

FUJITSU Software

Systemwalker Operation Manager

Q & A Guide

UNIX/Windows(R)

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Preface

Purpose of This Document

This document compiles responses to frequently asked questions relating to SystemWalker/OperationMGR V5.0L10/5.0 or later versions of Systemwalker Operation Manager.

Abbreviations and Generic Terms Used

- The term "Windows Server 2012 R2" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2012 R2 Foundation (x64)
 - Microsoft(R) Windows Server(R) 2012 R2 Standard (x64)
 - Microsoft(R) Windows Server(R) 2012 R2 Datacenter (x64)
- The term "Windows Server 2012" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2012 Foundation (x64)
 - Microsoft(R) Windows Server(R) 2012 Standard (x64)
 - Microsoft(R) Windows Server(R) 2012 Datacenter (x64)
 - Microsoft(R) Windows Server(R) 2012 R2 Foundation (x64)
 - Microsoft(R) Windows Server(R) 2012 R2 Standard (x64)
 - Microsoft(R) Windows Server(R) 2012 R2 Datacenter (x64)
- The term "Windows Server 2008 R2" is used to refer to all of 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
- The term "Windows Server 2008 Foundation" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2008 R2 Foundation
 - Microsoft(R) Windows Server(R) 2008 Foundation
- The term "Server Core" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2012 Standard Server Core
 - Microsoft(R) Windows Server(R) 2012 Datacenter Server Core
 - 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 2008 STD" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2008 Standard (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(TM)

- The term "Windows Server 2008 DTC" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2008 Datacenter (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Datacenter without Hyper-V(TM)
- The term "Windows Server 2008 EE" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2008 Enterprise (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(TM)
- The term "Windows Server 2008" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2008 Standard (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Enterprise (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Datacenter (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Foundation (x64)
 - Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(TM) (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(TM) (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 Datacenter without Hyper-V(TM) (x86)/(x64)
 - Microsoft(R) Windows Server(R) 2008 R2 Foundation (x64)
 - Microsoft(R) Windows Server(R) 2008 R2 Standard (x64)
 - Microsoft(R) Windows Server(R) 2008 R2 Enterprise (x64)
 - Microsoft(R) Windows Server(R) 2008 R2 Datacenter (x64)
- The term "Windows Server 2003 STD" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
 - Microsoft(R) Windows Server(R) 2003 R2, Standard Edition
 - Microsoft(R) Windows Server(R) 2003, Standard x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Standard Edition
- The term "Windows Server 2003 DTC" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2003 R2, Datacenter x64 Edition
 - Microsoft(R) Windows Server(R) 2003 R2, Datacenter Edition
 - Microsoft(R) Windows Server(R) 2003, Datacenter x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Datacenter Edition for Itanium-based Systems
 - Microsoft(R) Windows Server(R) 2003, Datacenter Edition
- The term "Windows Server 2003 EE" is used to refer to all of the following products:
 - Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
 - Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition
 - Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Enterprise Edition for Itanium-based Systems
 - Microsoft(R) Windows Server(R) 2003, Enterprise Edition
- The term "Windows(R) 2000" is used to refer to all of the following products:
 - Microsoft(R) Windows(R) 2000 Professional
 - Microsoft(R) Windows(R) 2000 Server

- Microsoft(R) Windows(R) 2000 Advanced Server
- Microsoft(R) Windows(R) 2000 Datacenter Server
- The term "Windows NT(R)" is used to refer to all of the following products:
 - Microsoft(R) Windows NT(R) Server network operating system Version 4.0
 - Microsoft(R) Windows NT(R) Workstation operating system Version 4.0
- The term "Windows(R) 8.1" is used to refer to all of the following products:
 - Windows(R) 8.1 (x86)
 - Windows(R) 8.1 Pro (x86)
 - Windows(R) 8.1 Enterprise (x86)
 - Windows(R) 8.1 (x64)
 - Windows(R) 8.1 Pro (x64)
 - Windows(R) 8.1 Enterprise (x64)
- The term "Windows(R) 8" is used to refer to all of the following products:
 - Windows(R) 8 (x86)
 - Windows(R) 8 Pro (x86)
 - Windows(R) 8 Enterprise (x86)
 - Windows(R) 8 (x64)
 - Windows(R) 8 Pro (x64)
 - Windows(R) 8 Enterprise (x64)
 - Windows(R) 8.1 (x86)
 - Windows(R) 8.1 Pro (x86)
 - Windows(R) 8.1 Enterprise (x86)
 - Windows(R) 8.1 (x64)
 - Windows(R) 8.1 Pro (x64)
 - Windows(R) 8.1 Enterprise (x64)
- The term "Windows(R) 7" is used to refer to all of the following products:
 - Windows(R) 7 Home Premium (x86)
 - Windows(R) 7 Professional (x86)
 - Windows(R) 7 Enterprise (x86)
 - Windows(R) 7 Ultimate (x86)
 - Windows(R) 7 Home Premium (x64)
 - Windows(R) 7 Professional (x64)
 - Windows(R) 7 Enterprise (x64)
 - Windows(R) 7 Ultimate (x64)
- The term "Windows Vista(R)" is used to refer to all of the following products:
 - Windows Vista(R) Home Basic (x86)
 - Windows Vista(R) Home Premium (x86)
 - Windows Vista(R) Business (x86)

- Windows Vista(R) Enterprise (x86)
- Windows Vista(R) Ultimate (x86)
- Windows Vista(R) Home Basic (x64)
- Windows Vista(R) Home Premium (x64)
- Windows Vista(R) Business (x64)
- Windows Vista(R) Enterprise (x64)
- Windows Vista(R) Ultimate (x64)
- The term "Windows(R) XP" is used to refer to all of the following products:
 - Microsoft(R) Windows(R) XP Professional x64 Edition
 - Microsoft(R) Windows(R) XP Professional
 - Microsoft(R) Windows(R) XP Home Edition
- The term "Windows(R) Me" is used to refer to Microsoft(R) Windows(R) Millennium Edition.
- The term "Windows(R) 98" is used to refer to Microsoft(R) Windows(R) 98 operating system.
- Articles specific to the version of Systemwalker Operation Manager that runs on all of the following operating systems are referred to as "Windows Server 2003 STD (x64) version":
 - Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Standard x64 Edition
- Articles specific to the version of Systemwalker Operation Manager that runs on all of the following operating systems are referred to as "Windows Server 2003 DTC (x64) version":
 - Microsoft(R) Windows Server(R) 2003 R2, Datacenter x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Datacenter x64 Edition
- Articles specific to the version of Systemwalker Operation Manager that runs on all of the following operating systems are referred to as "Windows Server 2003 EE (x64) version":
 - Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
 - Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
- Articles specific to the version of Systemwalker Operation Manager that runs on the following operating system are referred to as "Windows(R) 2000 Server version":
 - Microsoft(R) Windows(R) 2000 Server
- Articles specific to the version of Systemwalker Operation Manager that runs on the following operating system are referred to as "Windows(R) XP x64 version":
 - Microsoft(R) Windows(R) XP Professional x64 Edition
- Windows Internet Explorer(R) is abbreviated as "Internet Explorer".
- Versions of Systemwalker Operation Manager that run on the following operating systems are referred to as "Windows versions of Systemwalker Operation Manager" or simply "Windows versions":
 - Windows
 - Windows that supports Itanium
 - Windows that supports 64-bit architecture other than Itanium
- Articles specific to the version of Systemwalker Operation Manager that runs on Windows that supports 32-bit architecture are referred to as "Windows x86 version".
- Articles specific to the version of Systemwalker Operation Manager that runs on Windows that supports Itanium are referred to as "Windows for Itanium version".

- Articles specific to the version of Systemwalker Operation Manager that runs on Windows that supports 64-bit architecture other than Itanium are referred to as "Windows x64 version".
- Windows(R) 2000, Windows Server 2003 STD, Windows Server 2003 DTC, Windows Server 2003 EE, Windows Server 2008, Windows Server 2008 EE, Windows Server 2008 DTC, Windows Server 2008 STD, Windows Server 2008 Foundation, Windows Server 2008 R2, Server Core, Windows Server 2012, and Windows Server 2012 R2 may be abbreviated as "Windows servers".
- Oracle Solaris may be referred to as "Solaris", "Solaris Operating System", or "Solaris OS".
- Versions of Systemwalker Operation Manager that run on Solaris are referred to as "Solaris versions of Systemwalker Operation Manager" or "Solaris versions".
- Articles specific to the version of Systemwalker Operation Manager that runs on 32-bit versions of Solaris are referred to as "Solaris 32-bit version".
- Articles specific to the version of Systemwalker Operation Manager that runs on 64-bit versions of Solaris are referred to as "Solaris 64-bit version".
- Versions of Systemwalker Operation Manager that run on UXP/DS are referred to as "DS versions of Systemwalker Operation Manager" or "DS versions".
- Versions of Systemwalker Operation Manager that run on HP-UX are referred to as "HP-UX versions of Systemwalker Operation Manager" or "HP-UX versions".
- Versions of Systemwalker Operation Manager that run on AIX are referred to as "AIX versions of Systemwalker Operation Manager" or "AIX versions".
- Versions of Systemwalker Operation Manager that run on the following operating systems are referred to as "Linux versions of Systemwalker Operation Manager" or "Linux versions".
 - Linux
 - Linux that supports Itanium
 - Linux that supports 64-bit architecture other than Itanium
- Articles specific to the version of Systemwalker Operation Manager that runs on Linux that supports 32-bit architecture are referred to as "Linux x86 version".
- Articles specific to the version of Systemwalker Operation Manager that runs on Linux that supports Itanium are referred to as "Linux for Itanium version".
- Articles specific to the version of Systemwalker Operation Manager that runs on Linux that supports 64-bit architecture other than Itanium are referred to as "Linux x64 version".
- Solaris, DS, HP-UX, AIX, Linux, and Linux for Itanium versions of Systemwalker Operation Manager are referred to collectively as "UNIX versions of Systemwalker Operation Manager" or simply "UNIX versions".
- Solaris, HP-UX, AIX, Linux, and UXP/DS may be referred to as "UNIX servers".
- Systemwalker Operation Manager Standard Edition may be abbreviated as "SE".
- Systemwalker Operation Manager Enterprise Edition may be abbreviated as "EE".
- Standard Edition may be abbreviated as "SE", and Enterprise Edition may be abbreviated as "EE".
- BrightStor(R) ARCserve(R) Backup for Windows is abbreviated as "ARCserve".
- Microsoft(R)-Mail that is provided as a standard feature with Windows NT(R) is abbreviated as "MS-Mail".

Systemwalker Operation Manager Product Names

Systemwalker Operation Manager product names differ depending on the version. This document refers to the product explained herein as "Systemwalker Operation Manager". However, where the version is identified, the product name for that version is used.

Version	Product name
V11.0L10/11.0 or later	Systemwalker Operation Manager
V10.0L20/V10.0L21/10.1	Systemwalker OperationMGR

Version	Product name
Up to V10.0L10/10.0	SystemWalker/OperationMGR

Abbreviations of Manual Titles

Product names and versions are sometimes omitted from the official names used in Systemwalker Operation Manager manuals referenced in this document.

For example, Systemwalker Operation Manager Technical Guide, Systemwalker OperationMGR Technical Guide, SystemWalker/OperationMGR Technical Guide, and SystemWalker/OperationMGR V5.0" are referred to as the "Technical Guide".

Symbols Used in Commands and JCL

The symbols used in examples of commands and JCL are explained below.

Example

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

Symbol conventions

Symbol	Explanation
[]	Items enclosed in square brackets are optional.
{ }	One of the alternative items enclosed in braces must be selected.
–	When all optional items enclosed in square brackets are omitted, the default value indicated by an underscore is used.
	One of the items separated by vertical bars must be selected.
...	The item immediately preceding the ellipsis can be specified repeatedly.

Information Specific to Windows Versions or UNIX Versions

This document provides information that is common to both Windows versions and UNIX versions. Information relevant only to Windows versions or UNIX versions is distinguished from common information as described below.

Title [Windows versions]

All the information provided under the section title and its subheadings is specific to Windows versions.

Title [UNIX versions]

All the information provided under the section title and its subheadings is specific to UNIX versions.

If the information differs between the Windows and UNIX versions, text appropriate to each version will contain wording such as "On Windows versions," or "On UNIX versions," to identify it as relating to a particular version.

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Chapter 1 Q & A Relating to the Environment

1.1 Q: How Do I Change the IP Address and Host Name of the Operation Manager Server?

Applicable versions and levels

- Windows versions: V5.0L20 to V10.0L21
- Solaris versions: 5.0 to 10.0
- Linux versions: 5.2, V10.0L10
- HP-UX versions: 10.0
- AIX versions: 10.0

If you are using V10.0L20 or later, or V10.1 or later, refer to the following manual:

- "Changing the IP Addresses and Host Names" in the *Installation Guide*

A

The procedure below explains how to change the IP address and host name of the Operation Manager server. It also explains the items you must change.

Procedure

Use the following procedure to change the IP address and host name of the Operation Manager server:

1. Before changing the IP address and host name of the Operation Manager server, refer to "Items you must change" and check which items you must change on the Operation Manager server or client.

Depending on the items, you may need to stop and restart the Operation Manager server other than the one where you will change the IP address and host name. Refer to the information for each item.
2. Stop Systemwalker Operation Manager both on the Operation Manager server where you will change the IP address and host name, and on the server where you must stop Systemwalker Operation Manager because its items will be changed.
3. Change the IP address and host name of the Operation Manager server.
4. Change the items on the Operation Manager server or client where the items must be changed.
5. Restart the server where you stopped Systemwalker Operation Manager and the Operation Manager server where you changed the IP address and host name.

Items you must change

When changing the IP address and host name of the Operation Manager server, you must check or change the following items:

- Monitored host definition
- Power control definition [Windows versions] (if the server is turned on by a client)
- Monitoring permission host definition (if multi-server monitoring is performed)
- Request host and default host name definitions (if network jobs are used)
- Trust host definition (if the trust host has been defined)
- Node name definition in operation information (in a cluster system configuration)
- Load balancing definition [Windows versions] (if the Load Balancer function is used)
- Message event destination setting (if a message is generated by the command)

Monitored host definition

If you have changed the IP address and host name of the Operation Manager server, you must change the monitored host definition on all Operation Manager servers that monitor or operate the Operation Manager server you have changed.

In the **Systemwalker Operation Manager Environment Setup** window, click **Monitored host**. In the **Monitored Host Configuration** window, check the settings for host **property** and change the IP address and host name.

Refer to the following manual for details:

- V10.0L10/10.0

"Defining a Monitored Host" in the *Installation Guide*

- V5.0L10/5.0 to V5.0L30/5.2

"Defining the Monitored Host in Systemwalker Operation Manager" in the *Installation Guide*

Power control definition [Windows versions]

In some cases you may be using the function for powering on the server when a user logs on to a client, and you may have changed the IP address and host name of the server that is to be powered on. In this case, you may need to change the parameters of the power control software on the client.

Refer to "Definition of Power Control" in the *Installation Guide* for details.

Monitoring permission host definition

If the Operation Manager server where you changed the IP address and host name is used to monitor multiple servers, you must check the definition of the monitoring permission host on the monitored Operation Manager servers. You must also set the new host name.

In the **Systemwalker Operation Manager Environment Setup** window, click **Monitoring permission host**. In the **Define Monitoring Permission Host** window that will be displayed, check the settings for **Monitoring permission host** and set the new host name.

Refer to "Defining a Monitoring Permitted Host" in the *Installation Guide* for details.

Request host name and default host name definitions

In some cases the Operation Manager server where you changed the IP address and host name may be the server to which network jobs are submitted. In this case, check the definitions for the following job nets and jobs on the Operation Manager server that submits network jobs, and then set the new host name.

- **Add/Change/Monitor Job** window >> **Standard information** sheet >> **Request host**
- **Default host name** in the **Standard information** tab of the **Job Net Properties** window

You do not need to restart to enable the changes. However, make the changes when no jobs for which changes will be made are running.

Trust host definition

If the Operation Manager server where you changed the IP address and host name is defined as a trust host on another Operation Manager server, you must set the new trust host.

In the **Systemwalker Operation Manager Environment Setup** window, click the **Trust host** button to display the **Define Trust Host** window. Check the trust host definition and set a new host name.

To enable the settings, you must restart Systemwalker Operation Manager.

Refer to "Defining a Monitoring Permitted Host" in the *Installation Guide* for details.

Node name definition in operation information

If the Operation Manager server where you changed the IP address and host name is a schedule server in a cluster system configuration, you must set the new node name on the execution server.

In the **Systemwalker Operation Manager Environment Setup** window, click **Operation information** to display the **Define Operation Information** window. In the **Options** tab, set a new node name as the node name for **Define node names of the cluster system**.

To enable the settings, you must restart Systemwalker Operation Manager.

Refer to "Defining the System Operating Information" in the *Installation Guide* for details.

Load balancing definition [Windows versions]

If the Operation Manager server where you changed the IP address and host name is specified as a contained host for the Load Balancer function of queues, you must change the load balancing contained host.

On V5.0L30 or later, open the **Systemwalker Operation Manager Environment Setup** window and click **Operation information** to display the **Define Operation Information** window. In the **Operating control** tab, specify a queue. The **Edit Queue** window will be displayed. Check the setting for the contained host and set a new host name.

On V5.0L10 or V5.0L20, open the **Systemwalker Operation Manager Environment Setup** window and click **Operation information** to display the **Define Operation Information** window. Check the host name in the queue and hostgrp parameters and set a new host name.

To enable the settings, you must restart Systemwalker Operation Manager.

Refer to "Defining the System Operating Information" in the *Installation Guide* for details.

Message event generation destination setting

In some cases you may have specified a job that uses the options of the jobschmsgevent command to generate a message event to the Operation Manager server where you changed the IP address and host name. In such cases, review the job definition on the Operation Manager server (schedule server) where you have defined the jobschmsgevent command as a job.

You do not need to restart to enable the changes. However, make the changes when no jobs for which changes will be made are running.

Refer to the *Reference Guide* for information on the jobschmsgevent command.

1.2 Q: How Do I Change the IP Address and Host Name of an Operation Manager Client?

Applicable versions and levels

- Windows versions: V5.0L20 to V10.0L21
- Solaris versions: 5.0 to 10.0
- Linux versions: 5.2, V10.0L10
- HP-UX versions: 10.0
- AIX versions: 10.0

If you are using V10.0L20 or 10.1 or later, refer to the following manual:

- "Changing the IP Addresses and Host Names" in the *Installation Guide*

A

The procedure below explains how to change the IP address and host name of an Operation Manager client. It also explains the items you must change.

Procedure

Use the following procedure to change the IP address and host name in an environment where you installed Systemwalker Operation Manager:

1. Before changing the IP address and host name of an Operation Manager client, refer to "Items you must change" and check which items you must change on the Operation Manager server or client.
2. The Operation Manager client terminates. In addition, stop Systemwalker Operation Manager on the server where it must be stopped because its items will be changed.
3. Change the IP address and host name of the Operation Manager client.
4. Change the items on the Operation Manager server or client where the items must be changed.
5. Restart the server where you stopped Systemwalker Operation Manager. Also start the Operation Manager client.

Items you must change

When changing the IP address and host name of an Operation Manager client, you must review the settings of the following items:

- Host information definition (if Task Link has been installed)
- Parameters of the Client Task Link command (if Task Link has been installed)

Host information definition

If you are using the Task link function to power on a client, you must change the IP address and host name of the new Operation Manager client. Do this on the Operation Manager server that performs power-on.

Use the "hostinfo.ini" host information definition file to set the IP address and host name of the new Operation Manager client.

Refer to "Defining the Host Information" in the *Installation Guide* for details.

Parameters of Client Task Link command

If you have registered the Client Task Link command as a job, you must change the parameters of the Client Task Link command to the IP address and host name of the Operation Manager client to be changed.

Check the job definition on the Operation Manager server (schedule server) where you defined the Client Task Link command as a job. Then change to the new IP address and host name.

You do not need to restart to enable the changes. However, make the changes when no jobs for which changes will be made are running.

Refer to the *Reference Guide* for information on the Client Task Link command.

1.3 Q: What Definitions Must Be Changed when the IP address and Host Name of a Server to Be Linked to Systemwalker Operation Manager Are Changed?

Applicable versions and levels

- Windows versions: V5.0L20 to V10.0L21
- Solaris versions: 5.0 to 10.0
- Linux versions: 5.2, V10.0L10
- HP-UX versions: 10.0
- AIX versions: 10.0

If you are using V10.0L20 or later, or V10.1 or later, refer to the following manual:

- "Changing the IP Addresses and Host Names" in the *Installation Guide*

A

If you change the IP address and host name of the server to be linked to Systemwalker Operation Manager, you may have to change the definitions on Systemwalker Operation Manager.

If you change the IP address and host name of the server to be linked, you must check the following items on Systemwalker Operation Manager:

- Automatic operation support definition [Windows versions]

Automatic operation support definition [Windows versions]

If an SNMP trap is issued as an action to an event and you have changed the IP address and host name of the trap destination server, you must change the definition.

In the **Event Monitoring Conditions Definition** window, select the event. From the **Action** menu, click **Define Actions >> Action Definition** and in the **SNMP Trap** tab, change **Host name of Trap Destination**.

Refer to "Registering Execution Actions" in the *Online Help* or the *User's Guide* for details.

If you are using this function in conjunction with Systemwalker Centric Manager and if an SNMP manager exists on the Operation Management Server of Systemwalker Centric Manager, refer to the *Systemwalker Centric Manager Installation Guide* and change the definition.

1.4 Q: How Do I Change the Password for the Startup Account of Systemwalker Operation Manager?

Applicable versions and levels

- Windows versions: V5.0L10 to V10.0L10

If you are using V10.0L20 to V13.3, refer to the following manual:

- "Changing the Startup Account [Windows version]" in the *Installation Guide*

A

The procedure below explains how to change the password for the startup account of Systemwalker Operation Manager. If you are using the startup account as a user of Systemwalker Operation Manager, the password information for the Systemwalker Operation Manager user is also changed.

This information must be changed for the following Systemwalker Operation Manager users:

- Job owners
- Users registered in the Task Link password management book

Procedure

1. Stop Systemwalker Operation Manager services

Use the `soperationmgr` command to stop all Systemwalker Operation Manager services simultaneously.

2. Change the password for the startup account

Change the password for the startup account by using the user password change function of the operating system.

3. Change the password for the startup account of Systemwalker Operation Manager services

1. If you are using Windows NT(R), click **Control Panel >> Services**. If you are using Windows(R) 2000, Windows Server 2003 STD, Windows Server 2003 DTC, or Windows Server 2003 EE, click **Control Panel >> Administrative Tools >> Services**.

2. Check if the startup account has been set for the logon account of each Systemwalker Operation Manager service

If the startup account has been set

Enter the new password in **Password** and **Confirm password**.

If the startup account has not been set

No action is required.

4. Start Systemwalker Operation Manager services

Use the `soperationmgr` command to start all Systemwalker Operation Manager services simultaneously.

5. If you are using the startup account as a user of Systemwalker Operation Manager, change the password information of the Systemwalker Operation Manager user.

Changing the password for a job owner

If **Execute jobs under the respective job owner's authority** is specified in the Job Execution Control definition, and a job exists in which the startup account has been defined as the owner, the password information for the job owner must be changed. Use the procedure below to change the password.

If you have not specified **Execute jobs under the respective job owner's authority**, you must not change the password for a job owner.

1. Click **Job owner** in the **Systemwalker Operation Manager Environment Setup** window.

The registered user name is displayed in the **Define Job Owner's Information** window.

2. Select the target user in the **Define Job Owner's Information** window, and then select **Define** from the **User** menu.

The **Define Password Information** dialog box will be displayed.

3. Enter password information to the **Define Password Information** dialog box

If the entered information is properly authenticated, "Defined" will be displayed in the **Status** field for the relevant user in the **Define Job Owner's Information** window.

Changing the definition information in the password management book for Task Link

If you are using the Task Link function and you have defined the startup account in the password management book for Task Link, change the password definition. Define the password management book by using the password management command on the server where the Task Link command is executed. Refer to the *Reference Guide* for information on how to define the password.

The password management book file has the extension ".ini" after the login definition name. It is stored in <Systemwalker installation directory>\MpWalker.JM\mpnjsosv\manage.

1.5 Q: Can I Back Up Systemwalker Operation Manager Resources as Jobs?

Applicable versions and levels

- Windows versions: V10.0L10 or later
- Solaris versions: 10.0 or later
- Linux versions: V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

On V10.0L10 and 10.0 or later, you can schedule backup as a job by using the function (-SN option of the mpbko command) for backing up Systemwalker Operation Manager resources without stopping Systemwalker Operation Manager.

Operation cannot be guaranteed if you use a method other than that described above to back up Systemwalker Operation Manager resources while Systemwalker Operation Manager is operating.

This is because, if files in the Systemwalker Operation Manager database directory are accessed by a backup product while Systemwalker Operation Manager is operating, Systemwalker Operation Manager may no longer be able to access the files and therefore may not be able to perform processing properly.

Note the following points before backing up Systemwalker Operation Manager resources to the system as jobs:

- On V10.0L10, V10.0L20, V10.0L21, and 10.0

Before performing backup, ensure that the backup directory is empty.

If the backup directory is not empty, a confirmation response is requested. This means that the job remains in "Executing" status and does not terminate.

- On V11.0L10, V12.0L10, 10.1, 11.0, and 12.0

If you do not specify the -d option, note the same points as those for V10.0L10, V10.0L20, V10.0L21, and 10.0.

If you specify the -d option, you must ensure beforehand that the backup directory is empty. If any files exist in the backup directory, the backup command terminates abnormally.

1.6 Q: How Do I Back Up or Restore Systemwalker Operation Manager Using the Operating System Backup and Restore Function?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

[Windows versions]

As a rule, operation cannot be guaranteed if a backup tool (such as nbackup) or backup software (such as ARCserve) is used for full backup or full restore of the operating system. Use the procedure below to back up and restore Systemwalker Operation Manager.

- V10.0L20 or later

Use **Backup operation environment** and **Restore operation environment** in the Operation Environment Maintenance Wizard provided by Systemwalker Operation Manager.

- V10.0L10 or earlier

Use the mpbko backup command and mprso restore command provided by Systemwalker Operation Manager.

If the following conditions are met, you can back up and restore Systemwalker Operation Manager using full backup and restore of the operating system. However, carefully consider and test the procedure before using it.

[Conditions]

- Systemwalker Operation Manager services are stopped before full backup and full restore of the operating system
- The method for backup and restore of the operating system guarantees that the information in the file system is identical before and after the full restore operation
- Operation of the operating system is guaranteed after a full restore

If the conditions are not satisfied, you cannot properly back up and restore Systemwalker Operation Manager. Before performing operations, use the Operation Environment Maintenance Wizard provided by Systemwalker Operation Manager to back up the operation environment. If Systemwalker Operation Manager does not operate properly after restore, rebuild the environment in accordance with the normal backup and restore procedure. Refer to "Backing Up or Restoring Operation Environment" in the *Installation Guide* for information on the procedure.

[UNIX versions]

As a rule, operation cannot be guaranteed if full backup or full restore of the operating system is performed (including cases where backup software such as ARCserve is used for full backup or full restore of the operating system). Use the mpbko backup command and mprso restore command provided by Systemwalker Operation Manager for backing up and restoring Systemwalker Operation Manager.

If the following conditions are met, you can back up and restore Systemwalker Operation Manager using full backup and restore of the operating system. However, carefully consider and test the procedure before using it.

[Conditions]

- Systemwalker Operation Manager daemons are stopped before full backup and full restore of the operating system
- The method for full backup and full restore of the operating system guarantees that the information in the file system is identical before and after the full restore operation (possible using ufsdump and ufsrestore)

- Operation of the operating system is guaranteed after a full restore

If the conditions are not satisfied, you cannot properly back up and restore Systemwalker Operation Manager. Before performing operations, use the mpbko backup command provided by Systemwalker Operation Manager to back up the environment. If Systemwalker Operation Manager does not operate properly after restore, rebuild the environment in accordance with the normal backup and restore procedure. Refer to "Backing Up or Restoring Operation Environment" in the *Installation Guide* for information on the procedure.

1.7 Q: What Are the Type, Size (or Retention Period), and Generations Held for each Log File Output by Systemwalker Operation Manager?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Jobscheduler log file

Log type	Contains the job net and job execution history (start time, end time, and completion code).
Log storage location	jobdb1.log/jobdb2.log/jobdb3.log file in the database directory for Jobscheduler
Log file size or retention period (*1)	1 to 99 MB (default: 3 MB) However, for V5.2 and V5.0L30 or earlier versions, the range is 1 to 9 MB.
Number of files for cyclic use	3 (jobdb1.log, jobdb2.log, and jobdb3.log) This number cannot be changed.

*1: You can set this value by opening the **Define Jobscheduler Startup Parameters** window, clicking the **Database** tab, and then selecting a value for **Log file size**.

Job execution history information log [V5.1 and V5.0L10 or later]

Log type	Contains the date and time at which each job was submitted, started, completed, and deleted, and the completion code of the job. The log files contain binary attributes, so they cannot be referenced directly. Use the mjsview command to reference the log files.
Log storage location (*1)	By default, this log is stored under the following directory: [Windows versions] <Systemwalker Operation Manager installation directory> \MpWalker.JM\mpmjessv\hist [UNIX versions] /var/spool/mjes/hist
Log file size or retention period (*1)	1 to 31 days (default: 7 days)
Number of files for cyclic use	Files older than the specified number of days are deleted.

*1: You can set this value by opening the **Define Operating Information** window, clicking the **Logging** tab, and then selecting a retention value.

Operation record information log (if set in Operation information in the Environment definition window of Systemwalker Operation Manager)

Log type	Operation information for executed jobs and job nets is stored in CSV format.
Log storage location (*1)	No default
Log file size or retention period (*1)	1 to 31 days
Number of files for cyclic use	Files older than the specified number of days are deleted.

*1: You can set this value by opening the **Define Operating Information** window, clicking the **Logging** tab, and then selecting a retention value.

1.8 Q: How Do I Establish a Backup Link to ARCserve?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

[BrightStor ARCserve Backup r11.1 or earlier]

Use Backup Link (mpsubasx).

[BrightStor ARCserve Backup r11.5 or later]

Use the backup command (cabatch) of ARCserve.

Do not use Backup Link (mpsubasx) for backup because operation is not guaranteed.

1.9 Q: How Do I Promote or Demote a Server Machine to or from a Domain Controller [Windows Versions]?

Applicable versions and levels

- Windows versions: V10.0L21 or later

A

You can use the procedure below to promote a server machine on which the Systemwalker Operation Manager server has been installed to a domain controller, and to demote such a server machine from a domain controller.

1) Perform backup

Perform backup before promoting a server machine to a domain controller or demoting a server machine from a domain controller.

2) Register users

Confirm and record the users belonging to the local group indicated below. (The information recorded here will be used to return the server machine to the pre-promotion or pre-demotion state if this operation is required after the server machine has been promoted to or demoted from a domain controller.) The local group to be confirmed and the confirmation method are explained below.

- [Local group]

swadmin

- [Confirmation method]

The following menus can be used to confirm the local group:

- For promotion

Open **Control Panel** and select **Administrative Tools >> Computer Management >> System Tools >> Local Users and Groups >> Groups**

- For demotion

Open **Control Panel** and select **Administrative Tools >> Active Directory Users and Computers**. Select the relevant domain, and then select **Users**.

3) Perform promotion or demotion

Promote or demote the server machine to or from a domain controller. Refer to the relevant operating system manual for information on how to promote and demote a server machine.

4) Check and set local group information

Confirm that the following local group is registered with the system. If it is not, create it. The local group to be confirmed and the confirmation and registration methods are explained below.

- [Local group]

swadmin

- [Confirmation method]

The following menus can be used to confirm the local group:

- For promotion

Open **Control Panel** and select **Administrative Tools >> Active Directory Users and Computers**. Select the relevant domain, and then select **Users**.

- For demotion

Open **Control Panel** and select **Administrative Tools >> Computer Management >> System Tools >> Local Users and Groups >> Groups**

- [Registration method]

Start the command prompt.

Execute the following command to create a local group.

```
> net localgroup swadmin /ADD
```

5) Delete unknown account information

Use Windows Explorer to display the properties of the following directory, and then click **Security**. Delete any unknown accounts from the list under **Group or user names**.

- [Directory]

```
<Systemwalker installation directory>\MpWalker.JM
```

6) Set the required access permissions

As in step 5) above, use Windows Explorer to display the properties of the following directory and ensure that the following access permissions have been set. The directory and access permissions to be checked and the method for setting them are explained below.

- [Directory]

<Systemwalker installation directory>\MpWalker.JM

- [Access permissions]

	Access permissions
swadmin	Full control
Administrators	Full control
SYSTEM	Full control
CREATOR OWNER	Full control
Users	Modify
Everyone	Modify

- [Setup method]

1. Log in as a user that belongs to the Administrators group.
2. Start the command prompt.
3. Run the following command to set access permissions.

<Systemwalker installation directory>\MpWalker\bin\mpsetsec.exe /o

7) Set users belonging to the local group

Set the users belonging to the following local group to the same state as in the confirmation results recorded in step 2) above. (Add or delete users as required.)

- [Local group]

swadmin

8) Change the startup account

- For promotion

You must specify domain users for the startup account.

- For demotion

You must specify local users for the startup account.

Refer to the *Installation Guide* for information on how to change the startup account.

9) Reset the job owner information

Open the **Define Operating Information** window and the **Options** tab. If the **Execute jobs under the respective job owner's authority** function is selected, reset the job owner information definition. Define the following items again:

- Use the **Define Job Owner's Information** window to specify the password for the account that will submit jobs
- Grant the **Log on as a batch job** right to the account that will submit jobs

Chapter 2 Q & A Relating to Operation

2.1 Q: How Do I Test a Scheduled Job without Changing the system date and time of the Machine?

Applicable versions and levels

- Windows versions: V5.0L30 or later
- Solaris versions: 5.2 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can set a virtual time and check future scheduled operations by operating in test mode. Use the following procedure to set a virtual time and test a scheduled job.

1. Select **Start** or **Apps**, and then click **Systemwalker Operation Manager**. From the displayed submenu, click **Environment Setup** to display the **Systemwalker Operation Manager Environment Setup** window. Click **Startup parameter**. The **Define Jobscheduler Startup Parameters** window will be displayed. In the **Test mode** tab, check **Change the virtual time** and specify any date and time.
2. Restart the Jobscheduler server.



Note

When the date of the Jobscheduler server becomes later than the current year, all startup day information set in **Startup Days** for the job nets of the current year is deleted.

If you set a date later than the current year and then select **Release the virtual time**, startup day information for the current year is deleted.

Therefore, use the backup command (mpbko command) in advance to back up the environment.

2.2 Q: Can Policy Data be Distributed between Different Editions?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can distribute policy data from a lower edition to a higher edition, but not from a higher edition to a lower edition.

The following combinations are supported:

- Extracted from: SE; Distributed to: SE, and EE
- Extracted from: EE; Distributed to: EE

You cannot distribute policy data between the following combinations:

- Extracted from: EE; Distributed to: SE

Refer to the following manuals for details:

"Support for Extracting and Distributing Policy Data" in the *Technical Guide*

2.3 Q: What Points Should I Note when Registering a Large Number of Job Nets?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

If you register a large number of job nets in a single project and if numerous job nets in the same project are to be started at the same time, the job nets may not be able to start on schedule.

Jobscheduler handles a group of job nets for each project. This is because registering a large number of job nets in a particular project results in a broad search scope for each job net and job. Furthermore, if a large number of job nets are started at the same time, a high access volume is concentrated on a particular management book.

To register a large number of job nets, distribute and register them across multiple projects. Registering job nets in a distributed fashion can prevent degradation in schedule performance, because access to the management book for job net information is distributed.

Guides when registering a large number of job nets

Estimate the number of registered job nets and perform a test to verify that the job nets can be successfully started as scheduled.

For example, prepare a provisional business model in which the estimated number of registered job nets and the scheduled start times are specified. Then verify in advance that the job nets can be successfully started as scheduled.

[Example] Business model

Job net registration count	1,000
Scheduled start time	10:00
Started job net count	100

If executing the above business model causes job net startup to be delayed beyond the scheduled start time, change the business model. One way of doing this is by distributing the job nets that are to be started at the same time to multiple projects when registering them. Then verify startup again.

Action when a large number of job nets have been registered

If a large number of job nets have already been registered, check the job net registration count and scheduled start time for each project. Then distribute the job nets to another project as required.

Checking the number of registered job nets

Use the -N option of the jobschprint command to check the job net registration count and scheduled start time for each project.

Refer to the *Reference Manual* for information on the -N option of the jobschprint command.

Distributing job nets to multiple projects

You must consider the following points before moving job nets to another project.

- If you are starting job nets by using the jobschmsgevent command to generate message events, review the project name in the jobschmsgevent command.
- If moving job nets that were registered in a group, copy all the job nets contained in the group and then reconfigure the group.

Use the following procedure to move job nets.

1. Use any of the following methods to copy the job nets to another project:
 - Use the -ncop option of the jobschsetnet command to copy the job nets.
 - In the client window of Systemwalker Operation Manager, copy the job nets.
2. Review the job nets that are in a sequential relationship between copy source and copy destination and that generate message events. If the job nets are registered in a group, reconfigure the group of copy source and copy destination job nets.
3. Delete the job nets in the copy source project.

If the job nets are layered, use the following procedure to move them.

1. Use the -r option of the jobschprint command to output all job nets in the first layer and below as definition statements to any file.
2. Specify the file output at step 1 as an argument of the jobschsetnet command and register the job nets to the copy destination project in order, starting with the lowest job net.
3. Delete the copy source job nets from the first layer.

Refer to the *Reference Manual* for information on the jobschmsgevent command, jobschsetnet command, and jobschprint command.

2.4 Q: What Points Should I Note when Registering a Large Number of Jobs?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Design the system so that when you register a large number of jobs, multiple job processes are executed in a single job, minimizing the number of jobs.

Queue control, exclusive control, and creation of the job execution environment are performed for each job, so more jobs result in higher overheads. If the schedule server and the execution server are different, communication and transfer of job output files between the servers will also result in overhead.

Guidelines when registering a large number of jobs

Estimate the registered number of jobs and the processing time for each job, and verify that the jobs can be processed within the operation time. If you register network jobs, test the jobs in a network job environment.

For example, prepare a business model in which provisional jobs are set to "sleep" during the estimated job processing time, and verify in advance that the jobs can be processed within the operation time.

[Example] Business model

Job net registration count	1,000
Scheduled start time	10:00
Started job net count	100

If not all jobs are completed within the operation time when you execute the above business model, change the business model by reviewing the details of job processing and putting multiple jobs into a single job to reduce the number of registered jobs. Then test the business model.

Reducing the number of jobs

Create jobs as in the examples below and design the system with as few jobs as possible.

Example 1: Register multiple commands as a single shell script

[Before improvement] One command is specified as one job

```
Job 1: date>>/var/tmp/gyoumu.log
Job 2: gyoumushori.exe
Job 3: date>>/var/tmp/gyoumu.log
```

[After improvement] Specify multiple processes in a shell script as one job

```
Job 1:
date>>/var/tmp/gyoumu.log
gyoumushori.exe
date>>/var/tmp/gyoumu.log
```

Before improvement, each of three commands (log date, process, and log date again) is registered as one job. Each time a job is executed, CPU usage increases due to overhead, which is caused by queue control processes (such as a limit of the maximum number of jobs executed simultaneously) and job execution environment generation processes (such as authentication, internal login processes, and preparation of standard output and error output files). As a result, it is possible that the CPU cannot be used for the original job processes. Putting three jobs into one reduces the processes executed for each job.

Example 2: Use the job step of JCL (Job Control Language)

Systemwalker Operation Manager enables you to create jobs in the job step configuration by using JCL.

You can specify multiple job steps in a single job and start shell scripts corresponding to the job steps. You can therefore configure multiple shell scripts as a single job.

For example, if there are 100 processes, with each consisting of 10 shell scripts as one job, 1000 jobs will have to be executed if job steps are not used. By using job steps, you can specify 10 shell scripts as one job, reducing the number of jobs to 100.

However, when using JCL to specify network jobs, you can specify the execution destination server for each job step. This may result in overhead due to communication with the execution destination server and transfer of job output files per job step. Therefore, putting multiple shell scripts into one job may not improve performance.

Refer to the *Reference Manual* for information on how to specify JCL.

2.5 Q: What Points Should I Note Regarding Client Response Performance?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later

- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

If an Operation Manager client monitors an Operation Manager server where a large number of job nets and groups are registered, the client response including screen display may be delayed. In such cases you can improve the response by limiting screen display on the client and the projects targeted for operation.

To improve response, register and connect users for whom you limited screen display and projects targeted for operation, as explained below.

1. In the **Set Permissions** window, register users having reference and operation rights for each project so that the settings do not overlap with the settings for other projects.
2. Connect to the Operation Manager server as the user registered in step 1.

Up to 62 (*1) Operation Manager clients can be connected to the Operation Manager server (Jobscheduler function). However, a higher number of client connections results in deteriorated response for individual clients. As a rough guide, do not connect more than eight Operation Manager clients to a particular Operation Manager server at the same time.

*1: The maximum value may vary depending on the operating system.

On V11.0L10/11.0 or later, you can limit the maximum number of connected clients to 62. To do this, open the **Define Jobscheduler Startup Parameters** window and use the settings in the **Use function2** tab. Refer to the following manuals for details.

- V11.0L10/11.0 or later
 - "Limit Values for Operations" in the *Technical Guide*
 - "Defining Startup Parameters" in the *Installation Guide*



Note

Some users may frequently request a refresh (by pressing the F5 key) of the client window to cope with deteriorated client response. However, this operation may hinder screen display to other users and cause a further deterioration in response. Try not to request a refresh (by pressing the F5 key) frequently even if response has deteriorated.

2.6 Q: What Points Should I Note when Starting a Large Number of Jobs on Multiple Subsystems?

Applicable versions and levels

- Windows versions: V10.0L10 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 13.2.0

A

If you create multiple subsystem environments by using the `createsubsystem` command and you start a large number of jobs, performance may deteriorate immediately after you create the multi-subsystem environments because they are created on a single disk.

When operating a large number of jobs, preferably distribute the Jobscheduler database directory and the Job Execution Control spool directory to different disks for each subsystem.

The following description explains how to distribute the database directory and spool directory to the desired disks.

Directory storage location

When you create a subsystem environment, the database directory and spool directory are stored in the following locations:

Database directory

Windows versions	<installation directory> \\MpWalker.JM\mpjobsch\jobdbn
Solaris versions	/var/opt/FJSVJOBSC/JOBDBn
HP-UX versions	/opt/FHPJOBSC/db/JOBDBn
Linux versions	/var/opt/FJSVJOBSC/JOBDBn
AIX versions	/usr/FAIXJOBSC/db/JOBDBn

Spool directory

Windows versions	<installation directory> \\MpWalker.JM\mpmjessv\mjесn\mjесpool
Solaris versions	/var/opt/FJSMJS/var/spool/mjes/mjesn
HP-UX versions	/opt/FHPMJS/var/spool/mjes/mjesn
Linux versions	/var/opt/FJSMJS/var/spool/mjes/mjesn
AIX versions	/opt/FAIXMJS/var/spool/mjes/mjesn

In "JOBDBn", "jobdbn", and "mjесn" above, "n" corresponds to the subsystem number from 1 to 9. When the subsystem number is 0, the database directory and spool directory will be stored in the same directory as that used when multiple subsystems are not started.

Distributing directories [UNIX versions]

You can distribute the database directory and spool directory in a UNIX environment by moving them to any disk and creating symbolic links in the storage location used when the subsystem environment is created.

The following provides an example of moving the database directory to "/disk1" and the spool directory to "/disk2" in the Solaris environment.

1) Moving to disks

Move the database directory and spool directory to different disks.

```
# mv /var/opt/FJSVJOBSC/JOBDBn /disk1/JOBDBn
# mv /var/opt/FJSMJS/var/spool/mjes/mjesn /disk2/mjesn
```

2) Creating symbolic links

Create symbolic links as in the following example:

```
# ln -s /disk1/JOBDBn /var/opt/FJSVJOBSC/JOBDBn
# ln -s /disk2/mjesn /var/spool/mjes/mjesn
```

Note: Replace "n" in the example above with the actual subsystem number.

Distributing directories [Windows versions]

To distribute the database directory and spool directory in the Windows environment, open the **Systemwalker Operation Manager Environment Setup** window. In the tab that is displayed, specify the database directory and spool directory of the distribution destination disks.

Database directory:

From the **Systemwalker Operation Manager Environment Setup** window, open the **Define Jobscheduler Startup Parameters** window and click the **Database** tab. In this window, change the default drive name to a drive name on another disk.

Spool directory:

From the **Systemwalker Operation Manager Environment Setup** window, open the **Define Operating Information** window.

On V10.0L21 or earlier, open the **Define Operating Information** and click the **Options** tab. For **Spool directory**, specify the directory of a different disk.

On V11.0L10 or later, open the **Define Operating Information** window and click the **Cluster settings** tab. For **Spool directory**, specify the directory of a different disk.

Chapter 3 Q & A Relating to the Calendar and Power Control

3.1 Q: What Points Should I Note when Using the Batch Power Control Function [Windows Versions]?

Applicable versions and levels

- Windows versions: V10.0L10 or later

A

- If linking Systemwalker Operation Manager to one of the following products for power control, you will need one uninterruptible power supply (UPS) per server.
 - PowerChute(R) *plus*
 - PowerChute(R) Business Edition
- Operation is not guaranteed in a master-slave configuration with PowerChute(R) *plus* or PowerChute(R) Business Edition.
- A network management card is required for each UPS.

3.2 Q: How Do Services Behave when the Batch Power Control Function is Used [Windows Versions]?

Applicable versions and levels

- Windows versions: V10.0L10 or later

A

The Batch Power Control function consists of processes for remotely turning controlled servers on and off.

The following explains how a service behaves, using the example of turning controlled servers (Server 1 and Server 2) on and off from the power control server. Assume in this example that the UPSs connected to Server 1 and Server 2 are PowerChute(R) *plus* or PowerChute(R) Business Edition.

Power-on

The process for power-on is as follows:

1. The "Systemwalker MpJmCal" service (hereafter referred to as the "calendar service") on the power control server starts.
2. The calendar service on the power control server sends a request via the LAN to the UPS connected to Server 1 for starting power-on.
(A network management card is required at this time.)
3. The UPS connected to Server 1 receives the power-on request and then starts power-on. This causes Server 1 to start.
4. The calendar service on the power control server sends a request via the LAN to the UPS connected to Server 2 for starting power-on.
5. The UPS connected to Server 2 receives the power-on request and then starts power-on. This causes Server 2 to start.

Power-off

The process for power-off is as follows:

1. The calendar service on the power control server sends a request to the calendar service on Server 2 for powering off the server.

2. The calendar service on Server 2 receives the power-off request and starts the power-off command (UPSSLEEP.EXE).
3. The calendar service on the power control server sends a power-off request to the calendar service on Server 1.
4. The calendar service on Server 1 receives the power-off request and starts the power-off command (UPSSLEEP.EXE).



Information

.....

If a problem relating to power control occurs, refer to "Power off is Not Operating Correctly" in the *Troubleshooting Guide* and take action.

.....

Chapter 4 Q & A Relating to the Jobscheduler

4.1 Q: How is Display of Job Nets in the Gantt Chart Restricted?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The job net execution history displayed in the Gantt chart for the current day shows up to 24 generations. For example, if job nets are being executed at intervals of five minutes, the history for only the last two hours is displayed.

4.2 Q: Can I Set Certain Business Days as Job Net Startup Days for Executing Job Nets?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

V13.8.0 or later

You can set job net startup days in the **Startup Days(Other)** window as follows:

Example: Setting the first, third, and fifth business days of each month as startup days

- Basis settings: Business days

- Selected business days: First, third, and fifth business days

Startup days(Other)

Basis Settings

Yearly Monthly Business Days

Business day basis

Monthly Settings

Month's start date: 10 Month's end date: 9

Criteria

Month's start date Month's end date

Unselected business days :

- 2nd business day
- 4th business day
- 6th business day
- 7th business day
- 8th business day
- 9th business day
- 10th business day

Selected business days :

- 1st business day(Month's start)
- 3rd business day
- 5th business day

Set only business days of the month as startup days

A month: 10-9

Buttons: Add ->, <- Delete, OK, Cancel, Help

V13.0.0 or later

Open the **Job Net Properties** window and click the **Startup days** tab. You can then set the business days as shown below.

Example: Setting the third business day of each month as the startup day

- Basis settings: Business days
- Selected business days: Third business day

V12.0L10, 12.1, and V12.0L11 or earlier

You can select working days in the number of shifted days when setting startup days.

Use the following procedure to enter settings:

1. Open the **Job Net Properties** window and click the **Calendar** tab. Then add the selected calendar from Unselected calendar to Selected calendar.
2. Open the **Job Net Properties** window and click the **Startup days** tab. Then enter settings as shown below.

Example: Setting the third business day of each month as the startup day

- Basis settings: Monthly
 - Monthly standards: 1
 - Shift process: Shift to next day
 - Shifted days: "Business days-1"
 - Working days: Check
3. In the **Startup Days** window, ensure that the startup day has been set as intended.

4.3 Q: If I Have Configured Job Net Startup to be Triggered by a Message Event, is the Schedule Displayed in the Gantt Chart?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The Gantt chart is a window for confirming the execution status of each job along a time axis. The chart is displayed according to the settings, as explained below:

- It is impossible to know when a job net will start if it is configured to start only when a message event is generated and it has no scheduled execution time. Therefore, such job nets cannot be displayed in the Gantt chart before they start running. They are displayed in the Gantt chart once the job net starts and changes to Start status.

However, on V11.0L10 and 11.0 or later, such job nets are displayed in the Gantt chart before they start running if the following specifications have been set:

- If **Start only when message event has occurred** and **Once in a day** are selected and **Scheduled start time** is specified under **Execution condition** in the **Standard information** tab of the **Job Net Properties** window.
- You can set a scheduled execution time for job nets which are configured to execute at a certain time or interval and which wait for a message, so these job nets are displayed in the Gantt chart.
- Groups are always displayed, because only job nets that are set to run once a day can be registered in them.

4.4 Q: How Do I Display a Schedule in the Gantt Chart?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later

- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Defining an execution time for a job net makes it a scheduled job net. If a job net is scheduled to run on the current day, it will be displayed in the Gantt chart even if it has not yet started running.

On V11.0L10 and 11.0 or later, a scheduled job net is displayed in the Gantt chart before it starts running if **Start only when message event has occurred** and **Once in a day** are selected and **Scheduled start time** is specified under **Execution condition** in the **Standard information** tab of the **Job Net Properties** window.

4.5 Q: How Do I Link Startup of Job Nets between Projects?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can link job nets between projects: in one project, register a job net that generates a message event, and then in another project register a job net that uses that message as a trigger to start running.

4.6 Q: What Does the Limit of 255 Message Events Apply To?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The maximum of 255 message events applies to an entity that waits for message events, or in other words, to each job net. This is the limit on how many events generated while a job net is executing can be queued. If a job net waits only for message events, the number of queued events decreases by one each time it is executed. The queued events are not cleared automatically at the day change time.

To clear message events, manually start the jobschmsgclear command, or register the command as a job net to clear the message events.

4.7 Q: How Do I Group Job Nets that Will Start at Different Times?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can create multiple identical job nets and register them in a group, assigning a different execution time to each one. However, the job nets will be treated as separate job nets and the status of each will be displayed in the Gantt chart.

4.8 Q: Is There a Function for Freely Grouping Job Nets?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

A group is a collection of job nets that run once a day. It is intended as a mechanism to be used when you want to change the configuration of job nets to run on certain days (for example, weekly or monthly).

On Windows versions of Systemwalker Operation Manager V10.0L20 or later and UNIX versions of Systemwalker Operation Manager 10.1 or later, you can register job nets as jobs and run layered operation.

4.9 Q: Can I Temporarily Change Job Net Properties while a Job Net is Running?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You cannot temporarily change the properties of a job net that is in Executing status. Change the job net after it has ended.

4.10 Q: How Can I Change the Execution Time of Job Nets in a Group without Deleting the Group?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can change the execution time of job nets in a group without deleting the group. The execution time cannot be changed in the **Change Group** window, so use the following procedure:

1. In the job tree, select job nets in any group and display their properties.

You can also change the structure of job nets in a group. Use the **Change Group** window to change the structure (add, delete, or change the flow) of job nets in a group.

Make these changes when the group is not in Executing or Warning status.

4.11 Q: How Do I Check the Database Directory of the Jobscheduler?

Applicable versions and levels

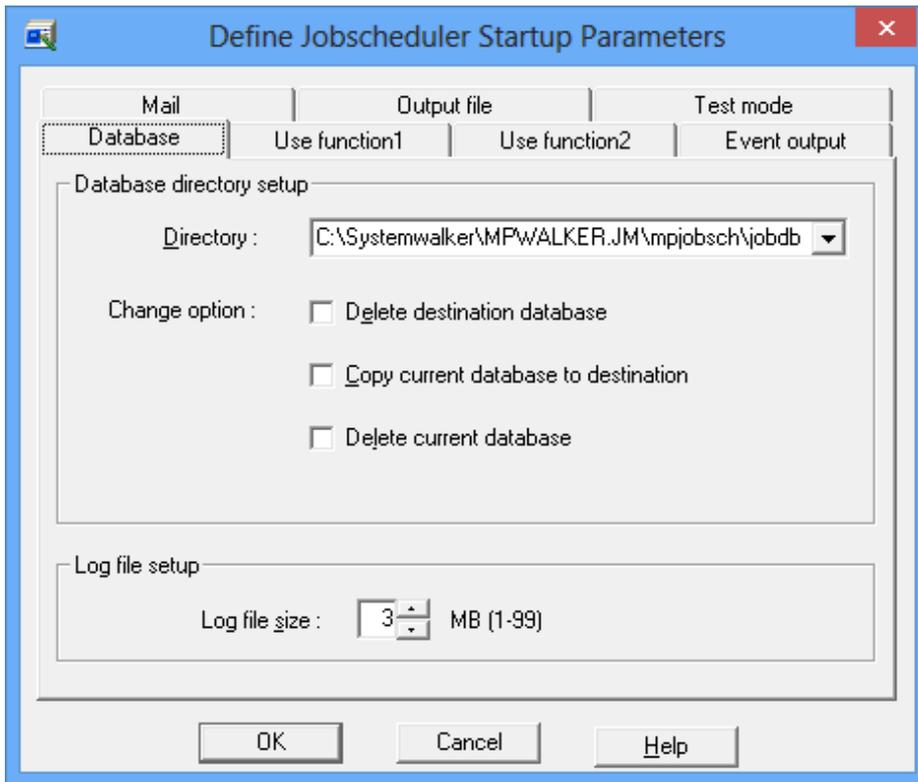
- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

[Windows versions]

You can check the database directory of the Jobscheduler for Windows versions of Systemwalker Operation Manager by opening the **Define Jobscheduler Startup Parameters** window and selecting the **Database** tab.

Define Jobscheduler Startup Parameters window on V13.8.0



If it has not been changed since installation, the database directory of the Jobscheduler will be as follows:

If multi-subsystem operation is not being used, or Subsystem0 database directory:

<Systemwalker Operation Manager installation directory>\MpWalker.JM\mpjobsch\jobdb

Subsystem n (where n is a number between 1 and 9) database directory:

<Systemwalker Operation Manager installation directory>\MpWalker.JM\mpjobsch\jobdb n

Example: Database directory when the installation directory is C:\Win32App:

C:\Win32App\MpWalker.JM\mpjobsch\jobdb

Example: Subsystem1 database directory when the installation directory is C:\Win32App:

C:\Win32App\MpWalker.JM\mpjobsch\jobdb1

[UNIX versions]

The location of the database directory of the Jobscheduler is fixed as shown below.

If multi-subsystem operation is not being used, or for Subsystem0 database directory

Solaris versions:

/var/opt/FJSVJOBSC

HP-UX versions:

/opt/FHPJOBSC/db

AIX versions:

/usr/FAIXJOBSC/db

Linux versions:

/var/opt/FJSVJOBSC

DS versions:

/var/opt/uxpJOBSC

Subsystem n (where n is a number between 1 and 9) database directory

Solaris versions:

`/var/opt/FJSVJOBSC/JOBDB n`

HP-UX versions:

`/opt/FHPJOBSCH/db/JOBDB n`

Linux versions:

`/var/opt/FJSVJOBSC/JOBDB n`

4.12 Q: How Do I Wait for the Creation or Update of a Large File?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

On Windows version V13.8.0 or later, when you use the wait for file job (chkfile command), you can wait for the creation or update to be completed.

On UNIX version or Windows version V13.3.1 or earlier, when you use "jobschchkfile command" or "chkfile command", you cannot wait for the creation or update to be completed.

Therefore, to wait for the creation or update of a large file, create a dummy file after the creation or update of the large file, and wait for the dummy file instead.

4.13 Q: How Do I Confirm the Standard Output and Standard Error Output of a Command that is Executed Using the Exit Program?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

To confirm the standard output and standard error output of an application that is executed using an exit program, you must create an exit program so that the output results are redirected in advance. This causes command error messages to be recorded in a file.

Example: Completed shutdown exit [Windows versions]

```

echo off

echo shutdown job net exit routine start

rem --- Systemwalker MpJobsch ---
net stop "Fujitsu MpWalker MpJobsch"

rem --- Systemwalker MpMjes ---
mjstop 1>>c:\temp\err.log 2>>&1
net stop "Fujitsu MpWalker MpMjes"

shutdown.exe 1>>c:\temp\err.log 2>>&1

```

Example: Job net abended exit [UNIX versions]

```

#!/bin/sh
date >> /var/tmp/jobsch.exit.log 2>&1
echo $1/$2' is abnormal ended.' >> /var/tmp/jobsch.exit.log 2>&1
rm $6 >> /var/tmp/jobsch.exit.log 2>&1

```

In the above examples, the output is appended to a file. When using this method, you must consider deleting files etc. if necessary.

4.14 Q: What Actions Follow the Operation of a Job Net?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The following explains job net operations and their associated job net actions. You can execute the following operations for job nets:

Cancel

Forcibly cancels the job net being executed.

Start

Runs the job net immediately. The job net starts from the beginning.

On V13.0.0 or later, if a job net contains jobs (child and linked job nets) for which **Valid only on startup days** is set, the configuration information used for starting the job net varies depending on the status of the job net, as described below:

- If the scheduled execution time is on the previous day or before and is in Carried over, Paused, or Waiting status, the job net is started using the configuration information shown in the **Process flow** tab of the **Monitor Job Net** window.
- If the confirmation operation is enabled for a job net in Abended or Canceled status and the job net terminates abnormally or is canceled, then it is started with the configuration information displayed in the **Previous process result** tab of the **Monitor Job Net** window.



Performing the start operation does not clear the message event.

Restart

Restarts the job net. The job net is executed starting from the job that terminated abnormally, but you can set a restart point specifying which job to start from. Refer to "[Restarting job nets](#)" for details.

Pause

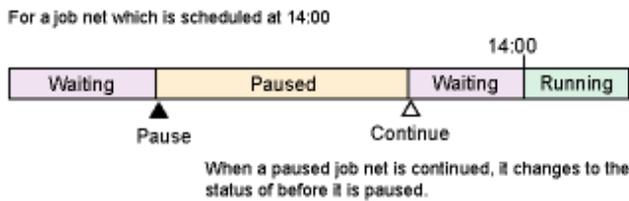
Pauses the job net. The paused job net cannot be executed even if the execution conditions are satisfied. If the job net belongs to a group, the group will be in Executing status.

Continue

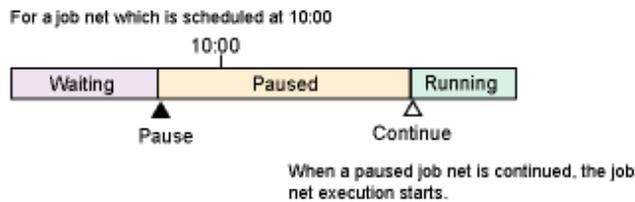
Continues a job net that was paused. When it is continued, the job net operates as follows:

- If the job net was paused in the Waiting or end status (Completed, Pseudo-normal, Abended, or Canceled) and it is continued before its execution conditions are satisfied, it resumes the status it had before pausing. However, if it was paused in the end status and is rescheduled, its status will be Waiting.
- If the job net was paused in the Waiting or end status (Completed, Pseudo-normal, Abended, or Canceled) and it is continued after its execution conditions are satisfied, it will resume.
- If the job net execution conditions were satisfied while it was paused and the next scheduled start has been reached, a "refused" message is output to the jobdb*.log log file and the job net that was scheduled to start afterwards is not executed. Paused job nets are executed when the Continue operation is executed.

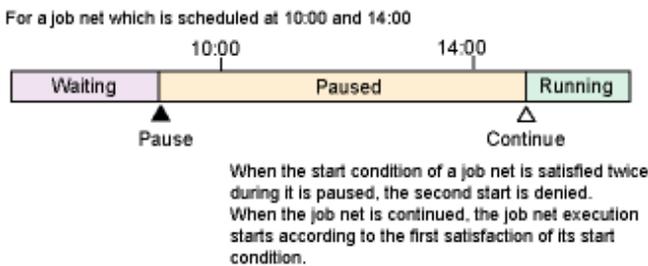
[When the job net is continued before its start condition is satisfied]



[When the job net is continued after its start condition is satisfied]



[When the start condition of a job net is satisfied twice during it is paused]

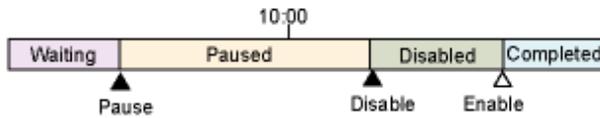


Disable

Disables the job net. The disabled job net is considered to be completed pseudo-normally when its execution time is reached, and is skipped. If the job net was paused and its execution conditions were satisfied while it was paused, it is considered to have completed pseudo-normally when it was disabled and is skipped.

[When the job net is disabled after its start condition is satisfied during it is paused]

For a job net which is scheduled at 10:00



When the job net is disabled, its execution is skipped.
When it is enabled, it changes to "completed" status.

If the job net belongs to a group, the subsequent disabled job net is executed when the first one is skipped.

On V11.0L10 and 11.0 or later, if a job net in Carried over status is disabled, the schedule is recreated at that time so that the next scheduled execution date/time is set when the job net is disabled.

Enable

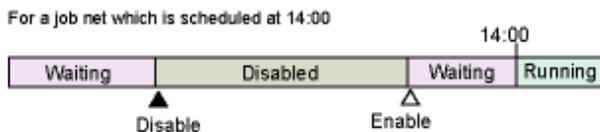
Enables a job net that was disabled. If the job net was enabled after its execution time was reached, its status will be Completed. The job net is already skipped and will not be executed unless it is executed manually.

When it is enabled, the job net operates as follows:

- If the job net was disabled in the Waiting or end status (Completed, Pseudo-normal, Abended, or Canceled) and it was enabled before its execution time was reached, it resumes the status it had before being disabled.
- If the job net was disabled in Paused status and was enabled before its execution time was reached, it resumes the status it had before pausing.
- On V11.0L10 and 11.0 or later, if the job net was disabled in Carried over status and was enabled before its execution time was reached, its status will be Waiting.
- If the job net was disabled in the Waiting or end status (Completed, Pseudo-normal, Abended, or Canceled) or in Carried over (V11.0L10 and 11.0 or later) status, it will not be started. This is because the job net is skipped even if it is enabled after its execution time is reached.

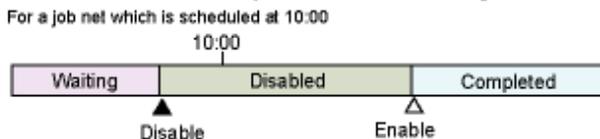
- If the job net was disabled in Paused status and was enabled after its execution time was reached, it is skipped and is not executed.

[When the job net is enabled before its scheduled time]

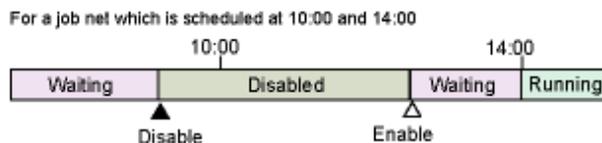


When a disabled job net is enabled, it changes to the status of before it is disabled.
 If the status of before it is disabled is "paused", it changes to the status of before it is paused.
 If the status of before it is disabled is "carried over", it changes to "waiting" status.

[When the scheduled time of a job net reached during it is disabled]

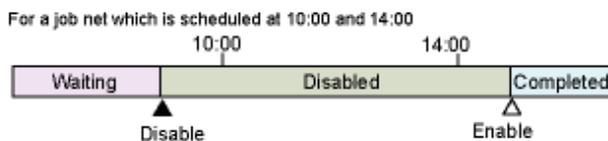


When the scheduled time of a job net arrives during it is disabled, the job net execution is skipped. When it is enabled, it changes to "completed" status.



When the scheduled time of a job net arrives during it is disabled, the job net execution is skipped. When it is enabled, it changes to "waiting" status because the next scheduled time exists within today.

[When the second scheduled time of a job net reached during it is disabled]



When the scheduled time of a job net arrives during it is disabled, the job net execution is skipped. When it is enabled, it changes to "completed" status.

Confirm

Changes the job nets which terminated abnormally at the previous execution (on 10.1 and V10.0L20 or later, this includes job nets in Canceled status if **Check canceled** is enabled) to Confirmed status. The confirmation operation is enabled if you specified **Validate job net confirmation** (*1) in the **Advanced Settings for Verification** window displayed when you click **Details** under **Verification at error occurrence** in the **Use function1** tab of the **Define Jobscheduler Startup Parameters** window. When **Validate job net confirmation** is specified and the job net remains in Abended status, it will not be executed even if the conditions for the next execution are satisfied. If the confirmation operation is performed for a job net that terminated abnormally, it is executed the next time the execution conditions are satisfied.

On 10.1 and V10.0L20 or later, you can enable confirmation of canceled job nets by specifying both **Check canceled** (*1) and **Validate job net confirmation** in the **Advanced Settings for Verification** window.

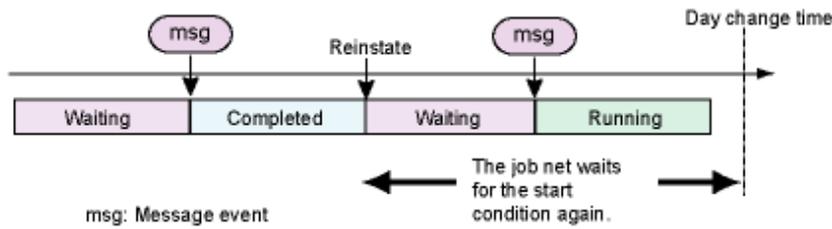
*1: On V13.2.0 or earlier, open the **Define Jobscheduler Startup Parameters** window and specify this setting in the **Use function1** tab.

Reinstate (11.0 and V11.0L10 or later)

Cancels the execution results of the job nets (Completed, Pseudo-normal, Abended, Canceled) that have already been executed for the current day. This operation is available only when **Once in a day** is selected for **Start only when message event has occurred** under **Execution condition** in the **Job Net Properties** window.

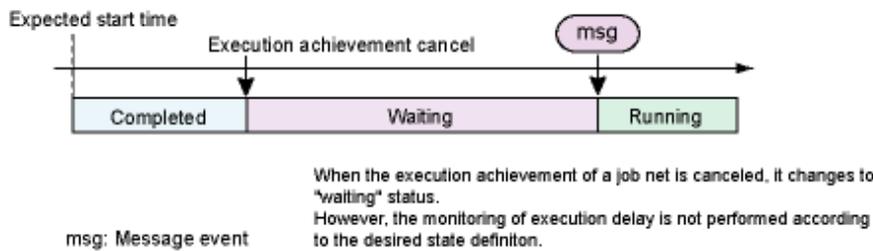
When reinstated, the job net will be in Waiting status and will again be able to wait for a message event as its execution condition for the current day. If **Scheduled start time** is specified, the scheduled execution time for the current date is used, otherwise the current date is used..

[When the job net is reinstated and it has already been started today]



If a scheduled start time has been specified and the job net is reinstated after the scheduled start time has passed, the job net changes to Waiting status. In such cases, delay monitoring (specified with the desired status) is not performed. If a message event is generated after the job net is reinstated, the job net is executed and changes to Waiting.

[When the execution achievement of a job net is canceled after its expected start time]



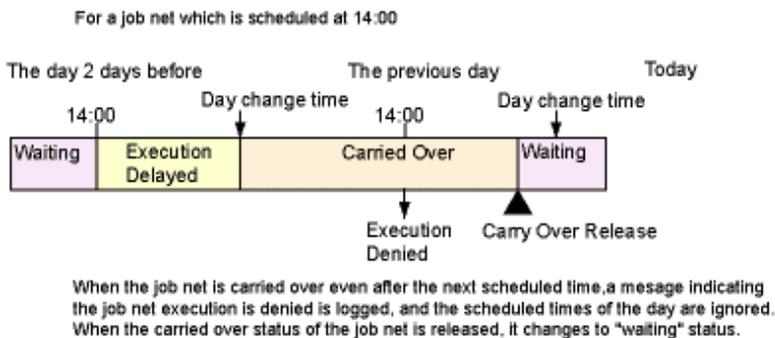
Revoke (11.0 and V11.0L10 or later)

Cancels the Carried over status of the job net.

When the job net is revoked, the schedule is reset to the next scheduled execution date/time and the job net changes to Waiting status.

If the next scheduled execution date/time passes while the job net is still in Carried over status because the awaited message event is not generated, a "refused" message is output to the jobdb*.log log file. The job net remains in Carried over status and the start schedule for that day is ignored. If the job net was in Carried over status, the schedule is set to the next scheduled execution date/time when the job net is revoked, and it changes to Waiting status.

[When the next scheduled time arrived while the job net is in carried over status]



Start with variable parameters (V13.3.0 or later)

Starts the job net with variable parameters specified. When a job net receives a variable parameter, it starts with a preset variable replaced by the variable parameter that was received.

Restarting job nets

When restarting a job net, you can select the jobs to be executed as follows:

- Start execution from the job that terminated abnormally

If a restart point is set for a job before the job that terminated abnormally or the job of another system (there is no sequential relationship with the job that terminated abnormally), cancel the restart point setting and restart the job net.

- Start execution from any job before the job that terminated abnormally

Set a restart point for any job before the job that terminated abnormally and restart the job net.

- Skip the job that terminated abnormally and start execution from the next job

Set the **Invalid at next restart** option in the **Control information** tab of the **Monitor - Job** window for the job that terminated abnormally and restart the job net.

On 13.0 or later, if a job net contains jobs (child job nets and linked job nets) with the **Valid only on startup days** setting and the confirmation operation is enabled for a job net in Abended or Canceled status which then terminates abnormally or is canceled or confirmed, it is restarted with the configuration information displayed in the **Previous process result** tab of the **Monitor Job Net** window.

4.15 Q: How Do I Migrate Definitions per Job Net or Group, or between Different Platforms?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Migrating a project

You cannot output files in control statement format. Use a Systemwalker Operation Manager client or the `jobschsetproject` command to create a project in advance.

Migrating a group or job nets in a group

[Tasks at the migration source]

- If the migration destination is V10.0L20 or 10.1 or later

```
jobschprint -R <project name>/<group name> >> <group name>.txt
```

Remark: You can specify any file name as the redirection destination.

You can specify multiple job net control statements in a single file.

- If the migration destination is V10.0L10 or 10.0 or earlier

```
jobschprint -R <project name>/<group name> > <group name>.txt
```

Remark: You can specify any file name as the redirection destination.

[Tasks at the migration destination]

```
jobschsetgrp -ent <project name> <group name>.txt (*1)
```

*1: File output from the migration source

Migrating a job nets or job

[Tasks at the migration source]

- If the migration destination is V10.0L20 or 10.1 or later

```
jobschprint -r <project name>/<job net name> >> <job net name>.txt
```

Remark: You can specify any file name as the redirection destination.
You can specify multiple job net control statements in a single file.

- If the migration destination is V10.0L10 or 10.0 or earlier

```
jobschprint -r <project name>/<job net name> > <job net name>.txt
```

Remark: You can specify any file name as the redirection destination.

[Tasks at the migration destination]

```
jobschsetnet -nent <project name> <job net name>.txt (*1)
```

*1: File output from the migration source

4.16 Q: What Projects are Applied during Policy Distribution?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

A policy is distributed per project. However, you cannot select a project for policy distribution.

If projects with the same name exist at the distribution source and destination, the project is updated with the project from the distribution source.

A project that exists only at the distribution destination is applied as is.

Example:

Distribution source	Distribution destination	After distribution
Project A	Project A	Project A (distribution source)
Project B	-	Project B
-	Project C	Project C

4.17 Q: What Points Should I Note when Extracting or Distributing Policy Data?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You do not need to stop Systemwalker Operation Manager services when extracting policy data. After distributing policy data, it will be applied when you restart the Systemwalker Operation Manager services at the distribution destination.

Refer to "Support for Extracting and Distributing Policy Data" in the *Technical Guide* for information on the scope of support.

Refer to "Distributing the Policy Data" in the *Installation Guide* for information on how to distribute the following policy data:

- Distributing startup parameters [Windows versions]
- Distributing the monitored host
- Distributing shared parameters [UNIX versions]
- Distributing operation information
- Distributing schedule and schedule pattern information
- Distributing job folders
- Distributing job owner information [Windows versions]
- Distributing to environments with different language types [UNIX versions]
- Distributing policy data for Linux versions and Linux for Itanium versions of Systemwalker Operation Manager [UNIX versions]
- Distributing the event monitoring conditions definition function [Windows versions]

4.18 Q: What Do I Do when the Day Change Time is Reached while a Group is Executing?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Even if the day change time is reached while a group is executing, the group continues executing. Scheduling for the current day is performed after the group ends.

4.19 Q: How Do I Change a Job Net that Terminated Abnormally or a Paused Job Net to Waiting Status?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

To change a job net that terminated abnormally to Waiting status, perform the confirmation operation. The confirmation operation is enabled if you specified **Validate job net confirmation** (*1) in the **Advanced Settings for Verification** window displayed when you click **Details** under **Verification at error occurrence** in the **Use function1** tab of the **Define Jobscheduler Startup Parameters** window. When **Validate job net confirmation** is specified and the job net remains in Abended status, it will not be executed even if the conditions for the next execution are satisfied. If the confirmation operation is performed for a job net that terminated abnormally, it is executed the next time the execution conditions are satisfied.

*1: On V13.2.0 or earlier, open the **Define Jobscheduler Startup Parameters** window and specify this setting in the **Use function1** tab.

To change a job net in Paused status to Waiting status, perform the disable operation and then the enable operation. The disabled job net is considered to be completed pseudo-normally and will not be executed even if the execution conditions are satisfied. However, for child job nets, linked job nets, or job nets belonging to a group, the subsequent job nets will be executed if the execution conditions are satisfied. In addition, if you enable a job net that was in Paused status before it was disabled, it will resume the status it had before pausing. If the execution conditions were satisfied when the job net was in Disabled status, the job net will be in Completed status after it is enabled.

4.20 Q: How Do I Confirm Access Rights for Multiple Projects at the Same Time?

Applicable versions and levels

- Windows versions: V5.0L30 or later
- Solaris versions: 5.2 or later
- Linux versions: 5.2 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You can confirm access rights by executing the `mkbat` command and checking the created files. Refer to the *Reference Guide* for information on the `mkbat` command and on the `mpsetacl` command and `mpchown` command output when you execute the `mkbat` command.

Chapter 5 Q & A Relating to Job Execution Control

5.1 Q: What are the Limit Values for Job Execution Control?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The following explains the limit values for Job Execution Control.

If you are performing multi-subsystem operation on EE, the limit values for each subsystem are as follows:

Number of queues that can be created per system

Up to 64 queues can be created per system.

Number of jobs that can run simultaneously per system (Max Execution Jobs)

The maximum number of jobs that can be executed simultaneously per system is as follows:

- On V10.0L21/10.1 or earlier
 - Windows versions: 256
 - UNIX versions: 256

The limit value is 256 if **Limit the number of jobs to execute simultaneously** is not specified in the **Operating control** tab of the **Define Operating Information** window.

- On V11.0L10/11.0 or later
 - Windows versions: 99
 - UNIX versions: 999

Number of jobs that can be submitted per system

The number of jobs that can be submitted per system is as follows:

- On V10.0L21/10.1 or earlier
 - Up to 32767
- On V11.0L10/11.0 or later
 - Up to 99999

Number of job folders that can be created per system

Up to 255 job folders can be created per system.

Number of job files that can be displayed per job folder

Up to 4096 job files can be displayed per job folder on Systemwalker Operation Manager clients.

Number of resources that can be created per system

The number of resources that can be created per system is as follows:

- On V10.0L21/10.1 or earlier
Windows versions: 256
UNIX versions: 4096
- On V11.0L10/11.0 or later
Windows versions: 9999
UNIX versions: 9999

5.2 Q: What Rights are Required for Executing Jobs?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

The following explains the rights required for executing jobs using Systemwalker Operation Manager.

- Job execution rights
- Execution rights for network jobs and load distribution [Windows versions]

Job execution rights

Systemwalker Operation Manager jobs are executed using the rights explained below.

Windows versions

Jobs are executed using the rights of the service logon account (the default is "systemwalker" on V13.3.1 or earlier, and the local system account on V13.8.0 or later) specified when Systemwalker Operation Manager was installed.

However, jobs are executed using the following rights if the **Execute jobs under the respective job owner's authority** check box is selected in the **Options** tab of the **Define Operating Information** window:

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)
However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on V10.0L20 or later).
- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, job submission API, **Edit Job Information/Submit** dialog box or window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command or the job submission API.

UNIX versions

Jobs are executed using the following rights:

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)
However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on 10.1 or later).

- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, **Edit Job Information/Submit** dialog box or window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command.

Execution rights for network jobs and load distribution [Windows versions]

Execution rights for network jobs and distributed execution jobs vary depending on the status of the schedule server and execution server. Jobs are executed using the rights explained below.

If the schedule server is Windows version

If the execution server is Windows version

- If the **Execute jobs under the respective job owner's authority** check box is not selected in the **Options** tab of the **Define Operating Information** window on the schedule server or execution server

On the execution server, jobs are executed using the rights of the service logon account (the default is "systemwalker" on V13.3.1 or earlier, and the local system account on V13.8.0 or later) specified when Systemwalker Operation Manager was installed. The logon account of the Job Execution Control service must be the same on the schedule server and execution server (the password does not need to be the same).

In addition, on the execution server, you must register an account with the same name as the following account on the schedule server:

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)

However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on V10.0L20 or later).

- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, job submission API, **Edit Job Information/Submit** dialog box and window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command or the job submission API.

- If the **Execute jobs under the respective job owner's authority** check box is selected in the **Options** tab of the **Define Operating Information** window on the schedule server and execution server

Jobs are executed using the same rights as explained for "Windows versions" under "Job execution rights". The account and password must match on the schedule server and execution server.

If the execution server is UNIX version

Jobs are executed using the rights explained for "[UNIX versions](#)" under "Job execution rights".

On the execution server, you must register an account with the same name as the following account on the schedule server (the password does not need to be the same):

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)

However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on V10.0L20 or later).

- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, job submission API, **Edit Job Information/Submit** dialog box and window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command or the job submission API.

If the user is a member of the Windows Administrators group on the schedule server, jobs on the execution server are executed using system administrator (superuser) rights.

If the schedule server is UNIX version

If the execution server is Windows version

- If the **Execute jobs under the respective job owner's authority** check box is not selected in the **Options** tab of the **Define Operating Information** window on the execution server

On the execution server, jobs are executed using the rights of the service logon account (the default is "systemwalker" on V13.3.1 or earlier, and the local system account on V13.8.0 or later) specified when Systemwalker Operation Manager was installed.

On the execution server, you must register an account with the same name as the following account on the schedule server (the password does not need to be the same). If the account on the schedule server is for the system administrator (superuser), the account you register on the execution server must be a member of the Administrator group.

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)

However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on V10.0L20 or later).

- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, **Edit Job Information/Submit** dialog box or window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command.

- If the **Execute jobs under the respective job owner's authority** check box is selected in the **Options** tab of the **Define Operating Information** window on the execution server

Network jobs cannot be executed. Do not specify network jobs because they terminate abnormally.

If the execution server is UNIX version

Jobs are executed using the rights explained for "UNIX versions" under "Job execution rights".

If the schedule server or execution server is running 10.1 or earlier, on the execution server, you must register an account with the same name as the following account on the schedule server (the password does not need to be the same):

- Project owner in the case of scheduled jobs (jobs managed by the Jobscheduler)

However, the rights of the specified user are used if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on 10.1 or later).

- User who submitted the job in the case of demand jobs (jobs submitted using the qsub command, **Edit Job Information/Submit** dialog box or window, or **Select/Submit Job** window)

However, the rights of the user specified in the -cu option are used if this option is specified in the qsub command.



If you specify an effective user to execute a job when using network jobs and the Distributed Execution function, the possibility of executing the job is determined by whether the specified user has been registered in the job submitting server and the execution server, as indicated below.

Network jobs [UNIX versions]

		Execution server	
		User is registered	User is not registered
Submitting server	User is registered	Y	N
	User is not registered	Y (*1)	N

Y: The job is executed normally.

N: The job is NOT executed because an error occurs when the execution request is processed.

*1: The job is NOT executed if the execution server or the submitting server is running on V10.1 or earlier.

Network jobs [Windows versions] with the Distributed Execution function

		Execution server	
		User is registered	User is not registered
Submitting server	User is registered	Y	N
	User is not registered	N	N

Y: The job is executed normally.

N: The job is NOT executed because an error occurs when the execution request is processed.



5.3 Q: On UNIX Versions, How Do I Use Equivalent Functions to Those Provided in the Job Execution Control APIs in Windows Versions [UNIX Versions]?

Applicable versions and levels

- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

If you want to use the same functions on a UNIX version, consider using the following commands:

Function	API	Command
Submit a job	Mp_SubmitJob	qsub
Hold a job	Mp_HoldJob/Mp_HoldJob_Ex	qhold
Release a held job	Mp_RlsJob/Mp_RlsJob_Ex	qrls
Delete a job	Mp_DeleteJob/Mp_DeleteJob_Ex	qdel
Transfer an inter-queue job	Mp_MoveJob/Mp_MoveJob_Ex	qmove
Display job information	Mp_ListJob/Mp_ListJob_Ex	qjstat
Display the queue status	Mp_ListQueue/Mp_ListQueue_Ex	qstat



Note

The job submission API and job deletion API are provided on UNIX versions V13.2.0 or later.



5.4 Q: How Does the Execution Environment Differ for Direct Startup and Startup from Systemwalker Operation Manager [Windows Versions]?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

The execution environment differs for direct startup and startup from Systemwalker Operation Manager as follows:

	Startup method	
	Direct	Systemwalker Operation Manager
Execution environment	Foreground	Background
Execution account	Logon account of the operating system or specified account	Logon account of the Job Execution Control service or specified effective user (*1)
Environment variables	System environment variables and user environment variables	System environment variables (user environment variables are not referred to)
Execution directory	Directory in which jobs are executed	Temporary directory or specified directory (*2)

*1:

Jobs are executed using the rights of the project owner if the **Execute jobs under the respective job owner's authority** check box is selected in the **Options** tab of the **Define Operating Information** window.

However, jobs are executed using the rights of the specified user if **Effective user name** is specified in the **Detail information** tab of the **Add/Change - Job** window (can be specified on V10.0L20 or later).

*2:

Jobs are executed in the specified directory if **Before job execution, change to directory specified at job registration** is specified in the **Backward compatibility** tab of the **Define Operating Information** window and **Directory** is specified in the **Add - Job** window.

5.5 Q: Can I Reference Job Output Information while a Job is being Executed?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

You cannot reference job output information (standard output and standard error output) while a job is being executed.

Details of standard output and standard error output are output as a previous log when the job ends. Use the application to output log information to your preferred log file etc. in addition to the standard output and standard error output.

Chapter 6 Q & A Relating to Event Monitoring and Action Control [Windows Versions]

6.1 Q: How Do I Set Automated Action?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

To execute an action automatically when an event occurs, you must register the action to be executed in response to the event. In the **Action Definition** dialog box, define the action to be executed. You can set multiple automated actions for a single event.

Setup procedure

1. Display the **Monitored Event Table** window

From the **Options** menu of the **Systemwalker Operation Manager** window, select **Event Monitoring Conditions Definition**.

2. Display the **Action Definition** dialog box

In the **Monitored Event Table** window, select an event for which you want to set an action. Then, from the **Action** menu of the **Monitored Event Table** window, select **Define Actions** (or right-click and select **Define Actions**).

3. Define an action to be executed automatically

In the **Action Definition** dialog box, define the action that is to be executed automatically. Then, click the **OK** or **Apply** button to save the definition.

To execute an action such as an email or pager message (Short Mail on V13.3.0 or later), audio notification, or popup, you must first configure the environment for executing actions. Configure the settings in the **Action Environment Setup** dialog box. Refer to the *Online Help* for information on this dialog box.

Refer to the following manual for information on how to configure the settings:

- "Monitoring Events and Managing Actions [Windows version]" in the *User's Guide* (V10.0L10 or later)

Refer to the Systemwalker Centric Manager manuals when using Systemwalker Operation Manager with Systemwalker Centric Manager.

Example: V12.0L10

- "Setting Up Event Monitoring" in *Systemwalker Centric Manager User's Guide - Monitoring Functions*

6.2 Q: How Many Addresses Can I Set for Email Notifications of Automated Actions?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

There is no limit.

6.3 Q: How Many Event Conditions Can I Set in the Monitored Event Table Window?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

You can set up to 1024.

6.4 Q: How Do I Use Regular Expressions?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

You can use the following notations as regular expressions:

Regular expression	Meaning
.	Denotes any character.
*	Denotes 0 or more repetitions of the preceding character (including regular expressions).
^	Denotes the beginning of a line.
\$	Denotes the end of a line.
[<string>]	Denotes any character used in the string.
[^<string>]	Denotes any character other than the characters used in the strings.
[<character a>-<character b>]	Denotes any character from <character a> to <character b>.

The regular expressions are as follows:

Regular expression	Meaning
abc	Denotes a string containing "abc". Example matches are "abc" and "abcd".
abc.ef	Denotes that any character can be used between "abc" and "ef". Example matches are "abcdef" and "abc5ef".
a*b	Denotes 0 or more repetitions of the character "a". Example matches are "b", "ab", "aab", and "aaab".
.*	The combination of "." (which denotes any character) and "*" (which denotes 0 or more repetitions of the preceding character) can represent any string.
^abc	Indicates that the line begins with "abc". Example matches are "abcdef" and "abcxyz".
xyz\$	Indicates that the line ends with "xyz". Example matches are "123xyz" and "ABCxyz".
3001[IWEH]	[IWEH] denotes the character I, W, E, or H. Example matches are "3001I", "3001W", "3001E", and "3001H".
3500[^IN]	[^IN] denotes a character other than I and N. Example matches are "3500a" and "3500n", and example non-matches are "3500I" and "3500N".
[0-9] TIMES	[0-9] denotes any character from 0 to 9. Example matches are "0 TIMES" and "2 TIMES".

Example settings: Specifying source names for monitoring events

- Source names of events to be monitored: "CheckFile EventA"
- Source names of events to be monitored: "CheckLog EventA"
- Source names of the events that are not to be monitored: "DiskCheck EventB"

Defining a string that contains the string "Check" and ends with "A"

- Definition example: "Check.*A"
- Bad definition example: "Check*A" (0 or more repetitions of "k", followed by "A")



.....
The regular expression "*" denotes 0 or more repetitions of the preceding character. It does not denote "any string".
.....

Defining a string that ends with "EventA"

- Definition example: "EventA\$"

Defining a string that begins with "Check"

- Definition example: "^Check"

Notes

- If using the character ".", "*", "^", "\$", "[", or "]" as a general character and not as a special character in a regular expression, add "\" before the character. (Examples: "\.", "*", "\^")
If using "?", "(", ")", "|", "+", or "\" in addition to the above characters, add "\" before the character.
- In a string enclosed with "[" and "]", the character "\$" denotes the literal character "\$" and not the regular expression character.
- The regular expression ".*" has the same meaning regardless of whether you set it at the beginning or omit it.
For example, both ".*error occurred" and "error occurred" will match strings that contain "error occurred". Thus, if the meaning is the same regardless of whether you set a regular expression character, do not use the regular expression character because processing to compare strings may be faster without it.

6.5 Q: How Do the Event Monitoring and Action Control Functions Differ between Systemwalker Centric Manager and Systemwalker Operation Manager?

Applicable versions and levels

- Windows versions: V5.0L20 or later

A

The Event Monitoring and Action Control functions of Systemwalker Operation Manager V4.0L20 or later have not been enhanced. Functions added to Systemwalker Centric Manager V5.0L10 or later are therefore not supported.

Chapter 7 Q & A Relating to Cluster Operations

7.1 Q: What Points Should I Note when Testing Failover [UNIX Versions]?

Applicable versions and levels

- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 13.2.0

A

Testing failover

When testing failover, send the SIGTERM signal to the following process to stop it:

- Jobscheduler: tskwnsrv

Failover does not occur even if you use the poperationmgr command to stop a daemon.

This is because in a cluster configuration, daemons (Jobscheduler and Job Execution Control) to be registered in a cluster are excluded from the automatic startup and stop targets of the services that are stopped by the poperationmgr command.

Triggers for failover

There are numerous failover triggers. Do not, however, initiate failover by forcibly unmounting a shared disk.

On Systemwalker Operation Manager, shared disk information is referred to during the Jobscheduler daemon stop process. Therefore, the stop process of the Jobscheduler daemon no longer runs properly after the shared disk has been forcibly unmounted. (Failover is completed.)

If unmounting the shared disk causes failover, send the SIGTERM signal to the tskwnsrv process on the node where the shared disk was unmounted. Do not send the SIGKILL signal.

7.2 Q: Can I Specify Multiple Logical IP Addresses in the Cluster Settings Tab of the Define Operating Information Window?

Applicable versions and levels

- Windows versions: V11.0L10 or later
- Solaris versions: 11.0 or later
- Linux versions: V11.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: V13.2.0 or later
- AIX versions: V13.2.0 or later

A

You cannot specify multiple IP addresses for **Logical IP address** under **Schedule server settings**. If the execution server is to be located in a different network segment, specify the IP addresses under **Server settings**.

7.3 Q: What Do I Do if Incorrect Operation Causes the Loss of Files Located on the Shared Disk during Migration to a Cluster System?

Applicable versions and levels

- Windows versions: V5.0L20 or later
- Solaris versions: 5.0 or later
- Linux versions: 5.2, V10.0L10 or later
- Linux for Itanium versions: V12.0L10 or later
- HP-UX versions: 10.0 or later
- AIX versions: 10.0 or later

A

Restore the files from backup. You cannot restore files by copying them.