

FUJITSU Software Systemwalker Software Configuration Manager

Technical Guide

Windows/Linux

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Preface

Purpose of this Document

This document explains the functions of Systemwalker Software Configuration Manager V15.2.0.

Intended Readers

This document is intended for those who are considering installing or want to understand the functions of Systemwalker Software Configuration Manager.

It is assumed that readers of this document already have the following knowledge:

- Basic knowledge of the operating system being used

Structure of this Document

The structure of this document is as follows:

[Chapter 1 Overview](#)

This chapter provides an overview of Systemwalker Software Configuration Manager.

[Chapter 2 Function Explanation](#)

This chapter provides an overview of the functions of Systemwalker Software Configuration Manager.

[Chapter 3 Operating Environment](#)

This chapter provides an overview of the operating environment of Systemwalker Software Configuration Manager.

Conventions Used in this Document

Refer to the *Documentation Road Map* for information on the names, abbreviations, and symbols used in this manual.

Abbreviations and Generic Terms Used for Operating Systems

This document uses the following abbreviations and generic terms to indicate operating systems.

Official name	Abbreviation	
Microsoft(R) Windows Server(R) 2012 Datacenter Microsoft(R) Windows Server(R) 2012 Standard	Windows Server 2012	Windows
Microsoft(R) Windows Server(R) 2012 R2 Datacenter Microsoft(R) Windows Server(R) 2012 R2 Standard	Windows Server 2012 R2	
Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V	Windows Server 2008	
Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise	Windows Server 2008 R2	
Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition	Windows Server 2003 R2	
Red Hat(R) Enterprise Linux(R) (for x86)	RHEL (x86)	

Official name	Abbreviation	
Red Hat(R) Enterprise Linux(R) (for Intel64)	RHEL (Intel64)	

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Issue Date and Version

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Chapter 1 Overview

This chapter provides an overview of the Systemwalker Software Configuration Manager product.

1.1 What is Systemwalker Software Configuration Manager?

Systemwalker Software Configuration Manager is a software product that manages software configuration information, software parameters, and patches for server software.

In recent years there has been a growing trend for the ICT department of a company to use virtualization to consolidate corporate servers in data centers, in order to improve cost competitiveness. However, the workload on system administrators is increasing, as it is no longer possible to keep up with dynamic changes or increasing server resources (such as IP addresses, operating systems, and middleware).

Systemwalker Software Configuration Manager makes it possible to centrally manage information about resources that have been dynamically deployed by the cloud, as well as information about physical server resources. Moreover, the ability to manage software parameters, as well as the status of patch applications to servers, enables the workload of system administrators to be reduced.

It is also possible to limit the range of which software configuration information is visible and which operations can be performed according to the tenancy that the administrator belongs to and the privileges of that administrator, thereby making it possible to prevent operation mistakes and reduce security risks.



User roles

When explaining this product it is assumed that the user roles can be classified as follows:

Infrastructure administrator

- Sets up and maintains Systemwalker Software Configuration Manager.
- Defines the managed servers managed by Systemwalker Software Configuration Manager.
- Defines policies for managing Windows patches, releases the patches obtained from Microsoft Windows Server Update Services (WSUS), and determines classification levels.
- Obtains Linux patches and registers them with Yellowdog Updater Modified (yum) repository servers.
- Obtains patches for Fujitsu middleware and registers them with Systemwalker Software Configuration Manager.
- Defines the parameters to be collected from the software and the parameters to be configured in it.
- Uses the management console to reference the patch application status, software parameter setting values, and software configuration information for all the servers in the center.

Dual-role administrator

- Acts as both an infrastructure administrator and a tenant administrator.

Tenant administrator

- Uses the management console to apply patches to servers within their tenancy.
- Uses the management console to configure parameters in software on servers belonging to their tenancy.
- Uses the management console to reference the patch application status, software parameter setting values, and software configuration information for the servers within their tenancy.

Tenant user

- Uses the management console to apply patches to the servers they manage themselves.
 - Uses the management console to configure parameters in software on servers they manage themselves.
 - Uses the management console to reference the patch application status, software parameter setting values, and software configuration information for the servers they manage themselves.
-

Systemwalker Software Configuration Manager uses the following flow to manage patches, parameters, and software configurations for servers:

1. Download patches

This step involves downloading patches for the operating system and Fujitsu middleware from the vendor's website and the UpdateSite respectively.

Patches for Windows operating systems are downloaded using Microsoft Windows Server Update Services (WSUS).

Patches for Linux operating systems are downloaded and registered with Yellowdog Updater Modified (yum) repository servers by the infrastructure administrator.

Patches for Fujitsu middleware are downloaded and registered with Systemwalker Software Configuration Manager by the infrastructure administrator.

2. Distribute and apply patches

This step involves distributing and applying patches to managed servers based on an instruction from the tenant user.

Patches for Windows operating systems are distributed and applied by linking to Microsoft Windows Server Update Services (WSUS) based on a Systemwalker Software Configuration Manager operation.

Patches for Linux operating systems are distributed and applied by linking to Yellowdog Updater Modified (yum) based on a Systemwalker Software Configuration Manager operation.

Systemwalker Software Configuration Manager can also be used to distribute patches for Fujitsu middleware and apply these patches by registering scripts.

3. Configure software parameters, and run scripts

Configure parameters for the software on the managed servers based on instructions from the tenant user. Scripts can also be run on managed servers.

The infrastructure administrator defines in advance parameters that can be configured in the software.

4. Perform discovery

This step involves periodically and automatically collecting the patch application status, software parameter setting values, and software configuration information for managed servers from linkage servers, or managed servers, and then storing this information in the configuration management database (CMDB).

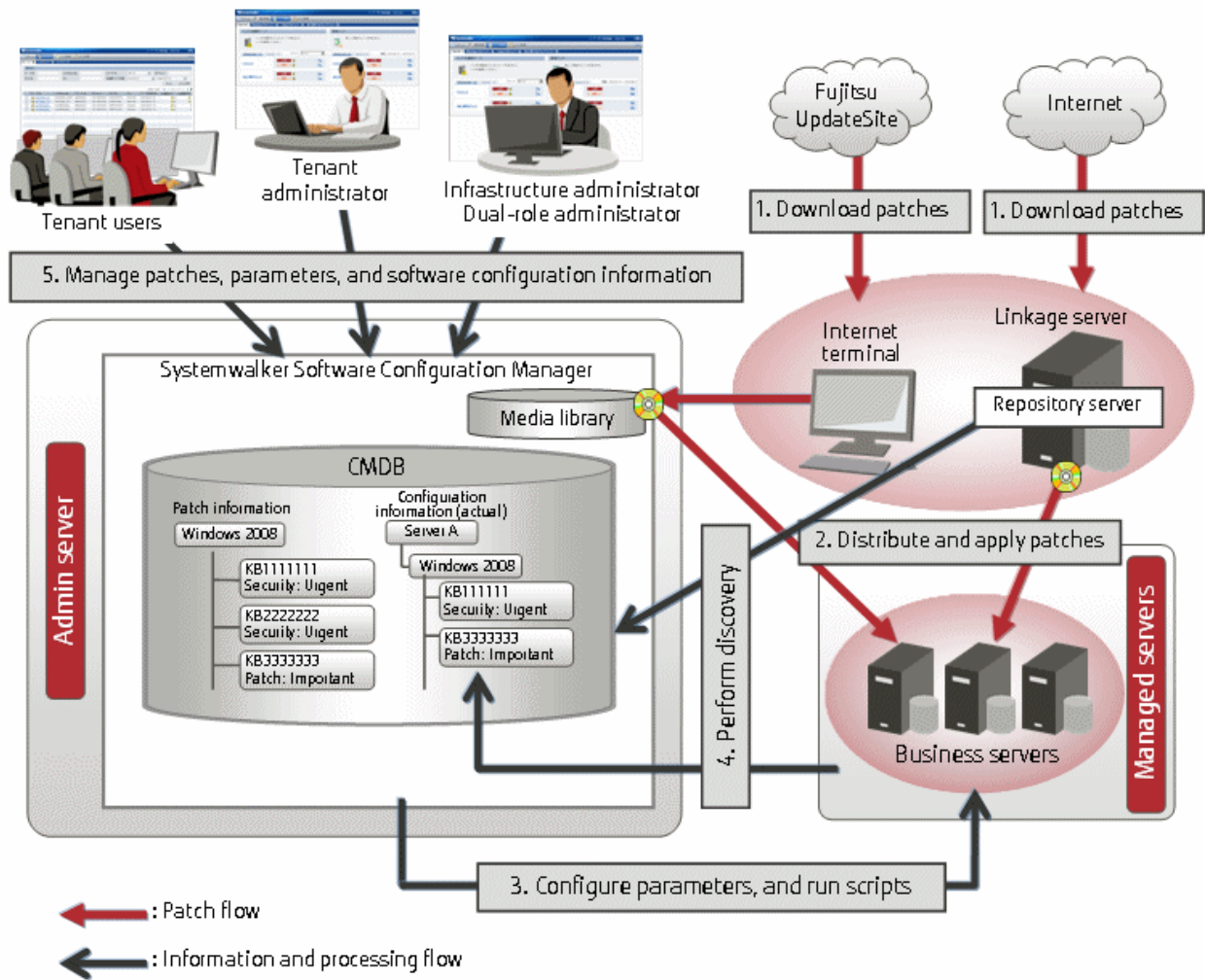
5. Manage patches, parameters, and software configuration information

This step involves checking the patch application status information and software parameter setting values discovered from linkage servers and managed servers.

Infrastructure administrators and dual-role administrators can check the patch application status, software parameter setting values, and software configuration information for all the servers in the data center by logging in to the management console for Systemwalker Software Configuration Manager.

Tenant administrators can check information for all the servers within their tenancy, whereas tenant users can check information for the servers that they manage themselves.

Figure 1.1 Overview of Systemwalker Software Configuration Manager



What is an admin server?

Admin server is the server that operates Systemwalker Software Configuration Manager. It is used to manage the patch application status and software parameters, and to collect software configuration information.

What is a managed server?

A general term for servers managed by Systemwalker Software Configuration Manager. It refers to servers for which patches and software parameters are managed. Systemwalker Software Configuration Manager can manage the admin server and linkage servers.

When linked to ServerView Resource Orchestrator

ServerView Resource Orchestrator is a software product that automatically deploys physical and virtual servers.

By linking to ServerView Resource Orchestrator, Systemwalker Software Configuration Manager can manage patches on servers deployed by ServerView Resource Orchestrator, software parameters, and software configuration information.

1.2 Features of Systemwalker Software Configuration Manager

Systemwalker Software Configuration Manager has the following features:

- **Discovery**

It can collect and obtain patch application statuses, software parameter setting values, and software configuration information for managed servers.

- **Patch management**

It can apply patches and manage the application status of patches for Windows operating systems, Linux operating systems and Fujitsu middleware on managed servers.

- **Software parameter management**

It can configure parameters in software on managed servers and manage the configured values.

- **Configuration management**

It can manage software configuration information for managed servers using a configuration management database (CMDB).

- **Reporting**

It can output various types of information in CSV format, including the results of applying patches to managed servers, software parameter setting values, and a list of servers with unapplied patches.

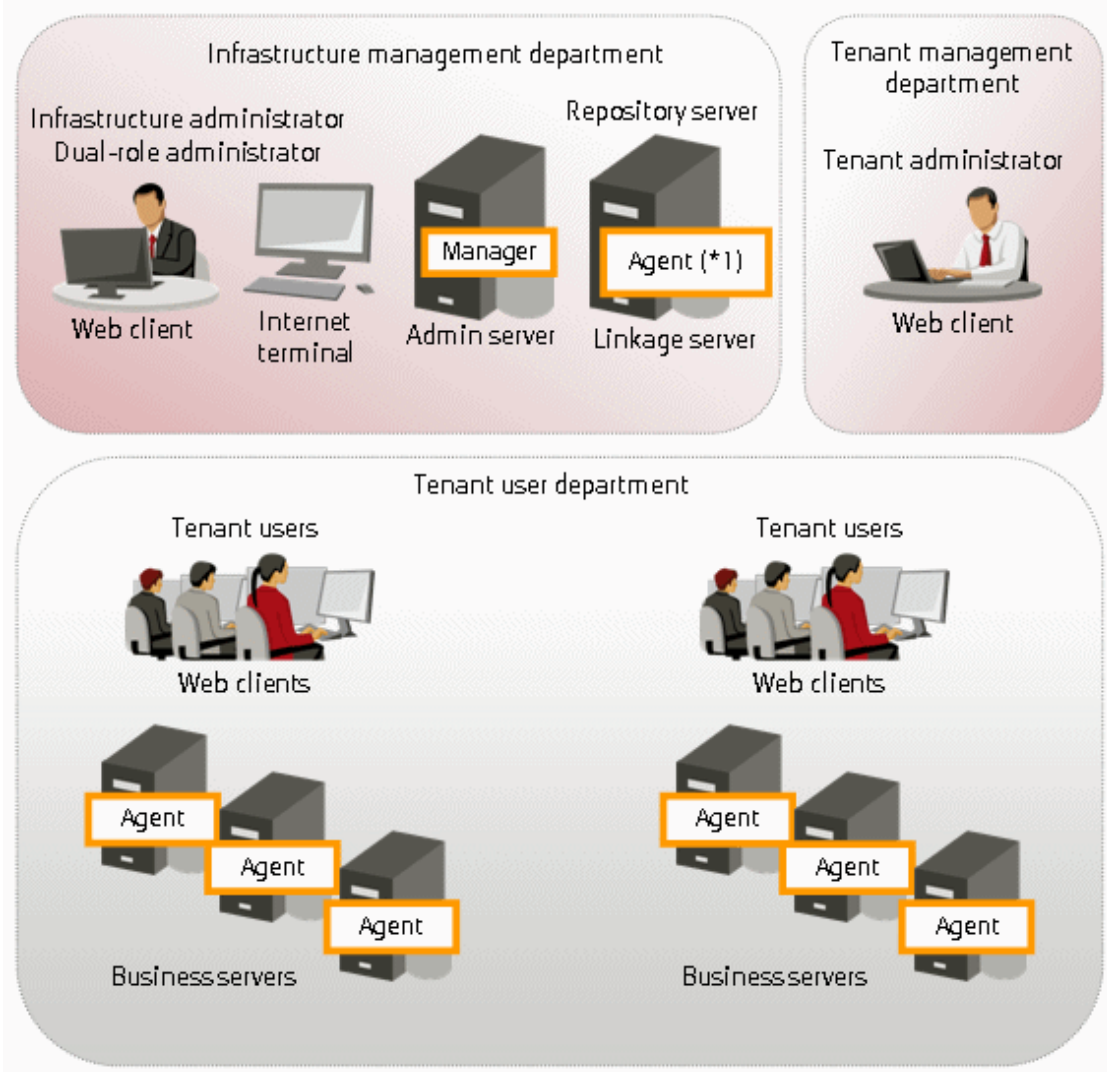
1.3 System Configuration

This section explains the system configuration for Systemwalker Software Configuration Manager.

1.3.1 System Configuration for Managing Patches and Configuration

The following diagram illustrates the system configuration for managing patches and configuration:

Figure 1.2 System configuration for managing patches and configuration



*1: A Systemwalker Software Configuration Manager agent must be installed when the repository server is using WSUS.

Admin server

This is the server where the manager of Systemwalker Software Configuration Manager runs. The admin server is used to obtain patch application status information, and to collect and manage software configuration information.

The manager of Systemwalker Software Configuration Manager is installed on the admin server.

The manager is a Systemwalker Software Configuration Manager program that runs on the admin server.

Linkage server

With Systemwalker Software Configuration Manager, the following servers are defined as linkage servers:

Repository server

A repository server is used to download patches from vendor websites, and store, distribute and apply these patches. This server is required to manage OS patches.

Microsoft Windows Server Update Services (WSUS) repository server

This server is used to download, distribute and apply Windows patches. This server can also manage the application status of Windows patches. This server is required to manage Windows patches.

A Systemwalker Software Configuration Manager agent is installed on WSUS servers. An agent is a Systemwalker Software Configuration Manager program that runs on linkage servers and business servers.

Yellowdog Updater Modified (yum) repository server

A yum repository server is used to store, distribute and apply Linux patches (RPM packages). This server is required to manage Linux patches.

There is no need to install a Systemwalker Software Configuration Manager agent on yum repository servers.

Business server

This is a server from which software configuration information is collected and to which patches are applied.

A Systemwalker Software Configuration Manager agent is installed on business servers. An agent is a Systemwalker Software Configuration Manager program that runs on linkage servers and business servers.

Internet terminal

This is a terminal that is used to download the latest patches from the UpdateSite or vendor websites.

An Internet terminal is required to manage Linux patches and Fujitsu middleware patches.

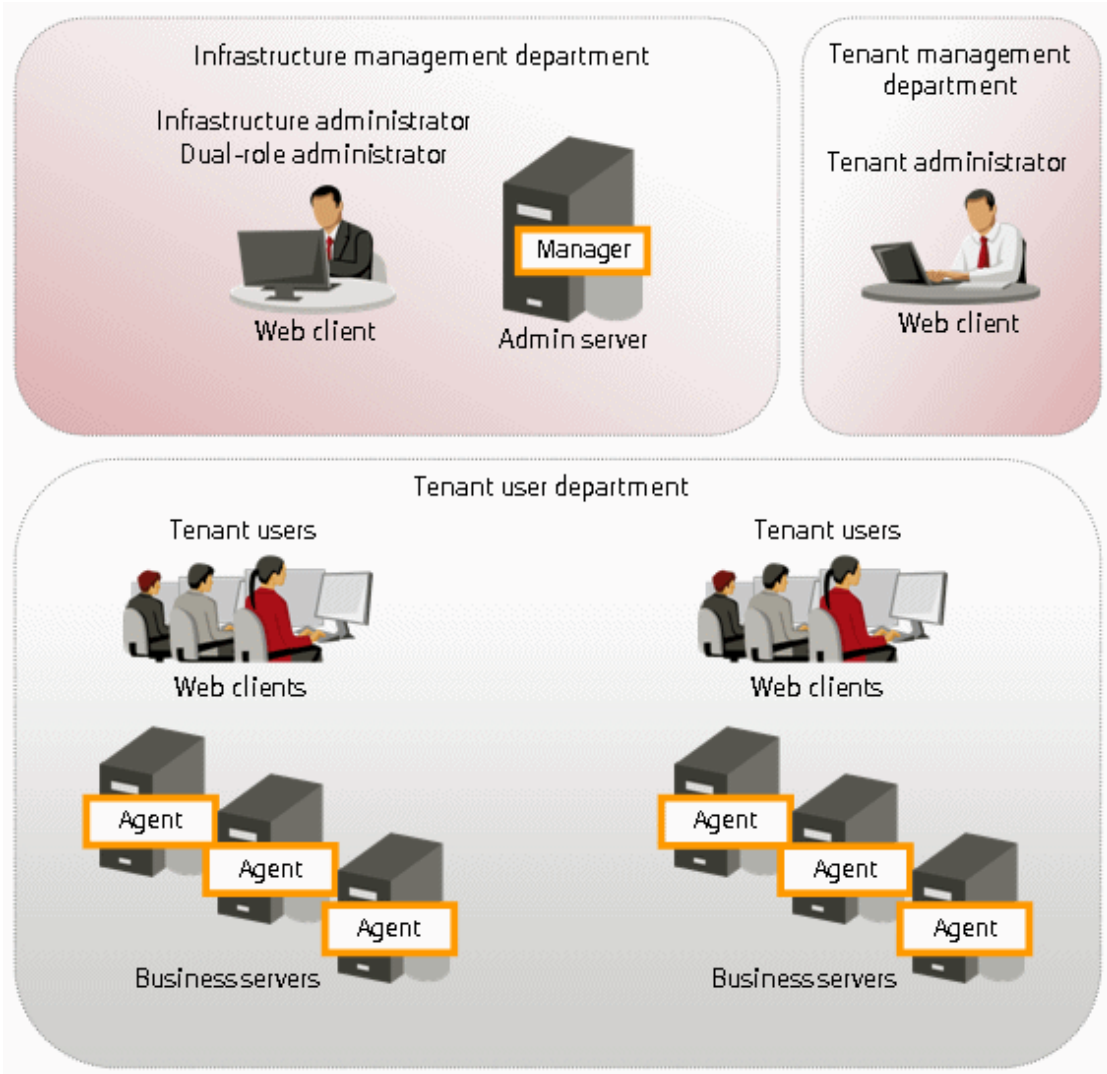
Web client

This is a client for operating the Systemwalker Software Configuration Manager admin server. The management console is used in a web browser.

1.3.2 System Configuration for Managing Software Parameters

This section describes the system configuration for managing software parameters.

Figure 1.3 System configuration for managing software parameters



Admin server

This is the server that operates Systemwalker Software Configuration Manager. The admin server is used to collect and configure parameters for software installed on business servers.

The manager of Systemwalker Software Configuration Manager is installed on the admin server.

The manager is a Systemwalker Software Configuration Manager program that runs on the admin server.

Business server

This is a server on which software for collecting and configuring parameters is installed.

A Systemwalker Software Configuration Manager agent is installed on business servers. An agent is a Systemwalker Software Configuration Manager program that runs on business servers.

Web client

This is a client for operating the Systemwalker Software Configuration Manager admin server. The management console is used in a web browser.

1.4 Benefits of Installation

Installing Systemwalker Software Configuration Manager provides the following benefits:

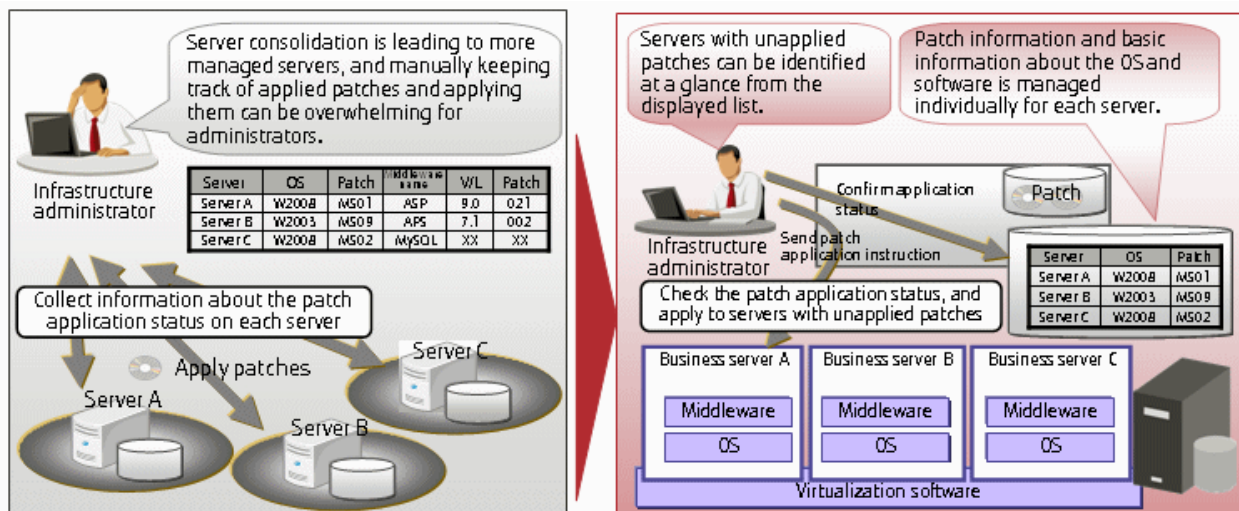
- Keep server patches up to date
- Automatically collect and visualize information about resources that have been automatically deployed to the cloud
- Ability to visualize software configuration information according to the tenant that the administrator belongs to and the privileges of that administrator
- Reduce system construction times and human error by using the software parameter settings function

Keep server patches up to date

Individual system administrators have to keep track of the software stack (operating systems, middleware and applications) and patch application status using Excel spreadsheets and other methods, and so it takes a long time to investigate the effects of making changes to software (such as applying security patches). As the number of systems increases, there is also the risk of systems that should be checked being missed. For an administrator to apply patches individually to each separate machine also requires a huge amount of work.

Installing Systemwalker Software Configuration Manager makes it possible to centrally manage software configuration information (including patch information) and display a list of servers with unapplied patches. For servers with unapplied patches, notification emails can be sent to tenant users instructing them to apply the patches.

Figure 1.4 Benefit 1 (Keeping server patches up to date)

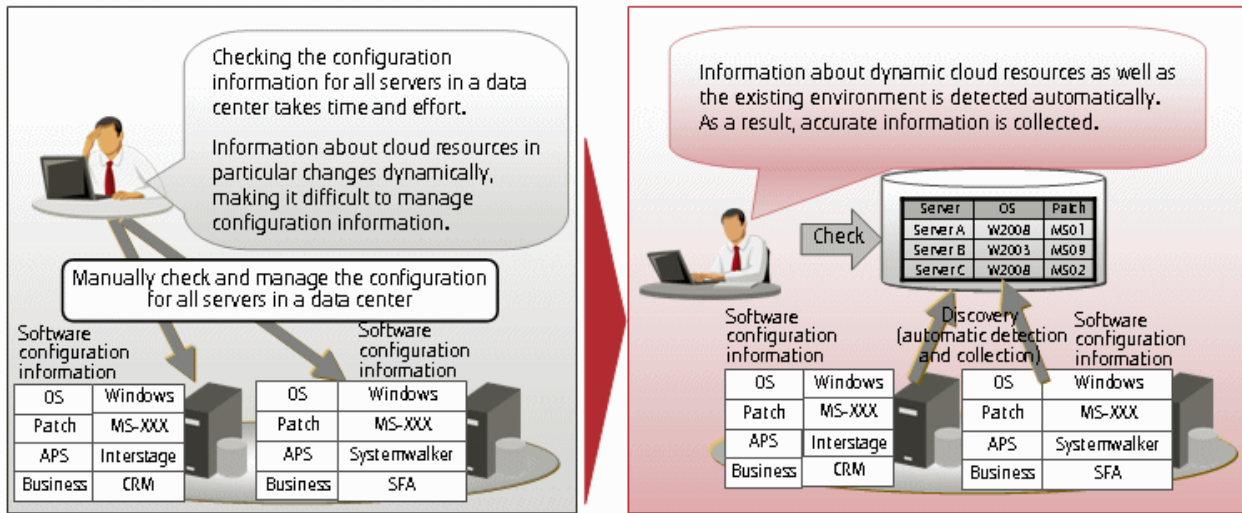


Automatically collecting and visualizing information about resources that have been automatically deployed to the cloud

For resources that have been deployed to the cloud, such as servers and IP addresses, information changes dynamically, which means that checking all systems manually is monotonous and time-consuming, and the workload has a tendency to increase. It is also difficult to keep track of the status of resources in an accurate and timely manner; this can be due to patch application or cancellation of deployed resources.

By installing Systemwalker Software Configuration Manager, system information can be automatically "discovered" (detected and collected). This enables infrastructure administrators to keep track of software configuration information effectively, even for resources that have been deployed to cloud environments.

Figure 1.5 Benefit 2 (Automatically collecting and visualizing information about resources that have been automatically deployed to the cloud)

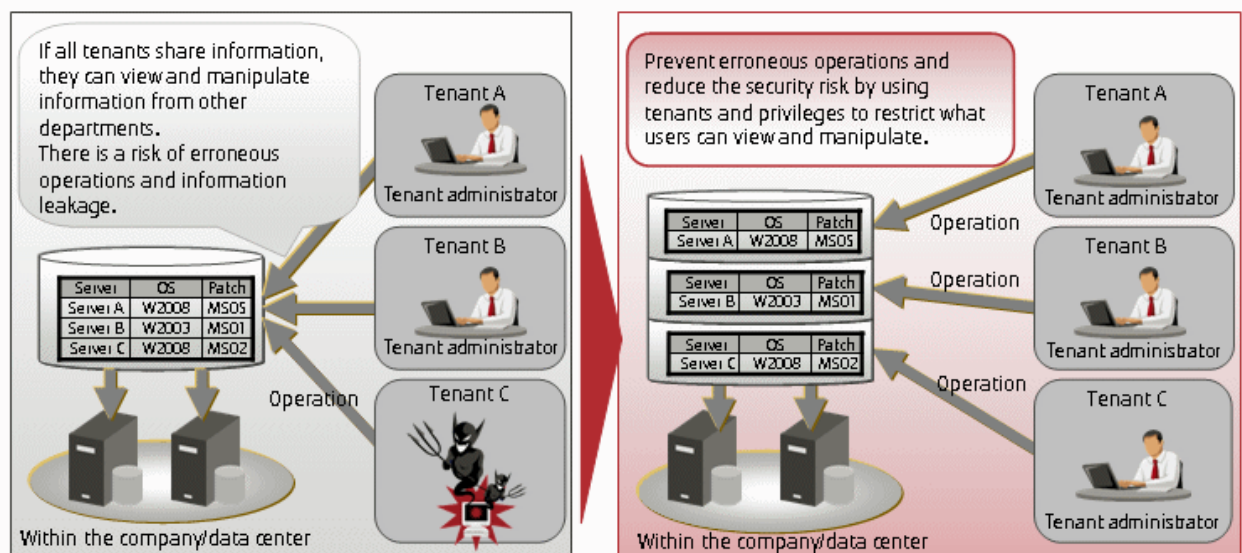


Visualizing software configuration information based on tenant and administrator privileges

Configuration management involves the collection of massive amounts of data, such as information about the systems in a data center. If an administrator can see and manipulate all the information in the configuration management system, there is a risk of operation mistakes resulting from the fact that administrators can perform operations beyond their area of responsibility, as well as information security risks due to information being made available without proper controls.

By installing Systemwalker Software Configuration Manager, both the range of information that can be viewed and the range of operations that can be performed can be limited according to tenant and administrator privileges. This can prevent operation mistakes and reduce security risk. Moreover, workloads can be reduced by having each person only handle the information that they are responsible for operating and maintaining.

Figure 1.6 Benefit 3 (Visualizing software configuration information based on tenant and administrator privileges)

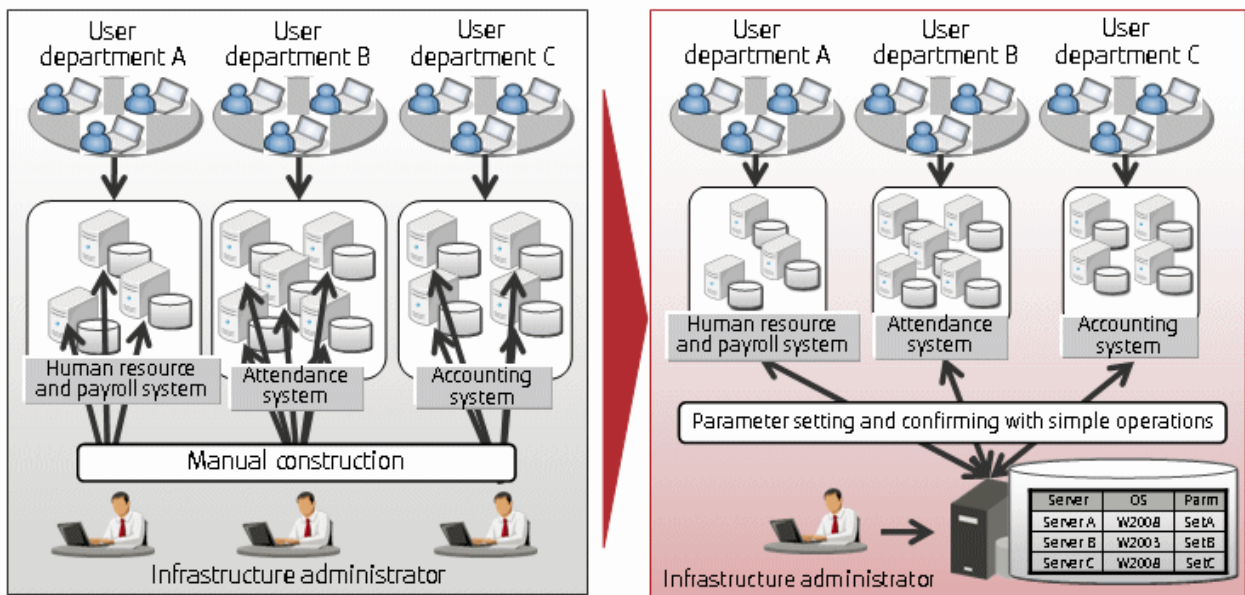


Reducing system construction times and human error by using the software parameter management function

In systems where ICT resources have simply been consolidated in a private cloud, each department uses a different combination of operating systems, middleware and applications with different versions and levels, and so creating a cloud system involves a lot of work. Creating systems manually also introduces the possibility of human error.

By installing Systemwalker Software Configuration Manager, parameter information for software installed on the server can be collected (discovered) automatically. Additionally, parameters can be remotely configured in a single step for software on each server. The ability to centrally manage the parameter values configured in the software on each server enables a dramatic reduction in the time required to construct systems.

Figure 1.7 Benefit 4 (Reducing system construction times and human error by using the software parameter settings function)



Chapter 2 Function Explanation

This product provides the following functions:

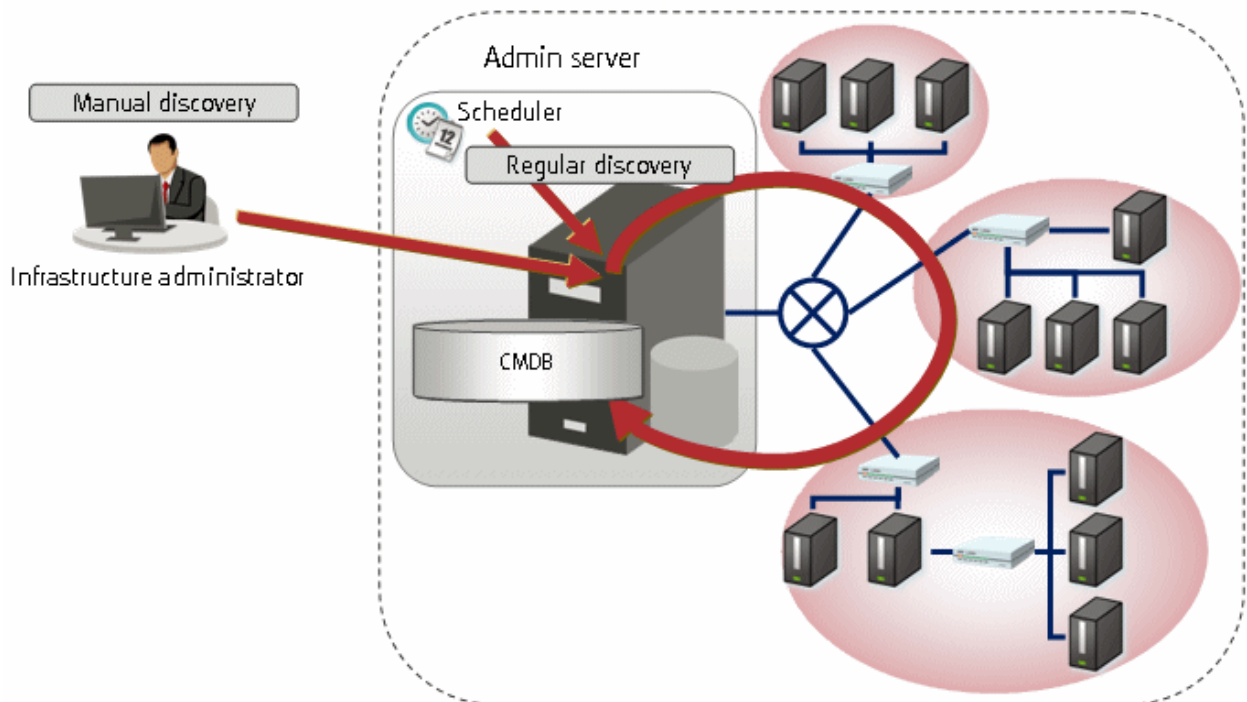
- Discovery
- Patch management
- Configuration management
- Software parameter management
- Configuration management

2.1 Discovery

"Discovery" is a function that collects software configuration information for business servers and registers it in the configuration management database (CMDB).

The software configuration information collected by the discovery function is registered in the CMDB as configuration items (CI).

Figure 2.1 Overview of the discovery function



Software configuration information collected

The following software configuration information can be collected using the discovery function:

Table 2.1 Software configuration information collected by the discovery function

Resource		Linkage product/linkage function					
		ServerView Resource Orchestrator	Microsoft Windows Server Update Services (WSUS)	yum (Yellowdog Updater Modified)	UpdateAdvisor (middleware)		
System configuration information	Resource information for the physical or virtual servers that make up the system (IP addresses and operating system information only)	Y	Y (*1)	Y (*1)	Y (*1)		
	Tenant information	Y	-	-	-		
	L-Platform information	Y	-	-	-		
Patch information	Windows patches	Information about Windows patches released by Microsoft	OS patch information	-	Y	-	-
		Physical / virtual Windows servers where the patches can be applied	-	Y	-	-	
		Information about the OS patches that have already been applied to the physical/virtual Windows servers that make up the system	-	Y	-	-	
	Linux patches	Information about Linux patches (RPM packages) released by the Red Hat Network or the Fujitsu website	Information about OS patches (RPM packages)	-	-	Y	-
		Physical/virtual Linux servers where the patches can be applied	-	-	Y	-	
		Information about the OS patches (RPM packages) that have already been applied to the physical/virtual Linux servers that make up the system	-	-	Y	-	

Resource				Linkage product/linkage function			
				ServerView Resource Orchestrator	Microsoft Windows Server Update Services (WSUS)	yum (Yellowdog Updater Modified)	UpdateAdvisor (middleware)
	Middle are patches	Fujitsu middlewar e patches released on the UpdateSite	Fujitsu middlewar e patches	-	-	-	- (*2)
			Physical/ virtual servers where the patches can be applied	-	-	-	- (*3)
		Information about the Fujitsu middleware patches that have already been applied to the physical/virtual servers that make up the system	-	-	-	Y	
Software information		Information about the Fujitsu middleware products that have already been installed on the physical/virtual servers that make up the system	-	-	-	Y	

Y: Can be collected.

-: Cannot be collected.

*1: IP addresses only

*2: This information is not collected by the `swcfmg_patch_updateinfo` command. Information about Fujitsu middleware patches is registered in the CMDB by executing `swcfmg_fjmwpatch_update` (Fujitsu Middleware Patch Registration command). Refer to the *Reference Guide* for details.

*3: `swcfmg_fjmwpatch_update` (Fujitsu Middleware Patch Registration command) registers authorization information about applicable physical or virtual servers in the CMDB. Refer to the *Reference Guide* for details.

The timing of discovery

Discovery is performed at the following times:

- Regular discovery

Discovery is executed periodically according to a schedule.

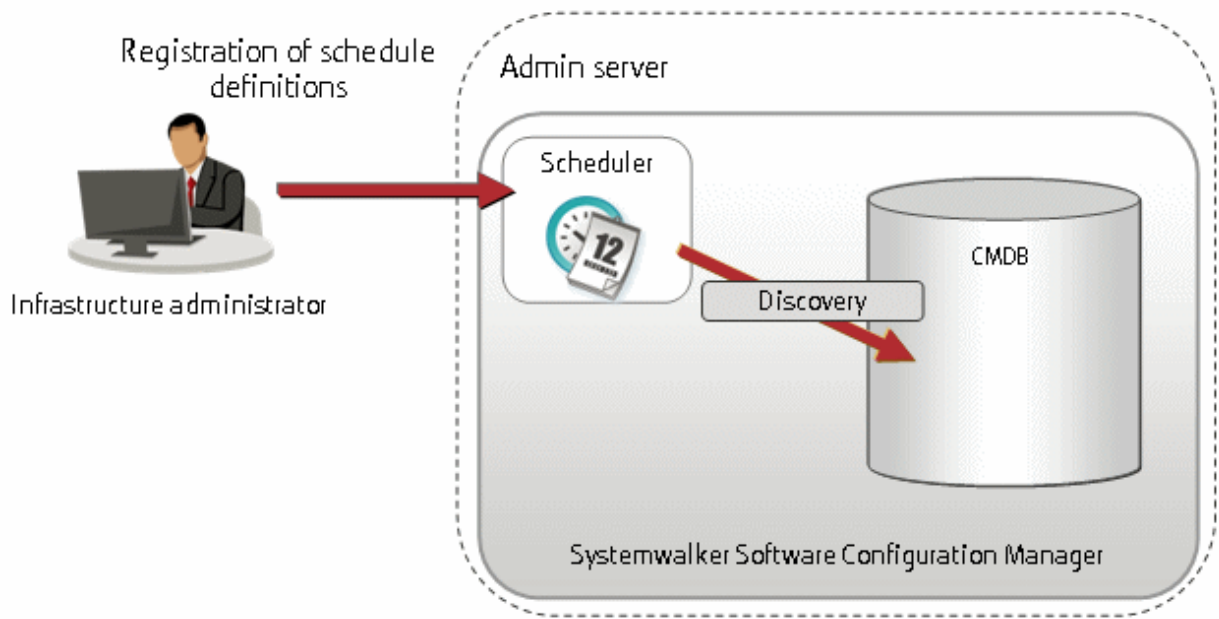
- Manual discovery

Discovery is manually performed by the infrastructure administrator executing a command.

Regular discovery

With regular discovery, the latest software configuration information is collected according to a schedule that the infrastructure administrator has defined in advance. The operating system's scheduler function is used for the schedule definition.

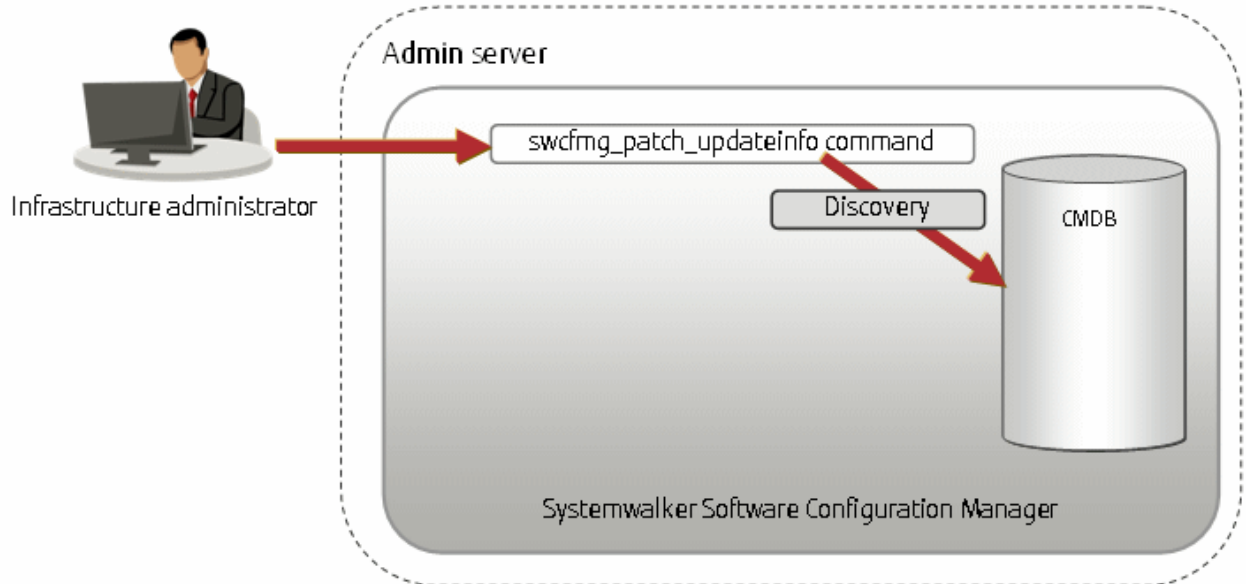
Figure 2.2 Regular discovery



Manual discovery

With manual discovery, the infrastructure administrator collects the latest software configuration information by executing the `swcfmg_patch_updateinfo` command to perform discovery.

Figure 2.3 Manual discovery



2.2 Patch Management

Systemwalker Software Configuration Manager manages the following patches:

- Windows patches
- Linux patches

- Fujitsu middleware patches

Windows patches

Windows patches are managed by linking to a WSUS repository server provided by Microsoft.

Acquisition of the latest patches and management of patch application status is performed via WSUS, while Systemwalker Software Configuration Manager automatically collects and manages information about patches and patch application statuses from WSUS.

It is also possible to apply patches to business servers remotely via the management console for Systemwalker Software Configuration Manager.

Linux patches

Linux patches are managed by linking to yum repository servers supported by Red Hat.

Acquisition of the latest patches and registration of the patches (RPM packages) with the yum repository server is performed by the infrastructure administrator, while Systemwalker Software Configuration Manager collects and manages patch application status information from managed servers.

It is also possible to apply patches to managed servers remotely via the management console for Systemwalker Software Configuration Manager.

Fujitsu middleware patches

Patch management for Fujitsu middleware is performed by linking to the UpdateSite and UpdateAdvisor (middleware) provided by Fujitsu.

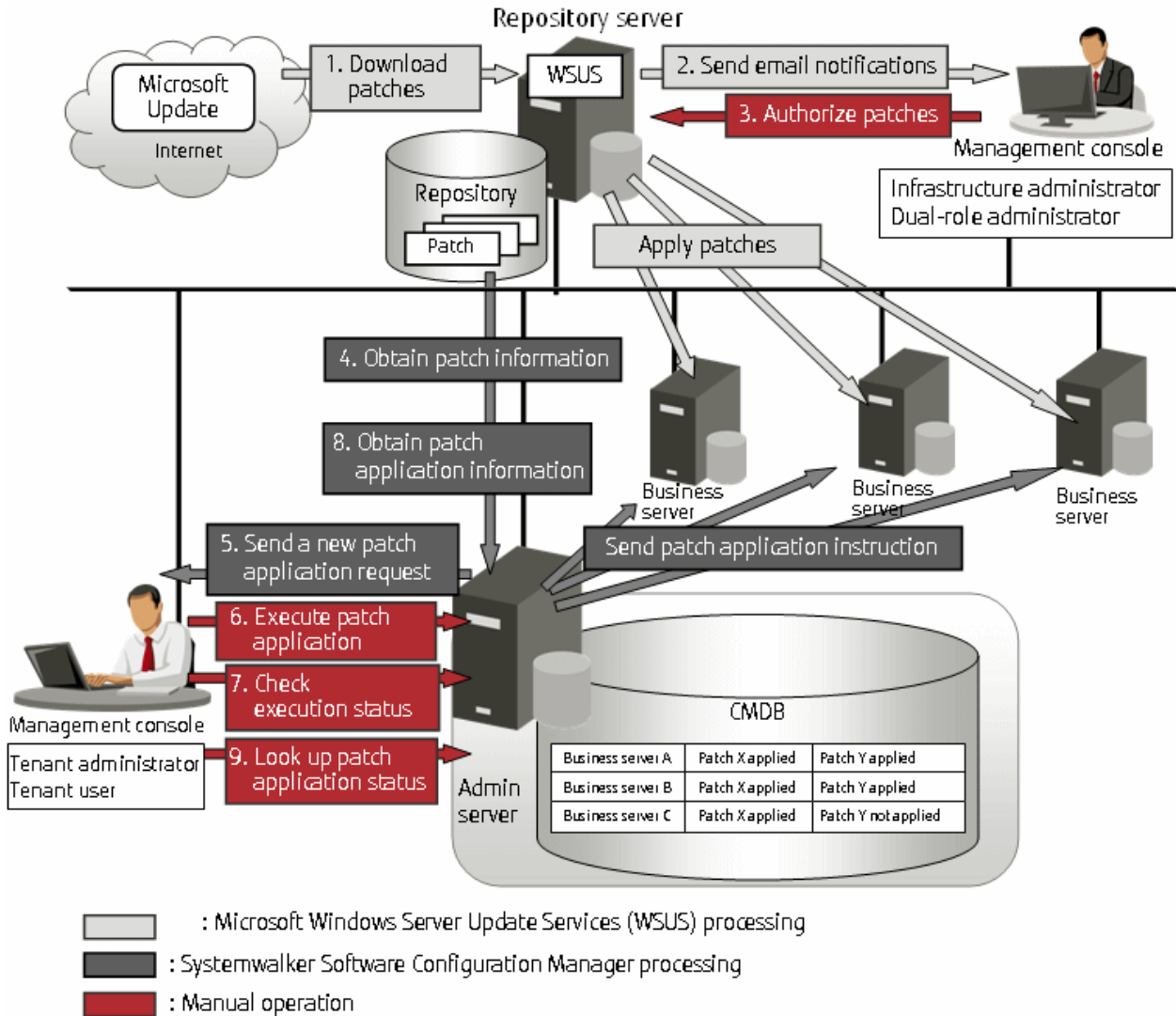
Acquisition of the latest patches from the UpdateSite and registration of the latest patches with Systemwalker Software Configuration Manager is performed by the infrastructure administrator, while Systemwalker Software Configuration Manager collects and manages patch application status information from the UpdateAdvisor (middleware) on managed servers.

It is also possible to distribute and apply update files to managed servers remotely from the management console for Systemwalker Software Configuration Manager.

2.2.1 Windows Patch Management

Windows patches are managed by linking to WSUS. The following diagram shows the overall flow of Windows patch management:

Figure 2.4 Overview of Windows patch management



1. Download patches **[processing by WSUS]**

Use the WSUS function to synchronize with the Microsoft Update site and obtain the latest patch information.

2. Send email notifications to the infrastructure administrator **[processing by WSUS]**

By setting up the WSUS email notification function, an email will be sent from WSUS to the infrastructure administrator, informing him or her that a new patch has been downloaded from the Microsoft Update site.

3. Authorize new patches **[operation by the infrastructure administrator]**

The infrastructure administrator performs authorization processing for the new patches using WSUS.

4. Obtain patch information **[processing by Systemwalker Software Configuration Manager]**

Systemwalker Software Configuration Manager extracts information about new patches from WSUS and the management information on WSUS, and stores both sets of information in the CMDB.

Patch information can be obtained either automatically or manually (using a command).

5. Send a new patch application request **[processing by Systemwalker Software Configuration Manager]**

When a new patch is authorized on WSUS, an email is automatically sent to each tenant user and each tenant administrator requesting that they apply the new patch.

6. Execute patch application **[operation by the tenant user or the tenant administrator]**

Either the tenant user or the tenant administrator logs in to the management console and applies the new patch.

 **Point**

- Patches are distributed by WSUS. Once patch application completes, application information is sent to WSUS.
- Even if a new patch is displayed in the management console, a notification about the new patch may not have been sent to business servers, or the patch may not have been downloaded to business servers, depending on the schedule settings for WSUS. Check the schedule settings for WSUS.

7. Check execution status **[operation by the infrastructure administrator, the tenant administrator, or the tenant user]**

Check the patch application status using the management console or the job information management command.

8. Obtain patch application information **[processing by Systemwalker Software Configuration Manager]**

Systemwalker Software Configuration Manager extracts patch application information from WSUS and stores it in the CMDB.

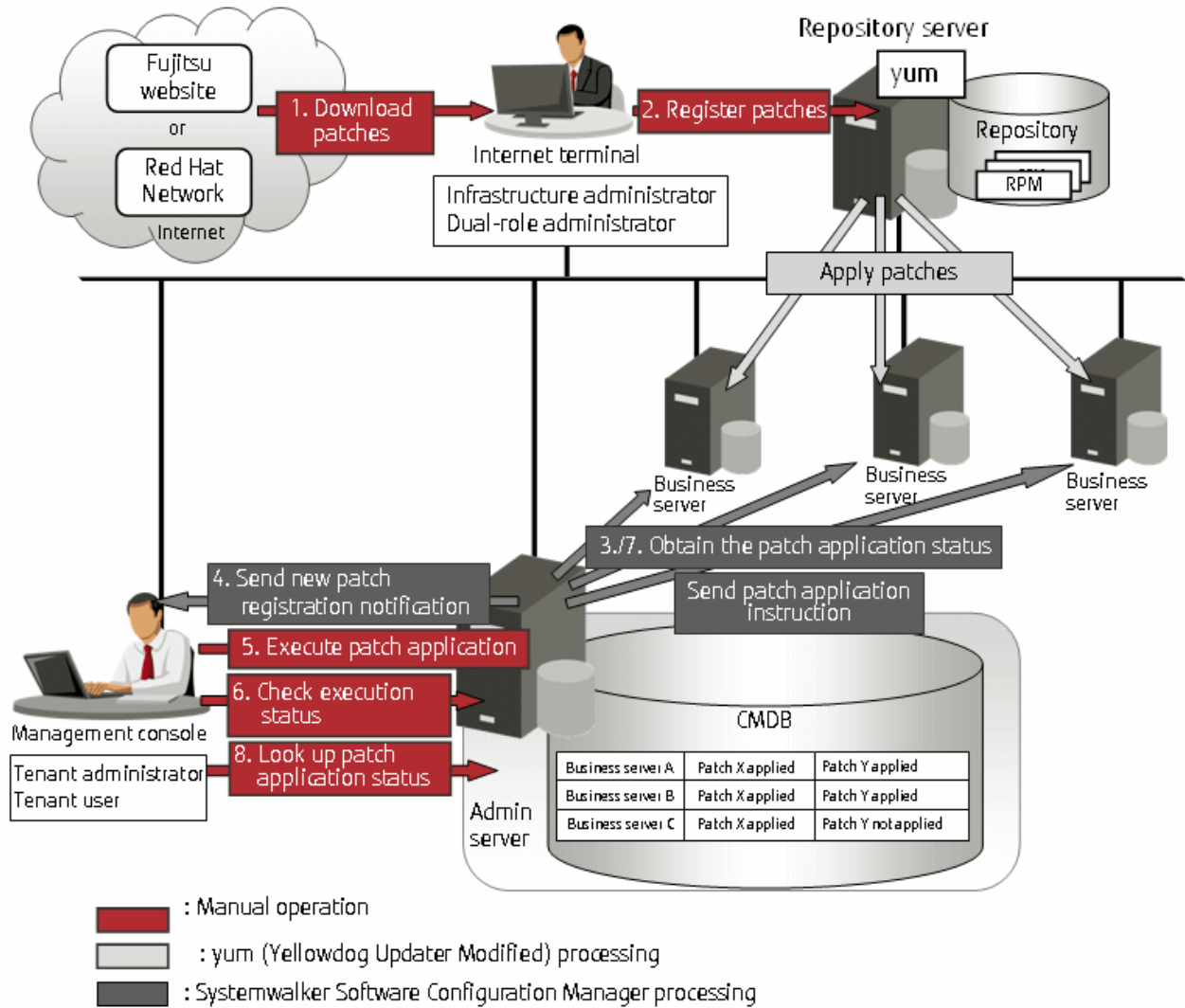
9. Look up patch application status

The infrastructure administrator, dual-role administrator, tenant administrator and tenant user log in to the management console and check the patch application status.

2.2.2 Linux Patch Management

Linux patches are managed by linking to Yellowdog Updater Modified (yum). The following diagram shows the overall flow of Linux patch management:

Figure 2.5 Overview of Linux patch management



1. Download patches **[operation by the infrastructure administrator]**

The infrastructure administrator uses the Internet terminal to download the latest patches (RPM packages) from either the Fujitsu website or the Red Hat Network.

2. Register patches **[operation by the infrastructure administrator]**

The infrastructure administrator registers the patches (RPM packages) with the yum repository server. The infrastructure administrator then defines these patches as part of the Linux patch management target.

If patches have been added to or removed from the yum repository server, define the Linux patch management target again and then execute the yum cache cleanup notification command.

3. Obtain the patch application status **[processing by Systemwalker Software Configuration Manager]**

Systemwalker Software Configuration Manager extracts information about which RPM packages have been applied or can be applied from each server, and then registers this information in the CMDB.

RPM package information can be obtained either automatically or manually (using a command).

4. Send new patch registration notification **[processing by Systemwalker Software Configuration Manager]**

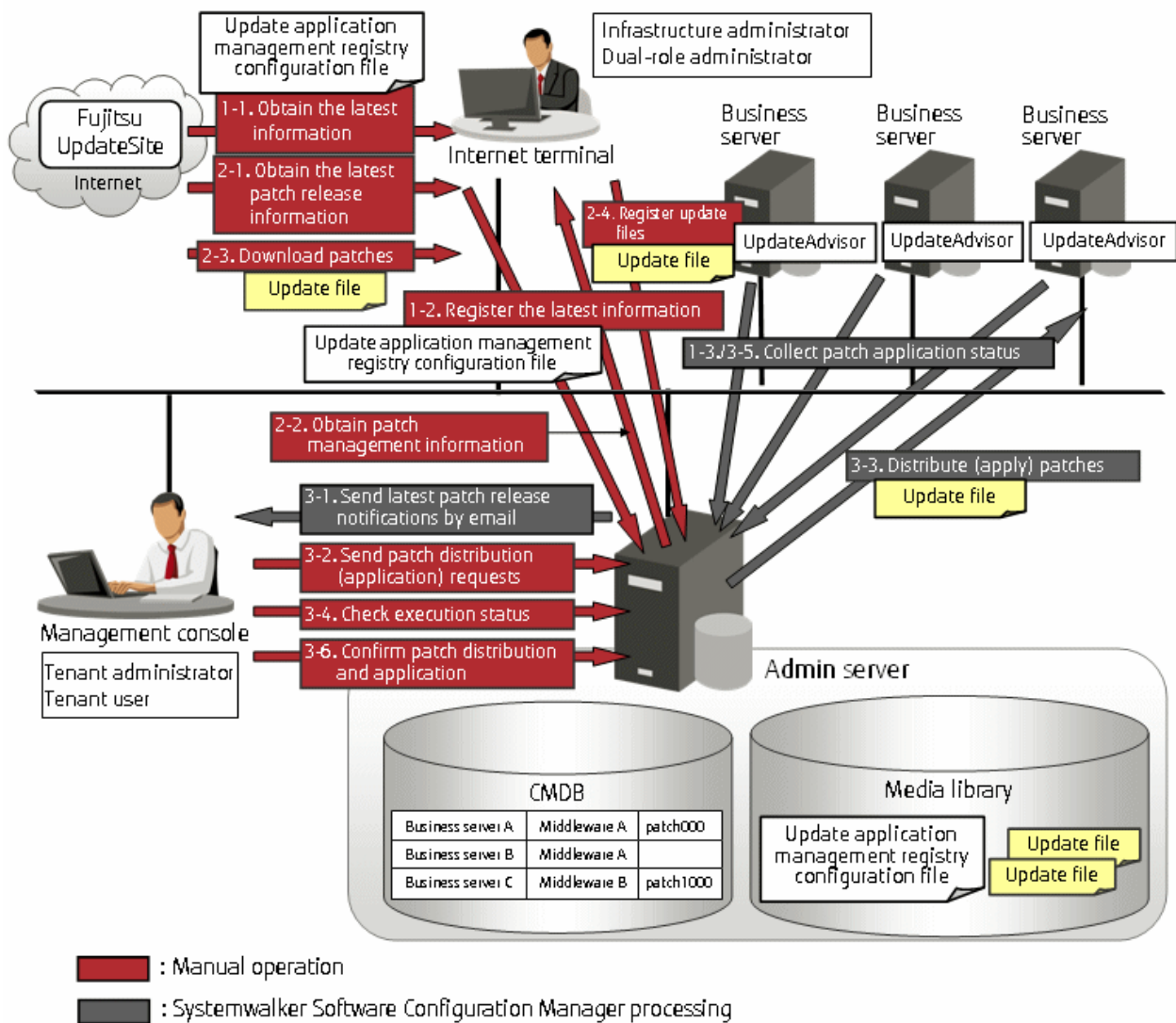
When Systemwalker Software Configuration Manager detects a new patch, an email is automatically sent to each tenant user and each tenant administrator, notifying them that the new patch has been registered.

5. Execute patch application **[operation by the tenant user or the tenant administrator]**
 Either the tenant user or the tenant administrator logs in to the management console and applies the new patch.
6. Check execution status **[operation by the infrastructure administrator, the tenant administrator, or the tenant user]**
 Check the patch application status using the management console or the job information management command.
7. Obtain patch application information **[processing by Systemwalker Software Configuration Manager]**
 Systemwalker Software Configuration Manager extracts patch application information from each server and stores it in the CMDB.
8. Look up patch application status
 The infrastructure administrator, dual-role administrator, tenant administrator and tenant user log in to the management console and check the patch application status.

2.2.3 Fujitsu Middleware Patch Management

Fujitsu middleware patches are managed by linking to the UpdateAdvisor (middleware). The following diagram shows the overall flow of Fujitsu middleware patch management:

Figure 2.6 Overview of Fujitsu middleware patch management



1. Obtain Fujitsu middleware information, and perform discovery

Obtain the update application management registry configuration file from the UpdateSite, and collect the latest patch application status. The update application management registry configuration file must be updated to collect the latest patch application status. During operation, also obtain the latest application management registry configuration file from the UpdateSite.

1. Obtain the latest information (update application management registry configuration file) **[operation by the infrastructure administrator]**
2. The infrastructure administrator uses the Internet terminal to download the latest update application management registry configuration file from the UpdateSite.
3. Register the latest information (update application management registry configuration file) **[operation by the infrastructure administrator]**
4. The infrastructure administrator uses the UpdateAdvisor asset registration command on the admin server to store the latest update application management registry configuration file in the media library.
5. Collect patch application status information **[processing by Systemwalker Software Configuration Manager]**
6. Systemwalker Software Configuration Manager uses this update application management registry configuration file to collect patch application status information from each business server.

2. Obtain Fujitsu middleware patches

Obtain Fujitsu middleware patches from the UpdateSite, and store in the media library. Patches stored in the media library can be distributed (applied) to business servers.

1. Obtain the latest patch release information **[operation by the infrastructure administrator]**
2. The infrastructure administrator looks up email notifications from FSC-NEWS (SupportDesk customer notifications) and the UpdateSite (Fujitsu SupportDeskWeb) to obtain information about the latest patches.
3. Obtain patch management information **[operation by the infrastructure administrator]**
4. The infrastructure administrator uses the patch management information acquisition command on the admin server to obtain the patch management information.
5. The infrastructure administrator copies the patch management information and released patch acquisition tool obtained from the admin server to the Internet terminal.
6. Download patches **[operation by the infrastructure administrator]**
7. The infrastructure administrator uses the released patch acquisition tool on the Internet terminal to download newly released patches from the UpdateSite.
8. Register update files **[operation by the infrastructure administrator]**
9. The infrastructure administrator uses the Fujitsu middleware patch registration command on the admin server to store the downloaded files in the media library.

3. Check the distribution and application of Fujitsu middleware patches

Distribute (apply) the Fujitsu middleware patches that were stored in the media library.

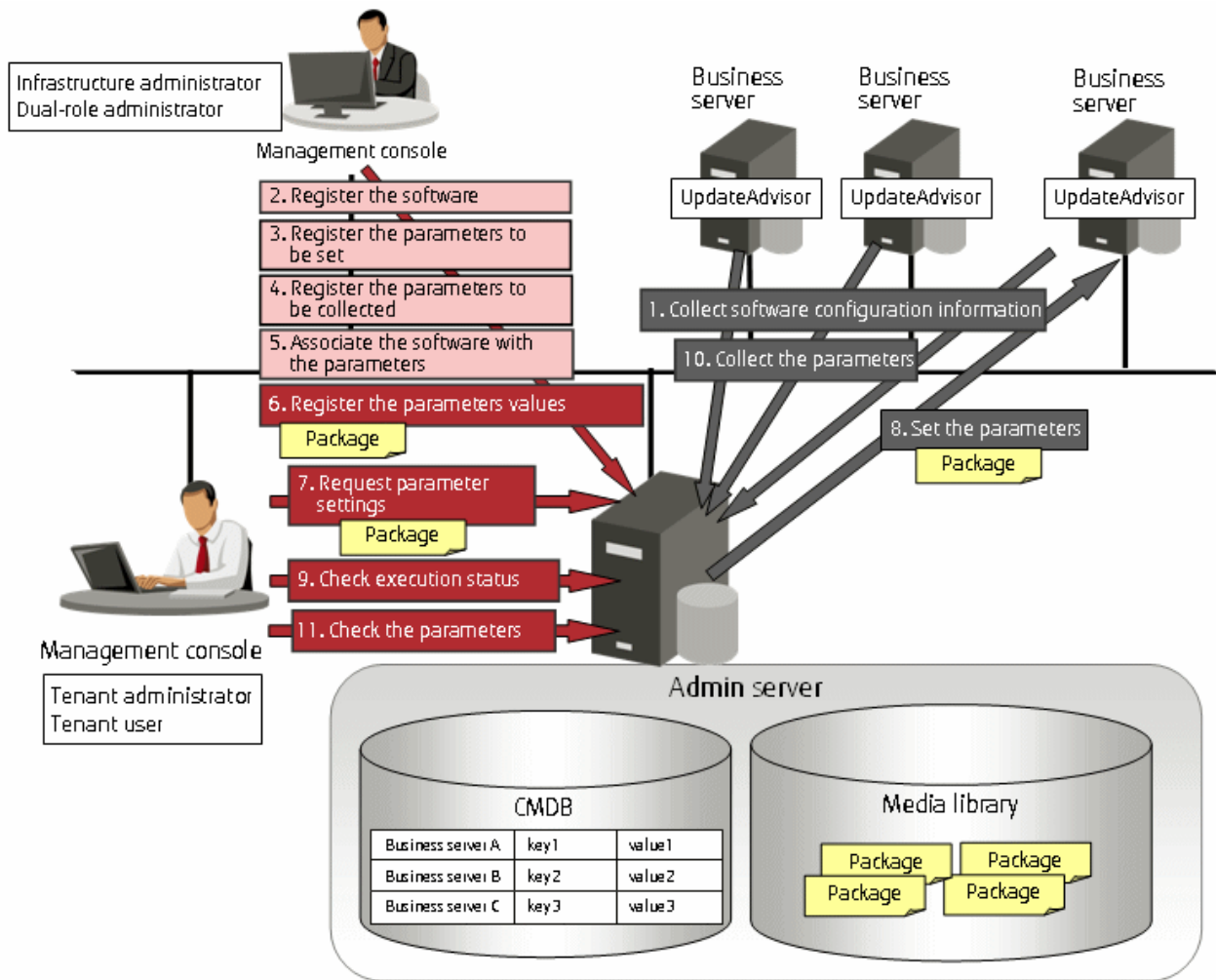
1. Send latest patch release notifications by email **[processing by Systemwalker Software Configuration Manager]**
2. The tenant administrator and tenant user receive an email notification from Systemwalker Software Configuration Manager informing them that the latest patches have been released.
3. Send patch distribution/application requests **[operation by the tenant user or the tenant administrator]**
4. Either the tenant user or the tenant administrator uses the management console to distribute the latest patches to managed servers.
5. Also, to apply Fujitsu middleware patches, a script specifying the application processing must be created and then registered as a post-execution script.
6. Distribute/apply patches **[processing by Systemwalker Software Configuration Manager]**

7. Systemwalker Software Configuration Manager distributes the specified patches to the specified business servers.
8. If an application script has been registered, Systemwalker Software Configuration Manager also applies the patches by executing the application script. If an application script has not been registered, log on directly to the business server and apply the patches manually.
9. Check execution status [**operation by the infrastructure administrator, the tenant administrator, or the tenant user**]
Check the patch application status using the management console or the job information management command.
10. Collect patch application status information [**processing by Systemwalker Software Configuration Manager**]
11. Systemwalker Software Configuration Manager uses the update application management registry configuration file (that has been registered) to collect patch application status information from managed servers.
12. Confirm patch distribution/application
13. The infrastructure administrator, dual-role administrator, tenant administrator and tenant user log in to the management console and check the patch application status.

2.3 Software Parameter Management

Systemwalker Software Configuration Manager can be used to configure parameters for software installed on managed servers.

The following diagram shows the overall flow of software parameter management:



- : Manual operation (only if developing unique definitions)
- : Manual operation
- : Systemwalker Software Configuration Manager processing

1. Collect software configuration information **[processing by Systemwalker Software Configuration Manager]**
Perform discovery on the managed servers to collect information on installed Fujitsu middleware. Fujitsu middleware information is collected by UpdateAdvisor (middleware).
2. Register the software **[operation by the infrastructure administrator]**
If managing software not compatible with UpdateAdvisor (middleware), use commands to register information about the software installed on the managed servers.
3. Register the parameters to be set **[operation by the infrastructure administrator]**
The infrastructure administrator defines the parameters to set in the software. Specify the list of parameters, and the scripts to set the parameters, using the parameter setting definition. Use commands to register the parameter setting definition.
This step is not required if using the parameter setting definition pre-registered in this product.
4. Register the parameters to be collected **[operation by the infrastructure administrator]**
The infrastructure administrator defines the parameters to be collected from the software. Specify the list of parameters, and the scripts to collect the parameters, using the parameter collection definition. Use commands to register the parameter collection definition.
This step is not required if using the parameter collection definition pre-registered in this product.

5. Associate the software with the parameters **[operation by the infrastructure administrator]**
 The infrastructure administrator associates the parameter setting definition and the parameter collection definition with the software. The software is associated with the parameters using commands.
 This step is not required if using the software definition pre-registered in this product.
6. Register the parameters values **[operation by the infrastructure administrator]**
 The infrastructure administrator can define the values to be set in the parameters as predefined parameters. Predefined parameters are convenient to use when the user needs to configure the same value numerous times, or when a set of values to configure has been predetermined. Files, as well as values, can be specified in parameters. Use commands to register predefined parameters. Note that files can also be registered as packages.
7. Request parameter settings **[operation by the tenant administrator or the tenant user]**
 Either the tenant administrator or the tenant user logs in to the management console and requests parameter settings. Notifications that a request has been received, completed, or has ended in an error, are received by email.
8. Set the parameters **[processing by Systemwalker Software Configuration Manager]**
 Systemwalker Software Configuration Manager configures the specified parameters in the managed servers.
9. Check execution status **[operation by the infrastructure administrator, the tenant administrator, or the tenant user]**
 Check the parameter setting status using the management console or the job information management command.
10. Collect the parameters **[processing by Systemwalker Software Configuration Manager]**
 Perform discovery on the managed servers to collect the software parameters. Files, as well as parameter values, can be collected.
11. Check the parameters **[operation by the infrastructure administrator, tenant administrator or the tenant user]**
 Infrastructure administrators, tenant users, and tenant administrators log in to the management console to check the parameters.

2.4 Configuration Management

To manage server information such as the server names, tenant names, host names, and IP addresses of various servers collected by performing discovery, as well as software configuration information such as information about installed software and applied patches, perform the following tasks from the **Configuration Management** window.

- Referencing software configuration information

The servers for which software configuration information has been collected by the discovery function can be displayed as a list, and detailed information about each individual server can be looked up, including the patch application status for each server. It is also possible to display information that has been filtered by specifying particular conditions.

- Comparing configuration baselines

A configuration baseline is a snapshot of the information collected by the discovery function at a certain moment in time.

If a problem occurs with a server, it is possible to check which patches have been applied since the server was last running correctly by comparing the current configuration baseline with the configuration baseline at the time when the server was running correctly.

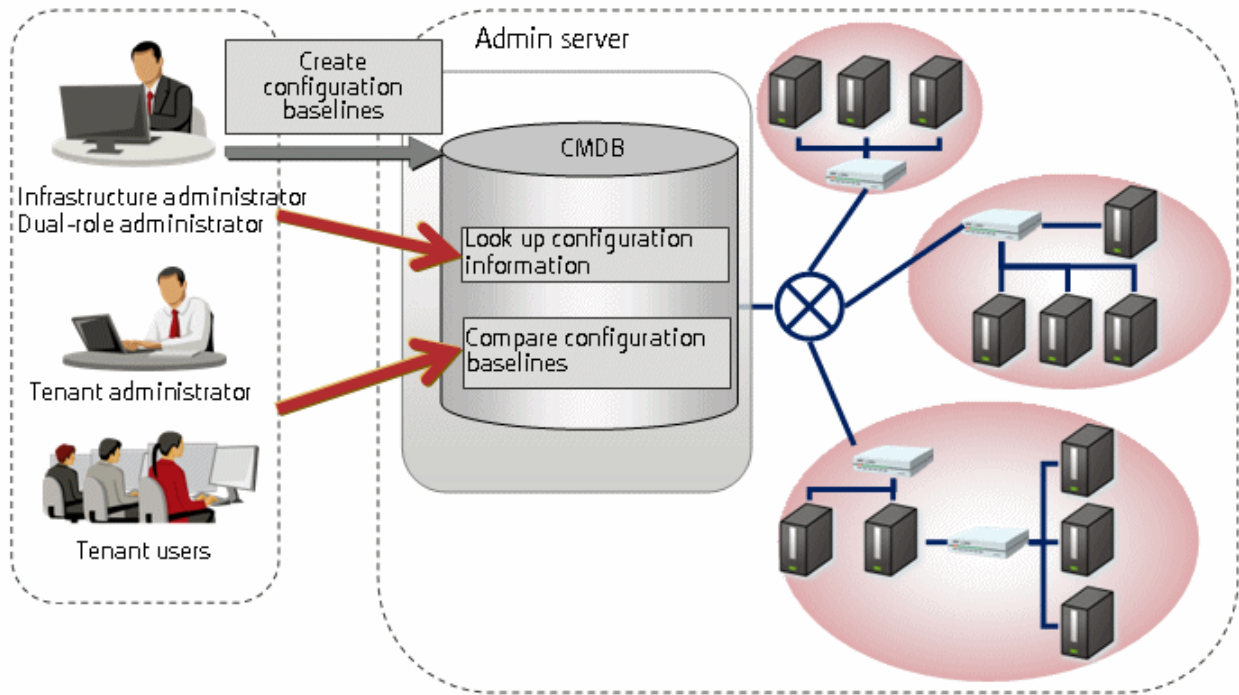
Configuration baselines are created periodically according to a schedule. Configuration baselines can also be created by the infrastructure administrator.

The following table shows the range within which each role can use configuration management:

Role	Usage range of software configuration information
Infrastructure administrator	Can look up software configuration information for all servers.
Dual-role administrator	Can look up software configuration information for all servers.

Role	Usage range of software configuration information
Tenant administrator	Can look up software configuration information for the servers associated with the tenancy (organization) to which the tenant administrator belongs.
Tenant user	Can look up software configuration information for the servers that the tenant user manages.

Figure 2.7 Overview of configuration management



Chapter 3 Operating Environment

This chapter explains the operating environment for this product.

3.1 Required Hardware

This section explains the hardware resources that are required to install and operate this product, separately for admin servers, linkage servers, and business servers.

3.1.1 Recommended Hardware Resources

Admin server

Type of hardware	Requirements
Supported model	PRIMERGY, PRIMEQUEST 1000 series
CPU	Intel(R) Xeon(R) 3 GHz or higher
Number of CPUs	2 or more
Memory capacity (excluding the operating system)	8.0 GB or more

When linking to ServerView Resource Orchestrator

Type of hardware	Requirements
Supported model	PRIMERGY, PRIMEQUEST 1000 series
CPU	Intel(R) Xeon(R) 3 GHz or higher
Memory capacity (excluding the operating system)	3.0 GB or more

Linkage server

Type of hardware	Requirements
Supported model	PRIMERGY, PRIMEQUEST 1000 series
CPU	Intel(R) Pentium 4 equivalent or higher
Memory capacity (excluding the operating system)	At least 1 GB

Business server

Type of hardware	Requirements
Supported model	PRIMERGY, PRIMEQUEST 1000 series
CPU	Intel(R) Pentium 4 equivalent or higher
Memory capacity (excluding the operating system)	At least 500 MB

3.1.2 Disk Capacity

Admin server

Static disk capacity[Windows]

Product name	Disk space required for installation
Systemwalker Software Configuration Manager	Installation directory: 13.3 GB

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software.

- %SYSTEMDRIVE%\FujitsuF4CR: 150 MB

When linking to ServerView Resource Orchestrator

Product name	Disk space required for installation
Systemwalker Software Configuration Manager	Installation directory: 3 GB

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software:

- %SYSTEMDRIVE%\FujitsuF4CR: 150 MB

Static disk capacity [Linux]

Product name	Area used	Disk space required for installation
Systemwalker Software Configuration Manager	/opt	3.2 GB or more
	/var	9.2 GB or more
	/etc	0.7 GB or more

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software.

-/opt: 150 MB

When linking to ServerView Resource Orchestrator

Product name	Location	Disk space required for installation
Systemwalker Software Configuration Manager	/opt	1.0 GB or more
	/var	1.5 GB or more
	/etc	0.5 GB or more

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software.

-/opt: 150 MB

Dynamic disk capacity

Database and memory space for the CMDB manager

The amount of database and memory space for the CMDB manager increases as the number of managed business servers increases. Estimate the amount of database and memory space based on the following table:

Number of business servers	Total amount of disk space used	Total amount of memory space used
500	Approx. 1.5 GB (*1)	Approx. 2.5 GB
1,000	Approx. 2.6 GB (*1)	Approx. 3.6 GB
1,500	Approx. 3.7 GB (*1)	Approx. 4.8 GB

*1: Assuming that ten patches per month are applied to each business server, if a business server is used for five years then these figures will increase by approximately 2GB.

Disk space for the media library

The following table indicates the recommended disk space for the media library:

Area name	Disk space
Media library	Approx. 2.5 GB

Database space for process management

A rough estimate of the database space required for process management can be calculated using the following formula:

Database space (rough estimate) = 1 MB x total number of automated operation processes (*1)

*1: The total number of requests for patch application, patch distribution, parameter setting, or script execution. If this type of request is made to multiple servers at the same time, the number of servers is regarded as the number of requests.

[Windows]



- Do not select **Compress drive to save disk space** on the drive where you will create the database space.
This is because compressing the drive incurs higher performance overhead than normal I/O processing, leading to access errors, which are dependent on I/O capacity and are caused by insufficient operating system resources.
- Do not select the **Compress and Encrypt attributes** group box in the dialog box displayed when you click **Advanced** in the **General** tab for setting properties of the folder where you will create the database space.
This is because, as with drive compression, setting the compression attribute incurs higher performance overhead than normal I/O processing, leading to access errors, which are dependent on I/O capacity and are caused by insufficient operating system resources.
In addition, if the encryption attribute is set, encryption cannot be disabled and access errors occur because the user who controls the database space is different from users used with Systemwalker Software Configuration Manager.

Linkage server

Static disk capacity

[Windows]

Product name	Disk space required for installation
Systemwalker Software Configuration Manager	Installation directory: 800 MB

Business server

Static disk capacity

[Windows]

Product name	Disk space required for installation
Systemwalker Software Configuration Manager	Installation directory: 300 MB

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software:

- %SYSTEMDRIVE%\FujitsuF4CR: 150 MB

[Linux]

Product name	Location	Disk space required for installation
Systemwalker Software Configuration Manager	/opt	240 MB or more
	/var	16 MB or more
	/etc	10 MB or more

Note: In addition to the disk space requirements above, the following disk space is required to manage and uninstall the software.

-/opt: 150 MB

3.2 Required Software

This section explains the software resources that are required to install this product.

3.2.1 Operating Systems for Managing Patches and Configuration

This section lists the operating systems supported for managing patches and configuration.

Admin server

- Windows Server 2012 (for x64) (*1)
- Windows Server 2012 R2 (for x64) (*1)
- Windows Server 2008 (for x86)
- Windows Server 2008 (for x64) (*1)
- Windows Server 2008 R2 (*1)
- Red Hat Enterprise Linux 5 (for x86)
- Red Hat Enterprise Linux 5 (for Intel 64) (*2)
- Red Hat Enterprise Linux 6 (for x86)
- Red Hat Enterprise Linux 6 (for Intel 64) (*2)

Linkage server (32-bit agent)

- Windows Server 2012 (for x64) (*1)
- Windows Server 2012 R2 (for x64) (*1)
- Windows Server 2008 (for x86)
- Windows Server 2008 (for x64) (*1)
- Windows Server 2008 R2 (*1)

Linkage server (64-bit agent)

- Windows Server 2012 (for x64)
- Windows Server 2012 R2 (for x64)
- Windows Server 2008 (for x64)
- Windows Server 2008 R2

Business server (32-bit agent)

- Windows Server 2012 (for x64) (*1)
- Windows Server 2012 R2 (for x64) (*1)
- Windows Server 2008 (for x86)
- Windows Server 2008 (for x64) (*1)
- Windows Server 2008 R2 (*1)
- Windows Server 2003 R2 (for x86) (Service Pack 2 or later)
- Windows Server 2003 R2 (for x64) (Service Pack 2 or later) (*1)
- Red Hat Enterprise Linux 5 (for x86)
- Red Hat Enterprise Linux 5 (for Intel 64) (*2)
- Red Hat Enterprise Linux 6 (for x86)
- Red Hat Enterprise Linux 6 (for Intel 64) (*2)

Business server (64-bit agent)

- Windows Server 2012 (for x64)
- Windows Server 2012 R2 (for x64)
- Windows Server 2008 (for x64)
- Windows Server 2008 R2
- Windows Server 2003 R2 (for x64) (Service Pack 2 or later)
- Red Hat Enterprise Linux 5 (for Intel64)
- Red Hat Enterprise Linux 6 (for Intel64)

*1: Runs as a 32-bit application on the WOW64 (Windows 32-bit On Windows 64-bit) subsystem

*2: Runs in 32-bit compatibility mode

3.2.2 Operating Systems for Managing Software Parameters

This section lists the operating systems supported by this product for managing software parameters.

The supported operating systems may differ depending on the software. Refer to "Parameter Reference" for information on the supported operating systems for each software product.

Admin server

- Windows Server 2012 (for x64) (*1)

- Windows Server 2012 R2 (for x64) (*1)
- Windows Server 2008 (for x86)
- Windows Server 2008 (for x64) (*1)
- Windows Server 2008 R2 (*1)
- Red Hat Enterprise Linux 5 (for x86)
- Red Hat Enterprise Linux 5 (for Intel64) (*2)
- Red Hat Enterprise Linux 6 (for x86)
- Red Hat Enterprise Linux 6 (for Intel64) (*2)

Business server (32-bit agent)

- Windows Server 2012 (for x64) (*1)
- Windows Server 2012 R2 (for x64) (*1)
- Windows Server 2008 (for x86)
- Windows Server 2008 (for x64) (*1)
- Windows Server 2008 R2 (*1)
- Windows Server 2003 R2 (for x86) (Service Pack 2 or later)
- Windows Server 2003 R2 (for x64) (Service Pack 2 or later) (*1)
- Red Hat Enterprise Linux 5 (for x86)
- Red Hat Enterprise Linux 5 (for Intel64) (*2)
- Red Hat Enterprise Linux 6 (for x86)
- Red Hat Enterprise Linux 6 (for Intel64) (*2)

Business server (64-bit agent)

- Windows Server 2012 (for x64)
- Windows Server 2012 R2 (for x64)
- Windows Server 2008 (for x64)
- Windows Server 2008 R2
- Windows Server 2003 R2 (for x64) (Service Pack 2 or later)
- Red Hat Enterprise Linux 5 (for Intel64)
- Red Hat Enterprise Linux 6 (for Intel64)

*1: Runs as a 32-bit application on a WOW64 (Windows 32-bit on Windows 64-bit) sub-system

*2: Runs in the 32-bit compatible mode

3.2.3 Mandatory Software

This section lists mandatory software.

Admin server

- ServerView Operations Manager V5.30 or later (required for single sign-on)

Web client

- Internet Explorer 8, 9, 10, or 11
- Adobe Reader X (required to view PDF manuals)



Note

The recommended display size (screen resolution) for the management console is 1024x768 pixels.

3.2.3.1 Mandatory Software for Linux

Admin server

The following software, which comes with the operating system, is required.

- redhat-lsb package
- The elfutils package (*1)
 - Red Hat Enterprise Linux 5.2 or earlier
 - elfutils-libelf-0.125-3.el5.i386.rpm (*1)
 - Red Hat Enterprise Linux 5.3 or later
 - elfutils-libelf-0.137-3.el5.i386.rpm (*1)
 - Red Hat Enterprise Linux 6.0 or later
 - elfutils-libelf-0.148-1.el6.i686.rpm (*1)

*1: The 32-bit version is required even for 64-bit versions of Linux.

Red Hat Enterprise Linux or later, in addition to the above, the following software, which comes with the operating system, is required.

Red Hat Enterprise Linux 6.0 (for x86) or later

- alsa-lib pack package (32-bit versions)
- cloog-ppl package (32-bit versions)
- compat-readline5 package (32-bit versions)
- compat-libtermcap package (32-bit versions)
- cpp package (32-bit versions)
- file package (32-bit versions)
- gcc package (32-bit versions)
- gcc-c++ package (32-bit versions)
- gdb package (32-bit versions)
- glibc-devel package (32-bit versions)
- glibc-headers package (32-bit versions)
- kernel-headers package (32-bit versions)
- libICE package (32-bit versions)
- libSM package (32-bit versions)

- libX11 package (32-bit versions)
- libX11-common package
- libXau package (32-bit versions)
- libXext package (32-bit versions)
- libXi package (32-bit versions)
- libXp package (32-bit versions)
- libXt package (32-bit versions)
- libXtst package (32-bit versions)
- libgomp package (32-bit versions)
- libstdc++-devel package (32-bit versions)
- libtool-ltdl package (32-bit versions)
- libxcb package (32-bit versions)
- make package (32-bit versions)
- mpfr package (32-bit versions)
- nss-softokn-freebl package (32-bit versions)
- perl package (32-bit versions)
- perl-Module-Pluggable package (32-bit versions)
- perl-Pod-Escapes package (32-bit versions)
- perl-Pod-Simple package (32-bit versions)
- perl-libs package (32-bit versions)
- perl-version package (32-bit versions)
- ppl package (32-bit versions)
- strace package (32-bit versions)
- tcsh package (32-bit versions)
- unixODBC package (32-bit versions)

Red Hat Enterprise Linux 6.0 (for Intel64) or later

- alsa-lib package (32-bit versions)
- audit-libs package (32-bit versions)
- cloog-ppl package (64-bit versions)
- compat-readline5 package (32-bit versions)
- compat-libtermcap package (32-bit versions)
- cpp package (64-bit versions)
- cracklib package (32-bit versions)
- db4 package (32-bit versions)
- expat package (32-bit versions)
- file package (64-bit versions)
- gcc package (64-bit versions)

- gcc-c++ package (64-bit versions)
- glibc package (32-bit versions)
- glibc-devel package (32-bit versions)
- glibc-headers package (64-bit versions)
- kernel-headers package (64-bit versions)
- libICE package (32-bit versions)
- libSM package (32-bit versions)
- libX11 package (32-bit versions)
- libX11-common package
- libXau package (32-bit versions)
- libXext package (32-bit versions)
- libXi package (32-bit versions)
- libXp package (32-bit versions)
- libXt package (32-bit versions)
- libXtst package (32-bit versions)
- libattr package (32-bit versions)
- libcap package (32-bit versions)
- libgcc package (32-bit versions)
- libgomp package (64-bit versions)
- libselenium package (32-bit versions)
- libstdc++ package (32-bit versions)
- libstdc++-devel package (64-bit versions)
- libtool-ltdl package (32-bit versions)
- libuuid package (32-bit versions)
- libxcb package (32-bit versions)
- make package (64-bit versions)
- mpfr package (64-bit versions)
- ncurses-libs package (32-bit versions)
- nss-softokn-freebl package (32-bit versions)
- pam package (32-bit versions)
- perl package (64-bit versions)
- perl-Module-Pluggable package (64-bit versions)
- perl-Pod-Escapes package (64-bit versions)
- perl-Pod-Simple package (64-bit versions)
- perl-libs package (64-bit versions)
- perl-version package (64-bit versions)
- ppl package (64-bit versions)
- readline package (32-bit versions)

- tcsh package (64-bit versions)
- unixODBC package (32-bit versions)
- zlib package (32-bit versions)

Business server

The following software, which comes with the operating system, is required.

- redhat-lsb package

For installations in Red Hat Enterprise Linux 6 (for Intel64) environments, the 32-bit version of the following software, which is provided with the operating system, will be required:

- expat package
- glibc package
- libattr package
- libcap package
- libgcc package
- libstdc++ package
- nss-softokn-freebl package
- zlib package

3.2.4 Related Software

This section lists related software programs that are required for this product.

Admin server

- ServerView Resource Orchestrator V3.1.2 Cloud Edition

This software is required to manage business servers deployed by ServerView Resource Orchestrator.



Note

If Systemwalker Software Configuration Manager is linked to ServerView Resource Orchestrator, uninstall Systemwalker Software Configuration Manager before performing the following tasks:

- Upgrading ServerView Resource Orchestrator
- Uninstalling ServerView Resource Orchestrator

Linkage server

- Microsoft Windows Server Update Services (WSUS)

This software is required to manage Windows patches.

The following versions/levels of WSUS are supported:

- Microsoft Windows Server Update Services (WSUS) 3.0 SP2
- Microsoft Windows Server Update Services (WSUS) 4.0

Note that a Client Access License (CAL) agreement must be concluded according to the number of target machines for which patches are to be applied by WSUS.

There is no need to create WSUS servers if they have already been created.

Point

For Systemwalker Software Configuration Manager, it is recommended that each WSUS server only manage up to 500 business servers in order to balance the load on the WSUS servers.

Number of business servers	Number of WSUS servers
500	1
1,000	2
1,500	3

- Yellowdog Updater Modified (yum) repository server

This server is required to manage Linux patches.

yum provided by RHEL5 and RHEL6 as standard can be used.

There is no need to create yum repository servers if they have already been created.

Business server

- yum and rpm commands

These commands are required to manage Linux patches.

The yum and rpm commands are installed as part of the standard installation from RHEL5 and onwards.

The yum and rpm commands are used for the following purposes:

- Obtaining information about the RPM packages that have been applied to business servers
- Obtaining information about the RPM packages that can be applied to business servers (for the yum command only)

- UpdateAdvisor (middleware)

The UpdateAdvisor (middleware) is required to manage patches and software for Fujitsu middleware.

The UpdateAdvisor (middleware) is used for the following purposes:

- Obtaining information about the patches for Fujitsu middleware that have been applied to business servers
- Obtaining information about the Fujitsu middleware that has been installed on business servers

Note that a paid subscription to the support service is required to connect to the UpdateSite. It is also necessary to obtain and install the UpdateAdvisor (middleware).

Internet terminal

In order to manage patches for Linux operating systems or Fujitsu middleware, or to collect software information, prepare an "Internet terminal" (a terminal that can connect to the Internet).

Use Windows(R) XP, Windows Vista, Windows 7, Windows 8, or Windows 8.1 as the operating system for the Internet terminal.

3.2.5 Conflicting Software

The following table lists software that conflicts with this product.

Admin server

The Systemwalker Software Configuration Manager admin server cannot coexist with the following software:

[Windows]

Product	V/L
<ul style="list-style-type: none"> - INTERSTAGE <li style="padding-left: 20px;">- INTERSTAGE Standard Edition <li style="padding-left: 20px;">- INTERSTAGE Enterprise Edition 	Cannot coexist with any version
<ul style="list-style-type: none"> - Interstage Application Server <li style="padding-left: 20px;">- INTERSTAGE Application Server Standard Edition <li style="padding-left: 20px;">- INTERSTAGE Application Server Enterprise Edition <li style="padding-left: 20px;">- INTERSTAGE Application Server Web-J Edition <li style="padding-left: 20px;">- Interstage Application Server Standard Edition <li style="padding-left: 20px;">- Interstage Application Server Standard-J Edition <li style="padding-left: 20px;">- Interstage Application Server Enterprise Edition <li style="padding-left: 20px;">- Interstage Application Server Plus <li style="padding-left: 20px;">- Interstage Application Server Plus Developer <li style="padding-left: 20px;">- Interstage Application Server Web-J Edition 	Cannot coexist with any version
<ul style="list-style-type: none"> - Interstage Application Framework Suite <li style="padding-left: 20px;">- Interstage Application Framework Suite Standard Edition <li style="padding-left: 20px;">- Interstage Application Framework Suite Enterprise Edition <li style="padding-left: 20px;">- Interstage Application Framework Suite Web Edition 	Cannot coexist with any version
<ul style="list-style-type: none"> - Interstage Business Application Server <li style="padding-left: 20px;">- Interstage Business Application Server Standard Edition <li style="padding-left: 20px;">- Interstage Business Application Manager 	Cannot coexist with any version
Interstage Job Workload Server	Cannot coexist with any version
Interstage Apcoordinator	Cannot coexist with any version
INTERSTAGE WEBCOORDINATOR	Cannot coexist with any version
Interstage BPM Flow	Cannot coexist with any version
Interstage Business Process Manager	Cannot coexist with any version
Interstage Shunsaku Data Manager	Cannot coexist with any version
Interstage Traffic Director	Cannot coexist with any version
Interstage Apworks	Cannot coexist with any version
Interstage Studio	Cannot coexist with any version
Interstage Service Integrator	Cannot coexist with any version
Interstage Service Integrator Standard Edition	Cannot coexist with any version
Interstage Service Integrator Enterprise Edition	Cannot coexist with any version
Interstage Security Director (Interstage Proxy)	Cannot coexist with any version
Interstage Web Server	Cannot coexist with any version
Interstage Web Server Express	Cannot coexist with any version

Product	V/L
ObjectDirector	Cannot coexist with any version
<ul style="list-style-type: none"> - Systemwalker Centric Manager - SystemWalker/CentricMGR - SystemWalker/CentricMGR-M - SystemWalker/CentricMGR EE - SystemWalker/CentricMGR SE - Systemwalker Centric Manager Enterprise Edition - Systemwalker Centric Manager Standard Edition 	<p>Can coexist only with Systemwalker Centric Manager Enterprise Edition and Systemwalker Centric Manager Standard Edition V10.0L21 or later (x86 version) (*1)</p> <p>Cannot coexist with any other version</p>
Systemwalker PKI Manager	Cannot coexist with any version
Systemwalker Runbook Automation (Management Server)	<p>Can coexist only with Systemwalker Runbook Automation V15.1.3 (*2)</p> <p>Cannot coexist with any other version</p>
Systemwalker Runbook Automation (Linked Server/Relay Server)	Cannot coexist with any version
Systemwalker Runbook Automation (Business Server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (linkage server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (business server)	Cannot coexist with any version
Systemwalker Service Quality Coordinator Enterprise Edition (dashboard server)	Cannot coexist with V13.4.0 or later
Securecrypto library	Cannot coexist with any version
TeamWARE Office Server	Cannot coexist with any version
TRADE MASTER	Cannot coexist with any version
Cloud infrastructure management software	Cannot coexist with any version

*1:

Refer to "Installing Systemwalker Centric Manager" in the *Installation Guide* for information on coexisting installation with Systemwalker CentricMGR V10.0L21 or later.

*2:

Refer to "Installing Systemwalker Runbook Automation" in the *Installation Guide* for information on coexisting installation with Systemwalker Runbook Automation V15.1.3.

[Linux]

Product	V/L
<ul style="list-style-type: none"> - Interstage Application Server - INTERSTAGE Application Server Standard Edition - INTERSTAGE Application Server Enterprise Edition - INTERSTAGE Application Server Web Edition - INTERSTAGE Application Server Web-J Edition 	Cannot coexist with any version

Product	V/L
<ul style="list-style-type: none"> - Interstage Application Server Standard Edition - Interstage Application Server Standard-J Edition - Interstage Application Server Enterprise Edition - Interstage Application Server Plus - Interstage Application Server Plus Developer - Interstage Application Server Web-J Edition 	
<ul style="list-style-type: none"> - Interstage Application Framework Suite - Interstage Application Framework Suite Standard Edition - Interstage Application Framework Suite Enterprise Edition - Interstage Application Framework Suite Web Edition 	Cannot coexist with any version
<ul style="list-style-type: none"> - Interstage Business Application Server - Interstage Business Application Server Standard Edition - Interstage Business Application Server Enterprise Edition 	Cannot coexist with any version
Interstage Job Workload Server	Cannot coexist with any version
Interstage BPM Flow	Cannot coexist with any version
Interstage Business Process Manager	Cannot coexist with any version
Interstage Shunsaku Data Manager	Cannot coexist with any version
Interstage Traffic Director	Cannot coexist with any version
Interstage Service Integrator	Cannot coexist with any version
Interstage Service Integrator Standard Edition	Cannot coexist with any version
Interstage Service Integrator Enterprise Edition	Cannot coexist with any version
Interstage Web Server	Cannot coexist with any version
<ul style="list-style-type: none"> - Systemwalker Centric Manager - Systemwalker Centric Manager Global Enterprise Edition - Systemwalker Centric Manager Enterprise Edition - Systemwalker Centric Manager Standard Edition 	Can coexist only with Systemwalker Centric Manager Enterprise Edition and Systemwalker Centric Manager Standard Edition V10.0L21 or later (x86 version) (*1) Cannot coexist with any other version
Systemwalker Runbook Automation (Management Server)	Can coexist only with Systemwalker Runbook Automation V15.1.3 (*2)

Product	V/L
	Cannot coexist with any other version
Systemwalker Runbook Automation (Linked Server/Relay Server)	Cannot coexist with any version
Systemwalker Runbook Automation (Business Server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (linkage server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (business server)	Cannot coexist with any version
Systemwalker Service Quality Coordinator Enterprise Edition (dashboard server)	Cannot coexist with V13.4.0 or later versions
Cloud infrastructure management software	Cannot coexist with any version

*1:

Refer to "Installing Systemwalker Centric Manager" in the *Installation Guide* for information on coexisting installation with Systemwalker CentricMGR V10.0L21 or later.

*2:

Refer to "Installing Systemwalker Runbook Automation" in the *Installation Guide* for information on coexisting installation with Systemwalker Runbook Automation V15.1.3.

Linkage server

The Systemwalker Software Configuration Manager linkage server cannot coexist with the following software:

Product	V/L
Systemwalker Runbook Automation (Management Server)	Cannot coexist with any version
Systemwalker Runbook Automation (Linked Server/Relay Server)	Can coexist only with Systemwalker Runbook Automation V15.1.3 (*1) Cannot coexist with any other version
Systemwalker Runbook Automation (Business Server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (admin server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (business server)	Cannot coexist with any version

*1:

Refer to "Installing Systemwalker Runbook Automation" in the *Installation Guide* for information on coexisting installation with Systemwalker Runbook Automation V15.1.3.

Business server

The Systemwalker Runbook Automation business server cannot coexist with the following software:

Product	V/L
Systemwalker Runbook Automation (Management Server)	Cannot coexist with any version
Systemwalker Runbook Automation (Linked Server/Relay Server)	Cannot coexist with any version
Systemwalker Runbook Automation (Business Server)	Can coexist only with Systemwalker Runbook Automation V15.1.3 (*1) Cannot coexist with any other version
Systemwalker Software Configuration Manager (admin server)	Cannot coexist with any version
Systemwalker Software Configuration Manager (linkage server)	Cannot coexist with any version

*1:

Refer to "Installing Systemwalker Runbook Automation" in the *Installation Guide* for information on coexisting installation with Systemwalker Runbook Automation V15.1.3.