of the health check agent
<i>record-ID_PRODID</i>	SQL_VARCHAR	Internal	Product ID of the health check agent
<i>record-ID_RECORD_TYPE</i>	SQL_VARCHAR	Internal	Record type identifier (4 bytes)
<i>record-ID_TIME</i>	SQL_INTEGER	Internal	Time at which the record was generated (Greenwich Mean Time)

(4) Summary rules

For records of the PI record type, data that is collected at the interval set in `Collection Interval` and data that is collected at specific intervals (minute, hour, day, week, month, or year) based on defined rules is stored in the Store database. The type of summary is defined for each field. This definition is called the *summary rules*.

Some summary rules require intermediate data to be retained during the summary period. In such a case, a field for retaining the intermediate data is added to the record in the Store database. This field is called an *added field*. Some added fields are displayed as record fields in PFM - Web Console. The added fields displayed in PFM - Web Console can be used as fields displayed in historical reports.

To distinguish from *added fields* that are added by summarization, the fields described in each record explanation in this section are called *fixed fields*.

The name of an added field is as follows:

- Name of an added field that is stored in the Store database
PFM - Manager name of the fixed field with a suffix added
- Name of an added field that is displayed in PFM - Web Console

PFM - View name of the fixed field with a suffix added

The following table lists and describes the suffixes for the PFM - Manager name and for the corresponding PFM - View name, as well as the data that is stored in the field.

Table I-3: List of suffixes for added fields

Suffix to PFM - Manager name	Suffix to PFM - View name	Stored data
_TOTAL	(Total)	Sum of the field values in the record over the summary period
_COUNT	--	Number of records collected during the summary period
_HI	(Max)	Maximum field value in the record during the summary period
_LO	(Min)	Minimum field value in the record during the summary period

Legend:

--: There is no added field.

Table I-4: List of summary rules

Summary rule name	Description of summary rule
COPY	Stores the field value in the most recent record in the summary period.
AVG	Stores the average field value in the summary period. The formula is as follows: $(\text{Sum of field values}) \div (\text{number of collected records})$ Added fields (Store database): <ul style="list-style-type: none"> _TOTAL _COUNT Added field (PFM - Web Console):# <ul style="list-style-type: none"> (Total)
ADD	Stores the sum of the field values over the summary period.
LO	Stores the minimum field value during the summary period.
HILO	Stores the maximum, minimum, and average field values during the summary period. For a fixed field, the average value is stored. The formula is as follows: $(\text{Sum of field values}) \div (\text{number of collected records})$ Added fields (Store database): <ul style="list-style-type: none"> _HI _LO _TOTAL _COUNT Added field (PFM - Web Console):# <ul style="list-style-type: none"> (Max) (Min) (Total)
--	Indicates that data is not summarized.

#

For fields whose PFM - Manager name contains PCT, the (Total) field added in PFM - Web Console cannot be used in historical reports.

(5) List of data types

The table below lists the data types for field values and their corresponding C and C++ data types. The values shown in the *Field* column under *Data type* are those shown in the *Format* column of the record field tables.

Table I–5: List of data types

Data type		Size (bytes)	Description
Field	C and C++		
<code>char n</code>	<code>char ()</code>	<i>n</i>	Character data with a length of <i>n</i> bytes
<code>float</code>	<code>float</code>	4	Numeric value (3.4E ± 38 (7 digits))
<code>long</code>	<code>long</code>	4	Numeric value (-2,147,483,648 to 2,147,483,647)
<code>short</code>	<code>short</code>	2	Numeric value (-32,768 to 32,767)
<code>string(n)</code>	<code>char []</code>	Value in parentheses	Character string with a length of <i>n</i> bytes. The last character is null.
<code>time_t</code>	<code>unsigned long</code>	4	Numeric value (0 to 4,294,967,295)
<code>ulong</code>	<code>unsigned long</code>	4	Numeric value (0 to 4,294,967,295)

(6) Field values

This subsection describes the values stored in the fields.

Data source

Each field contains a value that is obtained from Performance Management or a monitoring target program, or it contains a value that is derived from such a value by applying a formula. The source of each field's value or the calculation method used to obtain the field's value is indicated in the *Data source* column in the table of fields.

If a field's value was obtained by processing collected performance data, the character string in the *Data source* column of a health check agent indicates the calculation method used to obtain the field value. The following notation is used for the data source:

- --: Indicates that the field's value was not obtained by processing collected performance data.

Delta

Data that indicates the amount a value has changed is called *delta*. For example, if the performance data value obtained during the first collection is 3 and the performance data value obtained during the second collection is 4, the value 1 is stored as the change amount. In the tables, the *Delta* column indicates whether each field's value is a delta value.

If **Indicate delta value** is selected in the real-time report settings, values are displayed from the first time data is collected. If a report requires initial data, 0 is displayed as the initial value and the value for collected data is displayed for the second and subsequent data collections.

The performance data collected by the health check agent varies as shown in the following table.

Table I–6: Performance data collected by the health check agent

Record type	Delta	Data type	Indicate delta value#	Record value
PI record type	Yes	--	--	--
	No	Real-time data	Selected	The displayed value is the actual value at the time of data collection.

Record type	Delta	Data type	Indicate delta value [#]	Record value
PI record type	No	Real-time data	Not selected	The displayed value is the actual value at the time of data collection.
		<ul style="list-style-type: none"> • Historical data • Alarm monitoring data 	--	The displayed value is the actual value at the time of data collection.
PD record type	Yes	--	--	--
	No	Real-time data	Selected	The displayed value is the actual value at the time of data collection.
			Not selected	The displayed value is the actual value at the time of data collection.
		<ul style="list-style-type: none"> • Historical data • Alarm monitoring data 	--	The displayed value is the actual value at the time of data collection.

Legend:

--: Not applicable

#

This column indicates whether one of the following items is selected in PFM - Web Console:

- **Indicate delta value** in the report wizard's Edit > Indication settings(Realtime) window
- **Indicate delta value** in **Indication settings(Realtime)** on the **Properties** page in the report window

The following notes apply to performance data collection:

The first performance data that is stored for a historical report on the health check agent is created from the data collected during the previous collection and the current collection. Therefore, it takes a maximum of twice as much time as the specified collection interval before the first performance data is collected since the collection of historical report data began.

Average and percentage values of fields

Some field average and percentage values are obtained as values per second based on the specified `Interval` of time and some are obtained as values per data collection interval. Unless otherwise specified, the average and percentage values indicate the values per data collection interval (when `Interval` is set to 60 seconds, data per-minute is obtained).

Value of the Interval field

The value of the Interval field depends on the record type, as shown below.

Table I-7: Value of the Interval field

Record type	Instance type	Report type	Description
PI record type	Multi-instance record	Real-time report	The initial value is 0. The subsequent values are for the refresh interval [#] specified for the report (in seconds).
		Historical report	Values for the refresh interval [#] specified for the report are displayed (in seconds). If data is summarized, the last value collected is displayed.
	Single-instance record	Real-time report	The initial value is 0. The subsequent values are for the refresh interval [#] specified for the report (in seconds).
		Historical report	Values for the refresh interval [#] specified for the report are displayed (in seconds).

Record type	Instance type	Report type	Description
PI record type	Single-instance record	Historical report	If data is summarized, the total of the summarized record is displayed.
--	Multi-instance record	Real-time report	The initial value is 0. The subsequent values are for the refresh interval [#] specified for the report (in seconds). The value is always 0 for the following records: <ul style="list-style-type: none"> • Device Detail (PD_DEV) • Process Detail (PD) • Process End Detail (PD_PEND) • Service Process Detail (PD_SVC)
		Historical report	Values for the refresh interval [#] specified for the report are displayed (in seconds). The value is always 0 for the following records: <ul style="list-style-type: none"> • Device Detail (PD_DEV) • Process Detail (PD) • Process End Detail (PD_PEND) • Service Process Detail (PD_SVC)
	Single-instance record	Real-time report	--
		Historical report	--

Legend:

--: Not applicable

#

The refresh interval is obtained from the following formula:

Interval field value = Record Time field value - Record Time field value during the previous collection

(7) Fields that are added only when a record is recorded in the Store database

Table I–8: Fields that are added only when a record is recorded in the Store database

PFM - View name (PFM - Manager name)	Description	Format	Delta	Versions supported on	Data source
Agent Host (DEVICEID)	Name of the host on which the health check agent is running	string (256)	No	All	--
Agent Instance (PROD_INST)	Name of the host on which the health check agent is running	string (256)	No	All	--
Agent Type (PROPID)	Product ID of the health check agent, expressed as a 1-byte identifier	char	No	All	--
Date (DATE)	Record creation date (Greenwich Mean Time) ^{#1} , ^{#2}	char (3)	No	All	--
Date and Time (DATETIME)	Combination of the Date (DATE) and Time (TIME) fields ^{#2}	char (6)	No	All	--
Drawer Type (DRAWER_TYPE)	For a record of the PI record type, the data summarization type. The type displayed in PFM	char	No	All	--

PFM - View name (PFM - Manager name)	Description	Format	Delta	Versions supported on	Data source
Drawer Type (DRAWER_TYPE)	- Web Console reports differs from the type displayed using the ODBC driver. ^{#3}	char	No	All	--
GMT Offset (GMT_ADJUST)	Difference (in seconds) between Greenwich Mean Time and local time	long	No	All	--
Time (TIME)	Record creation time (Greenwich Mean time) ^{#1} , #2	char (3)	No	All	--

Legend:

--: The field's value is not obtained by using the health check function to process performance data.

#1

A reference time during summarization is set because data is summarized for records of the P I record type.

Table I–9: Setting for each record type

Type	Setting for each record type
Minute	0 second of the time when the record was created.
Hour	0 minute and 0 second of the time when the record was created.
Day	00:00:00 of the day when the record was created
Week	00:00:00 on Monday of the week when the record was created
Month	00:00:00 on the first of the month when the record was created
Year	00:00:00 on January 1st of the year when the record was created

#2

When data is displayed in reports and by the ODBC driver, the Date field is displayed in the format *YYYYMMDD*, the Date and Time field is displayed in the format *YYYYMMDD hh:mm:ss*, and the Time field is displayed in the format *hh:mm:ss*.

#3

The following table shows the type displayed in PFM - Web Console reports and the type displayed when the ODBC driver is used.

Table I–10: Differences in the summary type depending on the display method

Type	PFM - Web Console	ODBC driver
Minute	Minute	m
Hour	Hour	H
Day	Day	D
Week	Week	W
Month	Month	M
Year	Year	Y

(8) Fields that are output when data is exported from the Store database

The fields listed below are output when the `jpctool db dump` command is used to export data from the Store database. These fields are also added when data is recorded in the Store database, but they cannot be selected as fields to be displayed in reports because they are not displayed by PFM - Web Console. Do not use these fields for operations because they are used internally by the health check agent.

- `record-ID_DATE_F`

- *record-ID_DEVICEID_F*
- *record-ID_DRAWER_TYPE_F*
- *record-ID_DRAWER_COUNT*
- *record-ID_DRAWER_COUNT_F*
- *record-ID_INST_SEQ*
- *record-ID_PRODID_F*
- *record-ID_PROD_INST_F*
- *record-ID_RECORD_TYPE*
- *record-ID_RECORD_TYPE_F*
- *record-ID_SEVERITY*
- *record-ID_SEVERITY_F*
- *record-ID_TIME_F*
- *record-ID_UOWID*
- *record-ID_UOWID_F*
- *record-ID_UOW_INST*
- *record-ID_UOW_INST_F*

(9) Health Check Detail (PD_HC)

Function

This record stores the operating status data of PFM - Agent or PFM - RM, or the operating status data of hosts where PFM - Agent or PFM - RM operates. It is a multi-instance record. You can use this record to perform the following:

- Configure alarms or actions that respond to changes in the operating status of agents.
You can use integrated management products, such as JPI/IM, to monitor status changes made by the agent.
- Confirm the monitoring result report in the service-level operating status monitoring mode.
You can confirm detailed information collected in the service-level operating status monitoring mode, such as the status of agents and services that make up the agents, or the date and time when the status was updated.

Default values and changeable values

Item	Default value	Changeable
Log	No	Yes
Collection Interval#	300	Yes
Collection Offset	0	Yes
LOGIF	Blank	Yes
Over 10 Sec Collection Time	No	No

#

The value specified here is used as the pooling cycle for the health check function.

ODBC key field

PD_HC_AGENT

Lifetime

From the first time the agent was started until unsetup or uninstallation.

Record size

- Fixed part: 716 bytes
- Variable part: 1,023 bytes

Fields

Legend:

--: Not applicable

Common fields

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Record Type (INPUT_RECORD_TYPE)	The name of the record. The value of this field is always HC.	--	char 8	No	--
Record Time (RECORD_TIME)	The time when the record was created.	--	time_t	No	--
Interval (INTERVAL)	The collection interval of the record (in seconds).	--	ulong	No	--
Monitoring Level by Num (MONITORING_LEVEL_NUM)	The monitoring level of the health check function (numerical value). This is a reserved field and cannot be used.	--	short	No	--
Monitoring Level (MONITORING_LEVEL)	The monitoring level of the health check function (character string) as one of the following values: <ul style="list-style-type: none">• Host: Host-level operation status monitoring• Service: Service-level operation status monitoring	--	string (33)	No	--

Fields for determining the agent operating status

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Agent (AGENT)	The service ID of the monitored agent.	--	string (259)	No	--
Host (HOST)	The host where the monitored agent is running.	--	string (256)	No	--
Agent Category by Num (AGENT_CATEGORY_NUM)	The type of the monitored agent (numerical value). This is a reserved field and cannot be used.	--	short	No	--
Agent Category (AGENT_CATEGORY)	The type of the monitored agent (numerical value), as one of the following values: <ul style="list-style-type: none">• Agent: PFM - Agent• Remote Monitor: PFM - RM• Remote Agent: Remote agent	--	string (33)	No	--
Polling Date and Time (POLLING_DATETIME)	The date and time at which the monitored agent was polled.	--	time_t	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Agent Op Status by Num (AGENT_STATE_NUM)	The status of the monitored agent (numerical value), as one of the following ^{#1} : <ul style="list-style-type: none"> • 0: Not Supported • 4: Running • 8: Incomplete • 12: Stopped • 16: Unconfirmed • 24: Host Not Available 	--	short	No	--
Agent Op Status (AGENT_STATE)	The status of the monitored agent (character string), as one of the following ^{#1} : <ul style="list-style-type: none"> • Not Supported • Running • Incomplete • Stopped • Unconfirmed • Host Not Available 	--	string (33)	No	--
Agent Op Status Change (AGENT_STATE_CHANGE)	A flag indicating whether the status of the monitored agent has changed since the last time the agent was polled. This field can contain the following values: <ul style="list-style-type: none"> • 0: The status is unchanged • 1: The status has changed 	--	short	No	--
Agent Op Status Cont-Count (AGENT_STATE_CONT_COUNT)	Continuation count for the current Agent operation status (data model 5.2 or later)	--	short	No	#2

#1

The status displayed for the agent depends on the monitoring level of the health check agent. For details about the status, see the chapter that describes detecting problems within Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

#2

Number of times the same AGENT_STATE_NUM value occurred consecutively.

The initial value is 1 and the value is incremented up to 1440. Once 1440 is reached, the value remains at 1440 (value for count 1,441 is 1440).

Fields for determining the host operating status

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Host Op Status by Num (HOST_STATE_NUM)	The status of the host where the monitored agent is running (numerical value). This is a reserved field and cannot be used.	--	short	No	--
Host Op Status (HOST_STATE)	The status of the host where the monitored agent is running (character string), as one of the following: For normal agents: <ul style="list-style-type: none"> • Success: Communication was successful 	--	string (33)	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Host Op Status (HOST_STATE)	<ul style="list-style-type: none"> • Failure: <i>error-details</i>: Communication failed. The details of the error are shown as follows: <ul style="list-style-type: none"> • Remote Host Unavailable: The target host did not respond. • Connection Unavailable: Connection could not be established with the target host. • Socket Failure: Socket operation resulted in an error. • Unknown: The status is unknown. <p>For remote agents:</p> <ul style="list-style-type: none"> • Success: Communication with the host was successful • Failure: Communication with the host failed • Unknown: Unknown status 	--	string (33)	No	--

Fields for determining the service operating status (Agent Collector and Remote Monitor Collector services)

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Collector Inclusion in Agent (COLLECTOR_INCL_AGENT)	<p>A flag indicating whether the status of the Agent Collector and Remote Monitor Collector services is considered when evaluating the agent status. 0 is set when the operating status of the host is monitored, and 1 is set when the operating status of the service is monitored.</p> <ul style="list-style-type: none"> • 0: Not included • 1: Included 	--	short	No	--
Collector Op Status by Num (COLLECTOR_STATE_NUM)	<p>Operating status of Agent Collector and Remote Monitor Collector services (numeric value). This is a reserved field and cannot be used.</p>	--	short	No	--
Collector Op Status (COLLECTOR_STATE)	<p>Operating status of Agent Collector and Remote Monitor Collector services (string). The values are as follows:</p> <ul style="list-style-type: none"> • Start Pending: The service is starting • Active: The service has started • Standalone Active: The service has started (in stand-alone mode) • Busy: The service is processing a request • Standalone Busy: The service is processing a request (in stand-alone mode) • Too Long Busy: The service is taking a long time to process a request^{#1} • Standalone Too Long Busy: The service is taking a long time to process a request (in stand-alone mode)^{#1} • Stop Pending: The service is stopping • Inactive: The service is stopped 	--	string (33)	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Collector Op Status (COLLECTOR_STATE)	<ul style="list-style-type: none"> Unknown: The status is unknown^{#2} 	--	string (33)	No	--
Collector Op Status Last-Updated (COLLECTOR_STATE_LAST_UPDATE)	Date and time when the operating status of Agent Collector and Remote Monitor Collector services was updated	--	time_t	No	--
Collector Op Status Cont-Period (COLLECTOR_STATE_CONTENT_PERIOD)	The duration of the operating status of the Agent Collector and Remote Monitor Collector services (in seconds). ^{#3}	--	time_t	No	--
Collector Op Status Change (COLLECTOR_STATE_CHANGE)	<p>A flag indicating whether the status of the Agent Collector and Remote Monitor Collector services has changed since the last time the agent was polled. This field can contain the following values:</p> <ul style="list-style-type: none"> 0: The status is unchanged 1: The status has changed 	--	short	No	--

#1

If **Yes** is specified for **Busy as Inactive** in the properties of the health check agent, this value is set when the service remains in *Busy* or *Standalone Busy* status for longer than the period of time specified as the **Time to Busy as Inactive** setting. In this case, the health check agent considers the service inactive when it determines the operating status of the agent.

#2

This value is set when performing host-level monitoring of operating statuses, or in the following cases when performing service-level monitoring of operating statuses:

- When the service is not specified as a monitoring target.
- When the host or the Status Server service on the host is stopped.
- When the service does not support the status management function.
- When the status management function is unable to confirm the status of the service for reasons such as the service having terminated abnormally, despite the service supporting the status management function. In this case, the health check agent considers the service inactive when it determines the operating status of the agent. You will need to restart the service to allow the service status to be recognized correctly.

#3

The duration of the operating status of a service is calculated from the difference between the time when polling took place (Polling Date and Time) and the time when the service entered the current operating status (Collector Op Status Last-Updated, Store Op Status Last-Updated, or AH Op Status Last-Updated). For this reason, make sure that the clocks are synchronized on all hosts that run Performance Management services.

Fields for determining the service operating status (Agent Store and Remote Monitor Store services)

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Store Inclusion in Agent (STORE_INCL_AGENT)	<p>A flag indicating whether the status of the Agent Store and Remote Monitor Store services is considered when evaluating the agent status. 0 is set when the operating status of the host is monitored, and 1 is set when the operating status of the service is monitored.</p> <ul style="list-style-type: none"> 0: Not included 	--	short	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Store Inclusion in Agent (STORE_INCL_AGENT)	<ul style="list-style-type: none"> 1: Included 	--	short	No	--
Store Op Status by Num (STORE_STATE_NUM)	Operating status of Agent Store and Remote Monitor Store services (numeric value). This is a reserved field and cannot be used.	--	short	No	--
Store Op Status (STORE_STATE)	<p>Operating status of Agent Store and Remote Monitor Store services (string). The values are as follows:</p> <ul style="list-style-type: none"> Start Pending: The service is starting Active: The service has started Standalone Active: The service has started (in stand-alone mode) Busy: The service is processing a request Standalone Too Long Busy: The service is processing a request (in stand-alone mode) Too Long Busy: The service is taking a long time to process a request^{#1} Standalone Too Long Busy: The service is taking a long time to process a request (in stand-alone mode)^{#1} Stop Pending: The service is stopping Inactive: The service is stopped Unknown: The status is unknown^{#2} 	--	string (33)	No	--
Store Op Status Last-Updated (STORE_STATE_LAST_UPDATE)	Date and time when the operating status of Agent Store and Remote Monitor Store services was updated	--	time_t	No	--
Store Op Status Cont-Period (STORE_STATE_CONT_PERIOD)	The duration of the operating status of Agent Store and Remote Monitor Store services (in seconds) ^{#3}	--	time_t	No	--
Store Op Status Change (STORE_STATE_CHANGE)	<p>A flag indicating whether the status of the Agent Store and Remote Monitor Store services has changed since the last time the agent was polled. This field can contain the following values:</p> <ul style="list-style-type: none"> 0: The status is unchanged 1: The status has changed 	--	short	No	--

#1

If **Yes** is specified for **Busy as Inactive** in the properties of the health check agent, this value is set when the service remains in *Busy* or *Standalone Busy* status for longer than the period of time specified as the **Time to Busy as Inactive** setting. In this case, the health check agent considers the service inactive when it determines the operating status of the agent.

#2

This value is set when performing host-level monitoring of operating statuses, or in the following cases when performing service-level monitoring of operating statuses:

- When the service is not specified as a monitoring target.
- When the host or the Status Server service on the host is stopped.

- When the service does not support the status management function.
- When the status management function is unable to confirm the status of the service for reasons such as the service having terminated abnormally, despite the service supporting the status management function. In this case, the health check agent considers the service inactive when it determines the operating status of the agent. You will need to restart the service to allow the service status to be recognized correctly.

#3

The duration of the operating status of a service is calculated from the difference between the time when polling took place (Polling Date and Time) and the time when the service entered the current operating status (Collector Op Status Last-Updated, Store Op Status Last-Updated, or AH Op Status Last-Updated). For this reason, make sure that the clocks are synchronized on all hosts that run Performance Management services.

Fields for determining the service operating status (Action Handler service)

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
AH Inclusion in Agent (AH_INCL_AGENT)	A flag indicating whether the status of the Action Handler service is considered when evaluating the agent status. <ul style="list-style-type: none"> • 0: Not included • 1: Included 	--	short	No	--
AH Op Status by Num (AH_STATE_NUM)	The operating status of the Action Handler service (numerical value). This is a reserved field and cannot be used.	--	short	No	--
AH Op Status (AH_STATE)	The operating status of the Action Handler service (character string), as one of the following values: <ul style="list-style-type: none"> • Start Pending: The service is starting • Active: The service has started • Standalone Active: The service has started (in stand-alone mode) • Busy: The service is processing a request • Standalone Busy: The service is processing a request (in stand-alone mode) • Too Long Busy: The service is taking a long time to process a request^{#1} • Standalone Too Long Busy: The service is taking a long time to process a request (in stand-alone mode)^{#1} • Stop Pending: The service is stopping • Inactive: The service is - stopped • Unknown: The status is unknown^{#2} 	--	string (33)	No	--
AH Op Status Last-Updated (AH_STATE_LAST_UPDATE)	The date and time when the operating status of the Action Handler service was last updated.	--	time_t	No	--
AH Op Status Cont-Period (AH_STATE_CONT_PERIOD)	The duration of the operating status of the Action Handler service (in seconds). ^{#3}	--	time_t	No	--
AH Op Status Change (AH_STATE_CHANGE)	A flag indicating whether the status of the Action Handler service has changed since the last time the agent was polled. This field can contain the following values:	--	short	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
AH Op Status Change (AH_STATE_CHANGE)	<ul style="list-style-type: none"> 0: The status is unchanged 1: The status has changed 	--	short	No	--

#1

If **Yes** is specified for **Busy as Inactive** in the properties of the health check agent, this value is set when the service remains in *Busy* or *Standalone Busy* status for longer than the period of time specified as the **Time to Busy as Inactive** setting. In this case, the health check agent considers the service inactive when it determines the operating status of the agent.

#2

This value is set when performing host-level monitoring of operating statuses, or in the following cases when performing service-level monitoring of operating statuses:

- When the service is not specified as a monitoring target.
- When the host or the Status Server service on the host is stopped.
- When the service does not support the status management function.
- When the status management function is unable to confirm the status of the service for reasons such as the service having terminated abnormally, despite the service supporting the status management function. In this case, the health check agent considers the service inactive when it determines the operating status of the agent. You will need to restart the service to allow the service status to be recognized correctly.

#3

The duration of the operating status of a service is calculated from the difference between the time when polling took place (Polling Date and Time) and the time when the service entered the current operating status (Collector Op Status Last-Updated, Store Op Status Last-Updated, or AH Op Status Last-Updated). For this reason, make sure that the clocks are synchronized on all hosts that run Performance Management services.

Message text field

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Message Text (MESSAGE_TEXT)	Detailed information about the operating status of the agent being monitored.	--	string (256)	No	--

Message text

Messages in the message text field are displayed as follows.

When performing host-level monitoring, or when service-level monitoring yields an agent status of Not Supported, Unconfirmed, or Host Not Available:

HC: *HC_AGT*

When service-level monitoring yields an agent status of Running, Incomplete, or Stopped:

HC: *HC_AGT* (Collector: *HC_AC*, Store: *HC_AS* [, Action Handler: *HC_AH*])

Legend:

<p><i>HC_AGT</i>: The operating status of the agent</p> <p><i>HC_AC</i>: The operating status of Agent Collector and Remote Monitor Collector services</p> <p><i>HC_AS</i>: The operating status of Agent Store and Remote Monitor Store services</p> <p><i>HC_AH</i>: The operating status of the Action Handler service</p>

Example of message output

The following are examples of messages output to the Message Text field of a PD_HC record.

HC: Not Supported

HC: Running (Collector: Active, Store: Active)

HC: Incomplete (Collector: Active, Store: Inactive, Action Handler: Active)

HC: Stopped (Collector: Inactive, Store: Inactive)

HC: Host Not Available

(10) Host Availability (PI_HAVL)

Function

This record stores the performance and running rate data of hosts that make up the system. It is a multi-instance record. You can use this record to perform the following:

- Confirm the running rate of hosts in a timescale.
You can confirm the performance of each host.

Please note that for any host monitored only by a remote agent whose status is Unknown, the corresponding data for that host will not be stored.

Default values and changeable values

Item	Default value	Changeable
Log	No	Yes
Sync Collection With	Detail Records, HC	No
LOGIF	Blank	Yes
Over 10 Sec Collection Time	No	No

Common ODBC key field

PI_HAVL_HOST

Lifetime

From the first time the agent was started until unsetup or uninstallation

Record size

- Fixed part: 681 bytes
- Variable part: 292 bytes

Field

Legend:

--: Not applicable

Common fields

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Record Type (INPUT_RECORD_TYPE)	The name of the record	COPY	char 8	No	--
Record Time (RECORD_TIME)	The time when the record was created	COPY	time_t	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Interval (INTERVAL)	The collection interval of the record (in seconds)	COPY	ulong	No	--

Fixed field

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Host (HOST)	Host name	COPY	string (256)	No	--
Availability (AVAILABILITY)	Running rate (%) (Running: 100%; Stopped: 0%)	AVG	float	No	--
Total Available Time (TOTAL_AVAILABLE_TIME)	Running time (second)# (Running: Interval; Stopped: 0)	ADD	ulong	No	--
Total Not Available Time (TOTAL_NOTAVAILABLE_TIME)	Stopping time (second)# (Running: 0; Stopped: Interval)	ADD	ulong	No	--
Total Monitoring Time (TOTAL_MONITORING_TIME)	Monitoring time (second)#. Always Interval.	ADD	ulong	No	--
Summary Start Date and Time (SUMMARY_START_DATE_TIME)	The first storage time in the summary period. Always Record Time when stored.	LO	time_t	No	--
Summary End Date and Time (SUMMARY_END_DATE_TIME)	The final storage time in the summary period. Always Record Time when stored.	COPY	time_t	No	--

#

Does not include the time when monitoring was suspended.

(11) Host Detail (PD_HOST)

Function

This record stores the information that summarizes the results for health check performed by hosts. It is a multi-instance record, and its key is the host name. You can use this record to perform the following:

- Configure alarms and actions that respond to changes in the status of hosts.

You can use integrated management products, such as JP1/IM, to monitor status changes made by the host.

Default values and changeable values

Item	Default value	Changeable
Log	No	Yes
Sync Collection With	Detail Records, HC	No
LOGIF	blank	Yes
Over 10 Sec Collection Time	No	No

Common ODBC key field

PD_HOST_HOST

Lifetime

From the first time the agent was started until unsetup or uninstallation

Record size

- Fixed part: 716 bytes
- Variable part: 325 bytes

Field

Legend:

--: Not applicable

Common fields

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Record Type (INPUT_RECORD_TYPE)	The name of the record	--	char 8	No	--
Record Time (RECORD_TIME)	The time when the record was created	--	time_t	No	--
Interval (INTERVAL)	The collection interval of the record (in seconds)	--	ulong	No	--
Monitoring Level by Num (MONITORING_LEVEL_NUM)	The monitoring level of the health check function (numerical value). This is a reserved field and cannot be used.	--	short	No	--
Monitoring Level (MONITORING_LEVEL)	The monitoring level of the health check function (character string) as one of the following values: <ul style="list-style-type: none"> • Host: Host-level operation status monitoring • Service: Service-level operation status monitoring 	--	string (33)	No	--

Fixed field

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Host (HOST)	Host name	--	string (256)	No	--
Polling Date and Time (POLLING_DATETIME)	Polling date and time	--	time_t	No	--
Status (STATE)	Status (Running: Available; Stopped: Not Available; Unconfirmed: Unknown)	--	string (33)	No	--
Status by Num (STATE_NUM)	Status (Running: 0; Stopped: 1; Unconfirmed: 2)	--	short	No	--
Status Change (STATE_CHANGE)	Indicates whether there was a status change. (No change: 0; Changed: 1)	--	short	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Num of Agents (NUM_AGENTS)	Total number of agents on the host	--	ulong	No	--
Num of Agents except Sus (NUM_AGENTS_EXCEPT_SUS)	Total number of agents on the host (except for Suspended agents)	--	ulong	No	--
Num of Not Supported (NUM_NOTSUPPORTED)	Number of Not Supported agents on the host [#]	--	ulong	No	--
Num of Running (NUM_RUNNING)	Number of Running agents on the host [#]	--	ulong	No	--
Num of Incomplete (NUM_INCOMPLETE)	Number of Incomplete agents on the host [#]	--	ulong	No	--
Num of Stopped (NUM_STOPPED)	Number of Stopped agents on the host [#]	--	ulong	No	--
Num of Unconfirmed (NUM_UNCONFIRMED)	Number of Unconfirmed agents on the host [#]	--	ulong	No	--
Num of Host Not Available (NUM_HOSTNOTAVAILABLE)	Number of Host Not Available agents on the host [#]	--	ulong	No	--
Num of Suspended (NUM_SUSPENDED)	Number of Suspended agents on the host (only the agents that are specified for suspension) [#]	--	ulong	No	--

#

For details about the operating status, see the chapter that describes detecting problems within Performance Management in the *Job Management Partner 1/Performance Management User's Guide*.

(12) Reserved Interval (PI)

This is a reserved record and cannot be used.

(13) Reserved Detail (PD)

This is a reserved record and cannot be used.

(14) System Overview (PI_SYS)

Function

This record stores select information, such as the number and availability of running hosts, as the operating status summary of the hosts that make up the system. It is a single-instance record. You can use this information to perform the following:

- Use a snapshot to confirm the system's operating status summary.
You can confirm the current system status, as well as the status history and trends.

Default values and changeable values

Item	Default value	Changeable
Log	No	Yes

Item	Default value	Changeable
Sync Collection With	Detail Records, HC	No
LOGIF	Blank	Yes
Over 10 Sec Collection Time	No	No

Common ODBC key field

None

Lifetime

From the first time the agent was started until unsetup or uninstallation.

Record size

- Fixed part: 801 bytes
- Variable part: 0 bytes

Field

Legend:

--: Not applicable

Common fields

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Record Type (INPUT_RECORD_TYPE)	The name of the record	--	char 8	No	--
Record Time (RECORD_TIME)	The time when the record was created	--	time_t	No	--
Interval (INTERVAL)	The collection interval of the record (in seconds)	--	ulong	No	--

Fixed field

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
% Available Hosts (PCT_AVAILABLE_HOSTS)	Running rate of host (%)	HILO	float	No	#1
% Available Hosts except Sus (PCT_AVAILABLE_HOSTS_EXCEPT_SUS)	Running rate of host (%) (except for suspended hosts)	HILO	float	No	#2
Num of Available Hosts (NUM_AVAILABLE_HOSTS)	Number of running hosts	HILO	ulong	No	--
Num of Not Available Hosts (NUM_NOTAVAILABLE_HOSTS)	Number of stopped hosts	HILO	ulong	No	--
Num of Unknown Hosts (NUM_UNKNOWN_HOSTS)	Number of unconfirmed hosts	HILO	ulong	No	--
Num of Suspended Hosts (NUM_SUSPENDED_HOSTS)	Number of suspended hosts (only the hosts that are specified for suspension)	HILO	ulong	No	--

PFM - View name (PFM - Manager name)	Description	Summary	Format	Delta	Data source
Num of Hosts (NUM_HOSTS)	Total number of hosts	HILO	ulong	No	--
Num of Hosts except Sus (NUM_HOSTS_EXCEPT_SUS)	Total number of hosts (except for suspended hosts)	HILO	ulong	No	--

#1

NUM_AVAILABLE_HOSTS / NUM_HOSTS x 100

#2

NUM_AVAILABLE_HOSTS / NUM_HOSTS_EXCEPT_SUS x 100

I.2 Overview of monitoring template

With Performance Management, you can define alarms and reports for the health check agent in the following ways:

- Use an existing alarm or report defined for the health check agent
- Copy and then customize an alarm or report defined for the health check agent
- Use a wizard to create a new alarm or report

Performance Management provides pre-defined alarms and reports in a monitoring template for use by the health check agent. Because the necessary information has been preset in these alarms and reports, you can copy them and use them as is, or customize them to suit your environment. By using the alarms and reports in the monitoring template, you can easily prepare to monitor a system's operating status without needing to use wizards to create new definitions.

The following describes the settings in the alarms and reports defined in the monitoring template for the health check agent.

I.3 Monitoring template (alarm)

(1) Format of alarm explanations

Alarms are listed in alphabetical order.

Alarm name

Shows the name of the alarm in the monitoring template.

Synopsis


Provides a summary of what the alarm can monitor.

Main settings

Shows a table of the main settings of the alarm. The settings in the table correspond to the items shown in the Properties window that appears when you click an alarm icon in the **Alarms** page of the PFM - Web Console, and then click the **Properties** method. For details about each alarm setting, see the Properties window for the particular alarm in PFM - Web Console.

Hyphens (--) in the *Setting* column of the table indicate that any value set for the item will be invalid. Where *Abnormal condition* and *Warning condition* have the same value under *Alarm Conditions* in the table, an alarm event is issued only for the abnormal condition.

Associated report

Shows the name of the report associated with the alarm in the monitoring template. You can view the report by clicking an agent icon in the **Agents** page of the PFM - Web Console, and then clicking the  icon for the **Display Alarm Status** method.

(2) List of alarms

The alarms defined in the monitoring template of the health check agent are summarized in the alarm table `PFM HealthCheck Template Alarm VV.RR`, where `VV.RR` represents the version of the alarm table. This table resides in the `HealthCheck` folder in the **Alarms** page of PFM - Web Console.

The following table shows the data model and alarm table versions that correspond to the health check agent versions.

Health check agent version	Alarm table version	Data model version of alarm table
08-11	8.11	3.0
09-00 or later	8.50	4.0
	09.00	4.0

The table below lists the alarms defined in the monitoring template.

Table I–11: List of alarms

Alarm table version	Alarm table name	Alarm name	Description
8.11	PFM HealthCheck Solution Alarms 8.11	<i>Status Change</i>	Changes of the health check status of monitored agents.
		<i>Abnormal Status (A)</i>	The health check status of monitored agents
		<i>Abnormal Status (S)</i>	The health check status of monitored agents.
8.50	PFM HealthCheck Template Alarms 8.50	<i>Status Change</i>	Changes of the health check status of monitored agents.
		<i>Abnormal Status (A)</i>	The health check status of monitored agents
		<i>Abnormal Status (S)</i>	The health check status of monitored agents
		<i>Host Status Change</i>	Change of the operating status of the monitored agent host
		<i>Host Not Available</i>	Operating status of the monitored agent host
09.00	PFM HealthCheck Template Alarms 09.00	<i>Status Change</i>	Changes of the health check status of monitored agents.
		<i>Abnormal Status (A)</i>	The health check status of monitored agents
		<i>Abnormal Status (S)</i>	The health check status of monitored agents
		<i>Host Status Change</i>	Change of the operating status of the monitored agent host

Alarm table version	Alarm table name	Alarm name	Description
09.00	PFM HealthCheck Template Alarms 09.00	<i>Host Not Available</i>	Operating status of the monitored agent host
	PFM HealthCheck Template Alarms [Service] 09.00	<i>Service Status Change</i>	Change of the health check status of the monitored agents (excluding remote agents)
		<i>Service Abnormal (A)</i>	Health check status of the monitored agents (excluding remote agents)
		<i>Service Abnormal (S)</i>	Health check status of the monitored agents (excluding remote agents)

(3) Considerations when creating alarms

Health check events and alarm events are issued at different times. Health check events are issued each time a host completes polling, and alarm events are evaluated and issued at record collection intervals. When you use monitoring template alarms, alarm events are evaluated after all target agent hosts have completed polling. This is because the alarms refer to the PD_HC and PC_HOST records. If you create alarms, remember that they are evaluated at the record collection intervals specified in the condition expression. In addition, alarms are also issued from the host running the health check agent (PFM - Manager host). When you set an action for an alarm, if you specify the action handler as LOCAL, the action is executed on the PFM - Manager host, rather than on the PFM - Agent or PFM - RM host.

(4) Status Change

Synopsis

The Status Change alarm monitors for variations in the health check statuses of the monitored agents. The alarm is issued once for each agent whose health check status has changed. Use this alarm when you require alarms to be issued as often as there are agent events (health check events). This alarm is disabled by default.

The severity of the alarm is always *Warning*, regardless of the health check status that the agent has entered.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	Alarm table version 8.11: HealthCheck (3.0) Alarm table version 09.00: HealthCheck (4.0)
	Alarm message text	Status of %CVS2 changed to %CVS3
	Enable alarm	Not selected
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor
	Damping	Not specified
Alarm conditions	Record name (record ID)	Health Check Detail (PD_HC)
	Abnormal condition	Agent Op Status Change = "-1" AND (Agent = "*" AND Agent Op Status = "*")

Alarm properties in PFM - Web Console		Setting
Item	Details	
Alarm conditions	Warning condition	Agent Op Status Change = "1"AND (Agent = "*" AND Agent Op Status = "*")
Actions	Email	--
	Command	--
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

(5) Abnormal Status (A)

Synopsis

The Abnormal Status (A) alarm monitors the health check status of agents. The alarm is issued once for each agent that enters an abnormal status (any status other than *Not Supported* or *Running*). Use this alarm when you want to detect abnormal health check statuses on an agent level. This alarm is disabled by default.

The severity of the alarm is *Warning* if the agent has entered *Incomplete* status, and *Abnormal* if the agent has entered *Stopped*, *Unconfirmed*, or *Host Not Available* status.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	Alarm table version 8.11: HealthCheck (3.0) Alarm table version 09.00: HealthCheck (4.0)
	Alarm message text	Status of %CVS2 changed to %CVS3
	Enable alarm	Not selected
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor
	Damping	Not specified
Alarm conditions	Record name (record ID)	Health Check Detail (PD_HC)
	Abnormal condition	Agent Op Status Change = "1"AND (Agent = "*" AND (Agent Op Status = "*" AND Agent Op Status by Num > "8"))
	Warning condition	Agent Op Status Change = "1"AND (Agent = "*" AND (Agent Op Status = "*" AND Agent Op Status by Num > "4"))
Actions	Email	--
	Command	--
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

(6) Abnormal Status (S)

Synopsis

The Abnormal Status (S) alarm monitors the health check status of agents. The alarm is issued only once during any polling period where there are agents in abnormal status (any status other than *Not Supported* or *Running*). Use this alarm when you want to detect abnormal health check statuses on a system-wide level. This alarm is enabled by default.

The severity of the alarm is *Warning* if one or more agents has entered *Incomplete* status, and *Abnormal* if one or more agents has entered *Stopped*, *Unconfirmed*, or *Host Not Available* status.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	Alarm table version 8.11: HealthCheck (3.0) Alarm table version 09.00: HealthCheck (4.0)
	Alarm message text	Transition to abnormal status was detected
	Enable alarm	Selected
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Not selected
	Monitoring time range	Always monitor
	Damping	Not specified
Alarm conditions	Record name (record ID)	Health Check Detail (PD_HC)
	Abnormal condition	Agent Op Status Change = "1"AND Agent Op Status by Num > "8"
	Warning condition	Agent Op Status Change = "1"AND Agent Op Status by Num > "4"
Actions	Email	--
	Command	--
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

(7) Host Status Change

Outline

The Host Status Change alarm monitors for variations in the operating statuses of the monitored agents. The alarm is issued once for each agent host whose operating status has changed. Use this alarm when you want to notify the change of the host's operating status by reporting an alarm. This alarm is disabled by default. The severity of the alarm is always *Warning*, regardless of the operating status of the host.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	HealthCheck(4.0)
	Alarm message text	Host status of %CVS2 changed to %CVS3
	Enable alarm	None
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor
	Damping	Not specified
Conditional expression	Record name (record ID)	Host Detail(PD_HOST)
	Abnormal condition	Status Change = "-1" AND (Host = "*" AND Status = "**")
	Warning condition	Status Change = "1" AND (Host = "*" AND Status = "**")
Actions	Email	None
	Command	None
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Real-Time/Host Status (Real-Time) (4.0)

(8) Host Not Available

Outline

The Host Not Available alarm monitors the operating status of the target agent host. The alarm is issued once for each agent host that enters a *Stopped* status. You can use this alarm to detect operating hosts that have terminated. This alarm is disabled by default. The severity of the alarm is *Abnormal*.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	HealthCheck(4.0)
	Alarm message text	Host status of %CVS2 changed to Not Available
	Enable alarm	None
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Damping	Not specified
Conditional expression	Record name (record ID)	Host Detail (PD_HOST)
	Abnormal condition	Status Change = "1" AND (Host = "*" AND Status by Num= "1")
	Warning condition	Status Change = "1" AND (Host = "*" AND Status by Num = "1")
Actions	Email	None
	Command	None
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Real-Time/Host Status (Real-Time) (4.0)

(9) Service Status Change

Outline

The Service Status Change alarm monitors for variations in the health check statuses of the monitored agents. The alarm is issued once for each agent whose health check status has changed. This alarm is disabled by default.

As with the Status Change alarm, use this alarm when you require alarms to be issued as often as agent event (health check event) occurs. However, this alarm does not monitor remote agents. Therefore, this alarm is only useful for when you want to monitor PFM - Agent and PFM - RM that run as services when operating PFM - RM.

The severity of the alarm is always *Warning*, regardless of the health check status that the agent has entered.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	HealthCheck(4.0)
	Alarm message text	Status of %CVS3 changed to %CVS4
	Enable alarm	None
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor
	Damping	Not specified
Conditional expression	Record name (record ID)	Health Check Detail (PD_HC)
	Abnormal condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "-1" AND (Agent = "*" AND Agent Op Status = "**"))
	Warning condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "1" AND (Agent = "*" AND Agent Op Status = "**"))

Alarm properties in PFM - Web Console		Setting
Item	Details	
Actions	Email	None
	Command	None
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

(10) Service Abnormal (A)

Outline

The Service Abnormal (A) alarm monitors the health check status of agents. The alarm is issued once for each agent that enters an abnormal status (any status other than *Not Supported* or *Running*). This alarm is disabled by default. As with the Abnormal Status (A) alarm, use this alarm when you want to detect abnormal health check statuses on an agent level. However, this alarm does not monitor remote agents. Therefore, this alarm is only useful for when you want to monitor PFM - Agent and PFM - RM that run as services when operating PFM - RM.

The severity of the alarm is *Warning* if the agent has entered an *Incomplete* status, and *Abnormal* if the agent has entered a *Stopped*, *Unconfirmed*, or *Host Not Available* status.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	HealthCheck(4.0)
	Alarm message text	Status of %CVS3 changed to %CVS4
	Enable alarm	None
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	Selected
	Monitoring time range	Always monitor
	Damping	Not specified
Conditional expression	Record name (record ID)	Health Check Detail(PD_HC)
	Abnormal condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "1"AND (Agent = "*" AND (Agent Op Status = "*"AND Agent Op Status by Num > "8")))
	Warning condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "1"AND (Agent = "*" AND (Agent Op Status = "*"AND Agent Op Status by Num > "4")))
Actions	Email	None
	Command	None
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

(11) Service Abnormal (S)

Outline

The Service Abnormal (S) alarm monitors the health check status of agents. The alarm is issued only once during any polling period where there are agents in abnormal status (any status other than *Not Supported* or *Running*). This alarm is enabled by default.

As with the Abnormal Status (S) alarm, use this alarm when you want to detect abnormal health check statuses on a system-wide level. However, this alarm does not monitor remote agents. Therefore, this alarm is only useful for when you want to monitor PFM - Agent and PFM - RM that run as services when operating PFM - RM.

The severity of the alarm is *Warning* if the agent has entered an *Incomplete* status, and *Abnormal* if the agent has entered a *Stopped*, *Unconfirmed*, or *Host Not Available* status.

Main settings

Alarm properties in PFM - Web Console		Setting
Item	Details	
Main Information	Product	HealthCheck(4.0)
	Alarm message text	Transition to abnormal status was detected
	Enable alarm	Selected
	Notify when the state changed	Not selected
	Always notify	Selected
	Evaluate all data	None
	Monitoring time range	Always monitor
	Damping	Not specified
Conditional expression	Record name (record ID)	Health Check Detail(PD_HC)
	Abnormal condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "1"AND Agent Op Status by Num > "8")
	Warning condition	Agent Category <> "Remote Agent" AND (Agent Op Status Change = "1"AND Agent Op Status by Num > "4")
Actions	Email	None
	Command	None
	SNMP	Abnormal or Warning

Associated report

Reports/HealthCheck/Troubleshooting/Recent Past/System Overview (Historical)

I.4 Monitoring template (report)

(1) Format of report explanations

Reports are listed in alphabetical order.

Report name

Shows the name of the report in the monitoring template.

Synopsis

Provides a summary of the information that can be viewed in the report.

Location

Shows the location of the report.

Records

Shows the type of performance data records on which the report is based. Before you can display a historical report, you must set up the Performance Management to collect the records indicated here. Before displaying the report, display the agent properties in the **Agents** page of PFM - Web Console, and make sure that **Log = Yes** is set for these records. This setting is not required for the records in a real-time report.

Fields

Shows a table of the fields used in the report.

Drilldown reports (field level)

Shows a table of the reports in the monitoring template that are associated with the fields in the report. You can display these drilldown reports by clicking a graph, list, or table in the View Report window of PFM - Web Console. By displaying a drilldown report from a time item in a historical report, you can narrow down the time period of the data in the report. Only some reports have drilldown reports.

For details about drilldown reports, see the chapter that explains creation of reports for operation analysis in the *Job Management Partner 1/Performance Management User's Guide*.

(2) Organization of report folders

The health check agent report folders are organized as follows. The items in angle brackets are folder names.

```
<HealthCheck>
  +-- <Monthly Trend>
    +-- System Summary (4.0)
    +-- Hosts Availability (4.0)
    +-- <Drilldown Only>
      +-- Host Availability (4.0)
  +-- <Status Reporting>
    +-- System Overview (Historical)
    +-- System Overview (Status Change)
    +-- System Summary (4.0)
    +-- Hosts Availability (4.0)
    +-- <Drilldown Only>
      +-- Host Availability (4.0)
  +-- <Troubleshooting>
    +-- <Real-Time>
      +-- System Overview (Real-Time)
      +-- Hosts Status (Real-Time) (4.0)
    +-- <Drilldown Only>
      +-- Agent Detail (Real-Time)
    +--
```

```

+-- <Recent Past>
    +-- System Overview (Historical)
    +-- System Overview (Status Change)
+-- <Drilldown Only>
    +-- Agent Detail (Historical)
    +-- Agent Overview (Historical)
    +-- Agent Overview (Status Change)

```

The folder contents are as follows.

- **Status Reporting folder**
Folder for reports with data aggregated every day or week, used for surveying general system trends.
- **Troubleshooting folder**
Folder for reports with troubleshooting data, used for identifying the cause of problems that occur in the system.
 - **Real-Time folder**
Folder for real-time reports used to check the current system status.
 - **Recent Past folder**
Folder for historical reports with data aggregated for each minute of the past hour.

These folders might contain some of the following subfolders. Which of these folders appears depends on the parent folder. The subfolders are as follows:

- **Advanced folder**
Folder for reports that use records for which the default setting of **Log = No** is set in the agent properties. To display the reports in this folder, you need to set **Log = Yes** for these records in PFM - Web Console.
- **Drilldown Only folder**
Folder for reports displayed as drilldown report (field level) reports. These reports are used to display detailed information about fields in the parent report.

(3) List of reports

The following table lists the reports defined in the monitoring template in alphabetical order.

Table I–12: List of reports

Report name	Displayed information
<i>Agent Detail (Historical)</i>	Detailed health check results
<i>Agent Detail (Real-Time)</i>	Detailed health check results
<i>Agent Overview (Historical)</i>	Summary of health check results
<i>Agent Overview (Status Change)</i>	Summary of health check results
<i>Host Availability (4.0)</i>	Information such as running time and rate of hosts that make up the system (drilldown report)
<i>Hosts Availability (4.0)</i>	Information such as running time and rate of hosts that make up the system
<i>Hosts Status (Real-Time) (4.0)</i>	Operating status of hosts that make up the system
<i>System Overview (Historical)</i>	Summary of health check results
<i>System Overview (Real-Time)</i>	Summary of health check results

Report name	Displayed information
<i>System Overview (Status Change)</i>	Summary of health check results
<i>System Summary (4.0)</i>	Operating status of hosts that make up the system

(4) System Overview (Historical)

Synopsis

The System Overview (Historical) report displays an overview of the health check results. You can use this report to check the operating status of each agent in table format, or view a line graph that shows how the status of each agent has changed over time. Because higher numerical values in the graph represent higher severity levels, you can visually check the source of any problems that might occur. By drilling down to another report, you can concentrate on a specific agent or host, or switch to a detailed report that describes the operating status of a specific agent.

Location

Reports/HealthCheck/Status Reporting
 Reports/HealthCheck/Troubleshooting/Recent Past

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Message Text	Detailed information about the agent operating status

Drilldown reports (report level)

System Overview (Status Change)

Drilldown reports (field level)

Report name	Description
Agent Overview (Historical)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent or Host field.
Agent Detail (Historical)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent Op Status or Agent Op Status by Num field.

(5) System Overview (Real-Time)

Outline

The System Overview (Real-Time) report displays an overview of the latest health check results. You can use this report to check the operating status of each agent in table format, or drill down to a detailed report that describes the operating status of a specific agent.

Location

Reports/HealthCheck/Troubleshooting/Real-Time

Records

Health Check Detail (PD_HC)

Field

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Message Text	Detailed information about the agent operating status

Drilldown reports (field level)

Report name	Description
Agent Detail (Real-Time)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent Op Status field.

(6) System Overview (Status Change)

Synopsis

The System Overview (Status Change) report displays an overview of the health check results. The information in this report is the same as the System Overview (Historical) report, with the exception that the System Overview (Status Change) report only displays fields that have changed. It does not contain a graph. By drilling down to another report, you can concentrate on a specific agent or host, or switch to a detailed report that describes the operating status of a specific agent.

Location

Reports/HealthCheck/Status Reporting

Reports/HealthCheck/Troubleshooting/Recent Past

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Message Text	Detailed information about the agent operating status

Drilldown reports (report level)

System Overview (Historical)

Drilldown reports (field level)

Report name	Description
Agent Overview (Status Change)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent or Host field.

Report name	Description
Agent Detail (Historical)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent Op Status field.

(7) System Summary (4.0)

Outline

The System Summary (4.0) report shows the operating status of hosts that make up the system, based on the results of the health check. You can use this report to confirm the operating status of each host in table format, or view a line graph that shows how the total number of hosts and the number of running hosts has changed over time.

Note

Depending on when a host starts or stops operating, the number of operating hosts might have changed, even if Num of Available Hosts (Max) and Num of Available Hosts (Min) have not changed.

Location

Reports/HealthCheck/Monthly Trend
Reports/HealthCheck/Status Reporting

Records

System Overview (PI_SYS)

Field

Field name	Description
Num of Hosts (Max)	Total number of hosts in the system (maximum)
Num of Available Hosts (Max)	Total number of running hosts in the system (maximum)
Num of Available Hosts (Min)	Total number of running hosts in the system (minimum)
% Available Hosts	Running rate of hosts (%) in the system

(8) Agent Overview (Historical)

Synopsis

The Agent Overview (Historical) report displays an overview of the health check results. You can use this report to check the operating status of each agent in table format, or view a line graph that shows how the status of each agent has changed over time. Because higher numerical values in the graph represent higher severity levels, you can visually check the source of any problems that might occur. You can also drill down to a detailed report that describes the operating status of a specific agent.

Location

Reports/HealthCheck/Troubleshooting/Recent Past/Drilldown Only

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name

Field name	Description
Agent Op Status	Operating status of the agent
Message Text	Detailed information about the agent operating status

Drilldown reports (field level)

Report name	Description
Agent Detail (Historical)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent Op Status or Agent Op Status by Num field.

(9) Agent Overview (Status Change)

Synopsis

The Agent Overview (Status Change) report displays an overview of the health check results. The information in this report is the same as the Agent Overview (Historical) report, with the exception that the Agent Overview (Status Change) report only displays fields that have changed. It does not contain a graph. You can also drill down from this report to a detailed report that describes the operating status of a specific agent. This report is available as a drilldown report from the System Overview (Status Change) report.

Location

Reports/HealthCheck/Troubleshooting/Recent Past/Drilldown Only

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Message Text	Detailed information about the agent operating status

Drilldown reports (field level)

Report name	Description
Agent Detail (Historical)	Shows the operating status of the selected agent in detail. Display this report by clicking the Agent Op Status field.

(10) Host Availability (4.0)

Outline

The Host Availability (4.0) report shows information such as the running time and rate of hosts that make up the system, based on the results of the health check. You can use this report to confirm the operating status of each host in table format, or view a line graph that shows how the running rate of each host has changed over time. This report is available as a drilldown report from the Hosts Availability (4.0) report.

Location

Reports/HealthCheck/Monthly Trend/Drilldown Only

Reports/HealthCheck/Status Reporting/Drilldown Only

Records

Host Availability (PI_HAVL)

Field

Field name	Description
Host	Host name
Availability	Running rate (%)
Total Available Time	Running time within the monitoring time (seconds)
Total Monitoring Time	Monitoring time (second)

(11) Hosts Availability (4.0)

Outline

The Hosts Availability (4.0) report shows information such as the available time and availability of hosts that make up the system, based on the results of the health check. You can use this report to confirm the operating status of each host in table format, or view a line graph that shows how the running rate of each host has changed over time. You can drilldown to concentrate on a detailed report for a specific host.

Location

Reports/HealthCheck/Monthly Trend

Reports/HealthCheck/Status Reporting

Records

Host Availability (PI_HAVL)

Field

Field name	Description
Host	Host name
Availability	Running rate (%)
Total Available Time	Running time within the monitoring time (second)
Total Monitoring Time	Monitoring time (second)

Drilldown reports (field level)

Report name	Description
Host Availability (4.0)	Shows such information as the running time and running rate of each host constituting the system, based on the results of the health check. To display this report, click the Host field.

(12) Hosts Status (Real-Time) (4.0)

Outline

The Hosts Status (Real-Time) (4.0) report displays the health check result, consolidating the hosts that make up the system.

Location

Reports/HealthCheck/Troubleshooting/Real-Time

Records

Host Detail (PD_HOST)

Field

Field name	Description
Polling Date and Time	Date and time of polling
Host	Host name
Status	Host status

(13) Agent Detail (Historical)

Synopsis

The Agent Detail (Historical) report displays detailed health check results. This report displays the detailed operating status of agents in list format. You can use this report to view detailed information about a specific agent.

This report is available as a drilldown report from the System Overview (Historical / Status Change) and Agent Overview (Historical / Status Change) reports.

Location

Reports/HealthCheck/Troubleshooting/Recent Past/Drilldown Only

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Collector Op Status	Operating status of Agent Collector and Remote Monitor Collector services
Collector Op Status Last-Updated	Time when the operating status of Agent Collector and Remote Monitor Collector services were last updated
Store Op Status	Operating status of Agent Store and Remote Monitor Store services
Store Op Status Last-Updated	Time when the operating status of Agent Store and Remote Monitor Store services were last updated
AH Op Status	Operating status of the Action Handler service
AH Op Status Last-Updated	Time when the operating status of the Action Handler service was last updated
Message Text	Detailed information about the agent operating status

(14) Agent Detail (Real-Time)

Synopsis

The Agent Detail (Real-Time) report displays detailed health check results. This report displays the detailed operating status of agents in list format. You can use this report to view detailed information about a specific agent.

This report is available as a drilldown report from the System Overview (Real-Time) report.

Location

Reports/HealthCheck/Troubleshooting/Real-Time/Drilldown Only

Records

Health Check Detail (PD_HC)

Fields

Field name	Description
Polling Date and Time	Polling time
Agent	PFM - Agent or PFM - RM name
Host	PFM - Agent or PFM - RM host name
Agent Op Status	Operating status of the agent
Collector Op Status	Operating status of Agent Collector and Remote Monitor Collector services
Collector Op Status Last-Updated	Time when the operating status of Agent Collector and Remote Monitor Collector services was last updated
Store Op Status	Operating status of Agent Store and Remote Monitor Store services
Store Op Status Last-Updated	Time when the operating status of Agent Store and Remote Monitor Store services was last updated
AH Op Status	Operating status of the Action Handler service
AH Op Status Last-Updated	Time when the operating status of the Action Handler service was last updated
Message Text	Detailed information about the agent operating status

J. Version Changes

J.1 Changes in version 10-50

Note: The changes include the functions that were added between version 10-10 and version 10-50.

- The following OS is now supported:
 - Windows Server 2012 R2
- The function for obtaining a list of settings is now supported.
- The function that prioritizes the collection of historical data over the display of real-time reports (history collection priority function) is now supported.
- The monitoring suspension function is now supported.
- The synchronous execution controller for actions is now supported.
- The dispersion of the reconnection is now supported.
- The common account information function is now supported.

J.2 Changes in version 10-10

- The following OSs are now supported:
 - Red Hat Enterprise Linux(R) Server 5 (32-bit x86)
 - Red Hat Enterprise Linux(R) Server 5 (64-bit x86_64)
- A multiple-monitoring configuration is now supported.
- Instance-specific monitoring of the operating status is now supported.

J.3 Changes in version 10-00

- The following OSs are no longer supported:
 - HP-UX 11i V2 (IPF)
 - Solaris 9 (SPARC)
 - Solaris 10 (x64)
 - Solaris 10 (x86)
 - AIX 5L V5.3
 - Red Hat Enterprise Linux(R) AS 4 (AMD64 & Intel EM64T)
 - Red Hat Enterprise Linux(R) AS 4 (IPF)
 - Red Hat Enterprise Linux(R) AS 4 (x86)
 - Red Hat Enterprise Linux(R) ES 4 (AMD64 & Intel EM64T)
 - Red Hat Enterprise Linux(R) ES 4 (x86)
 - Red Hat Enterprise Linux(R) 5 (AMD/Intel 64)

- Red Hat Enterprise Linux(R) 5 (IPF)
- Red Hat Enterprise Linux(R) 5 (x86)
- Red Hat Enterprise Linux(R) 5 Advanced Platform (AMD/Intel 64)
- Red Hat Enterprise Linux(R) 5 Advanced Platform (IPF)
- Red Hat Enterprise Linux(R) 5 Advanced Platform (x86)
- The following OSs are now supported:
 - Linux 6 (x64)
 - Linux 6 (x86)
 - Windows Server 2012
- Performance Management can now be linked with JP1/IT Service Level Management.
- Performance data can now be collected even in an IPv6 environment.
- Limit values were added to the refine search text box.
- Notes on the time settings for monitored machines were added.
- Supplemental notes were added to the PFM - Manager setup procedure.
- Settings in the initialization file (`config.xml`) were added.
- Version 10-00 was added as a compatible version in a system configuration.
- The access control function based on business groups was added, and a monitoring range can now be set for each user.
- Business group ordinary user was added to the Performance Management user permissions.
- Process monitoring can now be set by using the following commands:
 - `jpcprocdef create`
Command for creating and editing application definitions
 - `jpcprocdef delete`
Command for deleting application definitions
 - `jpcprocdef list`
Command for listing the definition names of application definitions
 - `jpcprocdef output`
Command for outputting the contents of application definitions
- Business groups can be created and edited by using the following commands:
 - `jpccconf bgdef check`
Command for checking the contents of a business group definition file
 - `jpccconf bgdef delete`
Command for deleting business group definition information
 - `jpccconf bgdef display`
Command for displaying business group definition information
 - `jpccconf bgdef export`
Command for exporting business group definition information to a file
 - `jpccconf bgdef import`
Command for importing business group definition information from a file

- `jpccconf bgdef list`
Command for listing business group names
- Service information registered in PFM - Manager and PFM - Web Console can now be synchronized by using the `jpctool service sync` command.
- The target host for command operations can now be limited by using the following options:
 - Option for limiting remote operation of Agent hosts
 - Option for restricting viewing of service information from Agent hosts
- The user-created alarm table and the alarm table in the monitoring template can now be displayed as separate trees.
- When business groups are used, the maximum number of events that can be cached can now be specified in PFM - Web Console.
- The default series colors used in graphs were changed.
- The following items related to graph display can now be specified:
 - Graph series colors
 - Graph series colors that are not used in pie charts
 - Plot size for displaying line graphs
 - Order of the items displayed in the legend of clustered bar charts
 - Graph type displayed in the foreground of combination reports
 - Decimal places in the data labels displayed at tick marks in graphs
 - Whether digits are delimited by commas in the data labels displayed at tick marks in graphs
- The data values corresponding to plots in graphs can now be displayed in tool tips by using the Autolabel function.
- A problem with alarm deletion during refreshing of alarms has been resolved.
- A method for importing the attribute values of bookmark names that are specified in the input parameter file of the `jpccrpt` command can now be specified.
- The maximum number of alarms that can be defined per alarm table was changed from 50 to 250.
- The appearances of graphs was changed.
- Depending on the check status of an agent's alarm status, the following message texts are now output as agent events:
 - `State change (Unconfirmed)`
 - `State information`
 - `State information (Unconfirmed)`
- The value obtained in the `Host Op Status` field of the `Health Check Detail` record of the health check agent was changed.
- A list of command storage locations was added.
- Referencing of the Agents tree by users with the general user permission can now be limited.
- The setup command can now be executed in the non-interactive mode.
- The Agents tree can now be created and edited by using the following commands:
 - `jpccconf agttree export`
Command for exporting the Agents tree definition file
 - `jpccconf agttree import`
Command for importing the Agents tree definition file

- A description of the health check function settings applicable when PFM - Manager version 09-00 or later is installed was added.
- Internet Explorer 8.0 was supported as the monitoring console's Web browser.
- Whether multiple logins to PFM - Web Console by the same user is allowed can now be specified.
- Cache data retained in memory during report display can now be output to a file.
- The maximum number of rows of table data that can be displayed in a report print screen and a report in HTML format can now be restricted.
- A report can now be split into multiple pages when there are many items in the legend.
- Process monitoring of PFM - Agent for Platform and PFM - RM for Platform can now be specified from the Agents tree.
- The maximum number of drilldown data items in graphs can now be restricted.
- When JP1 events are issued, the default Action Handler service that is displayed in the PFM - Web Console's New Alarm > Action Definition window or Edit > Action Definition window can now be selected.
- When multi-instance records are monitored with alarms, a notification can now be sent when the field values return to the normal range.
- A formula for estimating the disk space required for storing event data in the Store database of the Master Store service was added.
- The following items were added to the health check agent's data model:
 - Format of record explanations
 - List of ODBC key fields
 - Summary rules
 - List of data types
 - Field values
 - Fields that are output when data is exported from the Store database

J.4 Changes in 09-00

- The following program product was added to the Performance Management products. It is also targeted for remote monitoring:
PFM - RM
- JP1 system events or agent events issue notification can now be used for all events that occur in the Performance Management services.
- The product name display function was added. This allows the user to specify and display service keys and service IDs in a new format.
- New commands were added. These commands are compatible with commands in version 08-11 or earlier. Option formats have also been unified.
- The recent operating status of the entire system and all services can now be monitored in a View Summary window.
- The tiling display function was added. This allows you to display the graphs of multiple historical reports as thumbnails.
- The field search function was added. You can use this function to specify keywords with the information you want to set in alarms or reports, and search monitored items by the keyword.

- The quick-guide function was added. This function allows you to display reports without performing the conventional procedures used to define reports. The procedures for defining alarms have also simplified.
- The definitions of displayed reports can now be edited in the View Report window.
- The procedures for changing the operating host name for Performance Management products have been simplified.
- Starting and stopping PFM - Manager, PFM - Base, and PFM - Web Console services can now be linked.
- Internet Explorer 7.0 and Firefox 3 are now supported as monitoring console Web browsers.
- Mozilla was excluded as a supported Web browser for the monitoring console.
- A monitoring agent for virtual environments was added.
- Remote monitors for Windows, UNIX, Oracle, and Microsoft SQL Server were added.
- The name *solution set* was changed to *monitoring template*.
- The alarm table in the monitoring template of the health check agent was changed from version 8.11 to 8.50 and 09.00.
- The alarm table in the monitoring template of the health check agent has been renamed as follows:
PFM HealthCheck Template Alarms
- Windows Server 2008 is now supported.
- Graph images for reports can now be displayed after time correction.
- Bookmarks and combination bookmarks can now be configured with the `jpcbdef` command.
- PFM services that previously stopped abnormally during operation can now be automatically restarted.
- Multiple alarm tables can now be bound to a monitoring agent.
- Performance Management can now be used in an environment containing multiple hosts having the same name.
- Performance Management setup was simplified.
- PFM - Web Console can now be used in a UNIX environment.
- A description was appended. The appended description now states Solaris patches must be installed for version 09-00 or later.
- The data model versions for the health check agent now include version 5.0. Because of this, PI_HAVL, PD_HOST, and PI_SYS records were added.
- The alarm table versions in the monitoring template for the health check agent now include version 09.00. Because of this, Host Status Change, Host Not Available, Service Status Change, Service Abnormal(A), and Service Abnormal(S) alarms were added.
- The monitoring template reports for the health check agent now includes Host Availability (4.0), Hosts Availability (4.0), Hosts Status (Real-Time) (4.0), and System Summary (4.0).
- For JP1 Version 9 JP1/Performance Management, the manual contents of the old edition *Job Management Partner 1 Version 8 Job Management Partner 1/Performance Management System Configuration and User's Guide* (3020-3-K61-40(E)) have been divided into the following two manuals.
 - *Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management Planning and Configuration Guide* (3020-3-R31(E))
 - *Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management User's Guide* (3020-3-R32(E))

Correspondence between the *Job Management Partner 1 Version 8 Job Management Partner 1/Performance Management System Configuration and User's Guide* (3020-3-K61-40(E)) and the *Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management Planning and Configuration Guide* (3020-3-R31(E)) is described below:

<i>Job Management Partner 1 Version 8 Job Management Partner 1/Performance Management System Configuration and User's Guide (3020-3-K61-40(E))</i>	<i>Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management Planning and Configuration Guide (3020-3-R31(E))</i>
PART 1: Overview	PART 1: Overview
1. Overview of Performance Management	1. Overview of Performance Management
2. Using Performance Management	2. Using Performance Management
PART 2: Design	PART 2: Design
3. Design of Operation Monitoring Systems that Use Performance Management	3. Design of Operation Monitoring Systems that Use Performance Management
4. Performance Management Functions	4. Performance Management Functions
PART 3: Configuration	PART 3: Configuration
5. Installation and Setup (in Windows)	5. Installation and Setup (in Windows)
6. Installation and Setup (in UNIX)	6. Installation and Setup (in UNIX)
PART 4: Operation	Moved into the <i>Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management User's Guide (3020-3-R32(E))</i> .
7. Starting and Stopping Performance Management	
8. Managing User Accounts	
9. Monitoring Agents	
10. Managing Operation Monitoring Data	
11. Creation of Reports for Operation Analysis	
12. Operation Monitoring with Alarms	
13. Displaying Events	
14. Backing Up and Restoring Data	
PART 5: System Linkage	
15. Construction and Operation with a Cluster System	
16. Operation Monitoring Linked with the Integrated Management Product JP1/IM	
17. Linking with Network Node Manager (NNM) for Operation Monitoring	
18. Linking with ODBC-Compliant Application Programs for Operation Analysis	
PART 6: Troubleshooting	
19. Detecting Problems within Performance Management	
20. Error Handling Procedures	
Appendix A. Limits	Appendix A. Limits
Appendix B. Naming Rules	Appendix B. Naming Rules
Appendix C. System Estimates	Appendix C. System Estimates
Appendix D. Kernel Parameter List	Appendix D. Kernel Parameter List
Appendix E. Migration Steps and Notes on Migration	Appendix E. Migration Steps and Notes on Migration
Appendix F. Version Compatibility	Appendix F. Version Compatibility

<i>Job Management Partner 1 Version 8 Job Management Partner 1/Performance Management System Configuration and User's Guide (3020-3-K61-40(E))</i>	<i>Job Management Partner 1 Version 9 Job Management Partner 1/Performance Management Planning and Configuration Guide (3020-3-R31(E))</i>
Appendix G. Outputting Action Log Data	Appendix G. Outputting Action Log Data
Appendix H. Health Check Agent	Appendix H. Health Check Agent
Appendix I. Version Changes	Appendix I. Version Changes
Appendix J. Glossary	Appendix J. Glossary

J.5 Changes in 08-11

- The health check function is now supported. This allows you to monitor the operating statuses of monitoring agents or hosts that run monitoring agents.
- Tree view display in PFM - Web Console was improved.
- Reports from GUI can now be output in HTML format.
- Firefox is now supported as a monitoring console Web browser.
- You can specify a timeout to automatically log out after a set amount of time has passed without user operations or an automatic refresh.
- Properties specific to PFM - Agent can now be distributed as a batch.
- Registered reports in a bookmark and combination reports in a combination bookmark can now be output with commands.
- Store 2.0 is now supported.
- You can now use the `jpcrpt` command to output reports in HTML format.
- Multiple reports can now overlap.
- Action logs now can be output.
- File privileges for Windows were enhanced.
- PFM - Web Console now can now be used on Linux.
- UTF-8 can now be used as the LANG environment variable on Linux.
- Properties can now be distributed to agents.
- Reports registered in bookmarks and combination bookmarks can now be viewed as drilldown reports.
- Report definitions can now be viewed from the Reports tree.
- Reports can now be registered to bookmarks from the Agents tree.
- Monitoring agents associated with alarm tables can now be viewed.

J.6 Changes in 08-00

- PFM - Base has been added as the monitoring base.
- PFM - Web Console has been added as the monitoring console server.
- The status management function (Status Server service) has been added. This function manages the statuses of Performance Management services.

- The log file trapping function has been added. This function can convert the common message logs for Performance Management to JP1 events.
- The wrap-around file (`jpologw`) method has been added as a storage method for common message logs output by Performance Management. The user can select one of the following two methods:
 - Sequential file (`jpolog`) method (conventional method)
 - Wrap-around file (`jpologw`) method
- The Windows event log can be logged using the `jpocras` command.

K. Reference Material for This Manual

This appendix provides reference information, including various conventions, for this manual.

K.1 Related publications

This manual is part of a related set of manuals. The manuals in the set are listed below (with the manual numbers).

For Job Management Partner 1/Performance Management:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management User's Guide* (3021-3-348(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management Reference* (3021-3-349(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Remote Monitor for Platform Description, User's Guide and Reference* (3021-3-350(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Remote Monitor for Oracle Description, User's Guide and Reference* (3021-3-351(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Remote Monitor for Microsoft(R) SQL Server Description, User's Guide and Reference* (3021-3-352(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Remote Monitor for Virtual Machine Description, User's Guide and Reference* (3021-3-353(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Agent Option for Platform Description, User's Guide and Reference* (3021-3-354(E)), for Windows systems
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Agent Option for Platform Description, User's Guide and Reference* (3021-3-355(E)), for UNIX systems
- *Job Management Partner 1/Performance Management - Agent Option for Virtual Machine Description, User's Guide and Reference* (3020-3-R50(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Agent Option for Service Response* (3021-3-356(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Performance Management - Agent Option for Enterprise Applications Description, User's Guide and Reference* (3021-3-357(E))

For Job Management Partner 1:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Base User's Guide* (3021-3-301(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Quick Reference* (3021-3-304(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Overview and System Design Guide* (3021-3-305(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Configuration Guide* (3021-3-306(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Administration Guide* (3021-3-307(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager GUI Reference* (3021-3-308(E))

- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Command and Definition File Reference* (3021-3-309(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Messages* (3021-3-310(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/IT Service Level Management Description, User's Guide, Reference and Operator's Guide* (3021-3-311(E))
- *Job Management Partner 1/Software Distribution Administrator's Guide Volume 1* (3020-3-S81(E)), for Windows systems
- *Job Management Partner 1/Software Distribution Client Description and User's Guide* (3020-3-S85(E)), for UNIX systems
- *Job Management Partner 1/Software Distribution SubManager Description and Administrator's Guide* (3020-3-L42(E)), for UNIX systems
- *Job Management Partner 1/Software Distribution Manager Description and Administrator's Guide* (3000-3-841(E))

K.2 Conventions: Abbreviations for product names

This manual uses the following abbreviations for product names:

Abbreviation		Full name or meaning
AIX		AIX V6.1
		AIX V7.1
Firefox		Firefox(R)
HP-UX		HP-UX 11i V3 (IPF)
IPF		Itanium(R) Processor Family
J2EE		Java(TM) 2 Platform, Enterprise Edition
JP1/AJS	JP1/AJS2	Job Management Partner 1/Automatic Job Management System 2
		Job Management Partner 1/Automatic Job Management System 2 - Agent
		Job Management Partner 1/Automatic Job Management System 2 - Manager
		Job Management Partner 1/Automatic Job Management System 2 - View
	JP1/AJS3	Job Management Partner 1/Automatic Job Management System 3
		Job Management Partner 1/Automatic Job Management System 3 - Agent
		Job Management Partner 1/Automatic Job Management System 3 - Manager
		Job Management Partner 1/Automatic Job Management System 3 - View
JP1/Base		Job Management Partner 1/Base

Abbreviation		Full name or meaning	
JP1/IM	JP1/IM - Manager	Job Management Partner 1/Integrated Management - Manager	
	JP1/IM - View	Job Management Partner 1/Integrated Management - View	
JP1/ITSLM	JP1/ITSLM - Manager	Job Management Partner 1/IT Service Level Management - Manager	
	JP1/ITSLM - UR	Job Management Partner 1/IT Service Level Management - User Response	
JP1/Software Distribution		Job Management Partner 1/Software Distribution Client	
		Job Management Partner 1/Software Distribution Manager	
		Job Management Partner 1/Software Distribution SubManager	
Linux	Linux 5 (x86)	Red Hat Enterprise Linux(R) 5 (x86)	
	Linux 5 (x64)	Red Hat Enterprise Linux(R) 5 (AMD/Intel 64)	
	Linux 5 Advanced Platform (x86)	Red Hat Enterprise Linux(R) 5 Advanced Platform (x86)	
	Linux 5 Advanced Platform (x64)	Red Hat Enterprise Linux(R) 5 Advanced Platform (AMD/Intel 64)	
	Linux 6 (x86)	Red Hat Enterprise Linux(R) Server 6 (32-bit x86)	
	Linux 6 (x64)	Red Hat Enterprise Linux(R) Server 6 (64-bit x86_64)	
NNM	HP NNM	HP Network Node Manager Software version 6 or earlier	
		HP Network Node Manager Starter Edition Software version 7.5 or earlier	
Performance Management		JP1/Performance Management	
PFM - Agent	PFM - Agent for Enterprise Applications		JP1/Performance Management - Agent Option for Enterprise Applications
	PFM - Agent for Microsoft SQL Server		JP1/Performance Management - Agent Option for Microsoft(R) SQL Server
	PFM - Agent for Oracle		JP1/Performance Management - Agent Option for Oracle
	PFM - Agent for Platform	PFM - Agent for Platform (UNIX)	JP1/Performance Management - Agent Option for Platform (for UNIX systems)
		PFM - Agent for Platform (Windows)	JP1/Performance Management - Agent Option for Platform (for Windows systems)
	PFM - Agent for Service Response		JP1/Performance Management - Agent Option for Service Response
	PFM - Agent for Virtual Machine		JP1/Performance Management - Agent Option for Virtual Machine
PFM - Base		JP1/Performance Management - Base	
PFM - Manager		JP1/Performance Management - Manager	
PFM - RM	PFM - RM for Microsoft SQL Server	JP1/Performance Management - Remote Monitor for Microsoft(R) SQL Server	

Abbreviation		Full name or meaning
PFM - RM	PFM - RM for Oracle	JP1/Performance Management - Remote Monitor for Oracle
	PFM - RM for Platform	JP1/Performance Management - Remote Monitor for Platform
	PFM - RM for VM	JP1/Performance Management - Remote Monitor for Virtual Machine
PFM - Web Console		JP1/Performance Management - Web Console
Solaris	Solaris 10	Solaris 10 (SPARC)
	Solaris 11	Solaris 11 (SPARC)
VMware		VMware ESX 4.0
		VMware ESX 4.1
		VMware vSphere ESXi 5

- PFM - Manager, PFM - Agent, PFM - Base, PFM - Web Console, and PFM - RM are referred to collectively as *Performance Management*.
- HP-UX, Solaris, AIX, and Linux are referred to collectively as *UNIX*.

K.3 Conventions: Acronyms

This manual also uses the following acronyms:

Acronym	Full name or meaning
API	Application Programming Interface
CCMS	Computing Center Management System
CPU	Central Processing Unit
CSV	Comma Separated Values
DB	DataBase
DDE	Dynamic Data Exchange
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DTD	Document Type Definition
EJB	Enterprise JavaBeans
ERP	Enterprise Resource Planning
FQDN	Fully Qualified Domain Name
FTP	File Transfer Protocol
GIF	Graphics Interchange Format
GMT	Greenwich Mean Time
GUI	Graphical User Interface
HTML	HyperText Markup Language

Acronym	Full name or meaning
HTTP	HyperText Transfer Protocol
ICMP	Internet Control Message Protocol
IP	Internet Protocol
JavaVM	Java Virtual Machine
JST	Japan Standard Time
KVM	Kernel-based Virtual Machine
LAN	Local Area Network
MIB	Management Information Base
NAT	Network Address Translation
NFS	Network File System
ODBC	Open DataBase Connectivity
OS	Operating System
PDF	Portable Document Format
PQL	Program Query Language
SFTP	SSH File Transfer Protocol
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SSH	Secure SHell
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
UAC	User Account Control
UDP	User Datagram Protocol
URL	Uniform Resource Locator
UTC	Universal Time, Coordinated
VPN	Virtual Private Network
WAN	Wide Area Network
WMI	Windows Management Instrumentation
WRP	Windows Resource Protection
WWW	World Wide Web
XML	eXtensible Markup Language

K.4 Conventions: KB, MB, GB, and TB

This manual uses the following conventions:

- 1 KB (kilobyte) is 1,024 bytes.

- 1 MB (megabyte) is $1,024^2$ bytes
- 1 GB (gigabyte) is $1,024^3$ bytes.
- 1 TB (terabyte) is $1,024^4$ bytes.

K.5 Conventions: Folder path names in this manual

In Windows Server 2008, Windows Server 2012, the *system-drive*\Program Files part might differ depending on the environment because it is determined by the OS environment variable at installation.

This manual refers to the installation folder for Performance Management for Windows as the *installation folder* and the installation directory for Performance Management for UNIX as the *installation directory*.

The default installation folder for Performance Management for Windows is as follows:

Installation folder for Performance Management programs other than PFM - Web Console

- Windows Server 2003 (x64), 64-bit edition of Windows Server 2008, Windows Server 2012
system-drive\Program Files (x86)\Hitachi\jplpc
- Other
system-drive\Program Files\Hitachi\jplpc

Installation folder for PFM - Web Console

- Windows Server 2003 (x64), 64-bit edition of Windows Server 2008, Windows Server 2012
system-drive\Program Files (x86)\Hitachi\jplpcWebCon
- Other
system-drive\Program Files\Hitachi\jplpcWebCon

The default installation directory for Performance Management for UNIX is as follows:

Installation directory for Performance Management programs other than PFM - Web Console

/opt/jplpc

Installation dir for PFM - Web Console

/opt/jplpcwebcon

K.6 Conventions: Product names, service IDs, and service keys

In Performance Management 09-00 or later, enabling the product name display function makes it possible to display service IDs and service keys as product names. The following table shows examples of a service ID and service key of PFM - Agent for Platform (Windows) that are displayed when the product name display function is enabled.

Identifier	Product name display functionality	
	Disabled	Enabled
Service ID	TS1 <i>host-name</i>	<i>host-name</i> <Windows> (Store)
	TA1 <i>host-name</i>	<i>host-name</i> <Windows>
Service key	agtt	Windows

This manual uses the format that is used when the product name display functionality is enabled.

Note that the product name display functionality can be enabled when both of the following conditions exist:

- The version of the prerequisite program (PFM - Manager or PFM - Base) on the same device as PFM-Agent is 09-00 or later.
- The versions of PFM - Web Console and the PFM - Manager to which it connects are 09-00 or later.

K.7 Network Node Manager products supported by Performance Management

Performance Management supports linkage with the following products:

- HP Network Node Manager Software version 6 or earlier
- HP Network Node Manager Starter Edition Software version 7.5 or earlier

In this manual, these products are referred to as *NNM*, and the functionality that provides linkage with these products is referred to as *NNM linkage*.

Note that Performance Management does not support linkage with the following product:

- HP Network Node Manager i Software v8.10

L. Glossary

action

An action is something that is automatically executed by Performance Management when monitored data reaches a threshold. An action might be any of the following:

- Sending one or more emails
- Executing one or more commands
- Issuing one or more SNMP traps
- Issuing one or more JP1 events

Action Handler

One of the services provided by PFM - Manager or PFM - Base. This service executes an action.

administrative tools

Various commands or functions in the GUI that are used to verify the service status or perform operations on performance data. The following can be done:

- Configuring a service and displaying the status
- Backing up and restoring performance data
- Exporting performance data to a text file
- Deleting performance data

Administrator Console

The command prompt provided by Performance Management for executing commands that require administrator privileges when the UAC function of Windows Server 2008 or Windows Server 2012 is enabled.

agent

PFM - Agent and PFM - RM services that collect performance data.

Agent Collector

One of the services provided by PFM - Agent. This service collects or evaluates performance data by using thresholds set in alarms.

Agent monitoring

For this operation, you first install an agent on the monitored server, and then monitor the server's operating status. Although you must install the agent on the monitored server, you can also use a rich variety of monitoring items to monitor the server's operating status.

Agent Store

One of the services provided by PFM - Agent. This service stores performance data. The Agent Store service uses a database to record performance data. Each Agent Store service corresponds to a PFM - Agent.

alarm

Information that defines an action or event message executed when monitored data reaches a threshold.

alarm table

A table that includes one or more alarms for which the following information is defined:

- Object to be monitored (for example, process, TCP, or Web service)
- Information to be monitored (for example, CPU usage or number of received bytes per second)
- Conditions to be monitored (threshold)

autolabel

A function that displays data values as tool tips when the mouse pointer is placed on plots in graphs.

baseline

An object that serves as historical reference data for a report. You can display a baseline as reference data on the same graph as a combination report.

binding

To associate an alarm with an agent. When an alarm and agent are bound, a user can be notified when performance data collected by the agent reaches the threshold defined in the alarm.

business group

A group of hosts monitored by Performance Management and for which restrictions can be set on the monitoring agents that can be accessed by users. Users assigned to a business group can view the monitoring agents within the range of that business group. The business groups available to Performance Management include business groups defined by Performance Management and business groups defined by an integrated management product (JP1/IM).

business group user

A user to which a business group is assigned as the target of operations. Business group users can view the monitoring agents within the range of the assigned business group.

cluster system

Cluster systems are used to link multiple servers and run them as a single system. There are two types of cluster systems: HA (High Availability) cluster systems, and load-balancing cluster systems.

This manual uses the term *cluster system* (by itself) to refer to an HA cluster system.

-> See [HA cluster system](#)

-> See [load-balancing cluster system](#)

combination bookmark

An object that stores and manages multiple registered reports and baselines. You can display a combination report from a combination bookmark.

Combination Report window

A report window in which a registered report in a combination bookmark is displayed together with a baseline.

common account information

Each PFM - RM host can centrally manage the account information that is common in multiple instance environments or on monitored targets. Common account information consists of `pfmhost` for instance environments, and `wmi` (for Windows) and `ssh` (for UNIX) for monitored targets.

Correlator

One of the services provided by PFM - Manager. This service controls event sending between services.

data group

A data collection that collects records at one time. One or more records exist in a single data group.

database ID

An ID, given to each record in PFM - Agent and PFM - RM, that indicates the database where records are stored. A database ID indicates the type of record stored in the appropriate database. The database IDs are as follows:

- PI
Database for records of the PI record type.
- PD
Database for records of the PD record type.

data model

A generic term for records or fields for each PFM - Agent or PFM - RM. Data models are managed by the version.

device ID

An identifier containing characters (1-255 bytes) that indicate the host on which this service has been started in the Performance Management system. A device ID is one part of a service ID.

drilldown report

Report that is associated with a report or a field of a report. A drilldown report is used to display detailed or related information for a particular report.

executing node

The node that is executing jobs in each server system that makes up the cluster system (a node whose logical host is active).

failover

To take over server job-execution processing from the executing node to the standby node when a failure occurs in the cluster system.

field

An item (a column) in a record related to one type of performance data (such as the CPU usage percentage), which can have one or more pieces of performance data associated with it.

function ID

A one-byte identifier that indicates the function type for services of Performance Management programs. A device ID is one part of a service ID.

HA cluster system

A cluster system that provides high availability. The objective of an HA cluster system is to be able to continue operations even if a failure occurs. If a failure occurs in a server that is executing a job, a different server that has been standing by can continue the job processing. This can prevent the transaction from being suspended when a failure occurs, and improves availability.

This manual uses the term *cluster system* (by itself) to refer to an HA cluster system.

health check

A function that monitors the operating statuses of the following services or hosts:

- PFM - Agent or PFM - RM services
- Hosts running PFM - Agent or PFM - RM
- Monitored hosts of PFM - RM

This function is provided by PFM - Manager.

health check agent

An agent that monitors the operating statuses of the following services or hosts:

- PFM - Agent or PFM - RM services
- Hosts running PFM - Agent or PFM - RM
- Monitored hosts of PFM - RM

historical report

These types of reports display the operating status of the monitored target from past to present.

instance

This manual uses the term *instance* as follows:

- To indicate the format of a record

A record that is recorded in a single line is called a *single-instance record*, a record that is recorded in multiple lines is called a *multi-instance record*. Each line in a multi-instance record is called an *instance*.

- To indicate the startup method of PFM - Agent and PFM - RM

An agent monitoring a monitoring target on the same host by using a single agent is called a *single-instance agent*. An agent monitoring a monitoring target on the same host by using multiple agents is called a *multi-instance agent*. Each agent service of the multi-instance agent is called an *instance*.

instance number

An identifier that is a one-byte control number used by internal processing. A device ID is one part of a service ID.

JP1/ITSLM

A product that monitors a business system in terms of the performance experienced by the user and supports maintenance of service levels.

Linking Performance Management with JP1/ITSLM enhances the monitoring of operating status.

lifetime

The period in which the integrity of performance data collected in each record is assured.

load-balancing cluster system

A system that balances and executes the processing load among multiple nodes. The objective is to increase processing performance by balancing and executing the processing load among multiple nodes. Even if a failure occurs and the node stops, the availability of the system can be enhanced by switching processes to a different node.

logical host

A logical server that is the execution environment for JP1 during operation on a cluster system. A system is switched between logical hosts when a failure occurs. A logical host has a dedicated IP address, and that IP address is taken over when failover occurs. Therefore, even if the physical server is switched due to a failure, clients can continue to access the same IP address and the system appears as if a single server were always working.

Master Manager

One of the services provided by PFM - Manager. This is the main service PFM - Manager provides.

Master Store

One of the services provided by PFM - Manager. This service manages the alarm events issued from each PFM - Agent. The Master Store service uses a database to hold the event data.

Monitoring template

Defined alarms and reports prepared for PFM - Agent and PFM - RM. By using a monitoring template, you can easily monitor the operation status of PFM - Agent and PFM - RM without using complex definitions.

multi-instance agent

An Agent using a method that monitors monitoring targets on the same host by using multiple agents.

-> See *instance*

multi-instance record

A record recorded in multiple lines. This record has a unique ODBC key field.

-> See *instance*

multiple monitoring

An operation where a duplicate monitoring manager is employed. This eliminates the downtime in monitoring and increases the availability of the system.

Name Server

One of the services provided by PFM - Manager. This service manages service configuration information in a system.

non-interactive mode (commands)

A command execution mode in which input tasks required during execution of commands are achieved by option specifications and importing definition files.

Use of the non-interactive mode for execution of commands simplifies the configuration of an operation monitoring system, thereby reducing the workload demands placed on the users.

ODBC key field

The ODBC key field is required when you use SQL to utilize the record data stored in the Store database in PFM - Manager or PFM - Base. For the ODBC key field, there are two types of keys; one is common to all records and the other is unique to each record.

open interface

A function that can link with JP1/IM or with a product compliant with ODBC or SNMP.

PD record type

-> See *Product Detail record type*

performance data

Operation status data for the resources collected from the system being monitored.

Performance Management

A generic term for the set of software required for monitoring and analyzing problems regarding system performance. Performance Management is made up of the following five program products:

- PFM - Manager
- PFM - Web Console
- PFM - Base
- PFM - Agent
- PFM - RM

Performance Management ODBC driver

The ODBC driver prepared for the Open Data Access component of Performance Management. Including this driver enables you to access the data for Agent Store and Remote Monitor Store services from Microsoft ODBC-compliant application programs.

PFM - Agent

One of the Performance Management program products. PFM - Agent corresponds to the agent monitoring function. There are different types of PFM - Agent for applications, databases, and OSs. PFM - Agent has the following functions:

- Monitoring performance of the monitoring target
- Collecting and logging data about the monitored target

PFM - Base

One of the Performance Management program products. This provides base functions for monitoring operations in Performance Management. PFM - Base is a product required for running PFM - Agent and PFM - RM. PFM - Base has the following functions:

- Management tools such as various commands
- Common functions required for linking Performance Management with other systems

PFM - Manager

One of the Performance Management program products. PFM - Manager corresponds to the manager function. PFM - Manager has the following functions:

- Managing program products of Performance Management
- Managing events

PFM - Manager name

The name used for identifying fields stored in the Store database. This name is used in certain instances, such as when using commands to specify fields.

PFM - RM

One of the Performance Management program products. PFM - RM corresponds to the remote monitoring function. There are different types of PFM - RM for applications, databases, and OSs. PFM - RM has the following functions:

- Monitoring performance of the monitoring target
- Collecting and logging data about the monitored target

PFM - View name

Another name for the PFM - Manager name. This name is more intuitive than the PFM - Manager name. For example, when the PFM - Manager name is `INPUT_RECORD_TYPE`, the corresponding PFM - View name will be `Record Type`. This name is used in certain instances, such as when specifying fields on the PFM - Web Console's GUI.

PFM - Web Console

One of the Performance Management program products. PFM - Web Console provides Web application server functionality to centrally monitor a Performance Management system by using a Web browser. PFM - Web Console has the following functions:

- GUI display
- Integrated monitoring and management function
- Defining reports and alarms

physical host

The environment specific to each server that makes up a cluster system. The physical host environment cannot be taken over to another server when failover occurs.

PI record type

-> See *Product Interval record type*

plot

A graph component that is displayed as dots indicating the data in fields in a graph area. For example, a line graph is created by using straight lines to connect such dots. In Performance Management, the user can drill down into data by double-clicking the corresponding plot and can display tool tips for data values by placing the mouse pointer on the corresponding plot.

Primary host name

Operating host name of the group agent. The group agent monitors multiple monitoring targets as a batch. The host name of the monitored target that represents multiple monitoring targets is used as the host name of the group agent.

The default group agent, which is set to `All`, uses the operating host name of PFM - RM.

primary manager

A manager in a multiple-monitoring configuration, which is prioritized to communicate with monitoring agents (PFM - Agent and PFM - RM).

Product Detail record type

A record type that stores the performance data indicating the system status at a certain point, such as detailed information on currently running processes. The PD record type is used to display the following system statuses at a certain point:

- Operating status of the system
- Currently used file system space

product ID

A one-byte identifier that indicates which Performance Management program product provides the appropriate Performance Management program service is. The product ID is one part of a service ID.

Product Interval record type

A record type that stores performance data covering a certain time (interval), such as the number of processes per minute. The PI record type is used to analyze the following system statuses or system trends that change over time:

- Changes in the number of system calls that occurred within a certain time
- Changes in used file system space

real-time report

A report that indicates the current status of a monitoring target.

record

The format in which the collected performance data is stored. The type of record depends on each database of the Store database.

registered report

A report registered together with display conditions and agent information using the bookmark function. Once a report is registered, it is a straightforward process to display it.

Remote Monitor Collector

One of the services provided by PFM - RM. This service collects or evaluates performance data by using thresholds set in alarms.

Remote monitoring

For this operation, because another host can be used to remotely monitor the server's operating status, you do not need to install the agent on the monitored server. This is useful for when you start monitoring a

system that is already operating. Although fewer items are monitored than in agent monitoring, you can use a single PFM - RM to collect and manage performance data from multiple monitoring targets.

Remote Monitor Store

One of the services provided by PFM - RM. This service stores performance data. The Remote Monitor Store service uses a database to record performance data. Each Remote Monitor Store service corresponds to a PFM - RM.

report

Definitions that define the information when the performance data collected by PFM - Agent or PFM - RM is graphically displayed. The following information is defined:

- Records to be displayed in the reports
- Items of performance data
- Display format of the performance data (for example, a table or graph)

report cache file

A file on disk in which report data is stored temporarily.

A report cache file is created when the report cache file function is enabled and is used when reports are displayed on PFM - Web Console and output by the `jpcrept` command. This reduces the data retained in memory by PFM - Web Console and memory shortages become less likely to occur.

secondary manager

A monitoring manager in a multiple-monitoring configuration, which is not prioritized to communicate with monitoring agents (PFM - Agent and PFM - RM).

series group

A way of grouping the objects in a combination bookmark by their display format. You can assign series groups when editing a combination bookmark.

service ID

A unique ID given to the service of a Performance Management program. When you use a command to verify the system configuration of Performance Management or to back up the performance data of an individual agent, specify the service ID for the Performance Management program that will execute the command. The service ID format depends on the settings for the product name display function. For details about service ID format, see [4.1.2 Displaying and specifying services \(the product name display function\)](#).

single-instance agent

An agent using a method that monitors a monitoring target on the same host by using a single agent.

-> See [instance](#).

single-instance record

A record that is recorded in one line. This record does not have a unique ODBC key field.

-> See [instance](#).

stand-alone mode

The state in which PFM - Agent or PFM - RM runs alone. You can still collect the performance data by starting only PFM - Agent or PFM - RM even when the Master Manager service and the Name Server service of PFM - Manager cannot run due to an error or other reasons.

standby node

A node that is standing by to be able to take over a job if the executing node fails, in each server system that makes up a cluster system.

Store database

A database that stores performance data collected by the Agent Collector and Remote Monitor Collector services.

system user

A user who is authorized to operate the entire Performance Management system.

Trap Generator

One of the services provided by PFM - Manager. This service issues SNMP traps.

UAC

Abbreviation for User Account Control. In Windows Server 2008 or Windows Server 2012, even if you log on as an administrator user, the administrator privileges are limited. When you attempt to run a program that requires administrator privileges, a UAC popup displays, prompting you to upgrade to administrator.

UAC popup

Popup window that prompts you to upgrade your privileges when the UAC function of Windows Server 2008 or Windows Server 2012 is enabled. When you upgrade, the applicable program launched has administrator privileges.

View Server

One of the services provided by PFM - Manager. This service connects PFM - Web Console and PFM - Manager.

WRP

Abbreviation for Windows Resource Protection. Files protected by WRP cannot be deleted or modified. This function is independent of UAC. You cannot delete or modify the files, even if you have administrator privileges.

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