



Systemwalker Service Quality Coordinator



Technical Guide

Windows/Solaris/Linux

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Preface

Purpose of this manual

This manual explains the functions and usage of Systemwalker Service Quality Coordinator.

Target audience

This manual is intended for users who have a general understanding of the operation and use of Systemwalker Service Quality Coordinator and are considering installing it.

Readers of this manual should also have a general understanding of basic operating system and GUI operations as well as a working knowledge of communications protocols such as TCP/IP and SMTP.

Organization of Systemwalker Service Quality Coordinator manuals

The Systemwalker Service Quality Coordinator manuals are organized as follows:

- Systemwalker Service Quality Coordinator Technical Guide
Provides an overview of the functions of Systemwalker Service Quality Coordinator.
- Systemwalker Service Quality Coordinator Installation Guide
Explains how to install and set up Systemwalker Service Quality Coordinator.
- Systemwalker Service Quality Coordinator User's Guide
Explains how to use the functions of Systemwalker Service Quality Coordinator.
- Systemwalker Service Quality Coordinator User's Guide (Console Edition)
Explains how to use those functions related to console windows.
- Systemwalker Service Quality Coordinator User's Guide (Dashboard Edition)
Explains how to use dashboard functions.
- Systemwalker Service Quality Coordinator Reference Guide
Explains commands, data formats, messages and so on.
- Systemwalker Service Quality Coordinator Troubleshooting Guide
Explains how to handle any problems that may occur.
- Systemwalker Service Quality Coordinator User's Guide (Website Management Functions Edition)
Explains the Systemwalker Service Quality Coordinator functions that relate to analyzing Web usage and monitoring Web content tampering.
- Systemwalker Service Quality Coordinator User's Guide (Systemwalker User Management and Single Sign-On Edition)
Explains how to install and use the Systemwalker User Management and Systemwalker Single Sign-On functions when Systemwalker Service Quality Coordinator is to be used.
- Systemwalker User's Guide - Systemwalker User Management and Single Sign-On
Explains how to install the Systemwalker User Management function and the Systemwalker Single Sign-On function.
- Systemwalker Service Quality Coordinator Glossary
This manual explains Systemwalker Service Quality Coordinator terminology.

Positioning of this document

This manual is common to the following Systemwalker Service Quality Coordinator products for Windows, Linux and Oracle Solaris:

- Systemwalker Service Quality Coordinator Enterprise Edition V15.0.1
- Systemwalker Service Quality Coordinator Standard Edition V15.0.1

Abbreviations

- The term "Windows Server 2012" refers to the following products:
 - Microsoft(R) Windows Server(R) 2012 Foundation
 - Microsoft(R) Windows Server(R) 2012 Standard
 - Microsoft(R) Windows Server(R) 2012 Datacenter
- The term "Windows Server 2008" refers to the following products:
 - Microsoft(R) Windows Server(R) 2008 R2 Foundation
 - Microsoft(R) Windows Server(R) 2008 R2 Standard
 - Microsoft(R) Windows Server(R) 2008 R2 Enterprise
 - Microsoft(R) Windows Server(R) 2008 R2 Datacenter
 - Microsoft(R) Windows Server(R) 2008 Foundation
 - Microsoft(R) Windows Server(R) 2008 Standard
 - Microsoft(R) Windows Server(R) 2008 Enterprise
 - Microsoft(R) Windows Server(R) 2008 Datacenter
 - Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(TM)
 - Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(TM)
 - Microsoft(R) Windows Server(R) 2008 Datacenter without Hyper-V(TM)
 - Microsoft(R) Windows Server(R) 2008 Standard Server Core
 - Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(TM) Server Core
 - Microsoft(R) Windows Server(R) 2008 Enterprise Server Core
 - Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(TM) Server Core
 - Microsoft(R) Windows Server(R) 2008 Datacenter Server Core
 - Microsoft(R) Windows Server(R) 2008 Datacenter without Hyper-V(TM) Server Core
- The term "Windows Server 2003" refers to the following products:
 - 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, Datacenter Edition
 - Microsoft(R) Windows Server(R) 2003, Standard Edition
 - Microsoft(R) Windows Server(R) 2003, Enterprise Edition
 - Microsoft(R) Windows Server(R) 2003, Datacenter Edition
- The term "Windows 8" refers to the following products:
 - Windows(R) 8

- Windows(R) 8 Pro
- Windows(R) 8 Enterprise
- The term "Windows 7" refers to the following products:
 - Windows(R) 7 Home Premium
 - Windows(R) 7 Professional
 - Windows(R) 7 Enterprise
 - Windows(R) 7 Ultimate
- The term "Windows Vista" refers to the following products:
 - Windows Vista(R) Home Basic
 - Windows Vista(R) Home Premium
 - Windows Vista(R) Business
 - Windows Vista(R) Enterprise
 - Windows Vista(R) Ultimate
- The term "Windows XP" refers to the following products:
 - Microsoft(R) Windows(R) XP Home Edition
 - Microsoft(R) Windows(R) XP Professional Edition
- Windows Server 2003 and Windows Server 2008 are referred to as "Windows Server 2008 and earlier".
- Windows Server 2008 and Windows Server 2012 are referred to as "Windows Server 2008 and later".
- Windows XP, Windows Vista, and Windows 7 are referred to as "Windows 7 and earlier".
- Windows Vista, Windows 7 and Windows 8 are referred to as "Windows Vista and later".
- Windows Server 2008 and earlier and Windows 7 and earlier are referred to as "Windows Server 2008/Windows 7 and earlier".
- Windows Server 2008 and later and Windows Vista and later are referred to as "Windows Server 2008/Windows Vista and later".
- Microsoft(R) SQL Server(TM) is abbreviated as "SQL Server".
- Microsoft(R) Cluster Server is abbreviated as "MSCS".
- Oracle Solaris might be described as Solaris, Solaris Operating System, or Solaris OS.
- Oracle Solaris zone might be described as Solaris container.
- Oracle WebLogic Server is abbreviated as "WebLogic Server".
- Oracle Database is abbreviated as "Oracle".
- Systemwalker Centric Manager is abbreviated as "Centric Manager".
- Systemwalker Resource Coordinator is abbreviated as "Resource Coordinator".
- Interstage Application Server is abbreviated as "Interstage".
- Symfoware Server is abbreviated as "Symfoware".
- VMware(R) ESX(R) is abbreviated as "VMware ESX" or "ESX".
- VMware(R) ESXi(TM) is abbreviated as "VMware ESXi" or "ESXi".
- VMware(R) vCenter(TM) is abbreviated as "VMware vCenter" or "vCenter".
- VMware vSphere(R) is abbreviated as "VMware vSphere".

- Versions of Systemwalker Service Quality Coordinator that operate under Windows are referred to as "Windows versions".
- Versions of Systemwalker Service Quality Coordinator that operate under Solaris are referred to as "Solaris versions".
- Versions of Systemwalker Service Quality Coordinator that operate under Linux are referred to as "Linux versions".
- Solaris and Linux versions of Systemwalker Service Quality Coordinator are referred to collectively as "UNIX versions".
- The term "Agent" is used to refer to articles common to both Agent for Server and Agent for Business.

Conventions used in this document

- Edition-specific information

This manual deals mainly with the Standard Edition and Enterprise Edition of Systemwalker Service Quality Coordinator. The following symbols appear in the title or text of an article to distinguish between the Standard Edition (standard specification) and the Enterprise Edition.

EE

This indicates that the article relates specifically to Systemwalker Service Quality Coordinator Enterprise Edition.

SE

This indicates that the article relates specifically to Systemwalker Service Quality Coordinator Standard Edition.

Also, Systemwalker Service Quality Coordinator Enterprise Edition referred to as "EE", and Systemwalker Service Quality Coordinator Standard Edition referred to as "SE".

- Information specific to Windows or UNIX versions

This document contains information common to both Windows versions and UNIX versions of Systemwalker Service Quality Coordinator. Information specific to only the Windows versions and information specific to only the UNIX versions are distinguished from common information by attaching the following symbols:

[Windows]

This indicates that the article relates specifically to Windows versions.

[UNIX]

This indicates that the article relates specifically to UNIX versions.

The symbols **[Solaris]**, **[Linux]**, **[AIX]**, and **[HP-UX]** are used to distinguish Solaris, Linux, AIX, and HP-UX versions of Systemwalker Service Quality Coordinator.

If notice should be paid, the information is distinguished from common information by attaching the following symbols:

S

This indicates that the article relates specifically to Solaris versions.

L

This indicates that the article relates specifically to Linux versions.

Symbols

The symbols used with commands are explained below.

[Entry example]

[PARA={a | b | c |...}]

[Meaning of each symbol]

Symbol	Meaning
[]	Items enclosed in square brackets are optional.
{ }	Select one of the items enclosed in braces ({ }).
__	When all optional items enclosed in square brackets ([]) are omitted, the default value indicated by an underscore (_) is used.
	Select one of the items separated by vertical bars.
...	The item immediately before the ellipsis (...) can be repeatedly specified.

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This guide uses screenshots in accordance with Microsoft Corporation's guidelines.

Acknowledgement

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)

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Contents

Chapter 1 Product Overview.....	1
1.1 Features of Systemwalker Service Quality Coordinator.....	1
1.2 Product organization.....	1
1.2.1 Edition.....	1
1.2.2 Installation Types.....	2
1.2.3 Installation Types Corresponding to Management Types.....	3
1.2.4 Supported middleware product.....	5
1.3 Function Organization.....	11
1.3.1 Management types.....	11
1.3.2 Display and analysis functions.....	12
Chapter 2 Configuration Models.....	14
2.1 Basic model comprising a Manager and Agents.....	14
2.2 Relay model using Proxy Managers.....	15
2.3 Response management model using Browser Agents.....	16
2.4 Operation Model for Agents for Agentless Monitoring.....	16
2.5 Two-tier Manager Operation Model.....	18
2.6 Manager redundancy model.....	19
2.7 Cluster System Operation Model.....	19
2.8 Dashboard Operation Model.....	21
2.9 Linking Model to ServerView Resource Orchestrator Cloud Edition.....	21
2.10 Communication Modes.....	21
2.10.1 Communication mode using the Push method.....	21
2.10.2 Communication mode using the Pull method.....	23
Chapter 3 Product Architecture.....	26
3.1 Overview.....	26
3.1.1 Monitoring and assessment functions.....	26
3.1.2 Basic Component Configuration.....	27
3.1.3 Collection policies and configuration information.....	28
3.1.3.1 Policy distribution functions.....	28
3.2 Components.....	29
3.2.1 Agent.....	29
3.2.1.1 Agent for Agent-based Monitoring.....	31
3.2.1.2 Agent for Agentless Monitoring.....	33
3.2.2 Manager.....	34
3.2.3 Proxy Manager.....	36
3.2.4 Operation Management Client.....	36
3.2.5 Enterprise Manager.....	37
3.3 Overview of Display Windows.....	39
3.3.1 Monitoring Window.....	39
3.3.1.1 Summary function.....	39
3.3.1.2 Drilled-Down function.....	39
3.3.2 Analysis/Planning Window and Scheduled Reports Window.....	40
3.3.2.1 Analysis/Planning function.....	40
3.3.2.2 Scheduled report function.....	41
3.3.3 Dashboard.....	42

Chapter 1 Product Overview

This chapter provides an overview of Systemwalker Service Quality Coordinator.

1.1 Features of Systemwalker Service Quality Coordinator

Systemwalker Service Quality Coordinator is a software product designed to support overall system optimization by enabling the quality of the services provided by an IT system to be represented visually. It will enable the user to conduct the following types of operation management:

- Early detection of any deterioration in performance
Systemwalker Service Quality Coordinator can collect and accumulate a range of information from the components of an IT system - such as information relating to response times, kernel resource performance, application server performance, and database performance - and use this data to display comparisons and trends from a variety of viewpoints. It can also monitor thresholds to identify signs of deteriorating performance.
- Reduced business recovery time
Systemwalker Service Quality Coordinator continually collects information needed for troubleshooting. It also provides analytical functions for primary fault isolation. Information to be continually collected can also be provided in the form of templates containing items that have been carefully selected based on Fujitsu's expertise in system operation. This enables the user to automatically collect and accumulate the information needed for performance management, even without advanced performance-related skills.
- Improved availability
The product allows the user to ascertain the service level of the entire system and the resource balance of individual servers. This makes it possible to:
 - Improve the operating efficiency of each server
 - Employ designs that optimize server resources
 - Employ designs that optimize system resources

This can contribute to making the operation of the whole system more stable.

1.2 Product organization

The section explains the product organization of Systemwalker Service Quality Coordinator.

1.2.1 Edition

Systemwalker Service Quality Coordinator is available in the following two editions:

Systemwalker Service Quality Coordinator Standard Edition

Provides management functions in standard environments.

Systemwalker Service Quality Coordinator Enterprise Edition

Provides all the functions of the Standard Edition and is also suited to the following environments:

Large-scale system operation

Supports large-scale system management by performing load distribution using a two-tier Manager configuration.

High-reliability system operation

- Redundant operation
Increases the availability of operation management by making the Manager dual so that redundant operation can be performed.
- Cluster system operation
Provides support for cluster systems so that if a problem occurs in one Manager node, management operations can switch to another node that is functioning normally. It is also possible to monitor Agents in cluster system configurations.
The following cluster systems are supported:
 - Microsoft(R) Cluster Server/Failover Clustering
 - Fujitsu PRIMECLUSTER

Dashboard operation

The dashboard provides a customizable display of important information extracted from the array of data collected by the Systemwalker Service Quality Coordinator, making the information readily available for day to day oversight and operations. While the console provides a standard fixed view for Systemwalker Service Quality Coordinator data, the display of the dashboard is highly customizable, so you can create a presentation of data that is most appropriate for your needs.

Using the Analytics Studio provided with Systemwalker Service Quality Coordinator, individual users create their own dashboards that contain only the information they need, in the exact layout they want, showing graphs in the format they choose. The dashboards they create can then be viewed with a Web browser.

1.2.2 Installation Types

Systemwalker Service Quality Coordinator uses an agent function installed on a managed server to collect information. The information collected by each Agent is then managed collectively by a Manager. The following table explains different installation types.

Installation types	Function
Enterprise Manager	Centrally manages the Managers located in each section. It can manage large-scale systems by constructing Managers in two tiers and performing load distribution. (Enterprise Edition only)
Manager	Collectively manages the information collected by Agents and Proxy Manager. Manager can also act as servers for receiving information collected by Browser Agents and monitoring the operational status of services (HTTP/S, DNS, SMTP, or any port).
Proxy Manager	Provides relay functions between Managers and Agents. If Managers and Agents have been separated by a firewall, site security can be enhanced by placing a Proxy Manager (which relays communications between Managers and Agents) on the site where the Agents reside. Proxy Managers also substitute for the role (normally performed by Managers) of the server that receives information collected by Browser Agents and monitors the operational status of services (HTTP/S, DNS, SMTP, any port).
Operation Management Client	Connects to a Manager or Enterprise Manager to provide console functions for management and control. As well as being able to operate from a machine where an operation management client is installed, the person conducting operation management can also use a Web browser to connect to an operation management client from another machine to perform management operations. Only Windows can be used as the operation platform. When the Manager or Enterprise Manager platform is Windows,

Installation types	Function
	Manager/Enterprise Manager and the operation management client can be installed on the same server.
Agent for Server	Manages resource information within servers.
Agent for Business	Manages resources relating to the following business systems, in addition to the Agent for Server functions: Web servers Application servers Database servers
Browser Agent	Uses information about an end user accessing a Web server to measure the response actually felt by the end user. Only Windows can be used as the operation platform.

Note that there is also an agent for Agentless Monitoring that can monitor remotely from the Manager. This agent for Agentless Monitoring function is included with the Manager/Proxy Manager.

1.2.3 Installation Types Corresponding to Management Types

The relationship between management types and installation types is shown in the following table using "Yes". In this table, installation types are abbreviated as follows:

- **EM** : Enterprise Manager
- **M** : Manager
- **PM** : Proxy Manager
- **AS** : Agent for Server
- **AB** : Agent for Business
- **AL** : Agent for Agentless Monitoring
- **BA** : Browser Agent

Management type		Corresponding installation type						
		EM	M	PM	AB	AS	AL	BA
Service level management								
	OS							
	Summary information about the CPU, memory, and disk	Yes	Yes	Yes	Yes	Yes	Yes	
	In addition to the above summary information, this includes other information for diagnosis, such as processes, networks, and IPC resources.	Yes	Yes	Yes	Yes	Yes		
	Virtual environment							
	VMware						Yes	
	Hyper-V				Yes	Yes	Yes	

Management type		Corresponding installation type						
		EM	M	PM	AB	AS	AL	BA
	Linux virtualization function(KVM)				Yes	Yes	Yes	
	Linux virtualization function(Xen)				Yes	Yes	Yes	
	Solaris container				Yes	Yes	Yes	
Service								
	Service operational management		Yes	Yes				
End user response								
	End user response management							Yes
Web Server								
	Web transaction management		Yes	Yes	Yes			
Application Server								
	Interstage Application Server	Yes	Yes	Yes	Yes	Yes		
	Oracle WebLogic Server	Yes	Yes	Yes	Yes			
	Microsoft .NET Server	Yes	Yes	Yes	Yes	Yes		
	SAP NetWeaver	Yes	Yes	Yes	Yes			
Database Server								
	Symfoware Server	Yes	Yes	Yes	Yes			
	Oracle Database Server	Yes	Yes	Yes	Yes			
	Microsoft SQL Server	Yes	Yes	Yes	Yes			
Service Bus								
	Interstage Service Integrator	Yes	Yes	Yes	Yes			
Job								
	Systemwalker Operation Manager	Yes	Yes	Yes	Yes	Yes		
Network								
	Systemwalker Centric Manager	Yes	Yes	Yes	Yes	Yes		
	Systemwalker Resource Coordinator	Yes	Yes	Yes	Yes	Yes		
Strage								
	ETERNUS SF Storage Cruiser	Yes	Yes	Yes	Yes	Yes		
Resource management								
	ServerView Resource Orchestrator		Yes (*1)					
ECO								

Management type		Corresponding installation type						
		EM	M	PM	AB	AS	AL	BA
	Power and temperature		Yes	Yes				
	User data							
	User data management	Yes	Yes	Yes	Yes	Yes		
Web usage management								
	Usage analysis		Yes		Yes			
	Tampering monitoring		Yes		Yes			

*1: The ServerView Resource Orchestrator Manager, collects the resource pool performance information of ServerView Resource Orchestrator.

Refer to "1.3.1 Management types" for details on management types.

Point

- Managers and Proxy Managers include functions equivalent to those of Agent for Business.
- If Agent functions need to be used on an Enterprise Manager, Manager or Proxy Manager, the following method can be used to register the Enterprise Manager, Manager or Proxy Manager with the Console as an Agent:
 - Set up a policy on the Enterprise Manager, Manager or Proxy Manager.
 - Use the policy distribution function on the Operation Management Client.

There is no need to install an Agent separately.

1.2.4 Supported middleware product

The following table shows the middleware products supported by Systemwalker Service Quality Coordinator.



Middleware	Platform	V/L	Edition
Interstage Application Server (*1)(*2)(*3)(*4)	Windows(x86)	V6.x	Standard Edition Enterprise Edition Plus
		V7.x	Standard Edition Enterprise Edition Plus
		V8.x	Standard-J Edition Enterprise Edition
		V9.x	Standard-J Edition Enterprise Edition
		V10.x	Standard-J Edition Enterprise Edition
		V11.0	Standard-J Edition Enterprise Edition
	Windows(x64)	V9.x	Standard-J Edition Enterprise Edition

Middleware	Platform	V/L	Edition	
		V10.x	Standard-J Edition Enterprise Edition	
		V11.0	Standard-J Edition Enterprise Edition	
	Solaris	6.x	Standard Edition Enterprise Edition Plus	
		7.x	Standard Edition Enterprise Edition Plus	
		V8.x	Standard-J Edition Enterprise Edition	
		V9.x	Standard-J Edition Enterprise Edition	
		V10.x	Standard-J Edition Enterprise Edition	
		V11.0	Standard-J Edition Enterprise Edition	
		Linux(x86)	V6.x	Standard Edition Enterprise Edition Plus
	V7.x		Standard Edition Enterprise Edition Plus	
	V8.x		Standard-J Edition Enterprise Edition	
	V9.x		Standard-J Edition Enterprise Edition	
	V10.x		Standard-J Edition Enterprise Edition	
	V11.0		Standard-J Edition Enterprise Edition	
	Linux(Intel64)	V9.x	Standard-J Edition Enterprise Edition	
		V10.x	Standard-J Edition Enterprise Edition	
		V11.0	Standard-J Edition Enterprise Edition	
	Oracle WebLogic Server (*5)(*6)	Windows(x86)	11gR1(1 0.3.5)	Standard Edition Enterprise Edition WebLogic Suite
			12c(12.1. 1)	Standard Edition Enterprise Edition WebLogic Suite
		Windows(x64)	11gR1(1 0.3.5)	Standard Edition Enterprise Edition WebLogic Suite

Middleware	Platform	V/L	Edition
		12c(12.1.1)	Standard Edition Enterprise Edition WebLogic Suite
	Solaris	11gR1(10.3.5)	Standard Edition Enterprise Edition WebLogic Suite
		12c(12.1.1)	Standard Edition Enterprise Edition WebLogic Suite
	Linux(x86)	11gR1(10.3.5)	Standard Edition Enterprise Edition WebLogic Suite
		12c(12.1.1)	Standard Edition Enterprise Edition WebLogic Suite
	Linux (x64)	11gR1(10.3.5)	Standard Edition Enterprise Edition WebLogic Suite
		12c(12.1.1)	Standard Edition Enterprise Edition WebLogic Suite
	Microsoft .NET Server	Windows	2003
2008			-
SAP NetWeaver	Windows(x86)	7.0	-
	Windows(x64)	7.0	-
	Solaris	7.0	-
	Linux(x86)	7.0	-
	Linux(x64)	7.0	-
Symfoware Server	Windows for x86	V8.x	Enterprise Edition
		V10.1	Standard Edition Enterprise Edition
	Windows for x64	V10.1	Standard Edition Enterprise Edition
	Solaris	V8.0	Enterprise Extended Edition
	Linux for x86	V8.x	Enterprise Extended Edition
		V10.1	Standard Edition Enterprise Edition
	Linux for x64	V10.1	Standard Edition Enterprise Edition
Oracle Database Server	Windows	9i	Standard Edition Enterprise Edition
		10g	Standard Edition Enterprise Edition
		11g	Standard Edition Enterprise Edition

Middleware	Platform	V/L	Edition
	Solaris	9i	Standard Edition Enterprise Edition
		10g	Standard Edition Enterprise Edition
		11g	Standard Edition Enterprise Edition
	Linux	9i	Standard Edition Enterprise Edition
		10g	Standard Edition Enterprise Edition
		11g	Standard Edition Enterprise Edition
Microsoft SQL Server	Windows	2000	Workgroup Standard Enterprise
		2005	Workgroup Standard Enterprise
		2008	Workgroup Standard Enterprise
		2012	Standard Business Intelligence Enterprise
Systemwalker Operation Manager	Windows	V11.x	Standard Edition Enterprise Edition
		V12.x	Standard Edition Enterprise Edition
		V13.2 V13.3	Standard Edition Enterprise Edition
	Solaris	11.x	Standard Edition Enterprise Edition
		12.x	Standard Edition Enterprise Edition
		V13.2 V13.3	Standard Edition Enterprise Edition
	Linux	V11.x	Standard Edition Enterprise Edition
		V12.x	Standard Edition Enterprise Edition
		V13.2 V13.3	Standard Edition Enterprise Edition
Systemwalker Centric Manager	Windows	V10.x	Standard Edition Enterprise Edition
		V11.x	Standard Edition Enterprise Edition

Middleware	Platform	V/L	Edition	
		V12.x	Standard Edition Enterprise Edition	
		V13.1 V13.2 V13.3 V13.4 V13.5 V13.6	Standard Edition Enterprise Edition	
	Solaris	10.x	Standard Edition Enterprise Edition	
		11.x	Standard Edition Enterprise Edition	
		12.x	Standard Edition Enterprise Edition	
		V13.1 V13.2 V13.3 V13.4 V13.5	Standard Edition Enterprise Edition	
	Linux	V11.x	Standard Edition Enterprise Edition	
		V12.x	Standard Edition Enterprise Edition	
		V13.1 V13.2 V13.3 V13.4 V13.5	Standard Edition Enterprise Edition	
	Systemwalker Resource Coordinator	Windows	V13.1 V13.2	-
			Solaris	12.x
			V13.0 V13.2	-
		Linux	V12.x	-
V13.0 V13.1 V13.2			-	
ETERNUS SF Storage Cruiser	Windows	13.x	-	
		14.x	-	
		15.0	-	
	Solaris	13.x	-	
		14.x	-	
		15.0	-	
	Linux	13.x	-	
		14.x	-	
		15.0	-	

Middleware	Platform	V/L	Edition
ServerView Resource Orchestrator	Windows	V3.1	Cloud Edition
	Linux	V3.1	Cloud Edition
VMware (*7)		3.5	ESX
		4.0	ESX
		4.1	ESX ESXi
		5.0 5.1	ESXi vCenter
Hyper-V (*7)(*8)	Windows	2008	Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2008 Datacenter
		2008 R2	Windows Server 2008 R2 Standard Windows Server 2008 R2 Enterprise Windows Server 2008 R2 Datacenter
Linux virtualization function (KVM) (*7)	Linux		Red Hat Enterprise Linux 6.2 or later
Linux virtualization function (Xen) (*7)	Linux		Red Hat Enterprise Linux 5
Solaris container (*7)	Solaris		<p>Solaris 11</p> <p> Point</p> <p>.....</p> <p>If a Solaris container is to be monitored, the usage status of zone resources can be checked from the global zone.</p> <p>.....</p> <p> Note</p> <p>.....</p> <p>If a container of Solaris 10 is to be monitored, installing an Agent in each zone allows the usage status of the resources in each zone to be checked.</p> <p>.....</p>

*1: Interstage Application Server's multi-system function is not supported.

*2: Performance monitoring of Interstage Application Server in the Java EE environment is supported in Interstage Application Server V10.0 or later.

*3: Transaction breakdown analysis of Interstage Application Server in the Java EE environment is supported in Interstage Application Server V11.0 or later.

*4: The range of support for middleware on 64-bit Windows or Linux systems is as follows:

- For 32-bit version Systemwalker Service Quality Coordinator

Supports Interstage Application Server that operates in 32-bit compatible mode as a 32-bit application.

- For 64-bit version Systemwalker Service Quality Coordinator

Supports Interstage Application Server that operates in 64-bit mode as a 64-bit application.

*5: This products support only in case JRockit is used as JavaVM

*6: The range of support for middleware on 64-bit Windows or Linux systems is as follows:

- For 32-bit version Systemwalker Service Quality Coordinator

Supports Oracle WebLogic Server that operates in 32-bit compatible mode as a 32-bit application.

- For 64-bit version Systemwalker Service Quality Coordinator

Supports Oracle WebLogic Server that operates in 64-bit mode as a 64-bit application.

*7: Totally up to about 300 virtual guests of VMware, Hyper-V, Linux virtualized functions (Xen), Linux virtualized function (KVM), and Solaris container can be managed.

*8: To collect memory information on virtual environment, the Dynamic Memory feature that was added in Windows Server 2008 R2 Service Pack 1 or later is required.

1.3 Function Organization

This section describes the organization of functions provided by Systemwalker Service Quality Coordinator.

1.3.1 Management types

The different types of management that can be performed with Systemwalker Service Quality Coordinator can be generally categorized as "Service level management" and "Web usage management", as shown in the following table.

Management type	Overview
Service level management	
OS	Manages the performance of the operating system/kernel for each platform (Windows, Solaris, Linux).
Virtual environment	Manages the resource information of virtual server. <ul style="list-style-type: none"> - VMware - Hyper-V - Linux virtualization function(KVM) - Linux virtualization function(Xen) - Solaris container
Service	Manages the operational status of each service (HTTP/S, DNS, SMTP, or any port).
End user response	Manages the response times that end users experience when they access the Web server.
Web Server	Manages the web transaction (number of requests to the Web system, and the response times for each request).
Middleware performance management	Manages the performance of the following middleware: <ul style="list-style-type: none"> - Interstage Application Server - Microsoft .NET Server - SAP NetWeaver - Symfoware Server

Management type		Overview
		<ul style="list-style-type: none"> - Oracle Database Server - Microsoft SQL Server - Systemwalker Centric Manager - Systemwalker Operation Manager - Systemwalker Resource Coordinator - ETERNUS SF Storage Cruiser - ServerView Resource Orchestrator
	ECO information (power and temperature)	<p>Uses SNMP MIB interfaces in general use to manage ECO information (power and temperature) on each model (e.g. server).</p> <p>Management is possible on devices that provide power and temperature MIB data.</p> <p>For details about the prerequisites for devices that can be managed, refer to Section 7.1, "Overview of Measurements Taken" in the <i>User's Guide</i>.</p>
	User data management	Manages user-specific data (in CSV format), such as job data and system operational data.
Web usage management		Refer to the Systemwalker Service Quality Coordinator User's Guide (Website Management Functions Edition) for information on these functions.
	Usage analysis	Supports the provision of products and services that meet customer needs by analyzing Website usage from a variety of viewpoints.
	Tampering monitoring	Provides functions that periodically inspect Web contents and detect tampering.

1.3.2 Display and analysis functions

Systemwalker Service Quality Coordinator provides the following display and analysis functions:

- Console
- Dashboard

Console

Console of Systemwalker Service Quality Coordinator provides the following display and analysis functions:

- Summary display
This display function enables users to quickly understand the current status of the entire system.
- Drilled-Down display
This function displays detailed information when problems occur. While the summary display shows only an overview of the entire system, the Drilled-Down display shows detailed information for each resource.
- **Analysis/Planning** window and **Scheduled Report** window
This window displays regular reports for periodic inspection and reporting purposes. The Analysis/Planning window allows reports to be displayed on demand.

The Scheduled Report function automatically outputs daily, weekly and monthly reports by setting up report criteria in advance and registering these with the scheduler.

Refer to "[3.3 Overview of Display Windows](#)" and *User's Guide (Console Edition)* for details.

Dashboard

A dashboard is provided in the Enterprise Edition.

The dashboard provides a customizable display of important information extracted from the array of data collected by the Systemwalker Service Quality Coordinator, making the information readily available for day to day oversight and operations.

While the console provides a standard fixed view for Systemwalker Service Quality Coordinator data, the display of the dashboard is highly customizable, so you can create a presentation of data that is most appropriate for your needs.

The dashboard is mainly used by managers to view the status of areas of the system they are responsible for.

Chapter 2 Configuration Models

This section explains how Systemwalker Service Quality Coordinator products can be combined.

2.1 Basic model comprising a Manager and Agents

This is the most basic model. It consists of a Manager and a number of Agents.



- Each Agent collects performance information from their local server. The information that is collected is then managed collectively on the Manager.
- The Manager can monitor the operation of managed services such as HTTP and DNS by regularly polling each service and confirming its response.
- In the above diagram, the operation management client and the Manager are located on separate machines. However, if the Manager is installed on a Windows machine, it can be installed on the same machine as the operation management client.

Note

When the Manager is operating in a cluster system, the Manager and the operation management client cannot be installed on the same machine.

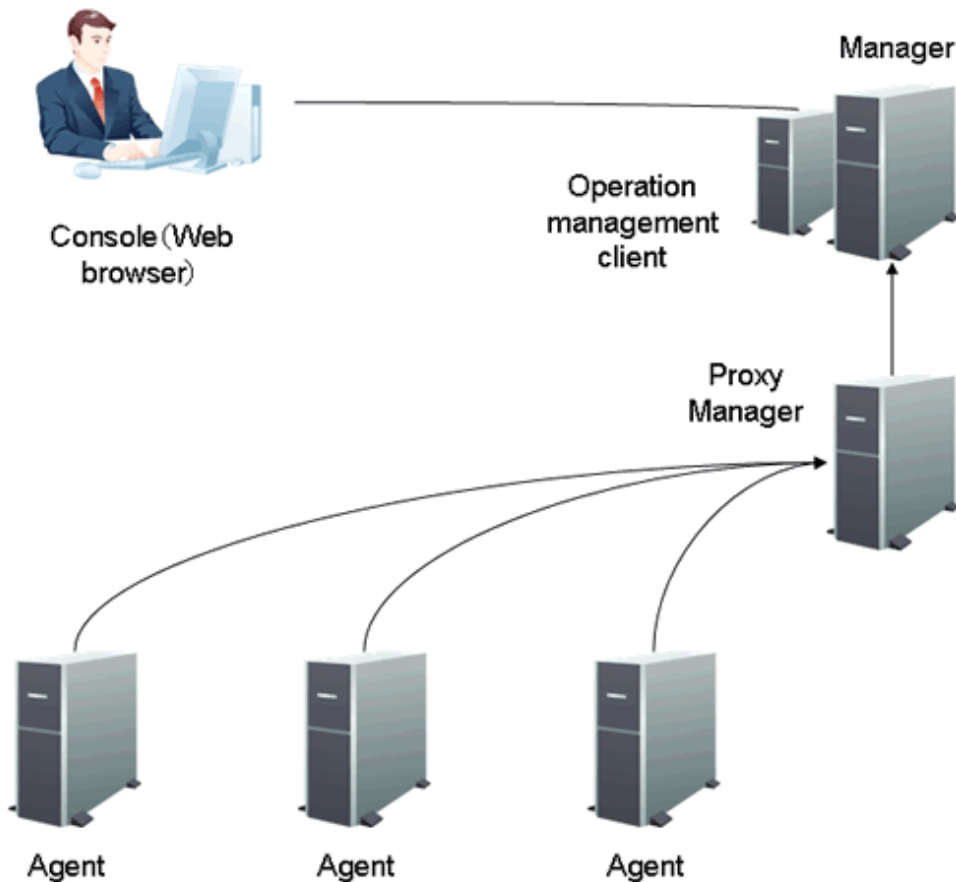
(Cluster system operation is a function provided by the Enterprise Edition.)

- In addition to using the operation management client, the system administrator can conduct operation management from a Web browser located on a separate machine. In this case, the system administrator connects to the operation management client via HTTP as shown in the diagram above.

- With normal operation, one Manager can manage up to approximately 50 Agents, but the maximum number of Agents that can be managed depends on the disk performance of the Manager.
- By splitting the Manager physical disk into summary data, resource data and archive files, the number of Agents that can be managed by one Manager can be extended to approximately 300.
Refer to Section "Changing the PDB/Archive File Storage Location" in the *Installation Guide* for details on how to split the disk.

2.2 Relay model using Proxy Managers

In this model, communications between Managers and Agents are relayed by Proxy Managers.



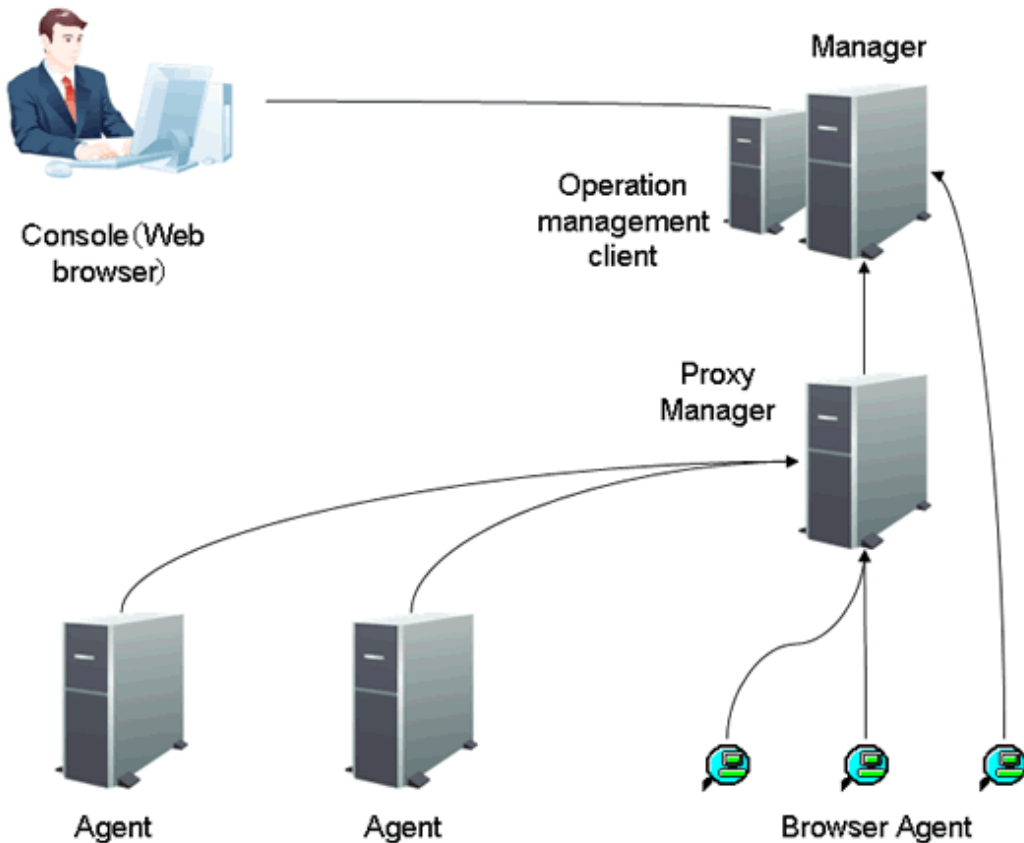
- Each Agent collects performance information from their local server. The information that is collected is then passed through the Proxy Manager to the Manager where it is managed collectively.
- The Proxy Manager can monitor the operation of managed services such as HTTP and DNS by regularly polling each service and confirming its response. (It substitutes for the Manager function.)
- When Manager and Agent are separated by a firewall, Proxy Manager can be placed on the Agent side and used as a relay to consolidate communications and improve the security of a site.
- With normal operation, one Manager can manage up to approximately 50 Agents and Proxy Managers, but the maximum number of Agents and Proxy Managers that can be managed depends on the disk performance of the Manager.
- By splitting the Manager physical disk into summary data, resource data and archive files, the number of Agents that can be managed by one Manager can be extended to approximately 300.

Refer to Section "Changing the PDB/Archive File Storage Location" in the *Installation Guide* for details on how to split the disk.

- Only "Push" operations can be used between Managers and Agents.

2.3 Response management model using Browser Agents

This model uses Browser Agents to measure the response times felt by end users.



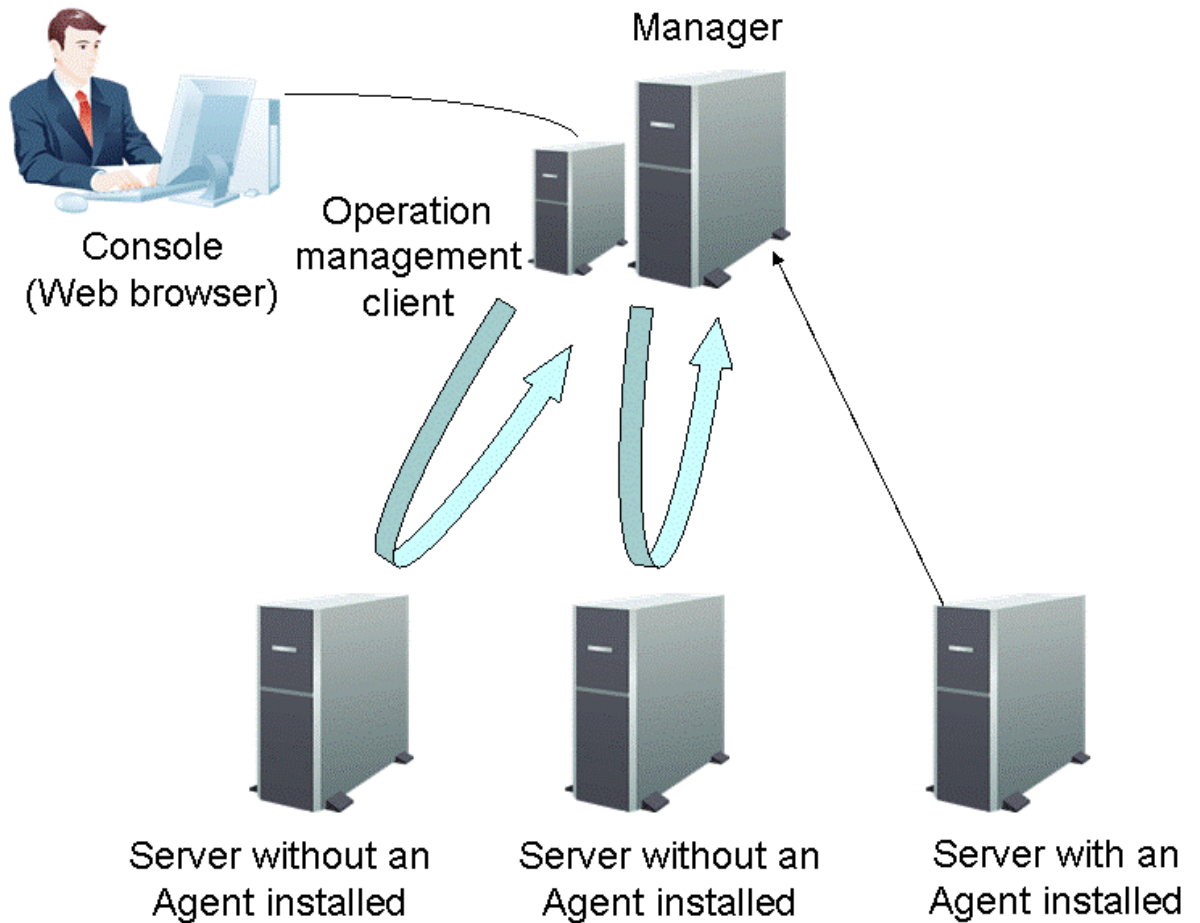
- A Browser Agent is installed on an end user machine that is to be measured.
- The Website to be measured, the name of the Browser Agent (identifier), and the location where the measured response information is to be sent are registered with the Browser Agent in advance.
- The Browser Agent measures response times only when the Web browser is used to access the particular Website that is to be measured.
- Response information can be sent to Managers and Proxy Managers.

Note

However, if the Manager is used in redundant configurations, response information can be sent to Proxy Managers only.

2.4 Operation Model for Agents for Agentless Monitoring

This model describes monitoring by an agent for Agentless Monitoring used when a server does not have an Agent installed.



- The Manager/Proxy Manager remotely collects performance information from servers that do not have Agents installed. The information that is collected is then managed collectively on the Manager.
- The Manager can collectively manage both servers with Agents installed and servers without Agents installed.
- One Manager can manage about 300 servers. The exact number, however, depends on the Manager's disk performance and memory usage.
- If a server already has an Agent installed on it, then you cannot monitor performance from the monitoring server (Manager) that an Agent is connected to using an agent for Agentless Monitoring. Attempts to perform such a connection may result in inconsistencies in the data collected.

Point

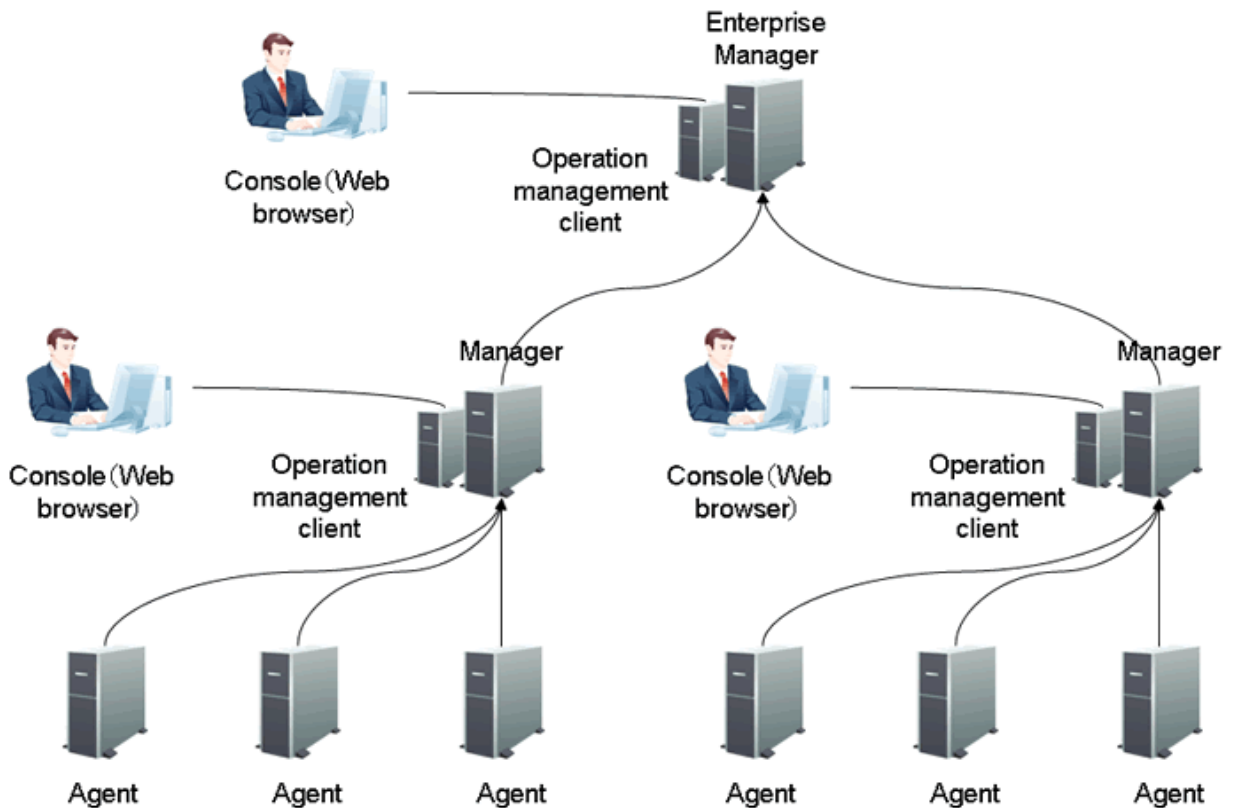
.....

About the number of servers to be able to manage

- When collecting information from virtual resources (VMware, Hyper-V, Linux virtualized functions (Xen), Linux virtualized function (KVM), and Solaris container), count the number of virtual machines
 - When collecting information from OS(Windows, Linux, Solaris, AIX, HP-UX), count the number of servers to be monitored.
-

2.5 Two-tier Manager Operation Model

In this model, a Manager is installed for each section and Enterprise Manager conducts centralized management of the entire system from the Center. By constructing the Manager in two tiers, it becomes possible to manage large-scale systems.



- Centralized management of the entire system is normally performed from an operation management client connected to Enterprise Manager. However, it is also possible to manage each section from the operation management clients connected to the Managers while managing the entire system from the operation management client connected to the Enterprise Manager. To do this, parameters must be specified with the two-tier Manager setup command when the environment is created.
- The total number of Agents and Proxy Managers that can be managed by a single Manager is about 50. By splitting the Manager physical disk into summary data, resource data and archive files, the number of Agents that can be managed by one Manager can be extended to approximately 300. Refer to Section "Changing the PDB/Archive File Storage Location" in the *Installation Guide* for details on how to split the disk. And normally a single Enterprise Manager can manage about 10 Managers, meaning that about 500 Agents and Proxy Managers can be managed in a two-tier operation. Further, changing the method of storing the performance data can increase the number of Managers that a single Enterprise Manager can manage. To do this, parameters must be specified with the two-tier Manager setup command. Refer to "3.2.5 Enterprise Manager" for details.
- Only the "Push" communication method can be used in this configuration model. Refer to "2.10.1 Communication mode using the Push method" for details on the push method.

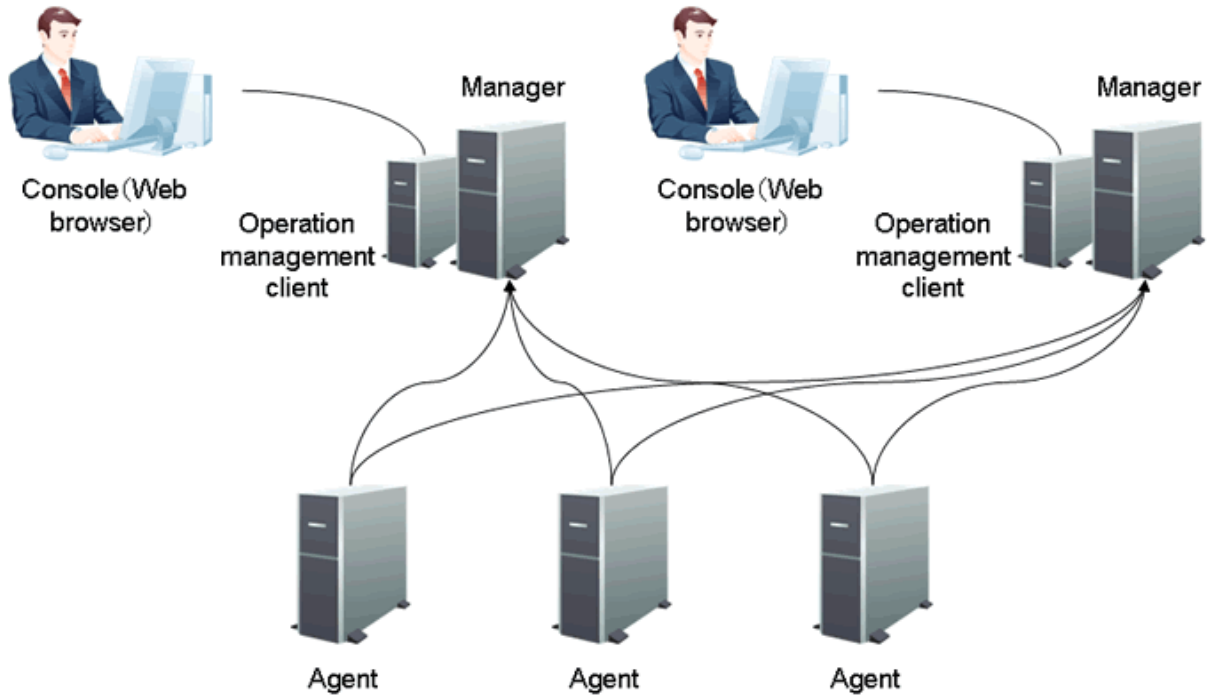
Note

Two Managers performing redundant operations cannot connect to a single Enterprise Manager.

2.6 Manager redundancy model

In this model, two Managers are used to manage the same system. This means that if one node fails, it is possible to continue management operations by switching to the other node.

Even if one Manager cannot be used due to a network fault, etc., this system permits the Manager connected to a functioning network to take over management operations. This differs from the redundancy that is achieved using a cluster system.



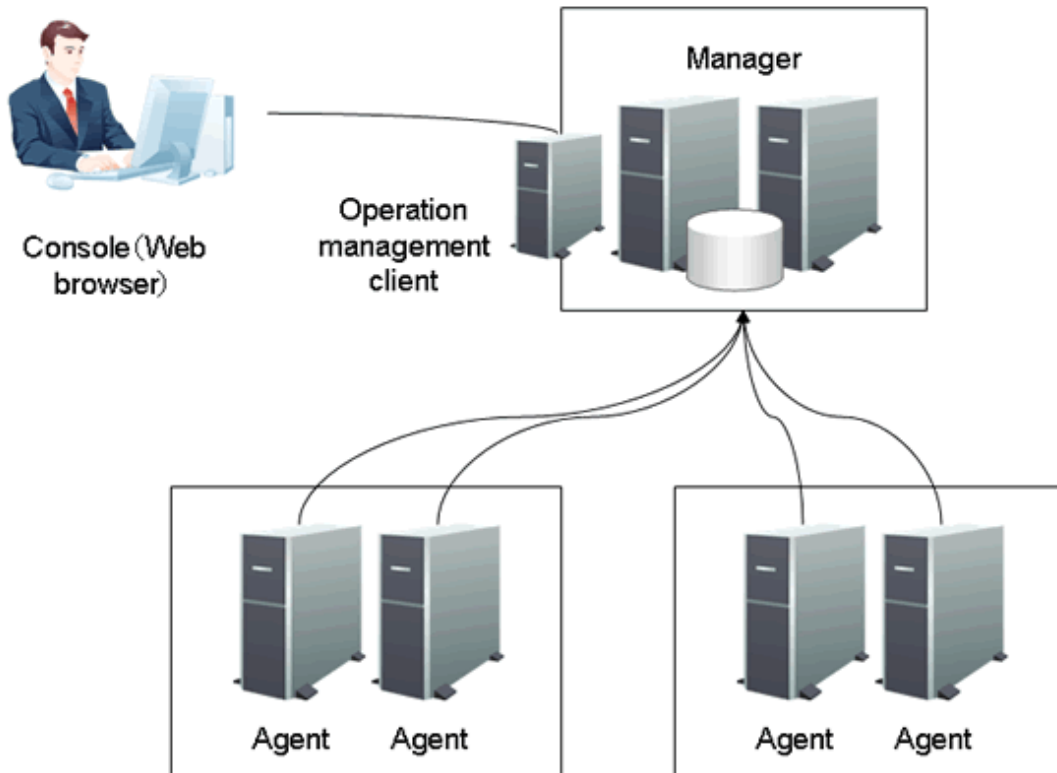
Note

- If Agent functions are used on Managers, performance information collected by one Manager cannot be used by another Manager.
When an Enterprise Manager is used as the host server of Managers in a redundant configuration, a separate instance of Enterprise Manager must be provided for each Manager.
- When performance information is managed by using the agent for Agentless Monitoring function on each Managers in a redundant configuration, the value of the performance data might not be corresponding because of the difference of the collected timing.

2.7 Cluster System Operation Model

The management mechanism provided by an Enterprise Manager and a Manager can be operated in a cluster system. This improves the availability of management operations because if a problem develops on one node, operations can continue on the remaining normal node.

A Proxy Manager and an Agent can monitor each servers that configure a cluster system.



Cluster system operation and corresponding installation types

- Enterprise Manager
An Enterprise Manager can be used in cluster configurations.
- Manager
A Manager can be used in cluster configurations.
- Proxy Manager
The servers making up a cluster system can be monitored individually.
- Agent for Business
The servers making up a cluster system can be monitored individually.
- Agent for Server
The servers making up a cluster system can be monitored individually.
- Agent for Agentless Monitoring
The servers making up a cluster system can be monitored individually. To do so, they must be able to communicate with the physical IP address of each server.

Note

- When collecting the performance information of Managers or Enterprise Managers that make up a cluster system, performance information cannot be collected at the standby node.
- If an Agent for Server, Agent for Business or Proxy Manager is installed on servers making up a cluster system, each of the servers in the cluster system is monitored individually. For this reason, performance information cannot be collected from middleware and other software that is not running on the standby node.



2.8 Dashboard Operation Model

The dashboard provides a customizable display of important information extracted from the array of data collected by the Systemwalker Service Quality Coordinator, making the information readily available for day to day oversight and operations. While the console provides a standard fixed view for Systemwalker Service Quality Coordinator data, the display of the dashboard is highly customizable and users can create a presentation of data that is most appropriate for their needs. The console and dashboard have different roles, for instance:

Console

The system administrator uses the console to review and analyze operations occurring across the entire system.

Dashboard

The dashboard is used by managers to view the status of areas of the system they are responsible for.

Individual users employ the Analytics Studio (provided with Systemwalker Service Quality Coordinator) to create their own dashboard's which contain only the information they need, in the exact layout they want, showing graphs in the format they choose. These customized dashboards can be viewed with a Web browser.

Refer to "Overview" in the *User's Guide (Dashboard Edition)* for details.

2.9 Linking Model to ServerView Resource Orchestrator Cloud Edition

There are two types of models for linking to ServerView Resource Orchestrator: Installing together and installing separately.

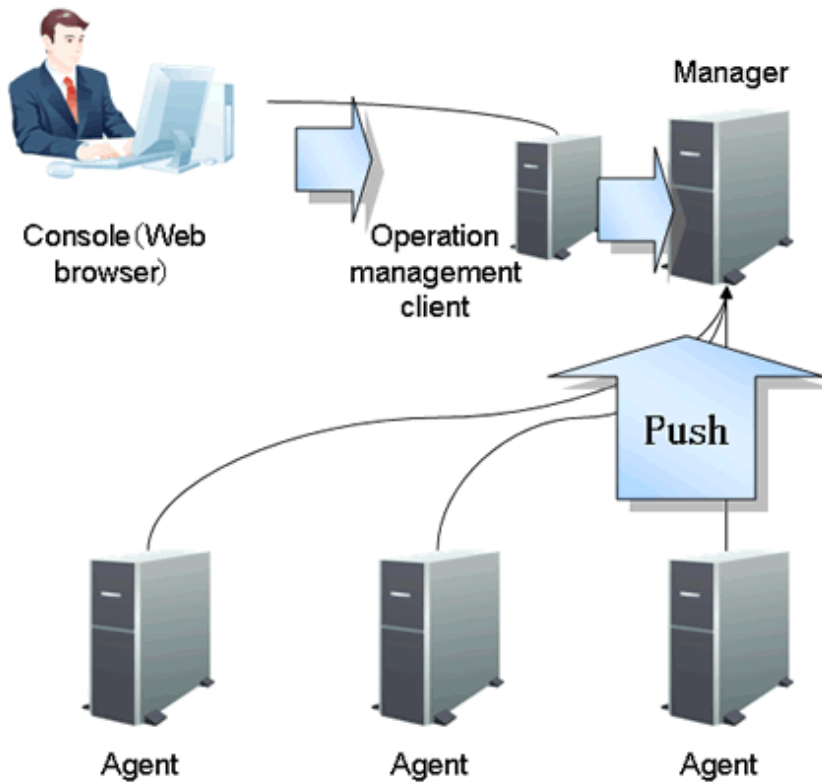
When management targets are over 300, configure by installing separately from ServerView Resource Orchestrator.

Refer to "Linking to ServerView Resource Orchestrator" in the *User's Guide*.

2.10 Communication Modes

This section explains the communication modes used by Systemwalker Service Quality Coordinator. The communication modes can be broadly divided into two types.

2.10.1 Communication mode using the Push method

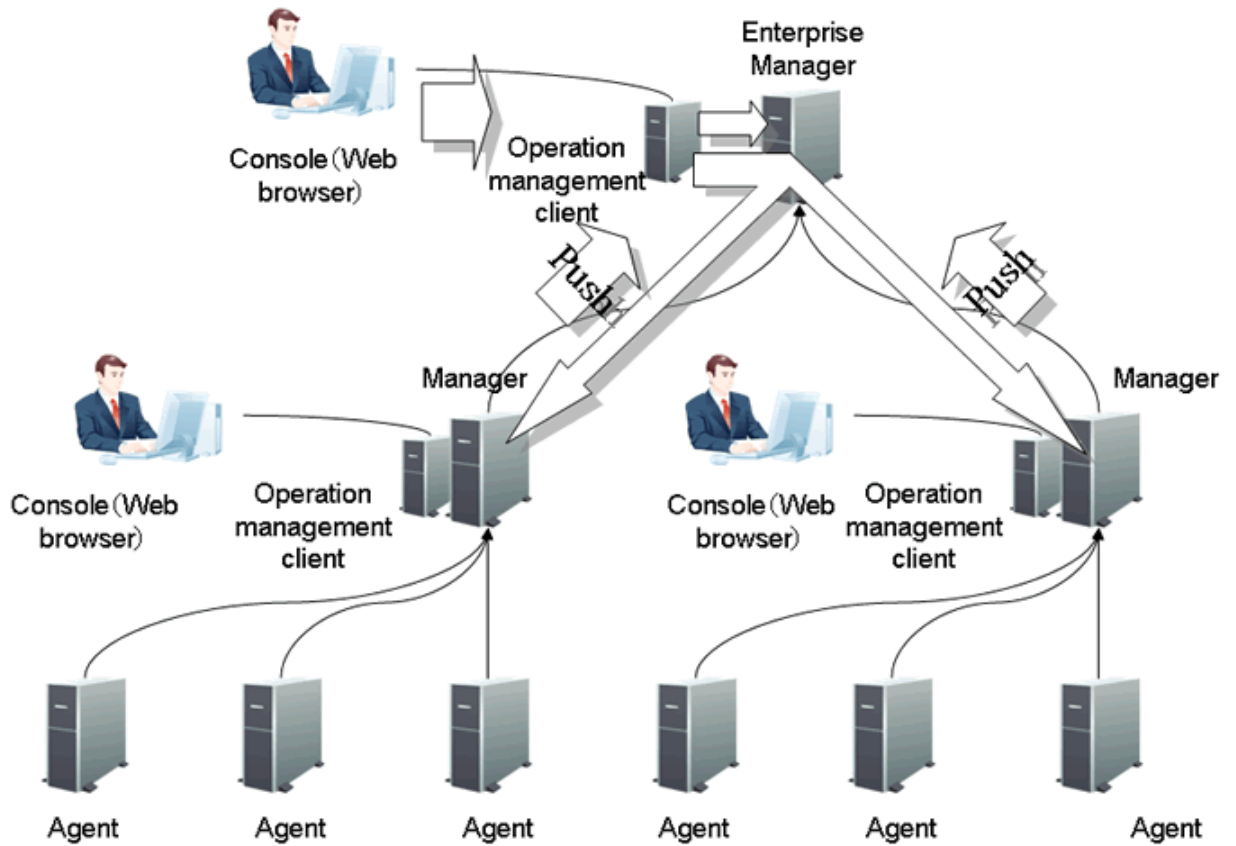


Communications normally take place as shown in the above diagram. The arrows indicate the direction of communications.

- Between Agent (including Proxy Manager) and Manager
Communications occur using a custom protocol (port number 2344). This mode pushes data from the Agent to the Manager.
- Between Operation Management Client and Manager
Communications occur using a custom protocol (port number 2344 and 2345).
Port 2344 is used for communication with the Manager to store definition information for the Management Console.
Port 2345 is used to extract data from the Manager for display.
- Between Console and Operation Management Client
Communications occur using HTTP. Display data created by the operation management client is downloaded using HTTP.

Point

When two-tier Manager operation is performed (i.e., when Enterprise Manager is installed), the communication mode used with Enterprise Manager is as shown on the next page. The communication modes used between Agent (including Proxy Manager) and Manager, between operation management client and Manager, and between console and operation management client are the same as those described above.

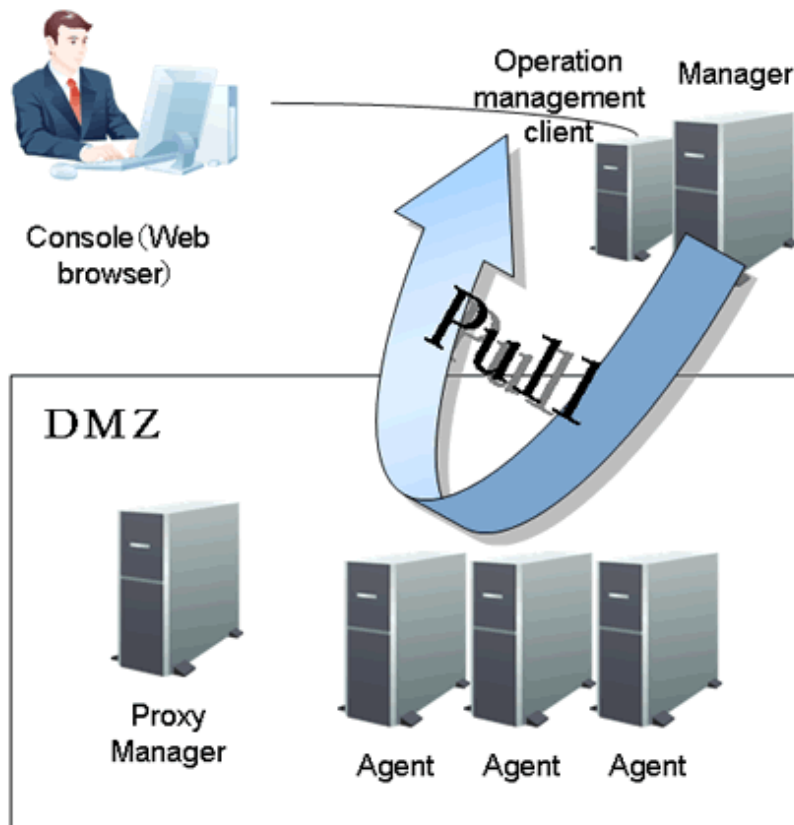


- Between Manager and Enterprise Manager
Communications occur using a custom protocol (port number 2344). This mode pushes data from the Manager to the Enterprise Manager.
- Between operation management client, Enterprise Manager and Manager
Communications occur using a custom protocol (port number 2344 and 2345).
Port 2344 is used for communication with the Manager to store definition information for the Management Console.
Port 2345 is used to extract data from the Manager for display.

 See

.....
In Push communication mode, the other communicating parties can be restricted. Refer to "Secure Communications" in the *Installation Guide* for details.
.....

2.10.2 Communication mode using the Pull method



If communications between Managers and Agents (including Proxy Managers) is restricted, such as in Internet environments, the "Pull" method can be used instead of the "Push" method, as shown in the figure above.

For communications using the "Pull" method, an HTTP environment must be created where the Agents (and Proxy Managers) are located, using either of the following methods:

- Using the functions provided by this product
This method uses the Systemwalker SQC thttpd service/thttpd process that is provided as a standard part of this product's Agent and Proxy Manager functions. Any desired port number can be set as the port number for this service. (The default is 23440.)

Note

The Systemwalker SQC thttpd service/thttpd process does not start by default, and so it must be started in order to perform communications using the "Pull" method.

The Systemwalker SQC thttpd service/thttpd process is used in the policy distribution function as well. It must be started when executing the policy definition information distribution command or the policy remote operation command.

Refer to "Starting and Stopping Resident Processes" in the *Reference Guide* for the method used to start the Systemwalker SQC thttpd service/thttpd process.

- Using a general http service
This method uses a general http service, such as Apache, by defining a dedicated alias for this product.

Note

- Communication occurs using the Push method when a Manager operates in a two-level configuration.
- Communication using the Pull method is driven by the Manager at regular intervals (of approximately 10 minutes). This means that it can take up to 20 minutes until information appears in the summary window.

- To send data between V11 or V12 Agents and V13 or later Managers via "Pull" communications, install V13 or later Proxy Managers between them.
Refer to "[2.2 Relay model using Proxy Managers](#)" for details on relay Proxy Managers.
 - From V13 Agents cannot connect to V11 or V12 Managers using "Pull" communications.
-



See

- Refer to "Pull Type Communication Settings" in the *Installation Guide* for details on communication using the Pull method.
 - Refer to "Setting Up the Communication Environment" in the *Installation Guide* for details on the communication environment.
 - Refer to "Policy Distribution" in the *User's Guide* for details on policy distribution.
-

Chapter 3 Product Architecture

This chapter explains the mechanism and behavior of each component of this product.

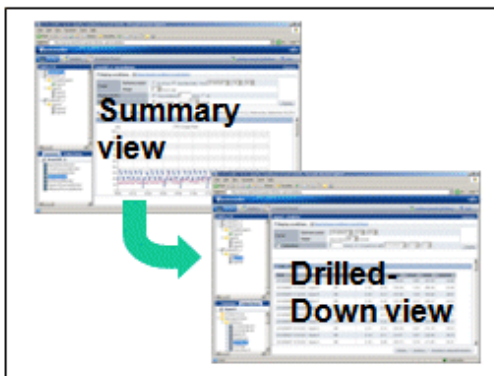
3.1 Overview

This section explains an overview of Systemwalker Service Quality Coordinator.

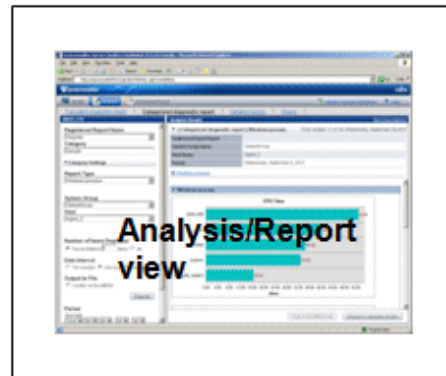
3.1.1 Monitoring and assessment functions

The functions provided by Systemwalker Service Quality Coordinator can be broadly divided into a monitoring function and an assessment function.

Monitoring Function



Assessment Function



The monitoring function provides the Summary function and the Drilled-Down function. The Summary function (which includes threshold monitoring) is used to check whether the system as a whole is healthy and check for problems, and the Drilled-Down function analyzes resources in detail to isolate problems.

For the assessment function, the Report function is provided in order to periodically evaluate the system over certain periods of time.

The Report function provides an Analysis/planning function that displays a report whenever you need to see one, and a Scheduled Report function that automatically outputs reports on a daily, weekly, or monthly basis, depending on the report conditions you register in the scheduler.

Point

Systemwalker Service Quality Coordinator provides functions that support both the monitoring and assessment aspects of operation management, while keeping system overheads to a minimum.

Also, a dashboard is provided in the Enterprise Edition.

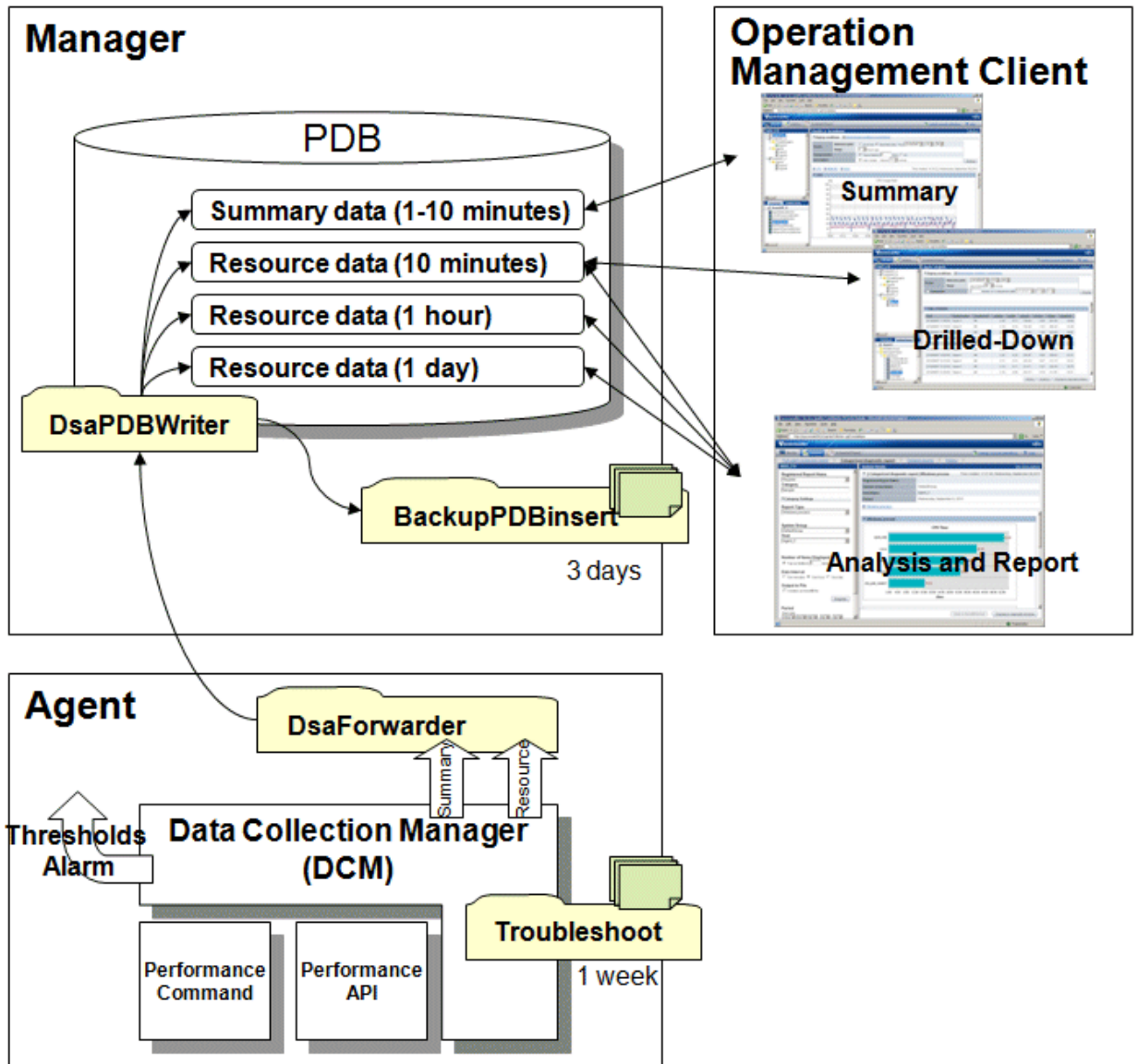
The dashboard provides a customizable display of important information extracted from the array of data collected by the Systemwalker Service Quality Coordinator, making the information readily available for day to day oversight and operations.

While the console provides a standard fixed view for Systemwalker Service Quality Coordinator data, the display of the dashboard is highly customizable, so you can create a presentation of data that is most appropriate for your needs.

The dashboard is mainly used by managers to view the status of areas of the system they are responsible for.

3.1.2 Basic Component Configuration

This section explains the configuration and basic behavior of Systemwalker Service Quality Coordinator components using the following figure.



With Systemwalker Service Quality Coordinator, performance information is collected by Agents installed on managed servers or agent for Agentless Monitoring. The performance information collected by each Agent is sent to a Manager, where it is stored in a performance database (PDB). The information stored in the PDB can be looked up using the display functions provided on the operation management client.

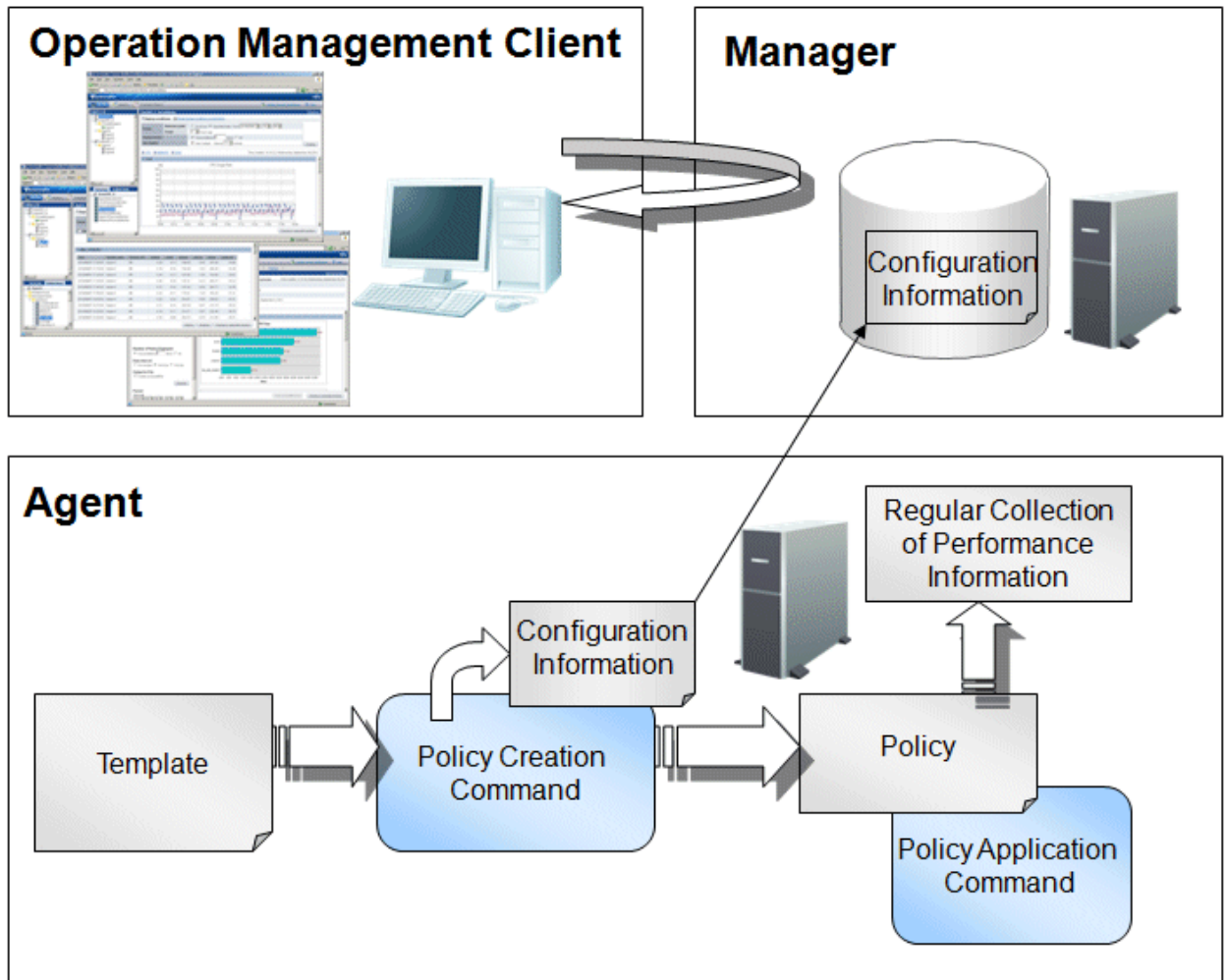
Point

The folder-shaped sections in the figure above (such as "DsaPDBWriter" and "DsaForwarder") represent directories that are important for the behavior of Managers and Agents. These directories are explained the sections that follow.

3.1.3 Collection policies and configuration information

Systemwalker Service Quality Coordinator provides templates that include collection items recommended by Fujitsu. Create and apply policies by adjusting these templates to the characteristics of the systems being managed.

This enables the necessary information to be continuously collected without any advanced skills relating to performance.



As shown in the figure above, policies are created and applied by executing commands on Agents. At this point, the policies are created from the template and configuration information. (Configuration information is used to automatically detect objects that can be managed.)

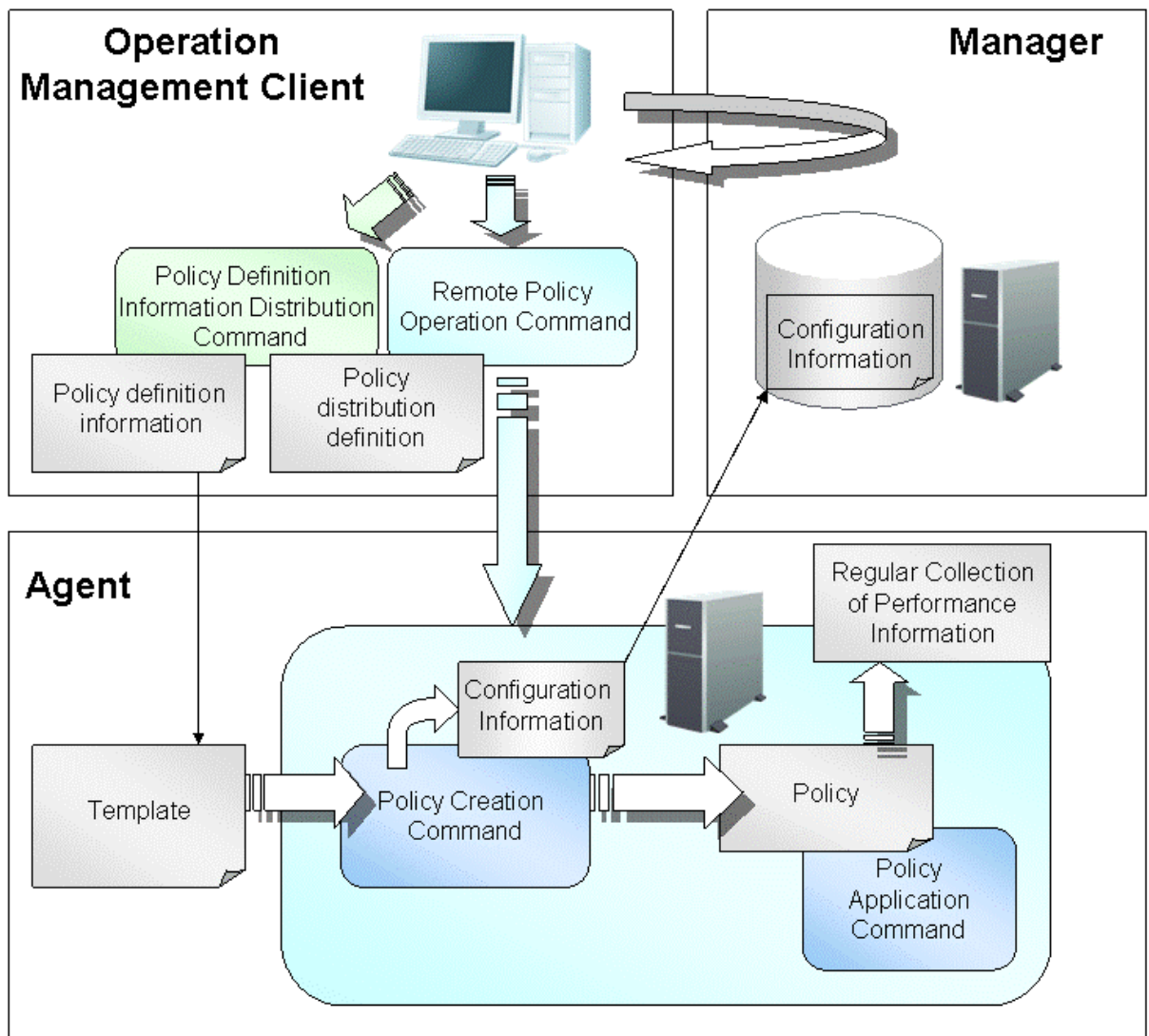
Configuration information is sent to the Manager, where it is stored in the PDB.

When environment setup is performed on the operation management client, this configuration information is referenced, and the information collected for the system can be displayed in a tree structure.

3.1.3.1 Policy distribution functions

Policy distribution normally consists of editing templates on an Agent, and creating policies and running deployment commands on an operation management client.

Policy distribution functions make it possible to collectively manage and operate multiple servers using a single operation management client.



As shown in the above diagram, a policy definition information distribution command is used to distribute monitoring definition information defined by a policy definition information file to a server defined by a policy distribution definition file.

The policy remote operation command is then used to remotely create and apply a policy on the distribution destination server.

Refer to "Policy Distribution" in the *User's Guide* for details on the policy distribution function.

3.2 Components

This section explains the following components that are used by Systemwalker Service Quality Coordinator:

3.2.1 Agent

Agents are components that collect performance information from monitored servers.

Agents come in the following two types:

- Agent for Agent-based Monitoring

An agent is installed on the monitored server and collects performance information by periodically issuing commands or APIs provided by the operating system or middleware.

- Agent for Agentless Monitoring

The agent for Agentless Monitoring is not installed on the monitored server, but remotely collects performance information by periodically issuing commands or APIs provided by the operating system or virtualized software of the monitored server.

When referred to simply as "Agent" in this manual, Agents for Agent-based Monitoring are being referred to.

The following table compares the differences between agents for Agent-based Monitoring and agents for Agentless Monitoring:

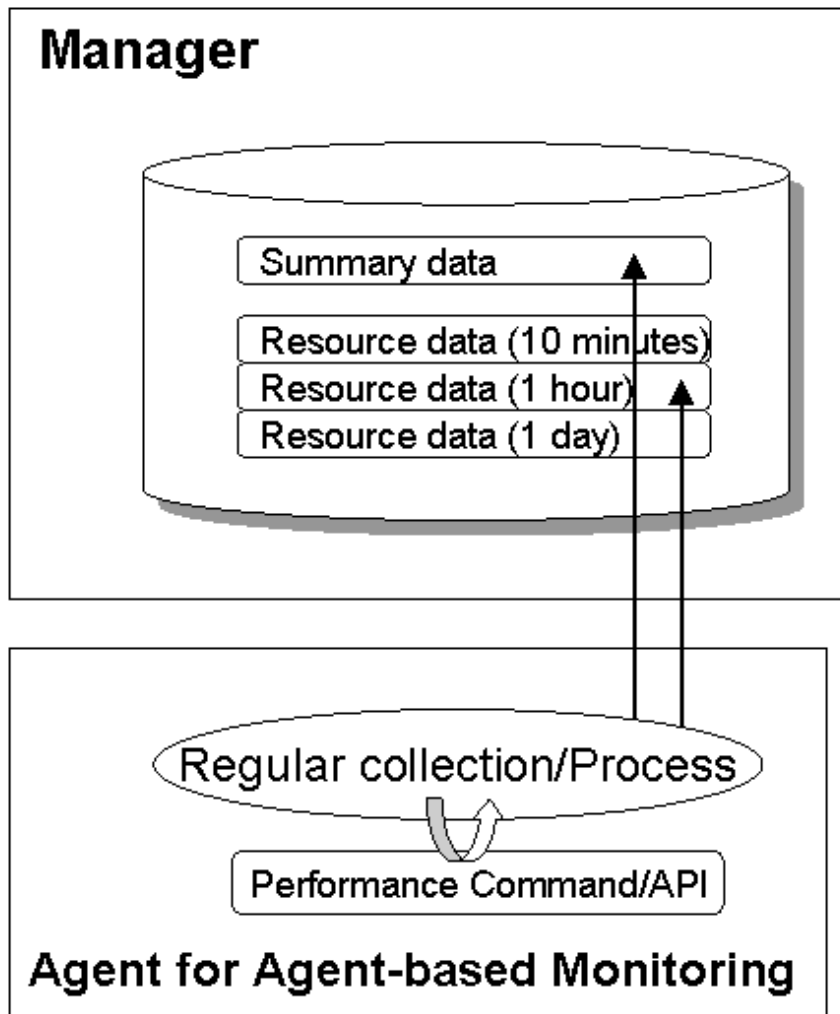
Function		Agent for Agent-based Monitoring	Agent for Agentless Monitoring
Performance information collected		<p>Collects performance information on the OS, Web, AP, and DB (*1)</p> <p>Collection intervals are between 1 and 10 minutes (1 minute for the OS)</p> <p>Because the Agent and Manager operate synchronously, collection is essentially real-time and information is displayed in the summary screen.</p> <p>Even if the system load of the server where the Agent is becomes high, performance information can still be collected to some degree.</p>	<p>Collects summary information for the OS (CPU, memory, disk, etc.) and performance information for virtual resources.</p> <p>Collection interval is 5 minutes</p> <p>The Agent and Manager operate asynchronously, so it can take 10 to 15 minutes for collection and the information is displayed in the summary screen.</p> <p>If the system load becomes too high and communication through telnet and ssh becomes impossible, performance information may not be collected.</p>
Threshold monitoring	Linking with Systemwalker Centric Manager	<p>The Agent will be the server generating the threshold alarm</p> <p>Definitions for threshold monitoring are made on the Agent</p>	<p>The Agent will be the server generating the threshold alarm</p> <p>Definitions for threshold monitoring are made on the Manager/Proxy Manager</p>
	Event log/syslog		
	Mail		
	Trap		
	Executed by user command		

Function	Agent for Agent-based Monitoring	Agent for Agentless Monitoring
Troubleshooting log	Output	Not output

*1: Items that can be collected depend on the installation type.

3.2.1.1 Agent for Agent-based Monitoring

Agents for Agent-based Monitoring collect performance information by periodically issuing commands or APIs provided by the operating system or middleware.



The information collected by Agents is transformed into summary data and resource data and sent to a Manager.

Summary data is summarized data for gaining a general understanding of the state of the system. For example, memory or CPU usage for the entire system falls into this category.

Resource data is detailed data that is collected for each resource. For example, the CPU usage for each processor or the data for each process falls into this category. Resource data is further processed into three types of data (for different display objectives) and sent to the Manager.

The rest of this section explains the roles of the directories that are used when Agents run.

DsaForwarder / DsaForwarder_sum directory

These directories are used to temporarily store data to be sent to a Manager. The DsaForwarder directory is used to store resource data and the DsaForwarder_sum directory is used to store summary data. If the Manager is in a redundant configuration, additional directories named "DsaForwarder2" and "DsaForwarder_sum2" are also used.

If communications with the Manager are broken, data will be stored in these directories until communications recommence.



If the communications interruption continues for a long time, unsent data will place pressure on the disk capacity. As the amount of available disk space decreases, first a warning event will be output, then an error event, and finally the Systemwalker SQC DCM service or the dcmd process of the Agent will stop running.

Note, however, that even if there is sufficient space available on the disk, if the number of unsent data files exceeds a specified level (approximately 3,000), files with the oldest dates will be automatically deleted every 60 minutes to reduce disk usage. Once files are deleted, performance data for the deleted period will be lost.

If accumulated files are no longer required, they can be deleted manually using the procedure described in "Deleting Unsent Agent/Proxy Manager Data".

The specific location for this directory is as follows:

Windows

```
Variable file storage directory\transfer\DsaForwarder  
Variable file storage directory\transfer\DsaForwarder_sum
```

UNIX

```
/var/opt/FJSVssqc/temp/DsaForwarder  
/var/opt/FJSVssqc/temp/DsaForwarder_sum
```

Troubleshoot directory

Server performance information that is collected by the Agent is transformed into CSV files and stored as log data. The information recorded here is more detailed than the information stored in the database on the Manager. This information is stored in order to allow more detailed troubleshooting to be performed.

The specific location for this directory is as follows:

Windows

```
Variable file storage directory\spool\Troubleshoot1
```

UNIX

```
/var/opt/FJSVssqc/Troubleshoot1
```


- Past log files

The following file will be output to the Troubleshoot directory:

```
troubleshoot1_%SYSTEM%_%N%.txt
```

%SYSTEM%: System name

%N%: File number

This log file will be newly created every 24 hours. The file number (%N%) will cycle from 1 to the value of the Troubleshoot retention period and then back to 1 again.

- Log file of the current day

The following file will be output to the Troubleshoot directory:

```
troubleshoot1.wrt
```



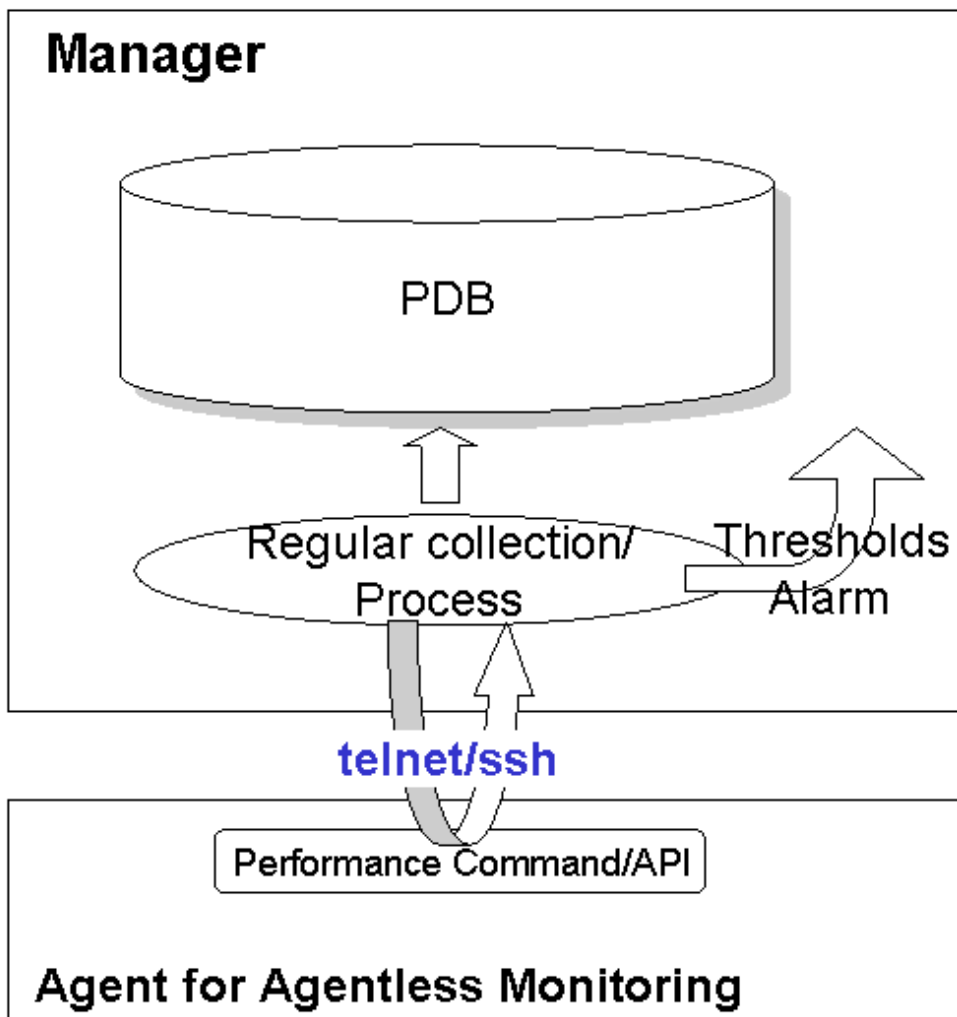
troubleshoot1.wrt contains the log data that is currently being stored, so to display the stored log data of the current day, copy troubleshoot1.wrt to a file of a different name and display the contents of the copy, not the original.



This log file is in CSV format. Refer to "Log Data (Troubleshooting) Information" in the *Reference Guide* for information on data formats.

3.2.1.2 Agent for Agentless Monitoring

The agent for Agentless Monitoring is not installed on the monitored server, but remotely collects performance information by periodically issuing commands or APIs provided by the operating system or virtualized software of the monitored server.



Information collected is processed into summary data and resource data by the Manager and stored in the PDB.

Communication is performed between the monitoring server and monitored server (agent for Agentless Monitoring) by one of telnet, ssh or https when remotely collecting performance information. Refer to "Management with an Agent for Agentless Monitoring" in the *User's Guide* for details on conditions and settings.

3.2.2 Manager

The data collected by each Agent is sent to the Manager and stored in the PDB.

Four different types of data are held in the PDB, depending on the interval at which the data is collected. The following table shows the retention periods for each of these types of data.

Collection interval	Function that displays this data	Retention period
1 to 10 minutes (Summary data)	- Summary display	3 days
10 minutes (Resource data)	- Drilled-Down display - Report (specified in 10-minute units)	7 days

Collection interval	Function that displays this data	Retention period
	- Scheduled Report (daily, weekly, monthly)	
1 hour (Resource data)	- Report (specified in one-hour units) - Scheduled Report (daily, weekly, monthly)	6 weeks
24 hours (Resource data)	- Report (specified in one-day units) - Scheduled Report (daily, weekly, monthly)	13 months

Note: To change the summary data or the resource data retention period, refer to "Changing the PDB Retention Time" in the *Installation Guide*.

The rest of this section explains the roles of the directories that are used when Managers run.

DsaPDBWriter / DsaPDBWrite_sum directory

This is a buffer directory for temporarily storing data that is to be written to the PDB. Data that is received from Agents is temporarily stored in this directory.



The amount of data in this directory will grow continuously if data is received from Agents faster than the Manager can write it to the PDB.

The specific location for this directory is as follows:

Windows

```
Variable file storage directory\transfer\DsaPDBWriter
Variable file storage directory\transfer\DsaPDBWriter_sum
```

UNIX

```
/var/opt/FJSVssqc/temp/DsaPDBWriter
/var/opt/FJSVssqc/temp/DsaPDBWriter_sum
```

BackupPDBinsert directory

This directory stores PDB backup files. Refer to "Backup and Restore" in the *User's Guide* for details on backing up the PDB.

The specific location for this directory is as follows:

Windows

```
Variable file storage directory\spool\BackupPDBinsert
```

UNIX

```
/var/opt/FJSVssqc/BackupPDBinsert
```

3.2.3 Proxy Manager

Proxy Managers temporarily collect information sent by Agents, end user response information sent by Browser Agents, and service operation information collected by the Proxy Manager itself. In the end, Proxy Managers must send this information to Managers, so Proxy Managers act as a kind of Agent.

As a result, the directory structure for Proxy Managers is the same as for Agents, except that the "Troubleshoot" directory is not used.

DsaForwarder / DsaForwarder_sum directory

This directory is for temporarily storing the data that will be sent to the Manager.

If communications with the Manager are broken, data will be stored in this directory until communications recommence.



.....

If the communications interruption continues for a long time, unsent data will place pressure on the disk capacity. As the amount of available disk space decreases, first a warning event will be output, then an error event, and finally the Systemwalker SQC DCM service or the dcmd process of the Proxy Manager will stop running.

Note, however, that if the number of unsent data files exceeds a specified level (approximately 30,000), files with the oldest dates will be automatically deleted every 60 minutes to reduce disk usage. Once files are deleted, performance data for the deleted period will be lost.

.....

If accumulated files are no longer required, they can be deleted manually using the procedure described in "Deleting Unsent Agent/Proxy Manager Data".

The specific location for this directory is as follows:

Windows

```
Variable file storage directory\transfer\DsaForwarder  
Variable file storage directory\transfer\DsaForwarder_sum
```

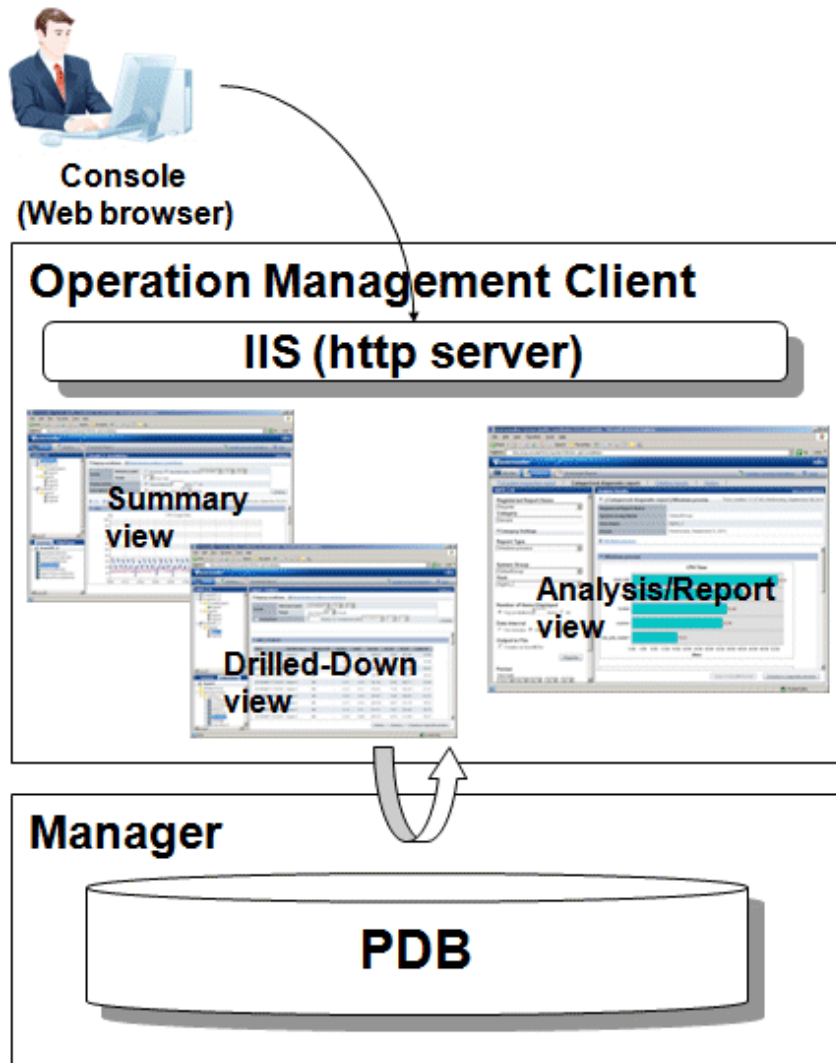
UNIX

```
/var/opt/FJSVssqc/temp/DsaForwarder  
/var/opt/FJSVssqc/temp/DsaForwarder_sum
```

3.2.4 Operation Management Client

Operation management clients provide display functions. The display function of this product uses Web browsers via IIS (HTTP server).

This means that information can be viewed from multiple Web browsers if these Web terminals can connect to the operation management client via HTTP. However, IIS (HTTP server) must be installed on the operation management client.



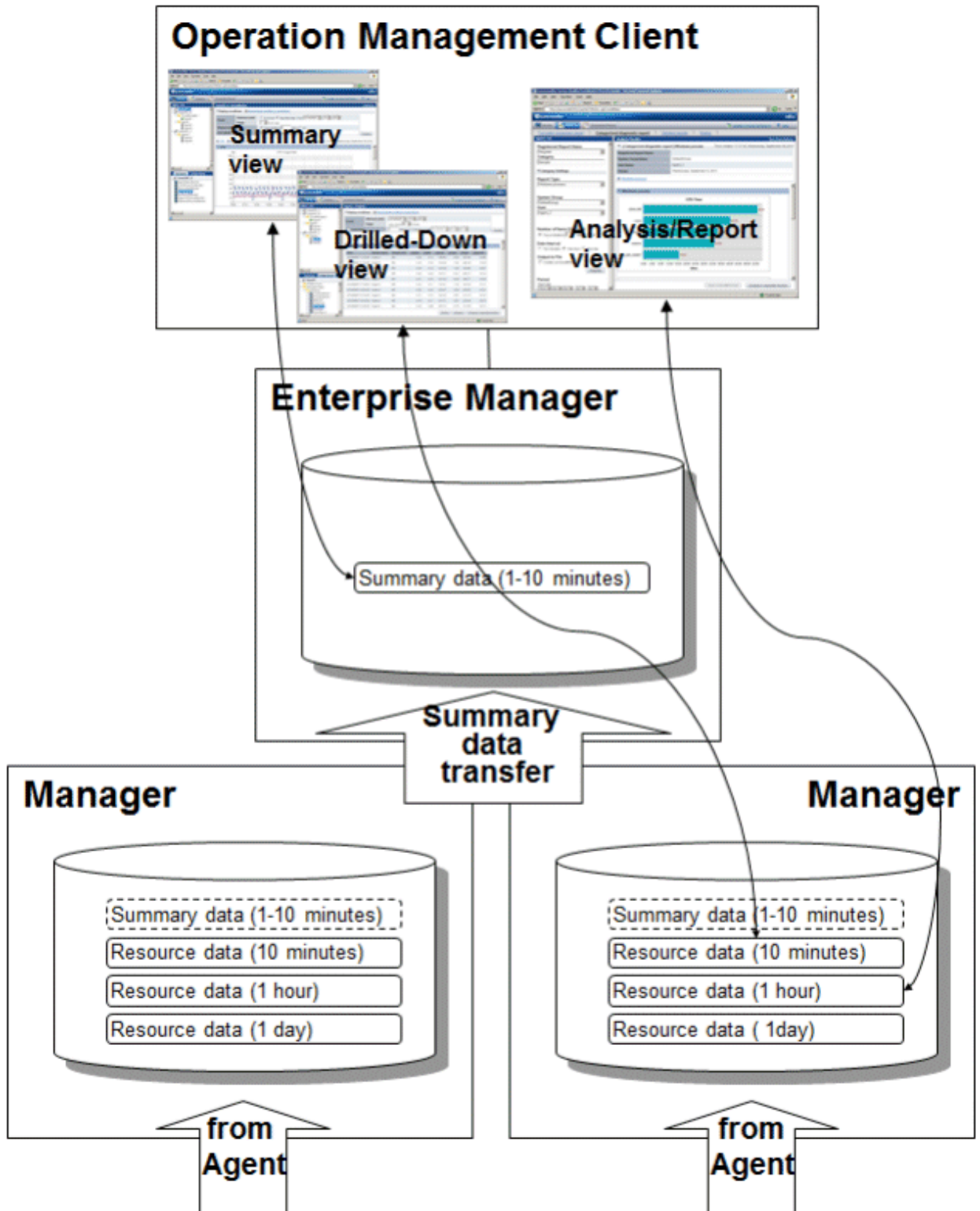
A record of screen operations is collected on the operation management client as log information. This operation log can be used to identify when an operation was performed, and by whom. The operation log is stored in the following location:

```
<Installation directory>\log\OperationLog_Setting
```

Refer to "Management Console Operation Log Information" in the *Reference Guide* for details on the format of the operation log.

3.2.5 Enterprise Manager

This section explains the behavior of Managers in the redundant operation model, using the following figure.



Normally, if multiple Managers have been set up and these Managers are being centrally managed by an Enterprise Manager, the summary data shown in the diagram above will be centrally collected on the Enterprise Manager. Collecting summary data used for understanding the current status of the entire system in one place makes display faster.

On the other hand, if you want to increase the number of Managers that the Enterprise Manager can manage, do not consolidate the summary data in the Enterprise Manager, but rather distribute the summary data and the resource data to each Manager. In this case, when displaying the summary data from the Operation Management Client connected to the Enterprise Manager, the summary data is collected from each manager for display.

3.3 Overview of Display Windows

This section gives an overview of the monitoring window, analysis/planning and scheduled report window, and dashboard provided by Systemwalker Service Quality Coordinator.

Refer to the *User's Guide (Console Edition)* for details of the Console.

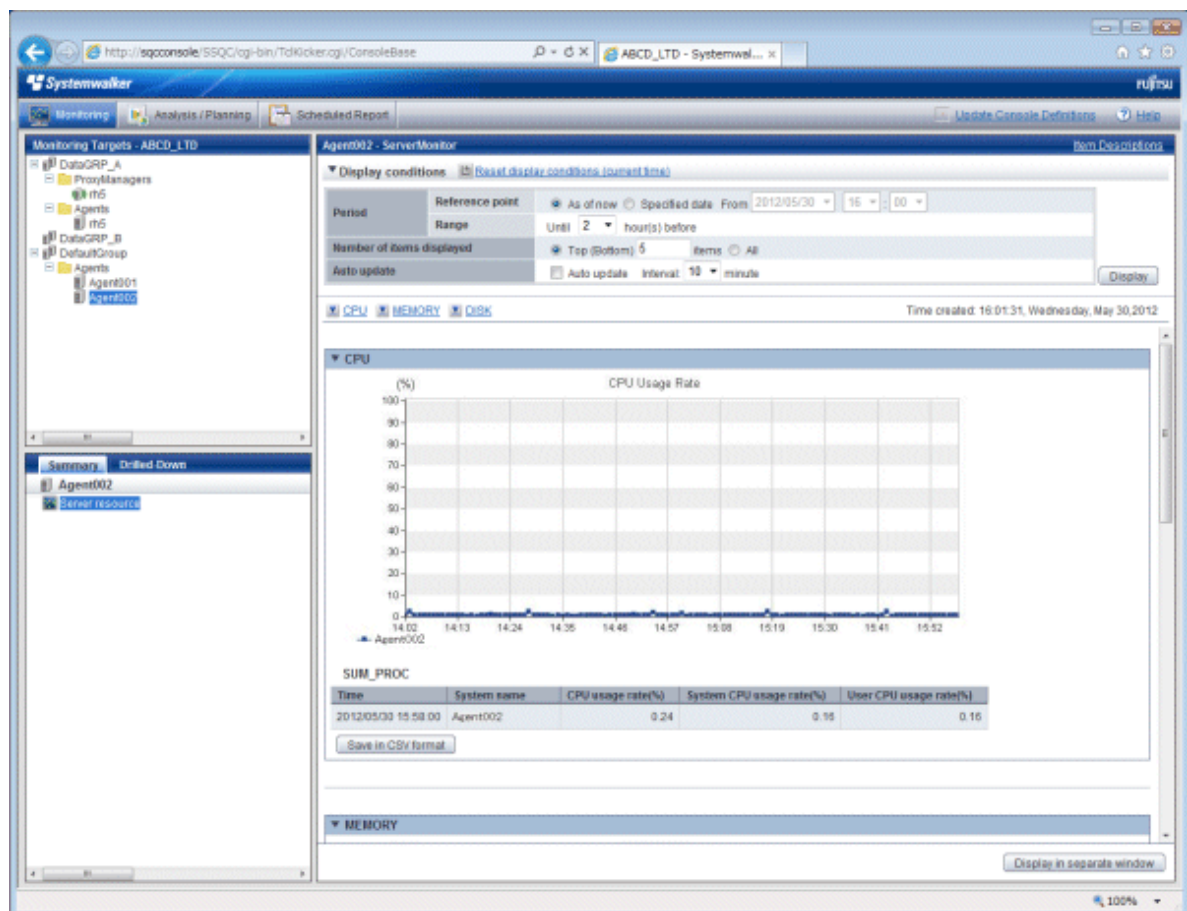
Refer to the *User's Guide (Dashboard Edition)* for details of the Dashboard.

3.3.1 Monitoring Window

The monitoring window of the **Console** provides two functions: the Summary function and the Drilled-Down function.

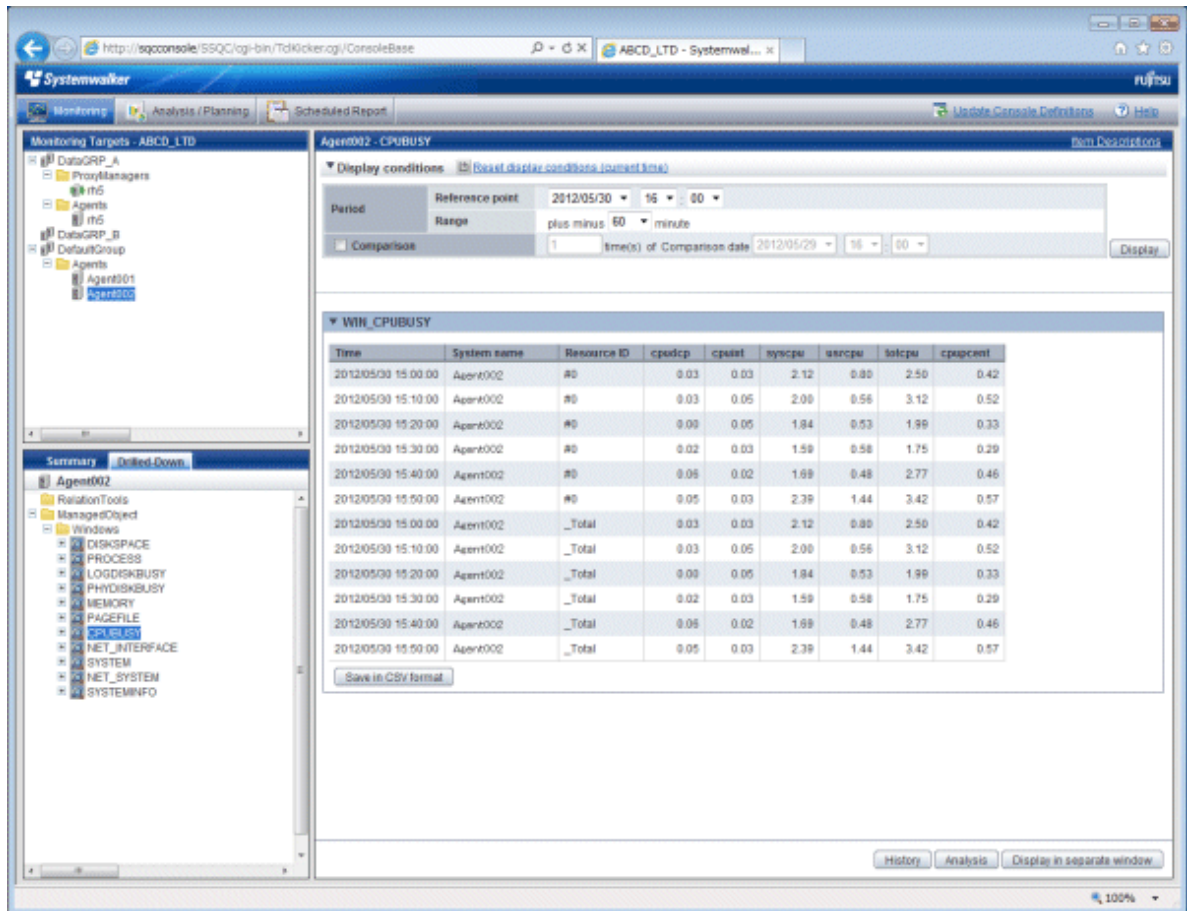
3.3.1.1 Summary function

The **Summary** view displays representative information to enable the user to understand the current status of the entire system.



3.3.1.2 Drilled-Down function

The **Drilled-Down** view displays a variety of detailed information in chronological order based on the time that a problem occurred.

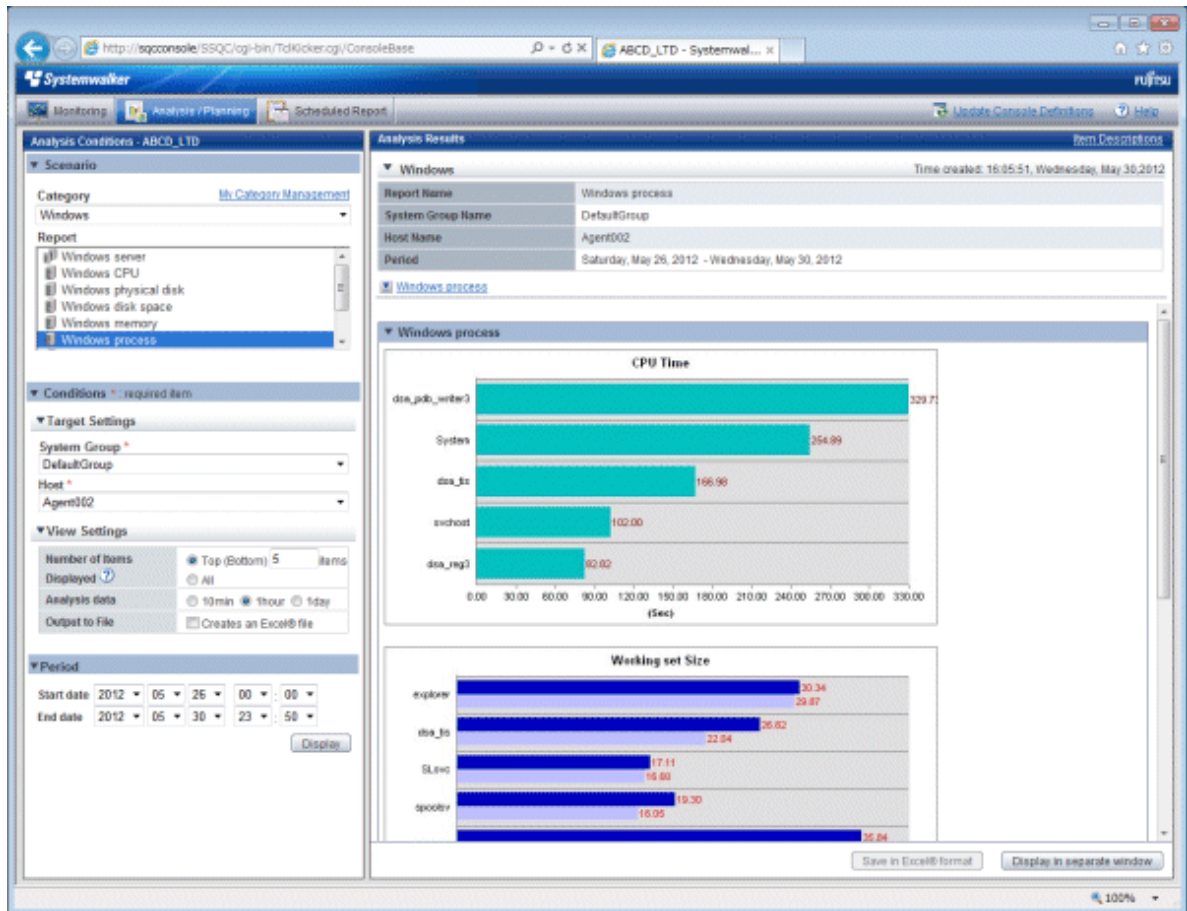


3.3.2 Analysis/Planning Window and Scheduled Reports Window

The analysis/planning window and Scheduled Reports window of the Console provide the Analysis/Planning and Scheduled Reports functions.

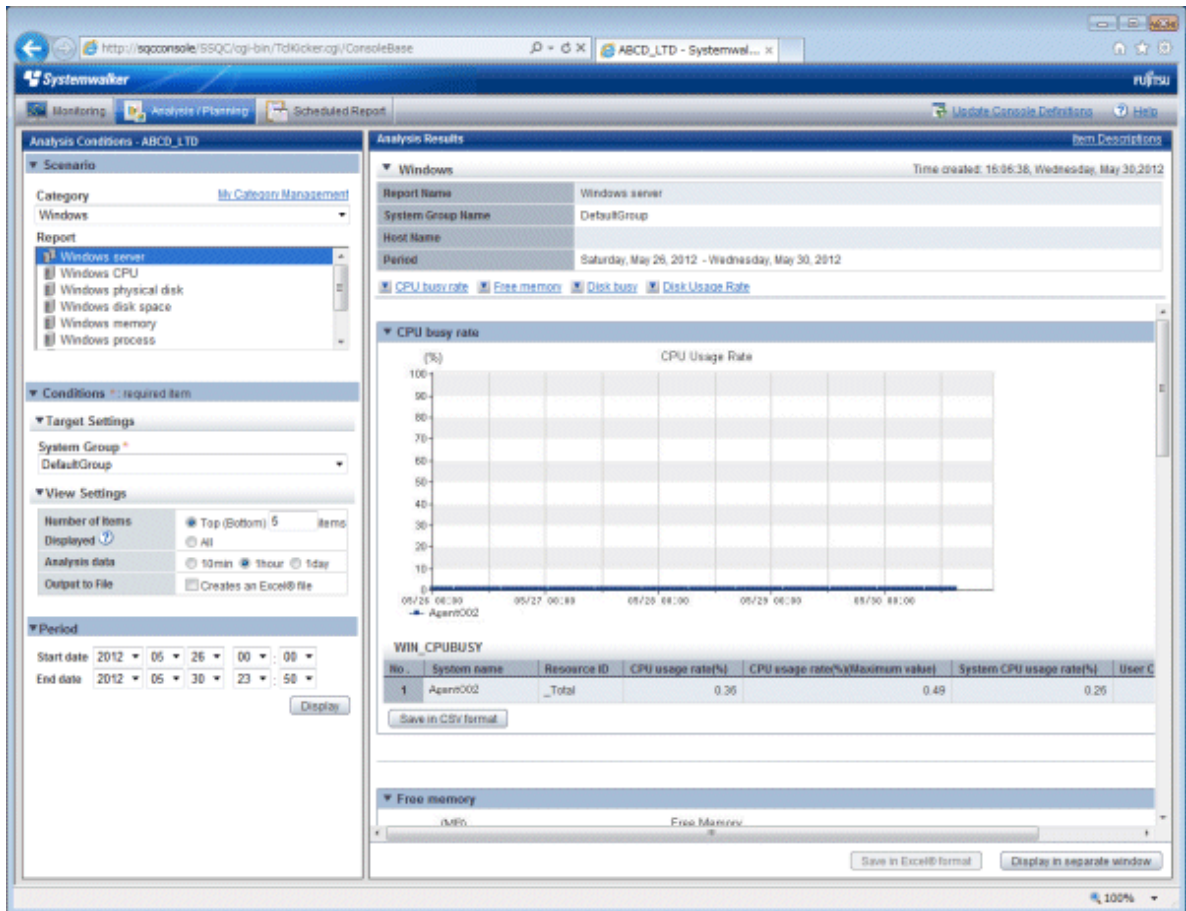
3.3.2.1 Analysis/Planning function

This function provides various reports to suit the exact level of detail required and to fulfill the objective.



3.3.2.2 Scheduled report function

Unlike the Analysis/Planning function, which outputs reports to the screen as needed, the Scheduled Report function automatically outputs daily, weekly and monthly reports by setting up report criteria in advance and registering these with the scheduler.



3.3.3 Dashboard

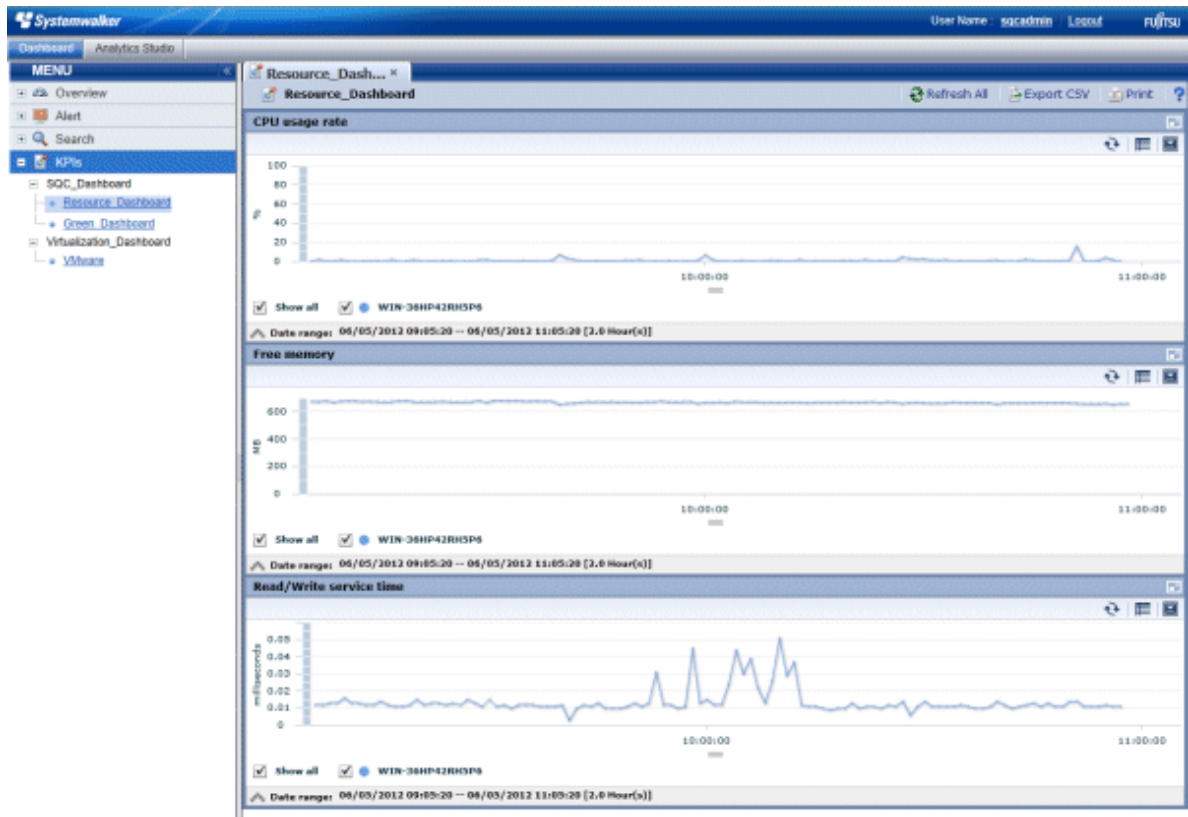
The dashboard provides a customizable display of important information extracted from the array of data collected by the Systemwalker Service Quality Coordinator, making the information readily available for day to day oversight and operations. While the console provides a standard fixed view for Systemwalker Service Quality Coordinator data, the display of the dashboard is highly customizable, so you can create a presentation of data that is most appropriate for your needs. The console and dashboard have different roles, for instance:

Console

The system administrator uses the console to review and analyze operations occurring across the entire system.

Dashboard

The dashboard is used by managers to view the status of areas of the system they are responsible for.



Individual users employ the Analytics Studio (provided with Systemwalker Service Quality Coordinator) to create their own dashboards which contain only the information they need, in the exact layout they want, showing graphs in the format they choose. These customized dashboards can be viewed with a Web browser.

Refer to "Overview" in the *User's Guide (Dashboard Edition)* for details.