FUJITSU

FUJITSU Storage
ETERNUS SF
Express V16.1 / Storage Cruiser V16.1 / AdvancedCopy Manager V16.1

Migration Guide

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Preface

Purpose

This manual describes how to upgrade to this version from the previous version for the following FUJITSU Storage ETERNUS SF products:

- FUJITSU Storage ETERNUS SF Express (hereafter referred to as "Express")
- FUJITSU Storage ETERNUS SF Storage Cruiser (hereafter referred to as "Storage Cruiser")
- FUJITSU Storage ETERNUS SF AdvancedCopy Manager (hereafter referred to as "AdvancedCopy Manager")

Intended Readers

This manual is intended for users who upgrade to this version from a previous version of these software products, or who perform the upgrade process (mainly for system administrators).

For migration procedures described in this manual, it is assumed that the reader understands the installation environment of the previous version and knows the backup and the restoration methods for the operational environment of the previous version.
If you newly install the software, refer to the *ETERNUS SF Installation and Setup Guide*.

Organization

This manual is composed as follows:

Chapter 1 Overview

This chapter provides an overview of upgrade.

Chapter 2 Upgrading Express Version 14.x

This chapter describes the upgrade procedure for Express Version 14.x.

Chapter 3 Upgrading Express Version 15.x

This chapter describes the upgrade procedure for Express Version 15.x.

Chapter 5 Upgrading Storage Cruiser Version 14.x

This chapter describes the upgrade procedure for Storage Cruiser Version 14.x.

Chapter 6 Upgrading Storage Cruiser Version 15.x

This chapter describes the upgrade procedure for Storage Cruiser Version 15.x.

Chapter 8 Upgrading AdvancedCopy Manager Version 14.x

This chapter describes the upgrade procedure for AdvancedCopy Manager Version 14.x.

Chapter 9 Upgrading AdvancedCopy Manager Version 15.x

This chapter describes the upgrade procedure for AdvancedCopy Manager Version 15.x.

Chapter 11 Collecting Troubleshooting Information

This chapter describes the method for troubleshooting if a problem occurs during the Upgrade Installation process.

Chapter 12 Configuration Import

This chapter describes the command used during the configuration information update during the upgrade process.

Appendix A Operation for Previous Version Environment

This appendix describes the operations performed in the environment of the previous version.

Appendix B Install parameter

This appendix describes the install parameter file and the details of each install parameter.

Notation

The names, abbreviations, and symbols shown below are used in this manual.

Operating Systems

Formal Name	Abbreviation	
Microsoft(R) Windows Server(R) 2003, Standard Edition Microsoft(R) Windows Server(R) 2003, Standard x64 Edition Microsoft(R) Windows Server(R) 2003, Enterprise Edition Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition	Windows Server 2003	Windows
Microsoft(R) Windows Server(R) 2008 Standard (32-bit)(64-bit) Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(TM) (32-bit)(64-bit) Microsoft(R) Windows Server(R) 2008 Enterprise (32-bit)(64-bit) Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(TM) (32-bit)(64-bit) Microsoft(R) Windows Server(R) 2008 Datacenter (32-bit)(64-bit) Microsoft(R) Windows Server(R) 2008 Datacenter without Hyper-V(TM) (32-bit)(64-bit)	Windows Server 2008	
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	Windows Server 2008 R2	
Microsoft(R) Windows Server(R) 2012 Standard Microsoft(R) Windows Server(R) 2012 Datacenter	Windows Server 2012	
Microsoft(R) Windows Server(R) 2012 R2 Standard Microsoft(R) Windows Server(R) 2012 R2 Datacenter	Windows Server 2012 R2	
Windows Vista(R) Home Basic Windows Vista(R) Home Premium Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate	Windows Vista	
Windows(R) 7 Home Basic Windows(R) 7 Home Premium Windows(R) 7 Professional Windows(R) 7 Enterprise Windows(R) 7 Ultimate	Windows 7	
Windows(R) 8 Windows(R) 8 Pro	Windows 8	
Windows(R) 8.1 Windows(R) 8.1 Pro	Windows 8.1	
Solaris(TM) 9 Operating System	Solaris 9	Solaris or Solaris OS
Oracle Solaris 10	Solaris 10	
Oracle Solaris 11	Solaris 11	
Red Hat(R) Enterprise Linux(R) AS (v.4 for x86) Red Hat(R) Enterprise Linux(R) AS (v.4 for EM64T)	RHEL-AS4	Linux
Red Hat(R) Enterprise Linux(R) ES (v.4 for x86) Red Hat(R) Enterprise Linux(R) ES (v.4 for EM64T)	RHEL-ES4	
Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64)	RHEL5	

Formal Name	Abbreviation	
Red Hat(R) Enterprise Linux(R) 6 (for x86) Red Hat(R) Enterprise Linux(R) 6 (for Intel64)	RHEL6	
SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T	SUSE Linux Enterprise Server 11	
HP-UX 11i v1 HP-UX 11i v2 HP-UX 11i v3	HP-UX	
AIX(R) V6.1 AIX(R) V7.1	AIX	
VMware vSphere(R) 4 Essentials Kit VMware vSphere(R) 4 Essentials Plus Kit VMware vSphere(R) 4 Standard Edition(TM) VMware vSphere(R) 4 Standard Plus Data Recovery VMware vSphere(R) 4 Advanced Edition(TM) VMware vSphere(R) 4 Enterprise Edition(TM) VMware vSphere(R) 4 Enterprise Plus Edition(TM)	VMware vSphere 4	VMware
VMware vSphere(R) 5 Essentials Kit VMware vSphere(R) 5 Essentials Plus Kit VMware vSphere(R) 5 Standard Edition(TM) VMware vSphere(R) 5 Standard Plus Data Recovery VMware vSphere(R) 5 Enterprise Edition(TM) VMware vSphere(R) 5 Enterprise Plus Edition(TM)	VMware vSphere 5	

Oracle Solaris might be described as Solaris, Solaris Operating System, or Solaris OS.

FUJITSU Storage ETERNUS

Formal Name	Abbreviation		
FUJITSU Storage ETERNUS DX60/DX60 S2 FUJITSU Storage ETERNUS DX80/DX80 S2 FUJITSU Storage ETERNUS DX90/DX90 S2	-		ETERNUS DX series or ETERNUS Disk storage system
FUJITSU Storage ETERNUS DX100 S3 FUJITSU Storage ETERNUS DX200 S3			
FUJITSU Storage ETERNUS DX410 FUJITSU Storage ETERNUS DX440	ETERNUS DX400 series	ETERNUS DX400/ DX400 S2 series	
FUJITSU Storage ETERNUS DX410 S2 FUJITSU Storage ETERNUS DX440 S2	ETERNUS DX400 S2 series		
FUJITSU Storage ETERNUS DX500 S3 FUJITSU Storage ETERNUS DX600 S3	-		
FUJITSU Storage ETERNUS DX8100 FUJITSU Storage ETERNUS DX8400 FUJITSU Storage ETERNUS DX8700	ETERNUS DX8000 series	ETERNUS DX8000/ DX8000 S2 series	
FUJITSU Storage ETERNUS DX8100 S2 FUJITSU Storage ETERNUS DX8700 S2	ETERNUS DX8000 S2 series		
FUJITSU Storage ETERNUS DX200F	-		

Each individual device name in this document is listed with "FUJITSU Storage" omitted from it.

Software Products

Formal Name	Abbreviation
Microsoft(R) Internet Explorer(R)	Internet Explorer
Mozilla(R) Firefox(R)	Firefox
Microsoft(R) Cluster Service	MSCS
Microsoft(R) Windows Server(R) Failover Clustering	WSFC
Microsoft(R) Exchange Server	Exchange Server
Microsoft(R) SQL Server(R)	SQL Server
VMware(R) ESX(R)	VMware ESX
VMware(R) ESXi(TM)	VMware ESXi
VMware(R) vCenter(TM) Server	VMware vCenter Server or vCenter Server
FUJITSU Software PRIMECLUSTER Global Disk Services	GDS
FUJITSU Software PRIMECLUSTER Global File Services	GFS
FUJITSU Software Symfoware Server Enterprise Extended Edition FUJITSU Software Symfoware Server Enterprise Edition	Symfoware

Manuals

Formal Name	Abbreviation
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Quick Reference	ETERNUS SF Quick Reference
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Release Notes	ETERNUS SF Release Notes
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Installation and Setup Guide	ETERNUS SF Installation and Setup Guide
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Migration Guide	ETERNUS SF Migration Guide
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Web Console Guide	ETERNUS SF Web Console Guide
FUJITSU Storage ETERNUS SF Storage Cruiser / AdvancedCopy Manager Cluster Environment Setup Guide	ETERNUS SF Cluster Environment Setup Guide
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Messages	ETERNUS SF Messages
FUJITSU Storage ETERNUS SF Express / Storage Cruiser Event Guide	ETERNUS SF Event Guide
FUJITSU Storage ETERNUS SF Express / Storage Cruiser / AdvancedCopy Manager Glossary	ETERNUS SF Glossary

Besides the above-mentioned, each individual manual name in this document is listed with "FUJITSU Storage" omitted from it.

Others

- In this document, the following products are collectively described as "Windows Server 2008 or later".
  - Windows Server 2008
  - Windows Server 2008 R2
  - Windows Server 2012
  - Windows Server 2012 R2

- In this document, the following products are collectively described as "Windows Server 2012 or later".
  - Windows Server 2012
  - Windows Server 2012 R2
- In this document, unless there is a special explanatory note, ETERNUS DX200 S3 indicates ETERNUS DX200 S3 and ETERNUS DX200F. In addition, ETERNUS Disk storage system includes ETERNUS DX200F All Flash Arrays.
  However, the following functions are not supported in ETERNUS DX200F:
  - Energy saving operation for storage device
  - NAS operation for storage device
  - Automated Storage Tiering operation at multiple tiers (two or more)
  - Storage Cluster function

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Notes

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- This manual is subject to change without advance notice.

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Update History

Content of Update	Updated Section	Revision
The information related to ETERNUS DX200F is described.	"Others" in Preface	1.1
The explanation of the tuning of the kernel parameter is added.	3.2.1.6, 6.2.1.1.6, 9.2.1.1.6	2
Procedures for transferring from Express 16.x are added.	Chapter 4	
Procedures for restoring older version levels after installing a version update are added.	5.1.1.3.1, 5.1.2.4, 5.2.1.3.1, 5.2.2.4, A.29, A.31	
The procedure of Storage Cruiser agent's upgrade is modified.	5.2	
The procedure for the tuning of the kernel parameter is added.	6.2.2.1, 9.2.2.1	
Tasks after installing the version update are added.	6.3.2, 6.3.3, 7.3.2, 7.3.4	
Procedures for transferring from Storage Cruiser 16.x are added.	Chapter 7	
Procedures for transferring from AdvancedCopy Manager 16.x are added.	Chapter 10	
How to correspond in cases when an error has occurred during the version update has been added.	Chapter 11	
Procedures for installing version updates of Express / Storage Cruiser / AdvancedCopy Manager have been moved from each chapter to Appendix C.	Appendix C	

Manual Organization and Reading Suggestions

Manual Organization

The following table describes the Manual organization of Express, Storage Cruiser and AdvancedCopy Manager.

When to Read	Related Manuals (Abbreviated)	Related Products (*1)			Explanation
		EXP	SC	ACM	
Before installation	Quick Reference	Yes	Yes	Yes	This manual is common for all products.
	Release Notes	Yes	Yes	Yes	This manual is common for all products.
	Overview	-	-	Yes	This manual is unique for the product.
During installation	Installation and Setup Guide	Yes	Yes	Yes	This manual is common for all products.
	Cluster Environment Setup Guide	-	Yes	Yes	This manual is common for Storage Cruiser and AdvancedCopy Manager.
	Migration Guide	Yes	Yes	Yes	This manual is common for all products.
During operation	Operation Guide	Yes	Yes	Yes	This manual is unique for each product. The following manuals are available: - Express Operation Guide - Storage Cruiser Operation Guide

When to Read	Related Manuals (Abbreviated)	Related Products (*1)			Explanation
		EXP	SC	ACM	
					- Storage Cruiser Operation Guide for Optimization Function - AdvancedCopy Manager Operation Guide (for Windows) - AdvancedCopy Manager Operation Guide (for Solaris) - AdvancedCopy Manager Operation Guide (for Linux) - AdvancedCopy Manager Operation Guide (for HP-UX) - AdvancedCopy Manager Operation Guide (for AIX) - AdvancedCopy Manager Operation Guide for Copy Control Module
	Web Console Guide	Yes	Yes	Yes	This manual is common for all products.
Anytime	Event Guide	Yes	Yes	-	This manual is common for Express and Storage Cruiser.
	Messages	Yes	Yes	Yes	This manual is common for all products.
	Glossary	Yes	Yes	Yes	This manual is common for all products.

*1: "EXP" indicates Express, "SC" indicates Storage Cruiser and "ACM" indicates AdvancedCopy Manager.

How to Read Manuals

Please use the following table to find the most useful information in the Express, Storage Cruiser and AdvancedCopy Manager manuals to answer your inquiry.

Purpose	Manual	Main Contents	How to Read
Acquiring a product overview and basic operation knowledge	Quick Reference	- Product overview - Installation decision - Overview of the necessary tasks from installation to first use	Please read if you want to acquire a fundamental knowledge of the product and its operation in order to decide to install it or not.
	AdvancedCopy Manager Overview	- Main functions - Linkable applications - Procedure overview for Advanced Copy of ETERNUS Disk storage system	
Confirming the updated contents	Release Notes	- New function overview - Incompatibilities with previous version - Fixed bugs	Please read if you want to know the updated contents from a previous version and if you perform the upgrade.
Deciding if a version upgrade is required	Migration Guide	- Notes and cautions about version upgrade - Version upgrade procedure	Please read if you want to upgrade from a previous version.
Installing and correctly	Installation and Setup Guide	- Operating environment	Please read if you want to install and setup the product.

Purpose	Manual	Main Contents	How to Read
operating the product Setting up operating environment depending on purpose		- Installation procedure - Setup procedure - Uninstallation procedure	
	Cluster Environment Setup Guide	- Supported cluster software - Installation procedure for a clustered system - Setup procedure for a clustered system - Uninstallation procedure for a clustered system	Please read if you want to install and setup the product on a clustered system.
Administration and operation of the installed system	Express Operation Guide	- Starting and stopping the software - Device monitoring - Data copy inside the storage system - Necessary tasks after an architectural modification of the system as well as product maintenance	Please read if you want to start or shutdown the system, monitor the operation status, do backup/ restore operations, etc.
	Storage Cruiser Operation Guide	- Starting and stopping the software - Device monitoring - Necessary tasks after an architectural modification of the system as well as product maintenance - Command reference	
	Storage Cruiser Operation Guide for Optimization Function	- Operating environment construction - Operating status monitoring - Necessary tasks after an architectural modification of the system as well as product maintenance - Command reference	
	AdvancedCopy Manager Operation Guide (for Windows) AdvancedCopy Manager Operation Guide (for Solaris) AdvancedCopy Manager Operation Guide (for Linux) AdvancedCopy Manager Operation Guide (for HP-UX)	- Starting and stopping the software - Data backup/restore inside the storage system - Necessary tasks after an architectural modification of the system as well as product maintenance - Command reference	

Purpose	Manual	Main Contents	How to Read
	AdvancedCopy Manager Operation Guide (for AIX) AdvancedCopy Manager Operation Guide for Copy Control Module		
	Web Console Guide	- Operating environment - Screen layout description	Please read if you want to understand the ETERNUS SF Web Console.
Dealing with messages issued by the software	Messages	- Messages and their explanations - Parameter (variable information) description - System action - Countermeasures	Please read if you want a practical way of investigating and dealing with messages issued by the software.
Dealing with events issued by the software	Event Guide	- Phenomenon of event - Countermeasures	Please read if you need to find a practical way of investigating and dealing with events.
Researching the meaning of specific terms related to the products and other important terms	Glossary	- Product specific terminology explanation - Explanation of important terminology appearing in the manual - Synonyms and related terms - Proper form of abbreviated terms	Please read if you want to learn the meaning of important terms, product specific terms or abbreviations used in the manuals.

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Chapter 1 Overview

This chapter is an overview of the upgrade process from a previous version to this version for Express, Storage Cruiser, and AdvancedCopy Manager.

1.1 Upgrade Patterns

This section explains the system configuration before upgrade and after upgrade.

Point

This version product combinations obey to the following rules:

- Express cannot be combined with Storage Cruiser in a same system environment.
- Express can be combined with AdvancedCopy Manager in a same system environment. And also, Storage Cruiser can be combined with AdvancedCopy Manager in a same system environment.

  With ETERNUS SF Version 15 or later, the manager functions for the three products (Express, Storage Cruiser and AdvancedCopy Manager) are integrated in the same component. Moreover, the GUI for the three products is unified.

Refer to the followings according to the combination of the installed products.

Combination of Products				Reference
Express	Storage Cruiser	AdvancedCopy Manager	AdvancedCopy Manager Copy Control Module	
Y	-	-	-	- When upgrading from Express Version 14.x: "Chapter 2 Upgrading Express Version 14.x"
Y	-	Y	-	
Y	-	-	Y	
Y	-	Y	Y	- When upgrading from Express Version 15.x: "Chapter 3 Upgrading Express Version 15.x" - When upgrading from Express Version 16.x: "Chapter 4 Upgrading Express Version 16.x"
-	Y	-	-	- When upgrading from Storage Cruiser Version 14.x: "Chapter 5 Upgrading Storage Cruiser Version 14.x"
-	Y	Y	-	
-	Y	-	Y	
-	Y	Y	Y	- When upgrading from Storage Cruiser Version 15.x: "Chapter 6 Upgrading Storage Cruiser Version 15.x" - When upgrading from Storage Cruiser Version 16.x: "Chapter 7 Upgrading Storage Cruiser Version 16.x"
-	-	Y	-	- When upgrading from AdvancedCopy Manager Version 14.x:

Combination of Products				Reference
Express	Storage Cruiser	AdvancedCopy Manager	AdvancedCopy Manager Copy Control Module	
-	-	Y	Y	"Chapter 8 Upgrading AdvancedCopy Manager Version 14.x" - When upgrading from AdvancedCopy Manager Version 15.x: "Chapter 9 Upgrading AdvancedCopy Manager Version 15.x" - When upgrading from AdvancedCopy Manager Version 16.x: "Chapter 10 Upgrading AdvancedCopy Manager Version 16.x"
-	-	-	Y	- When upgrading from AdvancedCopy Manager Version 14.x: "8.3 Upgrading AdvancedCopy Manager Copy Control Module" - When upgrading from AdvancedCopy Manager Version 15.x: - "9.6 Upgrading AdvancedCopy Manager Copy Control Module (for Windows)" - "9.7 Upgrading AdvancedCopy Manager Copy Control Module (for Solaris, Linux)" - When upgrading from AdvancedCopy Manager Version 16.x: - "10.6 Upgrading AdvancedCopy Manager Copy Control Module (for Windows)" - "10.7 Upgrading AdvancedCopy Manager Copy Control Module (for Solaris, Linux)"

Y: Product installed
-: Product not installed

1.2 What Is Upgrade Installation

This version allows installation without uninstalling the previous version first. It is described as "Upgrade Installation" in this manual.

Information

For Uninstallation of Previous Version:

You may be asked if you uninstall the previous version while upgrading. If the user chooses to uninstall the previous version, the uninstallation process is done automatically.

1.3 Products Which Can Be Upgraded with Upgrade Installation

The products which can be upgraded with the Upgrade Installation are as follows.

For Windows

Products Which Can Use Upgrade Installation	Product After Upgrade
ETERNUS SF Express Version 14.x ETERNUS SF Express Version 15.x ETERNUS SF Express Version 16.x	ETERNUS SF Express Version 16.1
ETERNUS SF Storage Cruiser Version 14.x (*1) ETERNUS SF Storage Cruiser Version 15.x ETERNUS SF Storage Cruiser Version 16.x	ETERNUS SF Storage Cruiser Version 161
ETERNUS SF AdvancedCopy Manager Version 14.x (*2) ETERNUS SF AdvancedCopy Manager Version 15.x ETERNUS SF AdvancedCopy Manager Version 16.x	ETERNUS SF AdvancedCopy Manager Version 16.1

*1: The Upgrade Installation can be used for the Storage Cruiser's manager only.
*2: The Upgrade Installation can be used for AdvancedCopy Manager's manager and AdvancedCopy Manager Copy Control Module.

For Solaris

Products Which Can Use Upgrade Installation	Product After Upgrade
ETERNUS SF Storage Cruiser Version 14.x (*1) ETERNUS SF Storage Cruiser Version 15.x (*2) ETERNUS SF Storage Cruiser Version 16.x	ETERNUS SF Storage Cruiser Version 16.1
ETERNUS SF AdvancedCopy Manager Version 14.x (*3) ETERNUS SF AdvancedCopy Manager Version 15.x (*4) ETERNUS SF AdvancedCopy Manager Version 16.x	ETERNUS SF AdvancedCopy Manager Version 16.1

*1: The Upgrade Installation can be used for the Storage Cruiser's manager only.
*2: The Upgrade Installation can be used for Storage Cruiser's manager and Storage Cruiser's agent.
*3: The Upgrade Installation can be used for AdvancedCopy Manager's manager and AdvancedCopy Manager Copy Control Module.
*4: The Upgrade Installation can be used for AdvancedCopy Manager's manager, AdvancedCopy Manager's agent, and AdvancedCopy Manager Copy Control Module.

For Linux

Products Which Can Use Upgrade Installation	Product After Upgrade
ETERNUS SF Express Version 15.x ETERNUS SF Express Version 16.x	ETERNUS SF Express Version 16.1
ETERNUS SF Storage Cruiser Version 14.x (*1) ETERNUS SF Storage Cruiser Version 15.x (*2) ETERNUS SF Storage Cruiser Version 16.x	ETERNUS SF Storage Cruiser Version 16.1
ETERNUS SF AdvancedCopy Manager Version 14.x (*3) ETERNUS SF AdvancedCopy Manager Version 15.x (*4) ETERNUS SF AdvancedCopy Manager Version 16.x	ETERNUS SF AdvancedCopy Manager Version 16.1

*1: The Upgrade Installation can be used for the Storage Cruiser's manager only.
*2: The Upgrade Installation can be used for Storage Cruiser's manager and Storage Cruiser's agent.
*3: The Upgrade Installation can be used for AdvancedCopy Manager's manager and AdvancedCopy Manager Copy Control Module.
*4: The Upgrade Installation can be used for AdvancedCopy Manager's manager, AdvancedCopy Manager's agent, and AdvancedCopy Manager Copy Control Module.

Note

For Upgrading from Previous Version Products That Are Not Listed in Table Above and That Installed in HP-UX or AIX Environment:

It is not possible to use the Upgrade Installation provided in this manual.
Please uninstall the previous version product and install this version product. Afterwards, perform as new all necessary setup and customization operations for this version.

1.4 Notes on Upgrade

The following important points must be acknowledged before starting the upgrade process.

1.4.1 Common Notes for All Products

Operating Systems

The operating system version on the server where the upgrade will be performed must be supported by the version of the product that will be installed.

See

Refer to "Operating Environment" in the *ETERNUS SF Installation and Setup Guide* for information on the operating system versions supported by the product.

Migration to IPv6 Environment

After performing the Upgrade Installation of this product, change the settings for IP address environments in this product, operating system and associated software.

See

- Refer to "Changing IP Address of Management Server" and "Changing IP Address of Server Node" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on changing the IP address environment in Storage Cruiser.
- Refer to "Changing IP Address of Management Server" and "Changing IP Address of Managed Server" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for the corresponding operating system of the server to be changed for information on changing the IP address environment in AdvancedCopy Manager.

Concerning Configuration of Version 15.x Session Timeout

When a time longer than the screen refresh interval is configured for the session timeout value, in Version 15.x, the session timeout function was disabled. In ETERNUS SF Version 16 or later, the session timeout function has been enabled. When the session timeout value is exceeded without the Web Console being operated, a session timeout will occur.

Upgrade Installation passes the values configured for the session timeout value and the screen update interval to this version. For this reason, even if session timeout was disabled before performing the update, it will be enabled after performing the update.

In order to disable session timeout, login to the Web Console after upgrading to this version, and configure the session timeout value to be 0 (minutes).

Information

Refer to "Change Value for Session Timeout" in the *ETERNUS SF Web Console Guide* for information on how to change the session timeout value.

1.4.2 Notes for Express

Configuration Information for Version 14.x

The following configuration information of Express Version 14.x cannot be carried over to this version.

- Various Express configuration and history information
  - Events
  - Login/Logout History
  - Configuration Change History
  - User account of Express Web GUI

Refer to the *ETERNUS SF Express User's Guide* for the previous version for information on the configuration information.

Advanced Copy Sessions Existing in ETERNUS Disk Storage System

It is possible to perform an Upgrade Installation during existing Advanced Copy and Remote Advanced Copy sessions.

The upgrade process is similar and has no influence on the existing Advanced Copy sessions.

1.4.3 Notes for Storage Cruiser

Upgrade from Softek Storage Cruiser Version 1.2.2

If you would like to upgrade from Softek Storage Cruiser Version 1.2.2 to this version, contact a Fujitsu Technical Support.

Configuration Information for Version 14.x

The following configuration information of Storage Cruiser Version 14.x cannot be carried over to this version.

- User account for GUI client

When setting up the information listed above to this version, the following work is required.

1. It is necessary to confirm and record the information configured for the previous version before performing the Upgrade Installation.

   You can confirm the user account for the previous version in the **Login account registration** page that is displayed by selecting **Tool** > **Authentication** in the GUI client resource management screen.

2. After performing Upgrade Installation, configure the information recorded in step 1, manually.

   Refer to "Setting Up User Account" in the *ETERNUS SF Installation and Setup Guide* for information on setting up of a user account for this version.

1.4.4 Notes for AdvancedCopy Manager

Advanced Copy Sessions Existing in ETERNUS Disk Storage System

It is possible to perform an Upgrade Installation with existing Advanced Copy and Remote Advanced Copy sessions.
Regardless of whether there are Advanced Copy sessions or not, the version upgrade procedure is the same.

Configuration Information for Version 14.x

The following configuration information of AdvancedCopy Manager Version 14.x cannot be carried over to this version.

- User account for GUI client

When setting up the information listed above to this version, the following work is required.

1. It is necessary to confirm and record the information configured for the previous version before performing the Upgrade Installation.

   You can confirm the user account for the previous version on the screen on which is displayed by the following procedure:

   Select **User Accounts** from **File** menu of the main menu bar by the root user in Solaris or Linux, or by the startup account specified at the time of the installation of the AdvancedCopy Manager's manager in Windows.

2. After performing the Upgrade Installation, configure the information recorded in step 1, manually.

   See

   Refer to "Setting Up User Account" in the *ETERNUS SF Installation and Setup Guide* for information on setting up of a user account for this version.

Chapter 2 Upgrading Express Version 14.x

This chapter describes the upgrade procedure for Express Version 14.x.

To upgrade Express Version 14.x to this version, install the ETERNUS SF Manager.

Point

- The Upgrade Installation is available for Express.
- If upgrading Express, the following information cannot be imported from the previous version.
  - Event log history
  - Login/Logout history
  - Configuration modification history
  - User account for the Express Web GUI

2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading Express, as described below.

2.1.1 Backing Up Operational Environment of Previous Version

Back up the Express operational environment.

Note

The information listed below cannot be backed up. Save the current setting information into an appropriate file.

- Contact information for troubleshooting
- Servers registered in Express

See

Refer to "A.23 Backup of Express Operational Environment" for information on performing a backup.

AdvancedCopy Manager Operational Environment

When AdvancedCopy Manager is installed, backup the AdvancedCopy Manager operational environment.

Note

The following information cannot continue to be used.

- User account for the GUI client

See

Refer to the following table to back up the operational environment.

Server Type	Reference
Storage Management Server	A.1 Backing Up Repository Data (for Windows)
Storage Management Server which also serves as a Storage Server	Perform the steps in the following order: 1. A.1 Backing Up Repository Data (for Windows) 2. A.3 Backing Up Management Information (for Windows)

AdvancedCopy Manager Copy Control Module Operational Environment

When AdvancedCopy Manager Copy Control Module is installed, backup the AdvancedCopy Manager Copy Control Module operational environment.

See

Refer to "A.6 Backing Up Environment Setting Files" for information on performing a backup.

2.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of Express.
Refer to the *ETERNUS SF Express User's Guide* for the relevant previous version for information on the required disk space.

2.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

2.1.4 Estimating Database Size

A database is necessary for this version of Express.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

2.1.5 Preparing for Uninstallation

If AdvancedCopy Manager is installed, in order to start the upgrade, perform the DB unsetup before uninstalling the previous version.

See

Refer to "A.7 Unsetting Up Database" for information on the DB unsetup procedure.

2.2 Performing Upgrade

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade. Note the following points when you upgrade.

- When requested to restart the computer, click **No**.
  If **Yes** is clicked, the upgrade will be interrupted. When re-executing the installation after a restart of the computer, the installation will be treated as new one.
- When the uninstallation completes successfully, the **Uninstallation was completed successfully** page may be displayed. Although the instruction on the page indicates the deletion of files and folders, do not delete files and folders when performing the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "2.3 Tasks to Be Performed After Upgrade".

2.3 Tasks to Be Performed After Upgrade

When the Express upgrade has been completed, the tasks below need to be performed.

2.3.1 Restoring Environment from Previous Version

Restore the operational environment of Express that was backed up in "2.1.1 Backing Up Operational Environment of Previous Version".

See

Refer to "A.24 Restoring of Express Operational Environment" for information on performing a restore.

AdvancedCopy Manager Operational Environment

When AdvancedCopy Manager is installed, restore the operational environment that was backed up in "2.1.1 Backing Up Operational Environment of Previous Version".

Note

For the operational environment restore, start a new window for command execution, and then perform the procedure on the window.

See

Refer to the following table to restore the operational environment.

Server Type	Reference
Management Server	A.9 Restoring Repository Data (for Windows)
Management Server which also serves as a Managed Server	Perform in the following order: 1. A.9 Restoring Repository Data (for Windows) 2. A.11 Restoring Management Information (for Windows)

AdvancedCopy Manager Copy Control Module Operational Environment

When AdvancedCopy Manager Copy Control Module is installed, restore the operational environment backed up in "2.1.1 Backing Up Operational Environment of Previous Version".

See

Refer to "A.14 Restoring Environment Setting Files" for information on performing a restore.

2.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

2.3.3 Setting Up User Account

Set up a user account in order to use the ETERNUS SF Manager functions.

See

Refer to "Setting Up User Account" in the *ETERNUS SF Installation and Setup Guide* for this version for information on setup.

2.3.4 Setting Up Web Console

If firewalls are used between the PC on which the Web Console is launched and the Management Server, perform firewall settings to allow transmission.

See

Refer to "Setting Up for Using Web Console" in the *ETERNUS SF Installation and Setup Guide* for this version for information on firewall setup.

Note

When upgrading Express Version 14.2, if operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

2.3.5 Setting Account Information for Access to ETERNUS Disk Storage System

Set the account information, user name and password to access the ETERNUS Disk storage system.

See

Refer to "Set/Change Information of Account That Can Access ETERNUS Disk Storage System" in the *ETERNUS SF Web Console Guide* for this version for information on setup.

2.3.6 Registering License

Register the appropriate licenses.

See

Refer to "License Management" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the license settings.

2.3.7 Redefining Missing Information

- Administrator information

  Enter the Administrator information.

  See

  Refer to "Display/Change Contact Information" in the *ETERNUS SF Web Console Guide* for this version for information on server registration.

- Server information

  Enter the server information.

  See

  Refer to "Register Server" in the *ETERNUS SF Web Console Guide* for this version for information on server registration.

- Connection type

  To use the Advanced Copy function of Express, set the connection type using the ETERNUS Disk storage system.

See

Refer to "Connection Type Settings" in the *ETERNUS SF Express Operation Guide* for this version for information on connection type settings.

- AdvancedCopy Manage Copy Control Module configuration information

  To use the AdvancedCopy Manager Copy Control Module, set the device information again in accordance with the following procedure:

See

Refer to "Command References" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module* for this version for information on the commands.

1. Confirm the registered ETERNUS Disk storage system by executing the acarray list command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray list
Name BOX-ID IP Address
----- ---------------------------------------- ------------
DX90 00ETERNUSDXL##ET09E24B####LH4311015511## 10.124.6.251
```

2. Confirm the detailed information of the registered ETERNUS Disk storage system by executing the acarray detail command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray detail -a DX90
Disk Array Name : DX90
BOX-ID : 00ETERNUSDXL##ET09E24B####LH4311015511##
IP Address : 10.124.6.251
Admin User : ****
Access Volume : X:
```

3. Remove all of the registered ETERNUS Disk storage system by executing the acarray remove command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray remove -a DX90
Successful completion.
```

4. Re-register all of the ETERNUS Disk storage systems that were removed in step 3 by executing the acarray add command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray add -a DX90 -ip 10.124.6.251 -user **** -password **** -
path X:
Successful completion.
```

Point

When the ETERNUS Disk storage system was registered by specifying a nonexistent drive letter or device name to the access volume (previously called "access path") in the previous version, re-register its ETERNUS Disk storage system as a remote device.

5. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
   The registered ETERNUS Disk storage systems are displayed on the Main pane.

   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.

   c. On the Action pane, click **Reload Conf**. under **Storage**.

See

Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

2.3.8 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

- Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
  If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

2.3.9 Resuming Operation

When the tasks described above have been performed, the upgrade of Express is complete. Restart the Express operation.

Note

- If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
- If performance monitoring had been performed, restart the performance monitoring.
  Refer to "Instruction for Performance Management" in the *ETERNUS SF Express Operation Guide* for information on how to start the performance monitoring.

Chapter 3 Upgrading Express Version 15.x

This chapter describes the upgrade procedure for Express Version 15.x.

To upgrade Express Version 15.x to this version, install the ETERNUS SF Manager.

3.1 Upgrading Express (for Windows)

This section describes the upgrade of Express for Windows.

3.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading Express, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

3.1.1.1 Backing Up Operational Environment of Previous Version

With the following procedures, backup the operation environment of Express of the previous version.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

Note

Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
In the previous version Web Console, refer to the following information.

- Settings for performance monitoring
  - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Stop the ETERNUS SF Manager service
   Execute the following batch file:

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.
4. Implement backup of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfpreinst.bat backupDir [tmpDir]
   ```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

3.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

3.1.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

3.1.1.4 Estimating Database Size

A database is necessary for this version of Express.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

3.1.1.5 Preparing for Uninstallation

Refer to "A.7 Unsetting Up Database" to perform the repository database unsetup of the previous version:

3.1.2 Performing Upgrade

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "3.1.3 Tasks to Be Performed After Upgrade".

3.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

3.1.3.1 Restoring Environment from Previous Version

With the following procedures, restore the Express operation environment of the previous version.
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Implement restoration of the previous version.

   Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the files related to the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfpostinst.bat backupDir [tmpDir]
   ```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

   ### Point

   - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
   - The number of characters in a directory name must be up to 220.

4. Eject the DVD-ROM.
5. Restart the service of ETERNUS SF Manager
   Execute the following batch file:

   ```
   $INS_DIR\Common\bin\Start_ESFservice.bat
   ```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

3.1.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

3.1.3.3 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 4 of "3.1.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

3.1.3.4 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

- Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
  If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

3.1.4 Resuming Operation

When the tasks described above have been performed, the upgrade of Express is complete. Restart the Express operation for Windows

Note

- If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
- If performance monitoring had been performed, restart the performance monitoring.
  Refer to "Instruction for Performance Management" in the *ETERNUS SF Express Operation Guide* for information on how to start the performance monitoring.

3.2 Upgrading Express (for Linux)

This section describes the upgrade of Express for Linux.

3.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading Express, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

3.2.1.1 Install of Essential Package

According to the environment in which Upgrade Installation is executed, the packages required should be installed.

The environment and the package are as follows. The version number of the installed package shall be later than the described versions.

When the Upgrade Installation is executed excluding the following environments, this procedure is not needed.

- For Red Hat Enterprise Linux 5 (for Intel64), 32-bit AdvancedCopy Manager is installed of the previous version:

  ```
  libXrender-0.9.1-3.1.i386.rpm
  ```

- For Red Hat Enterprise Linux 6 (for Intel64):

  ```
  libXrender-0.9.5-1.el6.i686.rpm
  ```

Information

When libXrender is installed, other packages might be demanded. Install the package (the end of the package name is i386.rpm or i686.rpm) of 32-bit when OS is 64-bit environment.

The required packages for the installation are included in the OS installation media.

3.2.1.2 Backing Up Operational Environment of Previous Version

With the following procedures, backup the operation environment of Express of the previous version.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

Note

Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
In the previous version Web Console, refer to the following information.

- Settings for performance monitoring
  - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).

   ```
   # mount /mnt/dvd
   ```

4. Execute the following command to stop the daemon of ETERNUS SF Manager.

   ```
   # /opt/FJSVesfcm/bin/stopesf.sh
   ```

5. Implement backup of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpreinst.sh backupDir [tmpDir]
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

3.2.1.3 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

3.2.1.4 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

3.2.1.5 Estimating Database Size

A database is necessary for this version of Express.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

3.2.1.6 Tuning Kernel Parameters

Kernel parameter tuning must be performed in order to use this version of the Express. Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

3.2.1.7 Confirming Port Number for Communication Service

Ensure the new ports are available before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

3.2.1.8 Preparing for Uninstallation

The DB unsetup must be executed.
Refer to "A.8 Cancelling Repository Settings" to unsetup the repository database of the previous version.

3.2.2 Performing Upgrade

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

This section describes the upgrade procedure for Express.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "3.2.3 Tasks to Be Performed After Upgrade".

3.2.3 Tasks to Be Performed After Upgrade

When the Express upgrade has been completed, the tasks below need to be performed.

3.2.3.1 Restoring Environment from Previous Version

With the following procedures, restore the Express operation environment of the previous version.
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

4. Implement restoration of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the files related to the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpostinst.sh backupDir [tmpDir]
```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.

5. Unmount the DVD-ROM.
   Example:

```
# umount /mnt/dvd
```

6. Eject the DVD-ROM.
7. Restart the daemon of ETERNUS SF Manager.

```
# /opt/FJSVesfcm/bin/startesf.sh
```

3.2.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

3.2.3.3 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 5 of "3.2.1.2 Backing Up Operational Environment of Previous Version" maybe deleted.

3.2.3.4 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform out the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server
   Enterprise Edition".

   Continue the uninstallation?
   y: Continue the uninstallation
   q: End directly without uninstallation
   [y,q]: y

   Uninstallation of "Symfoware Server Enterprise Edition" begins.

   Please select the functions to be uninstalled.
   1: Base function (Server function, Client function)
   Separate multiple selections with ",". (Example: 1, 2)
   [all:All functions,1,q]: all

   Selected functions
   - Base function (Server function, Client function)

   Start the uninstallation of the above functions?
   y: Uninstallation begins
   n: Select the functions again
   q: End directly without uninstallation
   [y,n,q]: y

   Uninstallation begins.
   ```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

   ```
   Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
   ```

3.2.4 Resuming Operation

When the tasks described above have been performed, the upgrade of Express is complete. Restart the Express operation.

However, when you change the SELinux setting to "enforcing" mode during the upgrade, refer to the following manual and restart the operation after the installation of the SELinux policy module for snmptrapd.

- "SNMP Trap Setting (for Linux)" in the *ETERNUS SF Installation and Setup Guide* for this version

Note

- If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
- If performance monitoring had been performed, restart performance monitoring.
  Refer to "Instruction for Performance Management" in the *ETERNUS SF Express Operation Guide* for information on how to resume performance monitoring.

Chapter 4 Upgrading Express Version 16.x

This chapter describes the upgrade procedure for Express Version 16.x.

To upgrade Express Version 15.x to this version, install the ETERNUS SF Manager.

4.1 Upgrading Express (for Windows)

This section describes the upgrade of Express for Windows.

4.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading Express, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed.
   Note that in cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.
   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

3. Stop the ETERNUS SF Manager service
   Execute the following batch file:

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.
4. When using the ETERNUS VASA Provider, stop the Provider function.
   With the Windows services screen, stop the ETERNUS Information Provider.

4.1.2 Performing Upgrade

Refer to "C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)" and implement the installation of the version update.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

4.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Program**s page or the **Programs and Feature**s page.
      If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

2. Restart the service of ETERNUS SF Manager
   Execute the following batch file:

   ```
   $INS_DIR\Common\bin\Start_ESFservice.bat
   ```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

3. When using the ETERNUS VASA Provider, start the Provider function.
   With the Windows services screen, start the ETERNUS Information Provider.

4.1.4 Resuming Operation

When the tasks described above have been performed, the upgrade of Express is complete. Restart operation after performing the following actions.

1. Deleting Web Browser's Cache

   If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

2. Reloading Server Information
   When you use the function newly supported from this version level, Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
      The registered ETERNUS Disk storage systems are displayed on the Main pane.

   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.

   c. On the Action pane, click **Reload Conf**. under **Storage**.

See

Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

4.2 Upgrading Express (for Linux)

4.2.1 Preparing for the uUpgrade

The operational environment must be prepared prior to upgrading Express, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

2. Ensure that there is enough available disk space (200MB) on the server where the upgrade will be performed.

   Note that in cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.
   Output Message (in cases when the directory of the destination of the installation is /opt):

```
ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk
area.
```

3. Execute the following command to stop the ETERNUS SF Manager daemon.

```
# /opt/FJSVesfcm/bin/stopesf.sh
```

4.2.2 Performing Upgrade

Refer to "Procedures for Installing a Version Update of the Manager Feature of C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux)

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

4.2.3 Tasks to Be Performed After Upgrade

When the Express upgrade has been completed, the tasks below need to be performed.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Start the uninstaller of Symfoware to delete the Symfoware package.

```
# /opt/symfoware/setup/symfo_remove
```

   c. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
```

```
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

d. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

2. Perform the kernel parameter tuning.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

3. As required, start the daemon of ETERNUS SF Manager.
If the operating system is not restarted after having performed kernel parameter tuning in step 2, execute the following command to start the ETERNUS SF Manager daemon.

```
# /opt/FJSVesfcm/bin/startesf.sh
```

4.2.4 Resuming Operation

When the tasks described above have been performed, the upgrade of Express is complete. Restart operation after performing the following actions..

1. Changing SELinux Setting to "enforcing" Mode

   When you change the SELinux setting to "enforcing" mode during the upgrade, refer to the following manual and restart the operation after the installation of the SELinux policy module for snmptrapd.

   - "SNMP Trap Setting (for Linux)" in the *ETERNUS SF Installation and Setup Guide* for this version

2. Deleting Web Browser's Cache

   If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

3. Reloading Server Information
   When you use the function newly supported from this version level, Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
   The registered ETERNUS Disk storage systems are displayed on the Main pane.

   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.

   c. On the Action pane, click **Reload Conf**. under **Storage**.

See

Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

Chapter 5 Upgrading Storage Cruiser Version 14.x

This chapter describes the upgrade procedure for Storage Cruiser Version 14.x.

Point

- For Storage Cruiser programs, the Upgrade Installation can be performed for the Storage Cruiser's manager only.

  For upgrading the Storage Cruiser's agent, perform uninstallation and then perform a new installation of this version. Refer to "5.2 Upgrading Storage Cruiser's Agent" for details.

- In the version level of the Storage Cruiser, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.

- If upgrading Storage Cruiser, the following information cannot be imported from the previous version:

  - Event log history

  - User account for the GUI client

- If AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module will be upgraded at the same time. Therefore, perform backups of the previous versions before starting the upgrade.

Note

The GUI client has been replaced with the Web Console.
If the GUI client is installed, uninstall it.

5.1 Upgrading Storage Cruiser's Manager

This section describes the upgrade procedure for the Storage Cruiser's manager.
To upgrade the Storage Cruiser's manager to this version, install the ETERNUS SF Manager.

5.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

5.1.1.1 Backing Up Operational Environment of Previous Version

Back up the Storage Cruiser's manager operational environment.

Note

- The iSCSI HBA information cannot be backed up. Save the current settings information into an appropriate file.
  Refer to the iSCSI port property information in the resource view of the previous version of Storage Cruiser.

- Performance management information is not backed up. If performance monitoring is being performed, take a note of current settings.
  Refer to the following information on an earlier-version GUI client:

  - Settings for performance monitoring

    - Interval before obtaining performance information (in seconds)

    - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

- Settings for threshold monitoring (if threshold monitoring is performed)
  - Settings for the Threshold Monitoring time
    Threshold Monitoring time (Start Time/Stop Time), Alarm Display time (Start Time/Stop Time), Alarm Display frequency
  - Settings for the Threshold Monitoring
    Threshold Monitoring target, Threshold, Unit of the Threshold Monitoring time, Alarm allowable range, Alarm allowable time, Lower limit

See

Refer to the following sections for information on performing a backup according to OS environment.

- A.25 Backup of Manager Operation Environment (for Windows)
- A.26 Backup of Windows Version Manager Operation Environment (for Cluster Environment)
- A.27 Backup of Manager Operation Environment (for Solaris, Linux)
- A.28 Backup of Solaris/Linux Version Manager Operation Environment (for Cluster Environment)

AdvancedCopy Manager Operational Environment

When AdvancedCopy Manager is installed, back up the AdvancedCopy Manager operational environment.

Note

The following information cannot continue to be used.

- User account for the GUI client

See

Refer to the following table to back up the operational environment.

Server Type	OS	Reference
Storage Management Server	Windows	A.1 Backing Up Repository Data (for Windows)
	Solaris, Linux	A.2 Backing Up Repository Data (for Solaris, Linux)
Storage Management Server which also serves as a Storage Server	Windows	Perform the steps in the following order: 1. A.1 Backing Up Repository Data (for Windows) 2. A.3 Backing Up Management Information (for Windows)
	Solaris, Linux	Perform the steps in the following order: 1. A.2 Backing Up Repository Data (for Solaris, Linux) 2. A.4 Backing Up Management Information (for Solaris, Linux)

AdvancedCopy Manager Copy Control Module Operational Environment

When AdvancedCopy Manager Copy Control Module is installed, backup the AdvancedCopy Manager Copy Control Module operational environment.

Refer to "A.6 Backing Up Environment Setting Files" for information on performing a backup.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, backup the definition of the license information.

Back up the license management database of ETERNUS SF License Manager by executing the esflm backup command. Refer to the *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide* for the previous version for information on the command.

Example of executing the command is shown below. The file specified for *backupFileName* will be created as a backup file.

```
> esflm backup backupFileName
Backup of license database was performed successfully
```

5.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the Storage Cruiser's manager.
Refer to the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version for information on the required disk space.

5.1.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

5.1.1.4 Estimating Database Size

A database is necessary for this version of Storage Cruiser.
The database size must be estimated before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

5.1.1.5 Tuning Kernel Parameters (for Solaris, Linux)

Kernel parameter tuning must be performed in order to use this version of the Storage Cruiser's manager. Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

5.1.1.6 Confirming Port Number for Communication Service (for Solaris, Linux)

This version of the AdvancedCopy Manager's manager uses additional ports.
Therefore, ensure the new ports are available before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

5.1.1.7 Preparing for Uninstallation

If AdvancedCopy Manager is installed, before starting the upgrade, the following preparation is necessary before uninstalling the previous version.

1. Stop the daemon (for Solaris or Linux).

   Execute the following command to stop the daemon of AdvancedCopy Manager on the Management Server (Storage Management Server).

   ```
   # /opt/swstorage/bin/stopacm
   ```

2. Execute the DB unsetup.

   Refer to the following sections to perform the repository database unsetup of the previous version:

   - For Windows:

     "A.7 Unsetting Up Database"

   - For Solaris or Linux:

     "A.8 Cancelling Repository Settings"

For Clustered Systems

For clustered systems, execute cluster unsetup before uninstallation.

Refer to "Cluster environment deletion" in the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version for information on the cluster unsetup procedure.

5.1.2 Performing Upgrade (for Windows)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade. Note the following points when you upgrade.

- When requested to restart the computer, click **No**.
  If **Yes** is clicked, the upgrade will be interrupted. When re-executing the installation after a restart of the computer, the installation will be treated as new one.
- When the uninstallation completes successfully, the **Uninstallation was completed successfully** page may be displayed. Although the instruction on the page indicates the deletion of files and folders, do not delete files and folders when performing the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "5.1.4 Tasks to Be Performed After Upgrade".

For non-clustered systems, perform "5.1.4 Tasks to Be Performed After Upgrade" afterwards.

Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for clustered systems. Then, perform "5.1.4 Tasks to Be Performed After Upgrade" afterwards.

5.1.3 Performing Upgrade (for Solaris, Linux)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "5.1.4 Tasks to Be Performed After Upgrade".

For non-clustered systems, perform "5.1.4 Tasks to Be Performed After Upgrade" afterwards.

Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for clustered systems. Then, perform "5.1.4 Tasks to Be Performed After Upgrade" afterwards.

5.1.4 Tasks to Be Performed After Upgrade

When the Storage Cruiser's manager upgrade has been completed, the tasks below need to be performed.

5.1.4.1 Restoring Environment from Previous Version

Restore the operational environment that was backed up in "5.1.1.1 Backing Up Operational Environment of Previous Version".

See

Refer to the following for information on performing a restore according to OS environment.

- A.29 Restoring of Manager Operation Environment (for Windows)
- A.30 Restoring of Windows Version Manager Operation Environment (for Cluster Environment)
- A.31 Restoring of Manager Operation Environment (for Solaris, Linux)
- A.32 Restoring of Solaris/Linux Version Manager Operation Environment (for Cluster Environment)

AdvancedCopy Manager Operational Environment

When AdvancedCopy Manager is installed, restore the operational environment that was backed up in "5.1.1.1 Backing Up Operational Environment of Previous Version".

Note

For the operational environment restore, start a new window for command execution, and then perform the procedure on the window.

See

Refer to the following table to restore the operational environment.

Server Type	OS	Reference
Management Server	Windows	A.9 Restoring Repository Data (for Windows)
	Solaris, Linux	A.10 Restoring Repository Data (for Solaris, Linux)
Management Server which also serves as a Managed Server	Windows	Perform the steps in the following order: 1. A.9 Restoring Repository Data (for Windows) 2. A.11 Restoring Management Information (for Windows)
	Solaris, Linux	Perform the steps in the following order: 1. A.10 Restoring Repository Data (for Solaris, Linux) 2. A.12 Restoring Management Information (for Solaris, Linux)

AdvancedCopy Manager Copy Control Module Operational Environment

When AdvancedCopy Manager Copy Control Module is installed, restore the operational environment that was backed up in "5.1.1.1 Backing Up Operational Environment of Previous Version".

See

Refer to "A.14 Restoring Environment Setting Files" for information on performing a restore.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, restore the definition of the license information.

Restore the license management database of ETERNUS SF License Manager by executing the esflm restore command. Refer to the *ETERNUS SF Installation and Setup Guide* for this version for information on the command.

Example of executing the command is shown below. The *backupFileName* is the file name specified when the backup data was created.

```
> esflm restore backupFileName
Restoration of license database was performed successfully
```

5.1.4.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

- For Windows (DOS prompt):

```
programDir\Common\bin\esfadm devconf import -all
```

- For Solaris or Linux:

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Point

The communication method between this product and fibre channel switch (Fabric OS v6.3 or later) has been changed from telnet to SSH. If the SSH feature is disabled on the targeted switch, please enable the SSH feature. Refer to the manual provided by the equipment for details on setting the SSH feature.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

5.1.4.3 Setting Up User Account

Set up a user account in order to use the ETERNUS SF Manager functions.

See

Refer to "Setting Up User Account" in the *ETERNUS SF Installation and Setup Guide* for this version for information on setup.

5.1.4.4 Setting Up Web Console

If firewalls are used between the PC on which the Web Console is launched and the Management Server, perform firewall settings to allow transmission.

See

Refer to "Setting Up for Using Web Console" in the *ETERNUS SF Installation and Setup Guide* for this version for information on firewall setup.

5.1.4.5 Setting Account Information for Access to ETERNUS Disk Storage System

Set the account information, user name and password to access the ETERNUS Disk storage system.

See

Refer to "Set/Change Information of Account That Can Access ETERNUS Disk Storage System" in the *ETERNUS SF Web Console Guide* for information on setup.

5.1.4.6 Registering License

Register the appropriate licenses.

See

Refer to "License Management" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the license settings.

5.1.4.7 Redefining Missing Information

- iSCSI HBA information

  If iSCSI was defined before the upgrade, perform the following procedure:

  1. Log in to the Web Console.
  2. Select the server featuring the iSCSI HBA, click **Add HBA** in the Action pane and then enter the HBA information.

- AdvancedCopy Manage Copy Control Module configuration information

  To use the AdvancedCopy Manager Copy Control Module, set the device information again in accordance with the following procedure:

  See

  Refer to "Command References" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module* for this version for information on the commands.

  1. Confirm the registered ETERNUS Disk storage system by executing the acarray list command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray list
     Name BOX-ID IP Address
     ----- ---------------------------------------- ------------
     DX90 00ETERNUSDXL##ET09E24B####LH4311015511## 10.124.6.251
     ```

  2. Confirm the detailed information of the registered ETERNUS Disk storage system by executing the acarray detail command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray detail -a DX90
     Disk Array Name : DX90
     BOX-ID : 00ETERNUSDXL##ET09E24B####LH4311015511##
     IP Address : 10.124.6.251
     Admin User : ****
     Access Volume : X:
     ```

  3. Remove all of the registered ETERNUS Disk storage system by executing the acarray remove command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray remove -a DX90
     Successful completion.
     ```

  4. Re-register all of the ETERNUS Disk storage systems that were removed in step 3 by executing the acarray add command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray add -a DX90 -ip 10.124.6.251 -user **** -password **** -
     path X:
     Successful completion.
     ```

Point

When the ETERNUS Disk storage system was registered by specifying a nonexistent drive letter or device name in the previous version of AdvancedCopy Manager CCM, re-register its ETERNUS Disk storage system as a remote device.

5. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
   The registered ETERNUS Disk storage systems are displayed on the Main pane.

   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.

   c. On the Action pane, click **Reload Conf**. under **Storage**.

See

Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

5.1.4.8 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

For Windows

Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

For Solaris or Linux

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server
Enterprise Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
```

```
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

4. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

5.1.5 Resuming Operation

When the tasks described above have been performed, the upgrade of the Storage Cruiser's manager is complete. Restart the Storage Cruiser operation.

Point

- When upgrading as well as changing the setting in SELinux to "enforcing" in the Linux environment, install the SELinux policy module for snmptrapd and then restart the operation.
  Refer to "SNMP Trap Setting (for Linux)" in the *ETERNUS SF Installation and Setup Guide* for this version for details.
- If performance monitoring is being performed, take the following procedure to restart performance monitoring:
  1. Based on the settings for performance monitoring recorded in "5.1.1.1 Backing Up Operational Environment of Previous Version", start performance monitoring.
     Refer to "Instruction for Performance Management" and "Setting Monitoring Intervals" in the *ETERNUS SF Storage Cruiser Operation Guide* for details.
  2. If threshold monitoring is being performed, based on the settings for threshold monitoring recorded in "5.1.1.1 Backing Up Operational Environment of Previous Version", start threshold monitoring.
     Refer to "Instruction for Threshold Management", "Setting Threshold Monitoring Hours" and "Setting Threshold Monitoring Information" in the *ETERNUS SF Storage Cruiser Operation Guide* for details.

Note

When restarting ETERNS SF Manager after resuming the operation, if performance monitoring fails to start, use the following procedure for recovery:

1. Confirming the output error message and removing the cause of the failure.
2. On the Action pane, click **Reload Conf.** to reload the device information.
3. If performance monitoring is being performed, stop the performance monitoring once and restart it.
   Refer to "Instruction for Stopping Performance Management" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on the performance monitoring stopping.

5.2 Upgrading Storage Cruiser's Agent

The upgrade is performed as follows:

1. Back up the Storage Cruiser's agent settings information.

   - For Windows:

No.	Settings Information to Be Backed Up	File to Be Backed Up
1	SNMP Trap sending destination address	$OLD_TMP_DIR\Agent\var\sanm.ip ($OLD_TMP_DIR is "Work Directory" specified at the previous Storage Cruiser's agent installation.)
2	Agent definition file	All files under $OLD_ENV_DIR\Agent\etc directory ($OLD_ENV_DIR is "Environment Directory" specified at the previous Storage Cruiser's agent installation.)
3	User definition information	$OLD_INS_DIR\Agent\lib\defusr.dat ($OLD_INS_DIR is "Program Directory" specified at the previous Storage Cruiser's agent installation.) Note: If there is no file present, backup is not required.

   - For Solaris, Linux or HP-UX:

No.	Settings Information to Be Backed Up	File to Be Backed Up
1	SNMP Trap sending destination address	/var/opt/FJSVssage/sanm.ip
2	Agent definition file	All files under the /etc/opt/FJSVssage directory
3	User definition information	/opt/FJSVssage/lib/defusr.dat Note: If there is no file present, backup is not required.

2. Uninstall the previous version of the Storage Cruiser's agent.

   Refer to the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version for information on uninstallation.

3. Install this version of the Storage Cruiser's agent.

   Refer to "Installation of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for information on installation.

4. Set up this version of the Storage Cruiser's agent.

   - For Windows:
     No actions are necessary.

   - For Solaris, Linux or HP-UX:
     Refer to "Port Number Setting" in the "Setup of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for information on setup.

5. Restore the Storage Cruiser's agent settings information that was backed up in step 1.

   - For Windows:

     Refer to the table above and perform steps as follows:

     - Copy the file of No. 1 and create $TMP_DIR\ESC\Agent\var\sanm.ip.
       ($TMP_DIR is "Work Directory" specified at the Storage Cruiser's agent installation.)

     - Refer to each file of No. 2 and reflect the definitions which have been changed from the installation of the previous version of the Storage Cruiser's agent to the $ENV_DIR\ESC\Agent\etc directory.
       ($ENV_DIR is "Environment Directory" specified at the Storage Cruiser's agent installation.)

       Migration is not required for files whose definitions have not been changed. Use the new definition files.

- Copy the file of No. 3 and create $INS_DIR\ESC\Agent\lib\defusr.dat.
  ($INS_DIR is "Program Directory" specified at the Storage Cruiser's agent installation.)

  This is not required if the file was not backed up in step 1.

- For Solaris, Linux or HP-UX:

  Refer to the table above and perform steps as follows:

  - Copy the file of No. 1 and create /var/opt/FJSVssage/sanm.ip.
  - Refer to each file of No. 2 and reflect the definitions which have been changed from the installation of the previous version of the Storage Cruiser's agent to the /etc/opt/FJSVssage directory.

    Migration is not required for files whose definitions have not been changed. Use the new definition files.

  - Copy the file of No. 3 and create /opt/FJSVssage/lib/defusr.dat.

    This is not required if the file was not backed up in step 1.

6. Start the service / daemon of Storage Cruiser's agent.

   - For Windows:

     a. Start the service
        Click **Control Panel** > **Administrative Tools** > **Services**.

     b. Select "ETERNUS SF Storage Cruiser Agent".

        For "Started" the state of the service of the Storage Cruiser's agent:
        Click **Restart Service**.

        For "Blank Space (Stopped)" the state of the service of the Storage Cruiser's agent:
        Click **Start Service**.

   - For Solaris, Linux or HP-UX:
     Restart the system. Daemon of the Storage Cruiser's agent starts automatically.

7. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Chapter 6 Upgrading Storage Cruiser Version 15.x

This chapter describes the upgrade procedure for Storage Cruiser Version 15.x.

To upgrade Storage Cruiser Version 15.x to this version, install the ETERNUS SF Manager.

Point

- In the version level of the Storage Cruiser, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.
- If AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module will be upgraded. Therefore, perform backups of the previous versions before starting the upgrade.
- When upgrading the Storage Cruiser's manager, there is information that cannot be migrated. Refer to "12.3 What to Do When Configuration Import Is Not Possible" for information on the information that cannot be migrated and the corrective action.

6.1 Upgrading Storage Cruiser's Manager (for Windows)

This section describes the upgrade procedure for the Storage Cruiser's manager for Windows.

6.1.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

6.1.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

6.1.1.1.1 Backing Up Operational Environment of Previous Version

With the following procedures, back up of the operation environment of the previous version of the Storage Cruiser's manager.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

Note

Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
In the previous version Web Console, refer to the following information.

- Settings for performance monitoring
  - Interval before obtaining performance information (in seconds)
  - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

1. Log on to the server using Administrator privileges.

2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. Stop the ETERNUS SF Manager service
   Execute the following batch file:

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

4. Implement backup of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfpreinst.bat backupDir [tmpDir]
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

6.1.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

6.1.1.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

6.1.1.1.4 Estimating Database Size

A database is necessary for this version of Storage Cruiser.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

6.1.1.1.5 Preparing for Uninstallation

Refer to "A.7 Unsetting Up Database" to unsetup the repository database of the previous version.

6.1.1.2 Performing Upgrade (for Windows)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "6.1.1.3 Tasks to Be Performed After Upgrade".

6.1.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

6.1.1.3.1 Restoring Environment from Previous Version

With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager.
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

Information

About the notation in procedure

Directory name	Explanation
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.
$ENV_DIR	"Environment Directory" specified at the ETERNUS SF Manager installation.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Implement restoration of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an

absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
dvdromDrive:\Manager_windows\vuptools\esfpostinst.bat backupDir [tmpDir]
```

When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.

4. Eject the DVD-ROM.
5. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
   SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
   After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

6. When the polling service setting file is customized, it is necessary to execute customizing again.
   The polling service setting file for the following previous version is saved in an arbitrary place.
   After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling\pollingService.xml

7. Restart the service of ETERNUS SF Manager
   Execute the following batch file:

```
$INS_DIR\Common\bin\Start_ESFservice.bat
```

6.1.1.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Point

The communication method between this product and fibre channel switch (Fabric OS v6.3 or later) has been changed from telnet to SSH. If the SSH feature is disabled on the targeted switch, please enable the SSH feature. Refer to the manual provided by the equipment for details on setting the SSH feature.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

6.1.1.3.3 Change Associated Software

If the following related software was being used with the previous version, it is necessary to update these to a version that supports this edition.

- ETERNUS VASA Provider
- Fujitsu ETERNUS Storage Systems Monitoring Pack

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

6.1.1.3.4 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 4 of "6.1.1.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

6.1.1.3.5 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

- Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
  If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

6.1.1.4 Resuming Operation

When the tasks described above have been performed, the upgrade of the Storage Cruiser's manager is complete. Restart the Storage Cruiser operation.

Note

If performance monitoring had been performed, restart the performance monitoring with the following steps.

1. Start performance monitoring.
   Refer to "Instruction for Performance Management" and "Setting Monitoring Intervals" in the *ETERNUS SF Storage Cruiser Operation Guide*.
2. If threshold monitoring had been performed, refer to "Instruction for Threshold Management", "Setting Threshold Monitoring Hours", and "Setting Threshold Monitoring Information" in the *ETERNUS SF Storage Cruiser Operation Guide*.

6.1.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

The following values are used in the description:

Directory Name	Explanation
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.
$ETC_DIR	"Environment Directory" specified at the ETERNUS SF Manager installation.

6.1.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Check that the ETERNUS SF Manager services are stopped on the secondary node.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of ETERNUS SF Manager.
3. When using the ETERNUS VASA Provider or the ETERNUS Information Provider, on the secondary node, confirm that the ETERNUS Information Provider service has been stopped.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of the ETERNUS Information Provider.
4. On the primary, node stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.
5. When using the ETERNUS VASA Provider or the ETERNUS Information Provider, stop the ETERNUS Information Provider service on the primary node.
   Use the Failover Cluster Manager to stop the transactions of the ETERNUS Information Provider.
   However, the shared disk for shared data of the ETERNUS Information Provider must be online.
6. If Managed Server transactions coexist in the clustered system, perform the following procedure:
   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Use the Failover Cluster Manager to stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be online.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.
7. Stop the local transactions on all the nodes, perform the following procedure:

   Perform the following steps.

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.
   b. Select "AdvancedCopy Manager COM Service" and then click **Stop**.

8. On the primary node, perform a backup of the operating environment of the previous version of the Storage Cruiser's manager.
   Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

   Note

   Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
   In the previous version Web Console, refer to the following information.

   - Settings for performance monitoring
     - Interval before obtaining performance information (in seconds)
     - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

   a. Log on to the server using Administrator privileges. If already logged on as the Administrator privileges, this step is unnecessary.

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Implement backup of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfpreinst_cluster.bat backupDir [tmpDir] -primary
      ```

      When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

      Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
      - The number of characters in a directory name must be up to 220.
      - Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

   d. Eject the DVD-ROM.

9. Checking for available disk space

   Ensure that there is enough available disk space on the server where the upgrade will be performed.
   The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

   Required Disk Space for New Version

   The space required to install this version of the ETERNUS SF Manager.
   Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

   Required Disk Space for Previous Version

   The space required to install the previous version of the ETERNUS SF Manager.
   Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

10. Uninstalling incompatible software

    Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
    If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

    See

    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

11. Estimating the database size

    A database is necessary for this version of Storage Cruiser.
    The database size must be estimated before starting the upgrade.

    See

    Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

12. On the secondary node, perform a backup of the operating environment of the previous version of the Storage Cruiser's manager.
    The capacity required for performing this backup is 10MB.

    a. Log on to the server using Administrator privileges. If already logged on as the Administrator privileges, this step is unnecessary.

    b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
    Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

    c. Mount the shared disk for shared data of ETERNUS SF Manager.
    If it is mounted on the primary node, unmount it to mount on the secondary node.

    d. Implement backup of the previous version.
    Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

    ```
    dvdromDrive:\Manager_windows\vuptools\esfpreinst_cluster.bat backupDir [tmpDir] -secondary
    ```

    When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

    Point

    - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
    - The number of characters in a directory name must be up to 220.
    - Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

    e. Unmount the shared disk for shared data of ETERNUS SF Manager.
    If it is required for the work on the primary node, mount it on the primary node.

    f. Eject the DVD-ROM.

13. Checking for available disk space

    Ensure that there is enough available disk space on the server where the upgrade will be performed.
    The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

    Required Disk Space for New Version

    The space required to install this version of the ETERNUS SF Manager.
    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

    Required Disk Space for Previous Version

    The space required to install the previous version of the ETERNUS SF Manager.
    Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

14. Uninstalling incompatible software

    Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
    If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

    See

    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

15. Performing the cluster unsetup

    Refer to "Uninstallation of ETERNUS SF Manager" in "Deletion of Cluster Environment for Management Server Transactions" in the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version to delete the service resources, the cluster resources and unnecessary resources.

    Note

    - Do not uninstall the ETERNUS SF Manager.
    - Do not delete the ETERNUS SF Manager installation directory of each node.

    Note

    In cases when Managed Server transactions coexist, do not release the configurations of these Managed Server transactions.

6.1.2.2 Performing Upgrade (Primary Node)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade.

Point

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "6.1.2.3 Performing Upgrade (Secondary Node)".

6.1.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.
The upgrade procedure is the same as that for the primary node. Refer to "6.1.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for information on the cluster setup.

6.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.
2. Implement restoration of the previous version.
   With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager.
   Note that if step a and step b have already been performed, it is unnecessary to perform these again.
   a. Log on to the server using Administrator privileges.
   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   c. Implement restoration of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfpostinst_cluster.bat backupDir [tmpDir] -primary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

      #### Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
      - The number of characters in a directory name must be up to 220.

   d. Eject the DVD-ROM.
   e. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
      SNMP trap XML definition file for the stored previous version s saved in an arbitrary place as follows.
      After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

f. When the polling service setting file is customized, it is necessary to execute customizing again.
The polling service setting file for the following previous version is saved in an arbitrary place.
After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling\pollingService.xml

3. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data, on the primary node for a target service.

   On the primary node for target transactions, edit the following files:

   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\clsetup.ini
   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

Note

Do not change anything other than the version information.

4. Start the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.

5. If Managed Server transactions coexist in a clustered system, change the server information of the Managed Server transactions.

   To ensure data consistency, execute the stgxfwcmmodsrv command to change the server information.
   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

   This operation should be performed on the primary node for Management Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)* for this version for information on the command.

6. Import the configuration information.
   Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.
   Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

   After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

   In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Point

The communication method between this product and fibre channel switch (Fabric OS v6.3 or later) has been changed from telnet to SSH. If the SSH feature is disabled on the targeted switch, please enable the SSH feature. Refer to the manual provided by the equipment for details on setting the SSH feature.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

7. Uninstalling Symfoware
   In the version level of this ETERNUS SF Manager , Symfoware is not used.
   Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
   The procedures to uninstall Symfoware are stated below.

   - Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
     If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

Point

- If the ETERNUS VASA Provider was being used with the previous version:
  It is necessary to reinstall a version of the ETERNUS VASA Provider that supports this edition.
- If the Fujitsu ETERNUS Storage Systems Monitoring Pack was being used with the previous version:
  It is necessary to reinstall a version of the Fujitsu ETERNUS Storage Systems Monitoring Pack that supports this edition.

6.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check that the ETERNUS SF Manager services are stopped.
   If not stopped, use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
2. Implement restoration of the previous version.
   With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager.
   Note that if step a and step b have already been performed, it is unnecessary to perform these again.

   a. Log on to the server using Administrator privileges.

b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

c. Mount the shared disk for shared data of ETERNUS SF Manager.
If it is mounted on the primary node, unmount it to mount on the secondary node.

d. Implement restoration of the previous version.
Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
dvdromDrive:\Manager_windows\vuptools\esfpostinst_cluster.bat backupDir [tmpDir] -secondary
```

When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.

e. Unmount the shared disk for shared data of ETERNUS SF Manager.
If it is required for the work on the primary node, mount it on the primary node.

f. Eject the DVD-ROM.

1. Uninstalling Symfoware
In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
The procedures to uninstall Symfoware are stated below.

   - Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
   If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

Point

- If the ETERNUS VASA Provider was being used with the previous version:
It is necessary to reinstall a version of the ETERNUS VASA Provider that supports this edition.
- If the Fujitsu ETERNUS Storage Systems Monitoring Pack was being used with the previous version:
It is necessary to reinstall a version of the Fujitsu ETERNUS Storage Systems Monitoring Pack that supports this edition.

6.1.2.6 Starting ETERNUS SF Manager

After performing "6.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and "6.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)", perform the following procedure:

1. Check that start ETERNUS SF Manager services are started on the primary node.
If not started, use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.

2. When using the ETERNUS VASA Provider or the ETERNUS Information Provider, start the ETERNUS Information Provider service on the primary node.

   Use the Failover Cluster Manager to start the transactions of the ETERNUS Information Provider.

3. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.

4. Start the local transactions on all the nodes, perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Start**.

Note

- If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
- If performance monitoring had been performed, restart the performance monitoring with the following steps.

  1. Start performance monitoring.
     Refer to "Instruction for Performance Management" and "Setting Monitoring Intervals" in the *ETERNUS SF Storage Cruiser Operation Guide*.

  2. If threshold monitoring had been performed, refer to "Instruction for Threshold Management", "Setting Threshold Monitoring Hours", and "Setting Threshold Monitoring Information" in the *ETERNUS SF Storage Cruiser Operation Guide*.

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 8-c and12-d of "6.1.2.1 Preparing for Upgrade" maybe deleted.

6.2 Upgrading Storage Cruiser's Manager (for Solaris, Linux)

This section describes the upgrade procedure for the Storage Cruiser's manager for Solaris and Linux.

6.2.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

6.2.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

6.2.1.1.1 Install of Essential Package

According to the environment in which Upgrade Installation is executed, the packages required should be installed.

The environment and the package are as follows. The version number of the installed package shall be later than the described versions.

When the Upgrade Installation is executed excluding the following environments, this procedure is not needed.

- For Red Hat Enterprise Linux 5 (for Intel64), 32-bit AdvancedCopy Manager is installed of the previous version:

  ```
  libXrender-0.9.1-3.1.i386.rpm
  ```

- For Red Hat Enterprise Linux 6 (for Intel64):

  ```
  libXrender-0.9.5-1.el6.i686.rpm
  ```

Information

When libXrender is installed, other packages might be demanded. Install the package (the end of the package name is i386.rpm or i686.rpm) of 32-bit when OS is 64-bit environment.

The required packages for the installation are included in the OS installation media.

6.2.1.1.2 Backing Up Operational Environment of Previous Version

With the following procedures, back up the operation environment of the previous version of the Storage Cruiser's manager.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

Note

Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
In the previous version Web Console, refer to the following information.

- Settings for performance monitoring
  - Interval before obtaining performance information (in seconds)
  - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

4. Execute the following command to stop the daemon of ETERNUS SF Manager.

   ```
   # /opt/FJSVesfcm/bin/stopesf.sh
   ```

5. Implement backup of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfpreinst.sh backupDir [tmpDir]
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

6.2.1.1.3 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

6.2.1.1.4 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

6.2.1.1.5 Estimating Database Size

A database is necessary for this version of Storage Cruiser.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

6.2.1.1.6 Tuning Kernel Parameters

Kernel parameter tuning must be performed in order to use this version of the Storage Cruiser's manager. Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the ETERNUS SF Installation and Setup Guide for this version for information on tuning.

6.2.1.1.7 Confirming Port Number for Communication Service (for Solaris, Linux)

Therefore, ensure the new ports are available before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

6.2.1.1.8 Preparing for Uninstallation

The DB unsetup must be executed.
Refer to "A.8 Cancelling Repository Settings" to unsetup the repository database of the previous version.

6.2.1.2 Performing Upgrade (for Solaris, Linux)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below

1. Install the target version.
2. If the installation is successfully completed, continue from "6.2.1.3 Tasks to Be Performed After Upgrade".

6.2.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

6.2.1.3.1 Restoring Environment from Previous Version

With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager. Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

4. Implement restoration of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the files related to the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfpostinst.sh backupDir [tmpDir]
   ```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.

5. Unmount the DVD-ROM.
   Example:

```
# umount /mnt/dvd
```

6. Eject the DVD-ROM.
7. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
   SNMP trap XML definition file for the stored previous version saved in an arbitrary place as follows.
   After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
/etc/opt/FJSVssmgr/current/snmpth

8. When the polling service setting file is customized, it is necessary to execute customizing again.
   The polling service setting file for the following previous version is saved in an arbitrary place.
   After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
/etc/opt/FJSVssmgr/current/polling/pollingService.xml

9. Restart the daemon of ETERNUS SF Manager.

```
# /opt/FJSVesfcm/bin/startesf.sh
```

6.2.1.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Point

The communication method between this product and fibre channel switch (Fabric OS v6.3 or later) has been changed from telnet to SSH. If the SSH feature is disabled on the targeted switch, please enable the SSH feature. Refer to the manual provided by the equipment for details on setting the SSH feature.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

6.2.1.3.3 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 5 of "6.2.1.1.2 Backing Up Operational Environment of Previous Version" maybe deleted.

6.2.1.3.4 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

For Solaris or Linux

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server
   Enterprise Edition".

   Continue the uninstallation?
   y: Continue the uninstallation
   q: End directly without uninstallation
   [y,q]: y

   Uninstallation of "Symfoware Server Enterprise Edition" begins.

   Please select the functions to be uninstalled.
   1: Base function (Server function, Client function)
   Separate multiple selections with ",". (Example: 1, 2)
   [all:All functions,1,q]: all

   Selected functions
   - Base function (Server function, Client function)

   Start the uninstallation of the above functions?
   y: Uninstallation begins
   n: Select the functions again
   q: End directly without uninstallation
   [y,n,q]: y

   Uninstallation begins.
   ```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

4. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

Subsequently, go to "6.2.3 Resuming Operation".

6.2.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

Note

If Cluster Unsetup is executed after upgrading from Version 15.0B to this version, the cluster resources and scripts created by the old version's commands starting with "stgclset" will not be deleted.

6.2.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Install of essential package.
   According to the environment in which Upgrade Installation is executed, the packages required for primary node and secondary node should be installed.

   The environment and the package are as follows. The version number of the installed package shall be later than the described versions.

   When the Upgrade Installation is executed excluding the following environments, this procedure is not needed.

   - For Red Hat Enterprise Linux 5 (for Intel64), 32-bit AdvancedCopy Manager is installed of the previous version:

     `libXrender-0.9.1-3.1.i386.rpm`

   - For Red Hat Enterprise Linux 6 (for Intel64):

     `libXrender-0.9.5-1.el6.i686.rpm`

   Information

   When libXrender is installed, other packages might be demanded. Install the package (the end of the package name is i386.rpm or i686.rpm) of 32-bit when OS is 64-bit environment.

   The required packages for the installation are included in the OS installation media.

2. Check that the cluster application (transaction) is stopped on the secondary node.

   Check whether the cluster application (transaction) to which ETERNUS SF Manager belongs has stopped.
   If not stopped, stop the cluster application (transaction).

Refer to the relevant cluster software manuals for information on stopping it.

3. Stop the cluster application (transaction) on the primary node.

   Stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it.
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.

4. If Managed Server transactions coexist in the clustered system, perform the following procedure:

   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.
      Refer to the relevant cluster software manuals for information on stopping it.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Refer to the relevant cluster software manuals, stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be state of mout.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

5. Stop the local transactions on all the nodes, perform the following procedure:

   Stop the communication daemon for the local transactions of the AdvancedCopy Manager's manager.
   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on stopping the daemon.

6. On the primary node, perform a backup of the operating environment of the previous version of the Storage Cruiser's manager.
   Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

Note

Performance management information is not backed up. If performance monitoring is performed, record the current configuration details.
In the previous version Web Console, refer to the following information.

- Settings for performance monitoring
  - Interval before obtaining performance information (in seconds)
  - Performance monitoring target (only for ETERNUS Disk storage system. Minimum LUN_V, Maximum LUN_V)

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).

      Example:

```
# mount /mnt/dvd
```

   d. Implement backup of the previous version.
      Execute the following command. For *backupDir,* specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpreinst_cluster.sh backupDir [tmpDir] -primary
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (tmpDir) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

e. Change to a directory other than the DVD-ROM.

Example:

```
# cd
```

f. Unmount the DVD-ROM.

Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

7. Checking for available disk space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

8. Uninstalling incompatible software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

9. Estimating the database size

A database is necessary for this version of Storage Cruiser.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

10. Confirming the port number for the communication service (for Solaris, Linux)

    Therefore, ensure the new ports are available before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

11. Perform the kernel parameter tuning on the primary node.

    Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

12. On the secondary node, perform a backup of the operating environment of the previous version of the Storage Cruiser's manager. The capacity required for performing this backup is 10MB.

    a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

    b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
    Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

    c. Mount the DVD-ROM (if automount is not enabled).

    Example:

```
# mount /mnt/dvd
```

    d. Mount the shared disk for shared data of ETERNUS SF Manager.
    If it is mounted on the primary node, unmount it to mount on the secondary node.

    e. Implement backup of the previous version.
    Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir,* specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir.*

```
# /mnt/dvd/Manager_unix/vuptools/esfpreinst_cluster.sh backupDir [tmpDir] -secondary
```

    When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (tmpDir) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

f. Unmount the shared disk for shared data of ETERNUS SF Manager.
   If it is required for the work on the primary node, mount it on the primary node.

g. Change to a directory other than the DVD-ROM.

   Example:

```
# cd
```

h. Unmount the DVD-ROM.

   Example:

```
# umount  /mnt/dvd
```

i. Eject the DVD-ROM.

13. Checking for available disk space

    Ensure that there is enough available disk space on the server where the upgrade will be performed.
    The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

    Required Disk Space for New Version

    The space required to install this version of the ETERNUS SF Manager.
    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

    Required Disk Space for Previous Version

    The space required to install the previous version of the ETERNUS SF Manager.
    Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

14. Uninstalling incompatible software

    Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
    If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

15. Confirming the port number for the communication service

    Therefore, ensure the new ports are available before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

16. Perform the kernel parameter tuning on the secondary node.

    Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

17. In cases when Managed Server transactions coexist in the cluster system, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

    - On the primary node and the secondary node, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

18. Performing the cluster unsetup

    Refer to "Uninstallation of ETERNUS SF Manager" in "Deletion of Cluster Environment for Management Server Transactions" in the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version to delete unnecessary resources.

    Note

    Do not uninstall the ETERNUS SF Manager.

    Note

    In cases when Managed Server transactions coexist, do not release the configurations of these Managed Server transactions.

6.2.2.2 Performing Upgrade (Primary Node)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)"to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "6.2.2.3 Performing Upgrade (Secondary Node)".

6.2.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.
The upgrade procedure is the same as that for the primary node. Refer to "6.2.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for information on the cluster setup.

In cases when Managed Server transactions coexist in the cluster system, restore the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions backup location (step 17 of "6.2.2.1 Preparing for Upgrade").

- On the primary node and the secondary node, restore the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions.

6.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the cluster application (transaction)
   Stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it.
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.

2. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data, on the primary node for a target service.

   On the primary node for target transactions, edit the following files:

   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

Note

Do not change anything other than the version information.

3. Implement restoration of the previous version. Note that if step a through step c have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

```
# mount /mnt/dvd
```

   d. Implement restoration of the previous version.
      Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpostinst_cluster.sh backupDir [tmpDir] -primary
```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.

- The number of characters in a directory name must be up to 220.

e. Change to a directory other than the DVD-ROM.

Example:

```
# cd
```

f. Unmount the DVD-ROM.

Example:

```
# umount /mnt/dvd
```

g. Eject the DVD-ROM.

h. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
/etc/opt/FJSVssmgr/current/snmpth

i. When the polling service setting file is customized, it is necessary to execute customizing again.
The polling service setting file for the following previous version is saved in an arbitrary place.
After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
/etc/opt/FJSVssmgr/current/polling/pollingService.xml

4. Start the cluster application (transaction).
Start the cluster application (transaction) to which ETERNUS SF Manager belongs.
Refer to the relevant cluster software manuals for information.

5. If Managed Server transactions coexist in a clustered system, change the server information of the Managed Server transactions.

To ensure data consistency, execute the stgxfwcmmodsrv command to change the server information.
When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

This operation should be performed on the primary node for Management Server transactions.
If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on the command.

6. Import the configuration information.
   Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.
   Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

   After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

   In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Point

The communication method between this product and fibre channel switch (Fabric OS v6.3 or later) has been changed from telnet to SSH. If the SSH feature is disabled on the targeted switch, please enable the SSH feature. Refer to the manual provided by the equipment for details on setting the SSH feature.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

7. Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
   The procedures to uninstall Symfoware are stated below.

   For Solaris or Linux

   a. Start the uninstaller of Symfoware to delete the Symfoware package.
      Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

   b. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
      When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
      A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

      An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all
```

```
Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

c. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

d. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

6.2.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check the cluster application (transaction) is stopped.
If not stopped, stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it.

2. Implement restoration of the previous version. Note that if step a through step c have already been performed, it is unnecessary to perform these again.
With the following procedures, restore the operation environment of the previous version of the Storage Cruiser's manager.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

   d. Mount the shared disk for shared data of ETERNUS SF Manager.
   If it is mounted on the primary node, unmount it to mount on the secondary node.

   e. Implement restoration of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpostinst_cluster.sh backupDir [tmpDir] -secondary
```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.

- The number of characters in a directory name must be up to 220.

f. Unmount the shared disk for shared data of ETERNUS SF Manager.
If it is required for the work on the primary node, mount it on the primary node.

g. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

h. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

i. Eject the DVD-ROM.

3. Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
The procedures to uninstall Symfoware are stated below.

For Solaris or Linux

a. Start the uninstaller of Symfoware to delete the Symfoware package.
Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

b. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

c. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

d. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

6.2.2.6 Starting Managed Server Transactions

Perform the following procedure:

1. Check that start the cluster application (transaction) is started on the primary node.

   If not started, start the cluster application (transaction) of ETERNUS SF Manager.
   Refer to the relevant cluster software manuals for information on starting it.

2. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.

   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.

3. Start the local transactions on all the nodes.

   Start the communication daemon for local transactions of AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on starting the daemon.

Subsequently, go to "6.2.3 Resuming Operation".

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 6-d and 12-e of "6.2.2.1 Preparing for Upgrade" maybe deleted.

6.2.3 Resuming Operation

When the tasks described above have been performed, the upgrade of the Storage Cruiser's manager is complete. Restart the Storage Cruiser operation.

However, when you change the SELinux setting to "enforcing" mode during the upgrade in the Linux environment, refer to the following manual and restart the operation after the installation of the SELinux policy module for snmptrapd.

- "SNMP Trap Setting (for Linux)" in the *ETERNUS SF Installation and Setup Guide* for this version

Note

- If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
- If performance monitoring had been performed, restart performance monitoring with the following steps.

  1. Start performance monitoring.
     Refer to "Instruction for Performance Management" and "Setting Monitoring Intervals" in the *ETERNUS SF Storage Cruiser Operation Guide*.

  2. If threshold monitoring had been performed, refer to "Instruction for Threshold Management", "Setting Threshold Monitoring Hours", and "Setting Threshold Monitoring Information" in the *ETERNUS SF Storage Cruiser Operation Guide*.

6.3 Upgrading Storage Cruiser's Agent (for Windows)

This section describes the upgrade procedure for the Storage Cruiser's agent for Windows.

6.3.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

6.3.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.
3. Stop the Storage Cruiser's agent service.
   Open the Service Control Manager and stop the ETERNUS SF Storage Cruiser Agent service.
4. Start the command prompt with "Run as administrator".
5. Implement backup of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   dvdromDrive:\Agent_windows\Storage_Cruiser\windows_x86\scagtpreinst.bat backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

   Point

   - The characters " | : * ? / . < > , % & ^ = ! ; are not supported for directory name.
   - If the directory name contains any spaces, they should be surrounded by double quote characters.

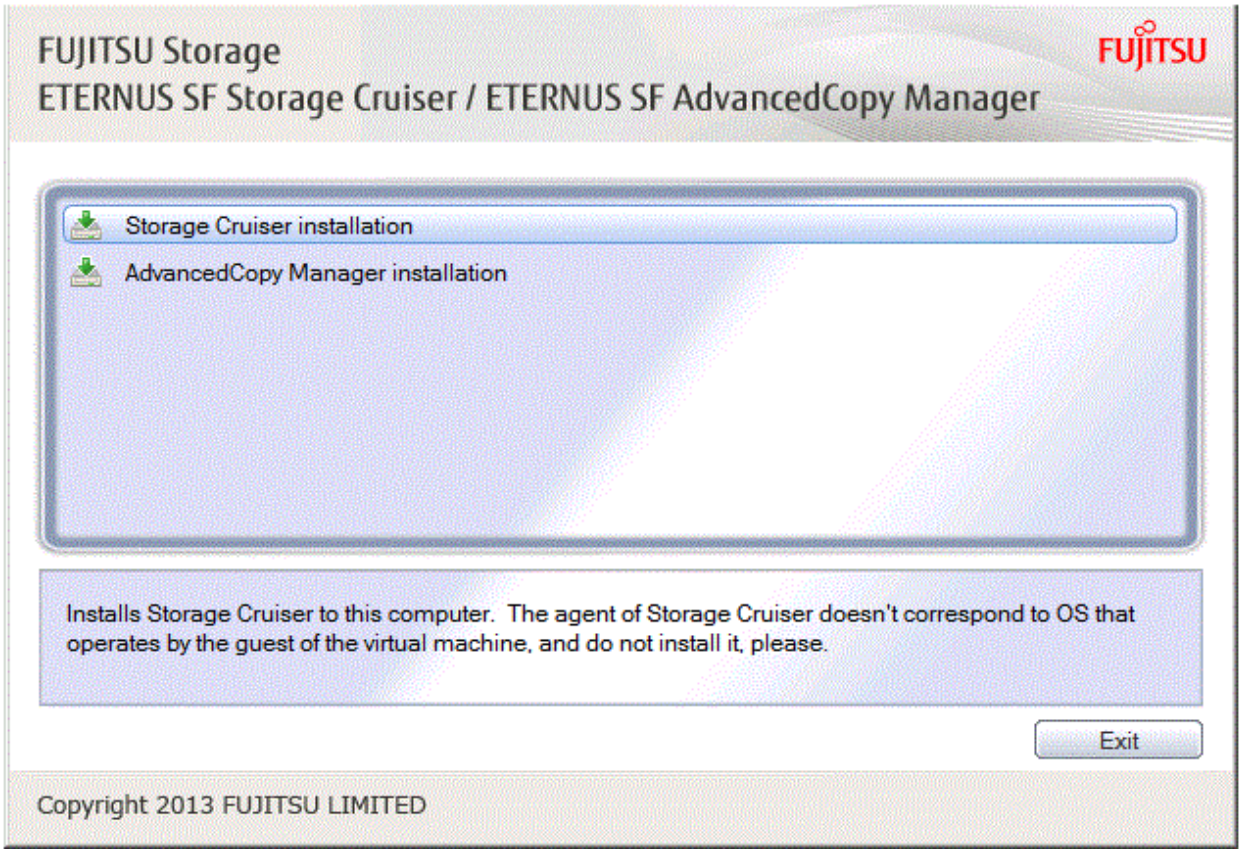
6. Back up the operating system.

6.3.2 Performing Upgrade

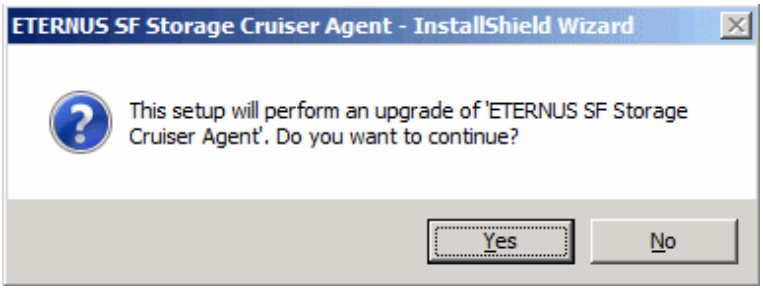
The upgrade is performed as follows:

1. Execute autorun.exe in the DVD-ROM of this version "ETERNUS SF SC/ACM/Express Media Pack Agent Program & Manual".

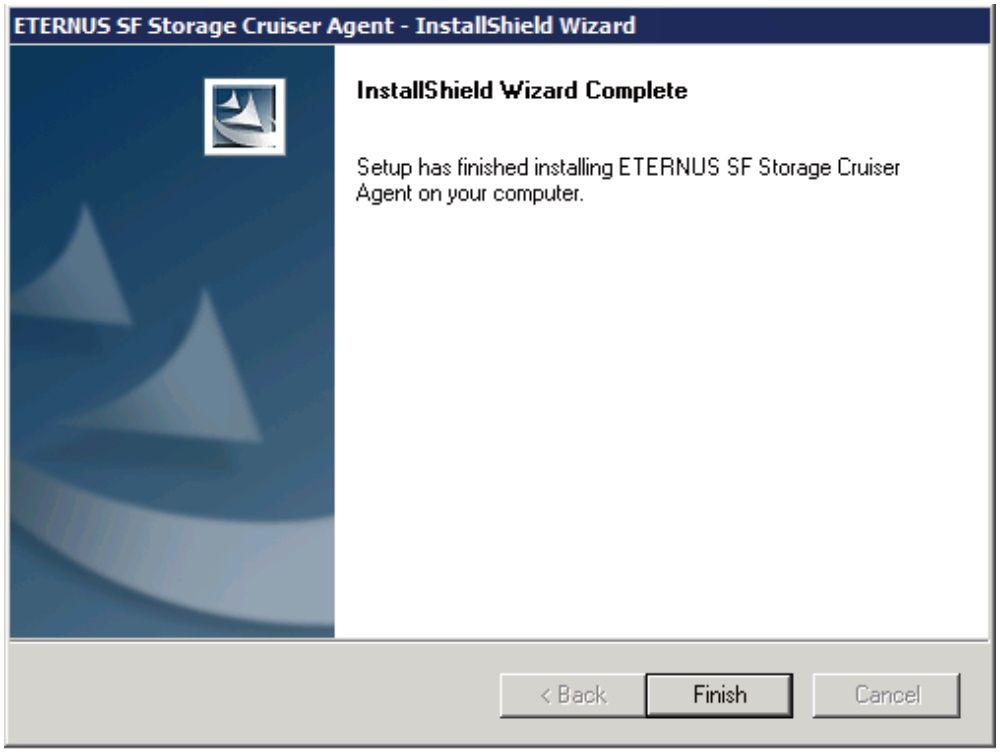
2. The following window will be displayed. Click **Storage Cruiser installation**.



3. The following dialog box will be displayed. Click **Yes**.



4. When the upgrade is completed, the following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



5. Eject the DVDROM.

6.3.3 Tasks to Be Performed After Upgrade

After installing a later version of Storage Cruiser Agent, please carry out the following procedures. Also for these procedures, besides the operations at the server that is the target of management, there are procedures to be carried out from the web console.

Point

When carrying out an upgrade of Storage Cruiser Manager version at the same time, please carry out the following procedures after completing the version upgrade for the Storage Cruiser Manager.

1. Restore of the Storage Cruiser's Agent Configured Information
   Where there has been customization of "Correlation.ini Parameter" of the *ETERNUS SF Storage Cruiser Operation Guide*, restore the Storage Cruiser Agent Settings information.
   If customization has not been performed, no action is required.
   The configuration information of the previous version Storage Cruiser's agent is saved in the following file under the *backupDir* directory specified by "6.3.1.1 Backing Up Operational Environment of Previous Version".

   ```
   backupDir\etc\Correlation.ini
   ```

   Refer to the backup file and reflect the definitions which have been changed from the installation of the previous version Storage Cruiser's agent to the $ENV_DIR\ESC\Agent\etc\Correlation.ini file.
   ($ENV_DIR is "Environment Directory" specified at the Storage Cruiser's agent installation.)

See

Refer to "Correlation.ini Parameter" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on customizing Correlation.ini parameters.

2. Activate the Storage Cruiser Agent Service.
   Open the Service Control Manager and activate the ETERNUS SF Storage Cruiser Agent Service.
3. Perform the following operations with the Web Console to reload the server information.
   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.
   b. On the Main pane, check the target server checkbox.
   c. On the Action pane, click **Reload Conf**. under **Server**.

See

If you want to change the IP address after upgrading, refer to "Changing IP Address of Server Node" in "[Windows Version] Maintenance of Agent" in the *ETERNUS SF Storage Cruiser Operation Guide*.

Point

- When returning back to the state before installation of the upgrade, recover (restore) the system from the backup taken in step 6 of "6.3.1.1 Backing Up Operational Environment of Previous Version".
- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "6.3.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

6.4 Upgrading Storage Cruiser's Agent (for Solaris)

This section describes the upgrade procedure for the Storage Cruiser's agent for Solaris.

Point

For performing the upgrade in single-user mode:

Check that the local file system is already mounted before the installation. If it is not mounted yet, mount the local file system.

```
# /usr/sbin/mountall -l
```

6.4.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

Point

- It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).
  When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.
- If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.
- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "6.4.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

6.4.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Execute the following command to stop the daemon:

```
# /opt/FJSVssage/bin/pstorageagt
```

3. Execute the following command to confirm that the daemon has stopped:

```
# /bin/ps -ef | grep FJSVssage
```

   If not stopped, execute the following command to stop it forcibly:

```
# /usr/bin/kill -9 daemonProcID
```

4. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive and mount the DVD-ROM.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

5. Implement backup of the previous version.
   Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris/scagtpreinst.sh backupDir
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

6.4.2 Performing Upgrade

The upgrade is performed as follows:

1. Execute the following command.

```
# cd dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris
# ./scagtinstall.sh
```

2. The following message is displayed. To continue, enter "y". To discontinue, enter "n" or "q".

```
ETERNUS SF Storage Cruiser 16.1
Copyright FUJITSU LIMITED 2013-2014
This program will upgrade "ETERNUS SF Storage Cruiser" Agent on your system.

Do you want to continue the upgrade of this package? [y,n,?,q]
```

3. If "y" was entered, the following message is displayed. To continue, enter "y". To discontinue, enter "n".

```
Using </opt> as the package base directory.
## Processing package information.
## Processing system information.
## Verifying disk space requirements.
## Checking for conflicts with packages already installed.
```

```
## Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of <FJSVssage> [y,n,?]
```

4. If "y" was entered, the upgrade will continue.

   If the upgrade completes normally, the following message is displayed.

```
Installing Storage System Agent for ETERNUS SF as <FJSVssage>
...
Upgrade of <FJSVssage> was successful.
INFO  : "ETERNUS SF Storage Cruiser" Agent was upgraded successfully.
```

   If the upgrade fails, the following message is displayed.

```
ERROR : not privileged
or
ERROR : "ETERNUS SF Storage Cruiser" Agent cannot be installed in non-global zone.
or
ERROR : Upgrading FJSVssage was failed.
```

5. Eject the DVD-ROM.

```
# cd /
# umount dvdromMountPoint
```

6. Execute the following command to start the daemon:

```
# /opt/FJSVssage/bin/sstorageagt
```

7. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

6.5 Upgrading Storage Cruiser's Agent (for RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

This section describes the upgrade procedure for the Storage Cruiser's agent for RHEL5/RHEL6, SUSE Linux Enterprise Server 11.

6.5.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

Point

- It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).
  When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

- If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.
- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "6.5.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

6.5.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Execute the following command to stop the daemon:

```
# /opt/FJSVssage/bin/pstorageagt
```

3. Execute the following command to confirm that the daemon has stopped:

```
# /bin/ps -ef | grep FJSVssage
```

   If not stopped, execute the following command to stop it forcibly:

```
# /usr/bin/kill -9 daemonProcID
```

4. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD ROM drive and mount the DVD-ROM.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

```
# mount /dev/cdrom dvdromMountPoint
```

5. Implement backup of the previous version.
   Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux/scagtpreinst.sh backupDir
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

6.5.2 Performing Upgrade

The upgrade is performed as follows:

1. Execute the following command:

```
# cd dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux
# /bin/sh ./scagtinstall.sh
```

2. The following message is displayed. To continue, enter "y". To discontinue, enter "n" or "q".

```
ETERNUS SF Storage Cruiser 16.1
Copyright FUJITSU LIMITED 2013-2014
This program will upgrade "ETERNUS SF Storage Cruiser" Agent on your system.

Do you want to continue the upgrade of this package? [y,n,?,q]
```

3. If "y" was entered, the upgrade will continue.

   If the upgrade completes normally, the following message is displayed.

```
INFO : Starting Upgrade of ETERNUS SF Storage Cruiser ...
...
INFO : Upgrade of <FJSVssage> was successful.
INFO : ETERNUS SF Storage Cruiser Agent was upgraded successfully.
```

   If the upgrade fails, the following message is displayed.

```
ERROR : not privileged
or
INFO  : Upgrade is terminated.
or
ERROR : Upgrading FJSVssage was failed.
```

4. Eject the DVD-ROM.

```
# cd /
# umount dvdromMountPoint
```

5. Execute the following command to start the daemon:

```
# /opt/FJSVssage/bin/sstorageagt
```

6. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

6.6 Upgrading Storage Cruiser's Agent (for RHEL-AS4/RHEL-ES4, HP-UX, AIX)

This section describes the upgrade procedure for the Storage Cruiser's agent for RHEL-AS4/RHEL-ES4, HP-UX, or AIX.

The upgrade is performed as follows:

1. Back up the Storage Cruiser's agent settings information.

No.	Settings Information to Be Backed Up	File to Be Backed Up
1	SNMP Trap sending destination address	/var/opt/FJSVssage/sanm.ip
2	Agent definition file	All files under the /etc/opt/FJSVssage directory
3	User definition information	/opt/FJSVssage/lib/defusr.dat *1: If there is no file, backing up is not required.

2. Uninstall the previous version of the Storage Cruiser's agent.

   Refer to "Uninstallation of Storage Cruiser's agent" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for details.

3. Install this version of the Storage Cruiser's agent.

   Refer to "Installation of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

4. Set up the Storage Cruiser's agent.

   Refer to "Setup of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

5. Restore the Storage Cruiser's agent settings information that was backed up in step 1.

   - Copy the file of No. 1 (in the table above) and create /var/opt/FJSVssage/sanm.ip.
   - Refer to each file of No. 2 (in the table above) and reflect the definitions which have been changed from the installation of the previous version of Storage Cruiser's agent to the /etc/opt/FJSVssage directory.

     Migration is not required for files whose definitions have not been changed. Use the new definition files.

   - Copy the file of No. 3 (in the table above) and create /opt/FJSVssage/lib/defusr.dat.

     This is not required if the file was not backed up in step 1.

6. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server.**
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

See

If you want to change the IP address after upgrading, refer to the following sections in the *ETERNUS SF Storage Cruiser Operation Guide*:

- For RHEL-AS4/RHEL-ES4, refer to "Changing IP Address of Server Node" in "[Linux Version] Maintenance of Agent"
- For HP-UX, refer to "Changing IP Address of Server Node" in "[HP-UX Version] Maintenance of Agent"
- For AIX, refer to "Changing IP Address of Server Node" in "[AIX Version] Maintenance of Agent"

Chapter 7 Upgrading Storage Cruiser Version 16.x

This chapter describes the upgrade procedure for Storage Cruiser Version 16.x.

To upgrade Storage Cruiser Version 16.x to this version, install the ETERNUS SF Manager.

Point

- In the version level of the Storage Cruiser, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.
- If AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both AdvancedCopy Manager and AdvancedCopy Manager Copy Control Module will be upgraded. Therefore, perform backups of the previous versions before starting the upgrade.
- For the upgrade, there is a method where the upgrade is performed in an interactive format and a method where the upgrade is performed using a command for silent installation without the need of responses (silent installation procedure).
  The operating environment that supports the upgrade with the silent installation procedure is as follows.
  - Windows Server 2008 later
  - Solaris
  - Red Hat Enterprise Linux 5,Red Hat Enterprise Linux 6 and SUSE Linux Enterprise Server 11

7.1 Upgrading Storage Cruiser's Manager (for Windows)

This section describes the upgrade procedure for the Storage Cruiser's manager for Windows.

7.1.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

7.1.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```
3. Execute the following batch to stop the ETERNUS SF Manager services.

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

$INS_DIR means "Program Directory" specified at the ETERNUS SF Manager installation.

4. When using the ETERNUS VASA Provider, stop the Provider function.
   With the Windows services screen, stop the ETERNUS Information Provider.

7.1.1.2 Performing Upgrade (for Windows)

Refer to "C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)" to perform the upgrade.

Point

If the upgrade was terminated abnormally, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" to recover the system to the normal state.

7.1.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Features** page.
      If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

2. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
   SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
   After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version hich is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

   $ENV_DIR is the "Environment Directory" of when ETERNUS SF Manager has been installed to a new environment.

3. When the polling service setting file is customized, it is necessary to execute customizing again.
   The polling service setting file for the following previous version is saved in an arbitrary place.
   After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling\pollingService.xml

   $ENV_DIR is the "Environment Directory" of when ETERNUS SF Manager has been installed to a new environment.

4. Execute the following batch to restart the ETERNUS SF Manager services.

```
$INS_DIR\Common\bin\Stop_ESFservice.bat
$INS_DIR\Common\bin\Start_ESFservice.bat
```

   $INS_DIR means "Program Directory" specified at the ETERNUS SF Manager installation.

5. When using the ETERNUS VASA Provider, start the Provider function.
   With the Windows services screen, start the ETERNUS Information Provider.

Subsequently, go to "7.1.3 Resuming Operation".

7.1.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

7.1.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Management Server transactions
- Shared disk for shared data of Managed Server transactions

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

3. Check that the ETERNUS SF Manager services are stopped on the secondary node.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of ETERNUS SF Manager.
4. When using the ETERNUS VASA Provider, on the secondary node, confirm that the ETERNUS VASA Provider service has been stopped.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of the ETERNUS VASA Provider.
5. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

6. On the primary, node stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.
7. When using the ETERNUS VASA Provider, stop the ETERNUS VASA Provider service on the primary node.
   Use the Failover Cluster Manager to stop the transactions of the ETERNUS VASA Provider.
   However, the shared disk for shared data of the ETERNUS Information Provider must be online.

8. If Managed Server transactions coexist in the clustered system, perform the following procedure:

   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Use the Failover Cluster Manager to stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be online.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

9. Stop the local transactions on all the nodes, perform the following procedure:

   With the Windows services screen, start the AdvancedCopy Manager COM Service.

7.1.2.2 Performing Upgrade (Primary Node)

Performing the upgrade is as follows.

1. Save the environment setting files (sys.properties) for AdvancedCopy Manager Copy Control Module.
   environment setting files for AdvancedCopy Manager Copy Control Module :

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

   Make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The saved file will be used in tasks after the upgrade.

2. Recover the original environment configurations file (sys.properties) of the AdvancedCopy Manager CCM.
   Overwrite the original environment configurations file onto the file of the copying destination.

Original Environment Configurations File	Copying Destination File
$INS_DIR\CCM\noncluster\sys\sys.properties	$INS_DIR\CCM\sys\sys.properties

3. Save the general script for the AdvancedCopy Manager CCM.
   In corresponding previous version of "Preparing General Scripts for AdvancedCopy Manager CCM" corresponding to each OS and nodes in the *ETERNUS SF Cluster Environment Setup Guide*, in cases when the general scripts have been stored under the bin directory of the program directory of the AdvancedCopy Manager CCM, make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The saved file will be used in tasks after the upgrade.

4. Refer to "C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)" to perform the upgrade.

5. The shared disk for shared data of ETERNUS SF Manager must be offline.

Point

If the upgrade was terminated abnormally, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" to recover the system to the normal state.

7.1.2.3 Performing Upgrade (Secondary Node)

1. The shared disk for shared data of ETERNUS SF Manager must be online.

2. Perform the upgrade for the secondary node.
   The upgrade procedure is the same as that for the primary node. Refer to "7.1.2.2 Performing Upgrade (Primary Node)".

3. The shared disk for shared data of ETERNUS SF Manager must be offline.

7.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.
The shared disk for shared data of ETERNUS SF Manager must be offline.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Features** page.
   If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

   c. Restore the environment setting files (sys.properties) for AdvancedCopy Manager Copy Control Module.
   Overwrite the environment configurations file (sys.properties) saved during "7.1.2.2 Performing Upgrade (Primary Node)" onto the following file after upgrade installation.
   Environment setting files for AdvancedCopy Manager Copy Control Module :

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

   d. Evacuate the general script for the AdvancedCopy Manager CCM.
   When general scripts are backed up in "7.1.2.2 Performing Upgrade (Primary Node)", restore the backed-up general scripts to the directory stored in "Preparing General Scripts for AdvancedCopy Manager CCM", which corresponds to respective operating systems and nodes described in the *ETERNUS SF Cluster Environment Setup Guide* of the appropriate earlier version.

   e. Edit the environment setting files for AdvancedCopy Manager on the shared disk for ETERNUS SF Manager shared data.
   Edit the following files: edit the following files:

   - <Drive of shared disk for shared data of ETERNUS SF Manager>:\etc\opt\swstorage\clsetup.ini
   - <Drive of shared disk for shared data of ETERNUS SF Manager>:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

   Note

   Do not change anything other than the version information.

   f. If Managed Server transactions exist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data, on the primary node for a target service.
   On the primary node for target transactions, edit the following files:

   - <Drive of shared disk for shared data of Managed Server transactions>:\etc\opt\swstorage\clsetup.ini
   - <Drive of shared disk for shared data of Managed Server transactions>:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

g. The resource is deleted from the transactions belonging to the ETERNUS SF Manager.
Making use of failover cluster manager, the resources stated below are deleted from the transactions belonging to ETERNUS SF Manager. No measures are necessary where the resources do not exist.

Name of Resources

- AdvancedCopy GUI Service
- SymfoWARE RDB RDBSWSTF

When the operation divides shared disk for shared data use and the shared disk for repository use, the resources of the shared disk for repository use are deleted.

2. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

$ENV_DIR is the "Environment Directory" of when ETERNUS SF Manager has been installed to a new environment.

3. When the polling service setting file is customized, it is necessary to execute customizing again.
The polling service setting file for the following previous version s saved in an arbitrary place.
After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling\pollingService.xml

$ENV_DIR is the "Environment Directory" of when ETERNUS SF Manager has been installed to a new environment.

7.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Features** page.
   If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

2. Check that the ETERNUS SF Manager services are stopped.
If not stopped, use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.

3. Restore the environment setting files(sys.properties) for AdvancedCopy Manager Copy Control Module.
Overwrite the environment configurations file (sys.properties) saved during "7.1.2.3 Performing Upgrade (Secondary Node)" onto the following file after upgrade installation.
Environment setting files for AdvancedCopy Manager Copy Control Module :

```
$INS_DIR\CCM\sys\sys.properties
```

4. Restore the saved general scripts for the AdvancedCopy Manager CCM.
   When general scripts are backed up in "7.1.2.3 Performing Upgrade (Secondary Node)", restore the backed-up general scripts to the directory stored in "Preparing General Scripts for AdvancedCopy Manager CCM", which corresponds to respective operating systems and nodes described in the *ETERNUS SF Cluster Environment Setup Guide* of the appropriate earlier version.

7.1.2.6 Starting ETERNUS SF Manager

After performing "7.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and "7.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)", perform the following procedure:

1. Check that start ETERNUS SF Manager services are started on the primary node.
   If not started, use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.
2. When using the ETERNUS VASA Provider, start the ETERNUS VASA Provider service on the primary node.

   Use the Failover Cluster Manager to start the transactions of the ETERNUS VASA Provider.
3. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.
4. Start the local transactions on all the nodes

   With the Windows services screen, stop the AdvancedCopy Manager COM Service.

Subsequently, go to "7.1.3 Resuming Operation".

7.1.3 Resuming Operation

With the above, the upgrade is completed. Restart operation after performing the following actions.

1. Deleting Web Browser's Cache

   If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.
2. Reloading Server Information
   When you use the function newly supported from this version level, Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
      The registered ETERNUS Disk storage systems are displayed on the Main pane.
   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.
   c. On the Action pane, click **Reload Conf**. under **Storage**.

   See

   Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

7.2 Upgrading Storage Cruiser's Manager (for Solaris, Linux)

This section describes the upgrade procedure for the Storage Cruiser's manager for Solaris and Linux.

7.2.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

7.2.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed.
   Note that in cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.
   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```

3. Execute the following command to stop the ETERNUS SF Manager daemon.

   ```
   # /opt/FJSVesfcm/bin/stopesf.sh
   ```

7.2.1.2 Performing Upgrade (for Solaris, Linux)

Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux) to perform the upgrade.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

7.2.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Start the uninstaller of Symfoware to delete the Symfoware package.

      ```
      # /opt/symfoware/setup/symfo_remove
      ```

   c. Confirmation message to uninstall Symfoware will be displayed.
      To perform the uninstallation, enter "y". To cancel the process, enter "q".
      When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
      A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

      An example of uninstallation with the specification "all":

      ```
      Start checking the installation environment.
      Check of installation environment is ended.
      ```

```
WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

d. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

2. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
   SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
   After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
/etc/opt/FJSVssmgr/current/snmpth/

3. When the polling service setting file is customized, it is necessary to execute customizing again.
   The polling service setting file for the following previous version is saved in an arbitrary place.
   After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
/etc/opt/FJSVssmgr/current/polling/pollingService.xml

4. Perform the kernel parameter tuning.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

5. As required, restart the daemon of ETERNUS SF Manager.
   If the operating system is not restarted after having performed kernel parameter tuning in step 4, execute the following command to restart the ETERNUS SF Manager daemon.

```
# /opt/FJSVesfcm/bin/stopesf.sh
# /opt/FJSVesfcm/bin/startesf.sh
```

Subsequently, go to "7.2.3 Resuming Operation".

7.2.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

7.2.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's manager, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Management Server transactions
- Shared disk for shared data of Managed Server transactions

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

```
ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk
area.
```

3. On the secondary node, check whether the cluster application (transaction) to which ETERNUS SF Manager belongs has stopped.

   If not stopped, refer to the relevant cluster software manuals for information on stopping it.

4. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

```
ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk
area.
```

5. On the primary node, stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it.
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.

6. If Managed Server transactions coexist in the clustered system, perform the following procedure:

   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.
      Refer to the relevant cluster software manuals for information on stopping it.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Refer to the relevant cluster software manuals, stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be state of mout.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

7. Stop the local transactions on all the nodes, perform the following procedure:

   Stop the communication daemon for the local transactions of the AdvancedCopy Manager's manager.
   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on stopping the daemon.

8. On the primary node and the secondary node, recover the start and stop script of the Management Server transaction.

9. In cases when Managed Server transactions coexist in the cluster system, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

   - On the primary node and the secondary node, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

7.2.2.2 Performing Upgrade (Primary Node)

1. Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux) to perform the upgrade.

2. Unmount the shared disk for shared data of ETERNUS SF Manager.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

7.2.2.3 Performing Upgrade (Secondary Node)

1. Mount the shared disk for shared data of ETERNUS SF Manager.

2. Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux) to perform the upgrade.

3. Unmount the shared disk for shared data of ETERNUS SF Manager.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

7.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.
Mount the shared disk for shared data of ETERNUS SF Manager.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. h.Start the uninstaller of Symfoware to delete the Symfoware package.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

   c. Confirmation message to uninstall Symfoware will be displayed.
   To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
   Edition".

   Continue the uninstallation?
   y: Continue the uninstallation
   q: End directly without uninstallation
   [y,q]: y

   Uninstallation of "Symfoware Server Enterprise Edition" begins.

   Please select the functions to be uninstalled.
   1: Base function (Server function, Client function)
   Separate multiple selections with ",". (Example: 1, 2)
   [all:All functions,1,q]: all

   Selected functions
   - Base function (Server function, Client function)

   Start the uninstallation of the above functions?
   y: Uninstallation begins
   n: Select the functions again
   q: End directly without uninstallation
   [y,n,q]: y

   Uninstallation begins.
   ```

   d. The following message will be displayed after the Symfoware uninstallation is completed normally.

   ```
   Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
   ```

2. Edit the environment setting files for ETERNUS SF Manager.
   Edit the following files:

   - <*Mount point of shared disk for shared data of ETERNUS SF Manager*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of ETERNUS SF Manage* >/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

3. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data, on the primary node for a target service.

   On the primary node for target transactions, edit the following files:

   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

4. Recover the activation suspension script of Management Server tasks saved during "7.2.2.1 Preparing for Upgrade".
5. In cases when Managed Server transaction coexist in the cluster system, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction evacuated of "7.2.2.1 Preparing for Upgrade".
6. When SNMP trap XML definition file is customized, it is necessary to execute customizing again.
   SNMP trap XML definition file for the stored previous version is saved in an arbitrary place as follows.
   After doing this, refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. Refer to the SNMP trap XML definition file for the use of previous version which is kept at a place previously for the contents of the customization.

Directory of the location of Customization Definition files
/etc/opt/FJSVssmgr/current/snmpth/

7. When the polling service setting file is customized, it is necessary to execute customizing again.
   The polling service setting file for the following previous version is saved in an arbitrary place.
   After doing this, refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. Refer to the Polling Service Setting file for the use of previous version which is kept at a place previously for the contents of the customization.

Customization Definition files
/etc/opt/FJSVssmgr/current/polling/pollingService.xml

8. Perform the kernel parameter tuning.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

7.2.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. h.Start the uninstaller of Symfoware to delete the Symfoware package.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

   c. Confirmation message to uninstall Symfoware will be displayed.
   To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
   Edition".

   Continue the uninstallation?
   y: Continue the uninstallation
   q: End directly without uninstallation
   [y,q]: y

   Uninstallation of "Symfoware Server Enterprise Edition" begins.

   Please select the functions to be uninstalled.
   1: Base function (Server function, Client function)
   Separate multiple selections with ",". (Example: 1, 2)
   [all:All functions,1,q]: all

   Selected functions
   - Base function (Server function, Client function)

   Start the uninstallation of the above functions?
   y: Uninstallation begins
   n: Select the functions again
   q: End directly without uninstallation
   [y,n,q]: y

   Uninstallation begins.
   ```

   d. The following message will be displayed after the Symfoware uninstallation is completed normally.

   ```
   Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
   ```

2. Recover the activation suspension script of Management Server tasks evacuated during "7.2.2.1 Preparing for Upgrade".

3. In cases when Managed Server transaction coexist in the cluster system, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction evacuated of "7.2.2.1 Preparing for Upgrade".

4. Perform the kernel parameter tuning.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

5. Check the cluster application (transaction) is stopped.
   If not stopped, refer to the relevant cluster software manuals for information on stopping it.

7.2.2.6 Starting Managed Server Transactions

After performing "7.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and "7.2.2.5 Tasks to Be Performed After Upgrade (Secondary Node)", perform the following procedure:

1. Check that the cluster application (transaction) is started on the primary node.

   If not started, start the cluster application (transaction) of ETERNUS SF Manager.
   Refer to the relevant cluster software manuals for information on starting it.

2. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.

   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.

3. Start the local transactions on all the nodes.

   Start the communication daemon for local transactions of AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on starting the daemon.

Subsequently, go to "7.2.3 Resuming Operation".

7.2.3 Resuming Operation

When the tasks described above have been performed, the upgrade of the Storage Cruiser's manager is complete. Restart operation after performing the following actions.

1. Changing SELinux Setting to "enforcing" Mode

   When you change the SELinux setting to "enforcing" mode during the upgrade, refer to the following manual and restart the operation after the installation of the SELinux policy module for snmptrapd.

   - "SNMP Trap Setting (for Linux)" in the *ETERNUS SF Installation and Setup Guide* for this version

2. Deleting Web Browser's Cache

   If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

3. Reloading Server Information
   When you use the function newly supported from this version level, Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Storage**.
      The registered ETERNUS Disk storage systems are displayed on the Main pane.

   b. On the Main pane, check the target ETERNUS Disk storage system checkbox.

   c. On the Action pane, click **Reload Conf**. under **Storage**.

See

Refer to "Reload ETERNUS Disk Storage System Configuration Information" in the *ETERNUS SF Web Console Guide* for this version for information on reloading the configuration information.

7.3 Upgrading Storage Cruiser's Agent (for Windows)

This section describes the upgrade procedure for the Storage Cruiser's agent for Windows.

7.3.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

7.3.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.
3. Stop the Storage Cruiser's agent service.
   Open the Service Control Manager and stop the ETERNUS SF Storage Cruiser Agent service.
4. Start the command prompt with "Run as administrator".
5. Implement backup of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   dvdromDrive:\Agent_windows\Storage_Cruiser\windows_x86\scagtpreinst.bat backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

   Point

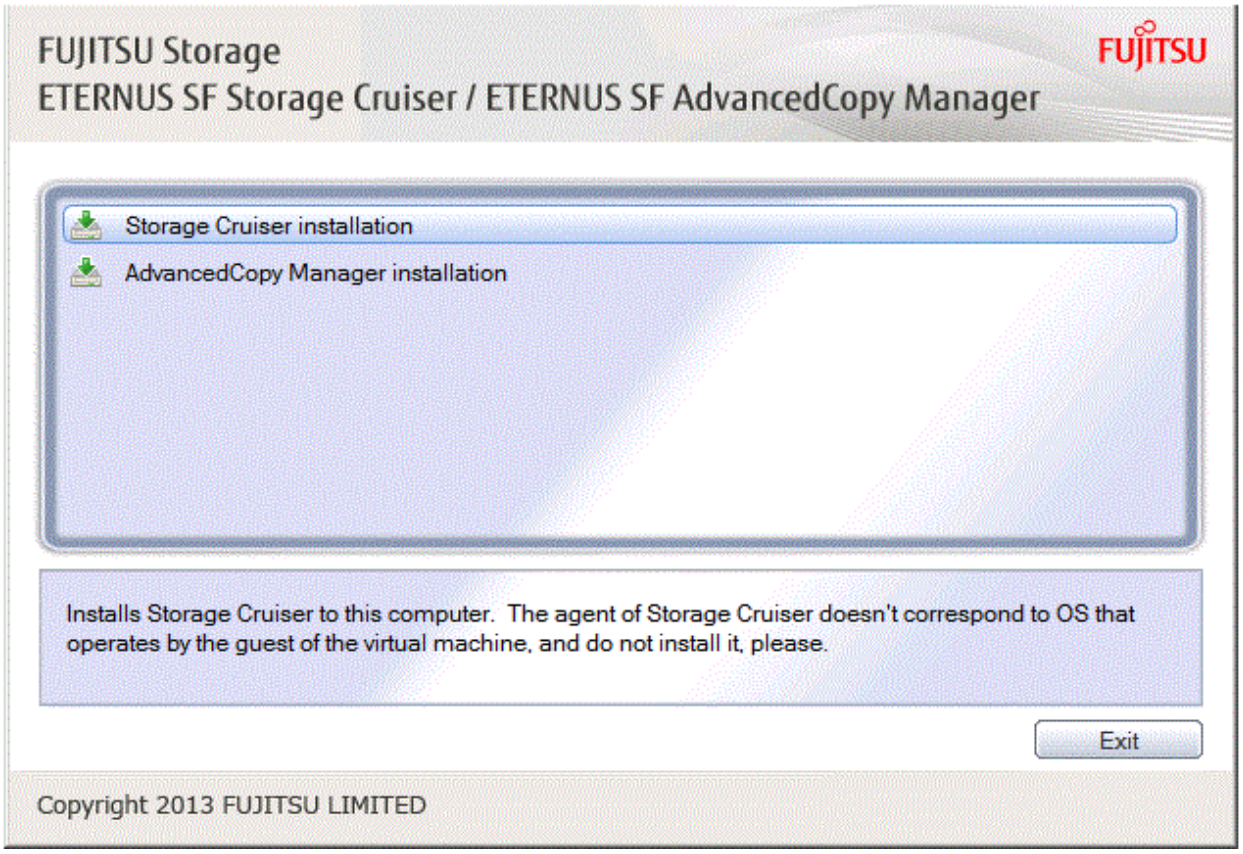
   - The characters " | : * ? / . < > , % & ^ = ! ; are not supported for directory name.
   - If the directory name contains any spaces, they should be surrounded by double quote characters.

7.3.2 Performing Upgrade

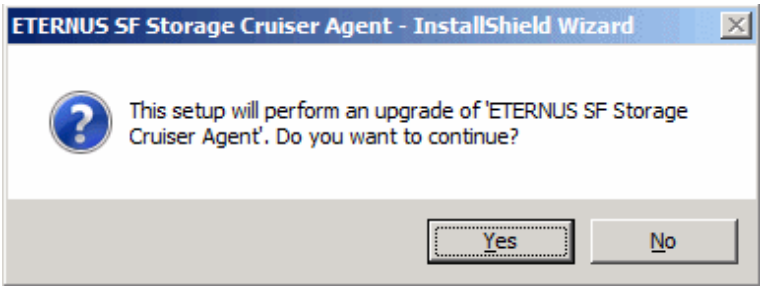
The upgrade is performed as follows:

1. Execute autorun.exe in the DVD-ROM of this version "ETERNUS SF SC/ACM/Express Media Pack Agent Program & Manual".

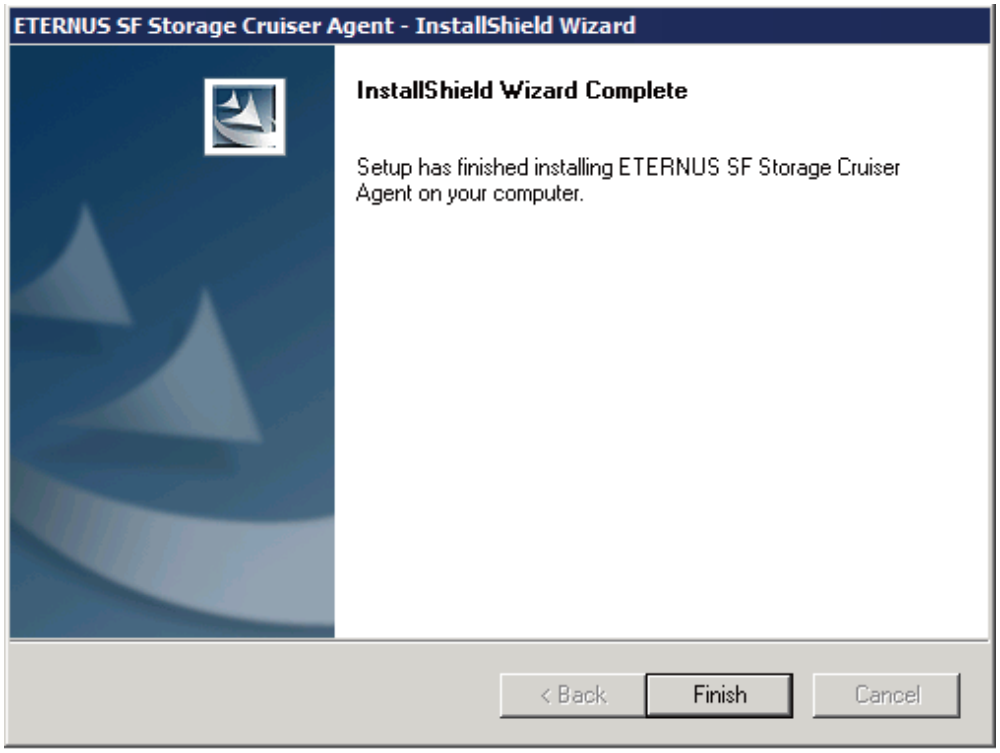
2. The following window will be displayed. Click **Storage Cruiser installation**.



3. The following dialog box will be displayed. Click **Yes**.



4. When the upgrade is completed, the following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



5. Eject the DVDROM.

The Storage Cruiser's agent upgrade is completed.

Refer to "7.3.4 Tasks to Be Performed After Upgrade" to set up the Storage Cruiser's agent.

Point

If the upgrade was terminated abnormally, refer to "11.3.3 In Case of Problem During Upgrade of Storage Cruiser's Agent (for Windows)" to recover the system to the normal state.

7.3.3 Upgrade with Silent Installation Tasks

These tasks can be utilized in an environment of Windows Server 2008 and above.

The upgrade is performed as follows:

1. 7.3.3.1 Performing Upgrade with Silent Installation Procedure
2. 7.3.3.2 Confirming Results of Upgrade with Silent Installation

7.3.3.1 Performing Upgrade with Silent Installation Procedure

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVDROM drive. Furthermore, if the Installer screen is displayed by autorun, exit the installer.
3. Start the command prompt with "Run as administrator".

4. Execute the following silent installation command.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
dvdromDrive:\Agent_windows\Storage_Cruiser\windows_x86\scagtsilentinstall.bat [-l
<installLogFile>]
```

Point

- If nothing is specified for *installLogFile*, an install log file named " scagtsilentinstall.log" is created in the working directory specified by the environment variable TEMP.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
- If the path name of the installation log file contains any spaces, they should be surrounded by double quote characters.
- The characters " | : * ? / . < > % & ^ ; ! are not supported for path name of the installation log file.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

5. On completion of installation, a command prompt is displayed.
   Eject the DVD-ROM.

7.3.3.2 Confirming Results of Upgrade with Silent Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (Storage Cruiser's agent for Windows)" in the *ETERNUS SF Installation and Setup Guide*..

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

If the upgrade was terminated abnormally, refer to "11.3.3 In Case of Problem During Upgrade of Storage Cruiser's Agent (for Windows)" to recover the system to the normal state.

7.3.4 Tasks to Be Performed After Upgrade

After installing a later version of Storage Cruiser Agent, please carry out the following procedures. Also for these procedures, besides the operations at the server that is the target of management, there are procedures to be carried out from the web console.

Point

When carrying out an upgrade of Storage Cruiser Manager version at the same time, please carry out the following procedures after completing the version upgrade for the Storage Cruiser Manager.

1. Restore of the Storage Cruiser's Agent Configured Information
   Where there has been customization of "Correlation.ini Parameter" of the *ETERNUS SF Storage Cruiser Operation Guide*, please restore the Storage Cruiser Agent Settings information.
   If customization has not been performed, no action is required. The configuration information of the previous version Storage Cruiser's agent is saved in the following file under the *backupDir* directory specified by "7.3.1.1 Backing Up Operational Environment of Previous Version".

   ```
   backupDir\etc\Correlation.ini
   ```

   Refer to the backup file and reflect the definitions which have been changed from the installation of the previous version Storage Cruiser's agent to the $ENV_DIR\ESC\Agent\etc\Correlation.ini file.
   ($ENV_DIR is "Environment Directory" specified at the Storage Cruiser's agent installation.)

   #### See

   Refer to "Correlation.ini Parameter" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on customizing Correlation.ini parameters.

2. Activate the Storage Cruiser Agent Service.
   Open the Service Control Manager and activate the ETERNUS SF Storage Cruiser Agent Service.

3. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

See

If you want to change the IP address after upgrading, refer to "Changing IP Address of Server Node" in "[Windows Version] Maintenance of Agent" in the *ETERNUS SF Storage Cruiser Operation Guide*.

Point

- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "7.3.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

7.4 Upgrading Storage Cruiser's Agent (for Solaris)

This section describes the upgrade procedure for the Storage Cruiser's agent for Solaris.

Point

For performing the upgrade in single-user mode:

Check that the local file system is already mounted before the installation. If it is not mounted yet, mount the local file system.

```
# /usr/sbin/mountall -l
```

7.4.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

7.4.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Execute the following command to stop the daemon:

   ```
   # /opt/FJSVssage/bin/pstorageagt
   ```

3. Execute the following command to confirm that the daemon has stopped:

   ```
   # /bin/ps -ef | grep FJSVssage
   ```

   If not stopped, execute the following command to stop it forcibly:

   ```
   # /usr/bin/kill -9 daemonProcID
   ```

4. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive and mount the DVD-ROM.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   ```
   # mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
   ```

5. Implement backup of the previous version.
   Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris/scagtpreinst.sh backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

7.4.2 Performing Upgrade

The upgrade is performed as follows:

1. Execute the following command.

   ```
   # cd dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris
   # ./scagtinstall.sh
   ```

2. The following message is displayed. To continue, enter "y". To discontinue, enter "n" or "q".

```
ETERNUS SF Storage Cruiser 16.1
Copyright FUJITSU LIMITED 2013-2014
This program will upgrade "ETERNUS SF Storage Cruiser" Agent on your system.

Do you want to continue the upgrade of this package? [y,n,?,q]
```

3. If "y" was entered, the following message is displayed. To continue, enter "y". To discontinue, enter "n".

```
Using </opt> as the package base directory.
## Processing package information.
## Processing system information.
## Verifying disk space requirements.
## Checking for conflicts with packages already installed.
## Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of <FJSVssage> [y,n,?]
```

4. If "y" was entered, the upgrade will continue.

   If the upgrade completes normally, the following message is displayed.

```
Installing Storage System Agent for ETERNUS SF as <FJSVssage>
...
Upgrade of <FJSVssage> was successful.
INFO  : "ETERNUS SF Storage Cruiser" Agent was upgraded successfully.
```

   If the upgrade fails, the following message is displayed.

```
ERROR : not privileged
or
ERROR : "ETERNUS SF Storage Cruiser" Agent cannot be installed in non-global zone.
or
ERROR : Upgrading FJSVssage was failed.
```

5. Eject the DVD-ROM.

```
# cd /
# umount dvdromMountPoint
```

The Storage Cruiser's agent upgrade is completed.

Refer to "7.4.4 Tasks to be performed after the upgrade" to set up the Storage Cruiser's agent.

Point

- If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.
- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "7.4.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

7.4.3 Upgrade with Silent Installation Tasks

The upgrade is performed as follows:

1. 7.4.3.1 Performing Upgrade with Silent Installation Procedure
2. 7.4.3.2 Confirming Results of Upgrade with Silent Installation

7.4.3.1 Performing Upgrade with Silent Installation Procedure

The upgrade is performed as follows:

1. Execute the following command.

```
dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris/scagtsilentinstall.sh [-l <installLogFile >]
```

2. On completion of installation, a command prompt is displayed.
3. Eject the DVD-ROM.

```
# umount dvdromMountPoint
```

Point

- If nothing is specified for *installLogFile*, an install log file named "scagtsilentinstall.log" is created in the /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

7.4.3.2 Confirming Results of Upgrade with Silent Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (Storage Cruiser's agent for Solaris/Linux)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

7.4.4 Tasks to be performed after the upgrade

When the upgrade has been completed, the tasks below need to be performed.

Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Execute the following command to start the ETERNUS SF Manager daemon on the Management Server.

```
# /opt/FJSVssage/bin/sstorageagt
```

2. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf.** under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

7.5 Upgrading Storage Cruiser's Agent (for RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

This section describes the upgrade procedure for the Storage Cruiser's agent for RHEL5/RHEL6, SUSE Linux Enterprise Server 11.

7.5.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the Storage Cruiser's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

7.5.1.1 Backing Up Operational Environment of Previous Version

For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the Storage Cruiser's agent.
The procedure is shown below:

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

2. Execute the following command to stop the daemon:

```
# /opt/FJSVssage/bin/pstorageagt
```

3. Execute the following command to confirm that the daemon has stopped:

```
# /bin/ps -ef | grep FJSVssage
```

   If not stopped, execute the following command to stop it forcibly:

```
# /usr/bin/kill -9 daemonProcID
```

4. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD ROM drive and mount the DVD-ROM.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

```
# mount /dev/cdrom dvdromMountPoint
```

5. Implement backup of the previous version.
   Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux/scagtpreinst.sh backupDir
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

7.5.2 Performing Upgrade

The upgrade is performed as follows:

1. Execute the following command:

```
# cd dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux
# /bin/sh ./scagtinstall.sh
```

2. The following message is displayed. To continue, enter "y". To discontinue, enter "n" or "q".

```
ETERNUS SF Storage Cruiser 16.1
Copyright FUJITSU LIMITED 2013-2014
This program will upgrade "ETERNUS SF Storage Cruiser" Agent on your system.

Do you want to continue the upgrade of this package? [y,n,?,q]
```

3. If "y" was entered, the upgrade will continue.

   If the upgrade completes normally, the following message is displayed.

```
INFO : Starting Upgrade of ETERNUS SF Storage Cruiser ...
...
INFO : Upgrade of <FJSVssage> was successful.
INFO : ETERNUS SF Storage Cruiser Agent was upgraded successfully.
```

   If the upgrade fails, the following message is displayed.

```
ERROR : not privileged
or
INFO  : Upgrade is terminated.
or
ERROR : Upgrading FJSVssage was failed.
```

4. Eject the DVD-ROM.

```
# cd /
# umount dvdromMountPoint
```

The Storage Cruiser's agent upgrade is completed.

Refer to "7.5.4 Tasks to be performed after the upgrade" to set up the Storage Cruiser's agent.

Point

- It is recommended that the system is backed up before starting the upgrade.
  By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.
- If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

- Once normal operation has been confirmed after the upgrade of the Storage Cruiser's agent, the backup data in the backup destination directory created in step 5 of "7.5.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

7.5.3 Upgrade with Silent Installation Tasks

The upgrade is performed as follows:

1. 7.5.3.1 Performing Upgrade with Silent Installation Procedure
2. 7.5.3.2 Confirming Results of Upgrade with Silent Installation

7.5.3.1 Performing Upgrade with Silent Installation Procedure

1. Execute the following command.

```
dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux/scagtsilentinstall.sh [-l <installLogFile >]
```

2. On completion of installation, a command prompt is displayed.
3. Eject the DVD-ROM.

```
# umount dvdromMountPoint
```

Point

- If nothing is specified for *installLogFile*, an install log file named "scagtsilentinstall.log" is created in the /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen, and the process terminates with error.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

7.5.3.2 Confirming Results of Upgrade with Silent Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (Storage Cruiser's agent for Solaris/Linux)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

If the upgrade was terminated abnormally, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

7.5.4 Tasks to be performed after the upgrade

When the upgrade has been completed, the tasks below need to be performed.

Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Execute the following command to start the daemon on the Management Server.

```
# /opt/FJSVssage/bin/sstorageagt
```

2. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf.** under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

7.6 Upgrading Storage Cruiser's Agent (for RHEL-AS4/RHEL-ES4, HP-UX, AIX)

This section describes the upgrade procedure for the Storage Cruiser's agent for RHEL-AS4/RHEL-ES4, HP-UX, or AIX.

The upgrade is performed as follows:

1. Back up the Storage Cruiser's agent settings information.

No.	Settings Information to Be Backed Up	File to Be Backed Up
1	SNMP Trap sending destination address	/var/opt/FJSVssage/sanm.ip
2	Agent definition file	All files under the /etc/opt/FJSVssage directory
3	User definition information	/opt/FJSVssage/lib/defusr.dat *1: If there is no file, backing up is not required.

2. Uninstall the previous version of the Storage Cruiser's agent.

   Refer to "Uninstallation of Storage Cruiser's agent" in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for details.

3. Install this version of the Storage Cruiser's agent.

   Refer to "Installation of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

4. Set up the Storage Cruiser's agent.

   Refer to "Setup of Storage Cruiser's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

5. Restore the Storage Cruiser's agent settings information that was backed up in step 1.

   - Copy the file of No. 1 (in the table above) and create /var/opt/FJSVssage/sanm.ip.
   - Refer to each file of No. 2 (in the table above) and reflect the definitions which have been changed from the installation of the previous version of Storage Cruiser's agent to the /etc/opt/FJSVssage directory.

     Migration is not required for files whose definitions have not been changed. Use the new definition files.
   - Copy the file of No. 3 (in the table above) and create /opt/FJSVssage/lib/defusr.dat.

     This is not required if the file was not backed up in step 1.

6. Perform the following operations with the Web Console to reload the server information.

    a. On the global navigation tab, click **Server.**
    The registered server list is displayed on the Main pane.

    b. On the Main pane, check the target server checkbox.

    c. On the Action pane, click **Reload Conf**. under **Server**.

When the tasks described above have been performed, the upgrade of Storage Cruiser's agent is complete.

See

If you want to change the IP address after upgrading, refer to the following sections in the *ETERNUS SF Storage Cruiser Operation Guide*:

- For RHEL-AS4/RHEL-ES4, refer to "Changing IP Address of Server Node" in "[Linux Version] Maintenance of Agent"
- For HP-UX, refer to "Changing IP Address of Server Node" in "[HP-UX Version] Maintenance of Agent"
- For AIX, refer to "Changing IP Address of Server Node" in "[AIX Version] Maintenance of Agent"

Chapter 8 Upgrading AdvancedCopy Manager Version 14.x

This chapter describes the upgrade procedure for AdvancedCopy Manager Version 14.x.

If performing an upgrade to a system environment using Agent-based operation model, perform the upgrade in the following sequence.

1. AdvancedCopy Manager's manager
2. AdvancedCopy Manager's agent

Point

- For AdvancedCopy Manager programs, the Upgrade Installation can be performed for the AdvancedCopy Manager's manager and AdvancedCopy Manager Copy Control Module.

  The AdvancedCopy Manager's agent cannot be upgraded by using the Upgrade Installation.
  For upgrading the AdvancedCopy Manager's agent, perform uninstallation and then perform a new installation of this version.
  Refer to "8.2 Upgrading AdvancedCopy Manager's Agent" for details.

- In the version level of the AdvancedCopy Manager, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.

- When upgrading AdvancedCopy Manager, the following information cannot be imported from the previous version:

  - User account for the GUI client

- If Storage Cruiser and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both Storage Cruiser and AdvancedCopy Manager Copy Control Module will be upgraded at the same time. Therefore, perform backups of the previous versions before starting the upgrade.

Note

The GUI client has been replaced with the Web Console.
If the GUI client is installed, uninstall it.

8.1 Upgrading AdvancedCopy Manager's Manager

This section describes the upgrade procedure for the AdvancedCopy Manager's manager.
To upgrade the AdvancedCopy Manager's manager to this version, install the ETERNUS SF Manager.

8.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

8.1.1.1 Backing Up Operational Environment of Previous Version

Back up the AdvancedCopy Manager's manager operational environment.

AdvancedCopy Manager Operational Environment

When AdvancedCopy Manager is installed, backup the AdvancedCopy Manager operational environment.

Note

The following information cannot continue to be used.

- User account for the GUI client

See

Refer to the following table to back up the operational environment.

Server Type	OS	Reference
Storage Management Server	Windows	A.1 Backing Up Repository Data (for Windows)
	Solaris, Linux	A.2 Backing Up Repository Data (for Solaris, Linux)
Storage Management Server which also serves as a Storage Server	Windows	Perform the steps in the following order: 1. A.1 Backing Up Repository Data (for Windows) 2. A.3 Backing Up Management Information (for Windows)
	Solaris, Linux	Perform the steps in the following order: 1. A.2 Backing Up Repository Data (for Solaris, Linux) 2. A.4 Backing Up Management Information (for Solaris, Linux)

AdvancedCopy Manager Copy Control Module Operational Environment

When AdvancedCopy Manager Copy Control Module is installed, back up the AdvancedCopy Manager Copy Control Module operational environment.

See

Refer to "A.6 Backing Up Environment Setting Files" for information on performing a backup.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, backup the definition of the license information.

Backup the license management database of ETERNUS SF License Manager by executing the esflm backup command. Refer to the *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide* for the previous version for information on the command.

Example of executing the command is shown below. The file specified for *backupFileName* will be created as a backup file.

```
> esflm backup backupFileName
Backup of license database was performed successfully
```

8.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the AdvancedCopy Manager's manager.
Refer to the relevant *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide* for the previous version for information on the required disk space.

8.1.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

8.1.1.4 Estimating Database Size

A database is necessary to operate AdvancedCopy Manager of this version.
The database size must be estimated before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

8.1.1.5 Tuning Kernel Parameters (for Solaris, Linux)

Kernel parameter tuning must be performed in order to use this version of the AdvancedCopy Manager's manager.
Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

8.1.1.6 Confirming Port Number for Communication Service (for Solaris, Linux)

This version of the AdvancedCopy Manager's manager uses additional ports.
Therefore, ensure the new ports are available before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

8.1.1.7 Preparing for Uninstallation

Before starting the upgrade, the following preparation is necessary before uninstalling the previous version.

1. Stop the daemon (for Solaris or Linux).

   Execute the following command to stop the daemon of AdvancedCopy Manager on the Management Server (Storage Management Server).

```
# /opt/swstorage/bin/stopacm
```

2. Execute the DB unsetup.

   Refer to the following sections to perform the repository database unsetup of the previous version:

   - For Windows:

     "A.7 Unsetting Up Database"

   - For Solaris or Linux:

     "A.8 Cancelling Repository Settings"

For Clustered Systems

For clustered systems, execute cluster unsetup before uninstallation.

See

Refer to "Deleting Storage Management Server Transactions and Storage Server Transactions" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide for Cluster Environment* for the relevant previous version for information on the cluster unsetup procedure.

8.1.2 Performing Upgrade (for Windows)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade. Note the following points when you upgrade.

- When requested to restart the computer, click **No**.
  If **Yes** is clicked, the upgrade will be interrupted. When re-executing the installation after a restart of the computer, the installation will be treated as new one.
- When the uninstallation completes successfully, the **Uninstallation was completed successfully** page may be displayed. Although the instruction on the page indicates the deletion of files and folders, do not delete files and folders when performing the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "8.1.4 Tasks to Be Performed After Upgrade".

For non-clustered systems, perform "8.1.4 Tasks to Be Performed After Upgrade" afterwards.

Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for clustered systems. Then, perform "8.1.4 Tasks to Be Performed After Upgrade" afterwards.

8.1.3 Performing Upgrade (for Solaris, Linux)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.

2. If the installation is successfully completed, continue from "8.1.4 Tasks to Be Performed After Upgrade".

For non-clustered systems, perform "8.1.4 Tasks to Be Performed After Upgrade" afterwards.

Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for this version for clustered systems. Then, perform "8.1.4 Tasks to Be Performed After Upgrade" afterwards.

8.1.4 Tasks to Be Performed After Upgrade

When the AdvancedCopy Manager's manager upgrade has been completed, the tasks below need to be performed.

8.1.4.1 Restoring Environment from Previous Version

Restore the backup of the operational environment of AdvancedCopy Manager's manager for the previous version.

AdvancedCopy Manager Operational Environment

1. Execute the following command to start the ETERNUS SF Manager services.

   - For Windows:

     ```
     $INS_DIR\Common\bin\Start_ESFservice.bat
     ```

   - For Solaris or Linux:

     ```
     /opt/FJSVesfcm/bin/startesf.sh
     ```

     The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

2. Restore the operational environment that was backed up in "8.1.1.1 Backing Up Operational Environment of Previous Version".

Note

For the operational environment restore, start a new window for command execution, and then perform the procedure on the window.

See

Refer to the following table to restore the operational environment.

Server Type	OS	Reference
Management Server	Windows	A.9 Restoring Repository Data (for Windows)
	Solaris, Linux	A.10 Restoring Repository Data (for Solaris, Linux)
Management Server which also serves as a Managed Server	Windows	Perform the steps in the following order: 1. A.9 Restoring Repository Data (for Windows) 2. A.11 Restoring Management Information (for Windows)
	Solaris, Linux	Perform the steps in the following order: 1. A.10 Restoring Repository Data (for Solaris, Linux) 2. A.12 Restoring Management Information (for Solaris, Linux)

AdvancedCopy Manager Copy Control Module Operational Environment

Restore the operational environment that was backed up in "8.1.1.1 Backing Up Operational Environment of Previous Version".

See

Refer to "A.14 Restoring Environment Setting Files" for information on performing a restore.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, restore the definition of the license information.

Restore the license management database of ETERNUS SF License Manager by executing the esflm restore command. Refer to the *ETERNUS SF Installation and Setup Guide* for this version for information on the command.

Example of executing the command is shown below. The *backupFileName* is the file name specified when the backup data was created.

```
> esflm restore backupFileName
Restoration of license database was performed successfully
```

8.1.4.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

- For Windows (DOS prompt):

```
programDir\Common\bin\esfadm devconf import -all
```

- For Solaris or Linux:

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

8.1.4.3 Setting Up User Account

Set up a user account in order to use the ETERNUS SF Manager functions.

See

Refer to "Setting Up User Account" in the *ETERNUS SF Installation and Setup Guide* for this version for information on setup.

8.1.4.4 Setting Up Web Console

If firewalls are used between the PC on which the Web Console is launched and the Management Server, perform firewall settings to allow transmission.

See

Refer to "Setting Up for Using Web Console" in the *ETERNUS SF Installation and Setup Guide* for this version for information on firewall setup.

8.1.4.5 Registering License

Register the appropriate licenses.

See

Refer to "License Management" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the license settings.

8.1.4.6 Redefining Missing Information

- Server information

  When the Management Server serves as a Managed Server, the Management Server is registered in the server.

  See

  Refer to "Register Server" in the *ETERNUS SF Web Console Guide* for this version for information on server registration.

- AdvancedCopy Manage Copy Control Module configuration information

  To use the AdvancedCopy Manager Copy Control Module, set the device information again in accordance with the following procedure:

  See

  Refer to "Command References" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module* for this version for information on the commands.

  1. Confirm the registered ETERNUS Disk storage system by executing the acarray list command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray list
     Name BOX-ID IP Address
     ----- ---------------------------------------- ------------
     DX90 00ETERNUSDXL##ET09E24B####LH4311015511## 10.124.6.251
     ```

  2. Confirm the detailed information of the registered ETERNUS Disk storage system by executing the acarray detail command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray detail -a DX90
     Disk Array Name : DX90
     BOX-ID : 00ETERNUSDXL##ET09E24B####LH4311015511##
     IP Address : 10.124.6.251
     Admin User : ****
     Access Volume : X:
     ```

  3. Remove all of the registered ETERNUS Disk storage system by executing the acarray remove command.

     ```
     C:\>C:\ETERNUS_SF\CCM\bin\acarray remove -a DX90
     Successful completion.
     ```

4. Re-register all of the ETERNUS Disk storage systems that were removed in step 3 by executing the acarray add command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray add -a DX90 -ip 10.124.6.251 -user **** -password **** -
path X:
Successful completion.
```

Point

When the ETERNUS Disk storage system was registered by specifying a nonexistent drive letter or device name in the previous version of AdvancedCopy Manager CCM, re-register its ETERNUS Disk storage system as a remote device.

8.1.4.7 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

For Windows

Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

For Solaris,Linux

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server
Enterprise Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
```

```
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

4. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

8.1.5 Resuming Operation

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's manager is complete. Restart the AdvancedCopy Manager operation.

8.2 Upgrading AdvancedCopy Manager's Agent

The upgrade is performed as follows:

1. 8.2.1 Backing Up Repository Data
2. 8.2.2 Backing Up Management Information
3. 8.2.3 Releasing Backup and Restore in Exchange Server Database (for Windows)
4. 8.2.4 Uninstalling Previous Version
5. 8.2.5 Installing This Version
6. 8.2.6 Restoring Repository Data
7. 8.2.7 Changing Server Information
8. 8.2.8 Restoring Management Information
9. 8.2.9 Setting Backup and Restore in Exchange Server Database (for Windows)
10. 8.2.10 Updating Version Information

8.2.1 Backing Up Repository Data

Refer to the following sections to back up the repository data on the Management Server. (Only when the Managed Server is operated in a clustered system)

OS Type of Managed Server	Reference
Windows	A.1 Backing Up Repository Data (for Windows)
Solaris, Linux	A.2 Backing Up Repository Data (for Solaris, Linux)

8.2.2 Backing Up Management Information

Refer to the following sections to back up the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows	A.3 Backing Up Management Information (for Windows)

OS Type of Managed Server	Reference
Solaris, Linux	A.4 Backing Up Management Information (for Solaris, Linux)
HP-UX, AIX	A.5 Backing Up Management Information (for HP-UX, AIX)

8.2.3 Releasing Backup and Restore in Exchange Server Database (for Windows)

When the backup and the restoration function of the Exchange Server database are used, release the setting in reference to the manual of the previous version.

- For Windows Server 2003:

  "Backup and restore of Exchange Server database in Windows Server 2003" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide (for Windows)*, please do the following.

  - Stopping backup copy process
  - Delete the copy set of the hardware provider
  - Delete source and replica volumes
  - Cancel the hardware provider registration

- For Windows Server 2008 or later:

  "Backup and restore of Exchange Server database in Windows Server 2008" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide (for Windows)*, please do the following.

  - Stopping backup copy process
  - Delete source and replica volumes
  - Cancel the hardware provider registration

8.2.4 Uninstalling Previous Version

Uninstall the previous version in reference to the previous version manual.

For Non-clustered Systems

Note

In the course of the following procedures, be careful not to perform the procedure "Deletion of all storage servers".

- For Windows:

  Perform the procedures following "Uninstall procedure" in "Windows Platform" in "Uninstall of Agent" in the *ETERNUS SF AdvancedCopy Manager Installation Guide* or *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide*.

- For Solaris, Linux, HP-UX or AIX:

  Perform the procedures following "Daemon deactivation" in "Solaris/Linux/HP-UX/AIX Platform" in "Uninstall of Agent" in the *ETERNUS SF AdvancedCopy Manager Installation Guide* or *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide*.

For Clustered Systems

If cluster operations are used for Managed Servers as Managed Server transactions, perform the unsetup of cluster settings before performing uninstallation.

See

Refer to "Deleting Storage Management Server transactions and Storage Server transactions" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide for Cluster Environment* for the previous version for information on the procedures for the unsetup of cluster settings.

8.2.5 Installing This Version

Install the AdvancedCopy Manager's agent of this version, and setup the operating environment.

About Installation

- For non-clustered systems:

  Refer to "Installation of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to install the AdvancedCopy Manager's agent.

- For clustered systems:

  Refer to "Installation of ETERNUS SF Agent" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to install the AdvancedCopy Manager's agent.

However, if the system environment is Red Hat Enterprise Linux 5 (for Intel64), in step 3 of "Installation procedure of AdvancedCopy Manager's Agent (for Linux)" in the *ETERNUS SF Installation and Setup Guide*, select the installation directory that is stated for "OS type - Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function", even if you are actually using the Symfoware linkage function.

Setting Up Operating Environment

- For non-clustered systems:

  Refer to "Setup of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

  Afterwards, start the AdvancedCopy Manager's agent on the Managed Server. Refer to "Starting and Stopping Daemons" or "Starting and Stopping Services" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Managed Server for information on the start procedure.

- For clustered systems:

  Refer to "Customization of Managed Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

8.2.6 Restoring Repository Data

Restore the backed up repository data on the Management Server. (Only when the Managed Server is operated in a cluster configuration)

Execute the stgrepocnv command to restore the repository data and then convert it for use with the current version of the repository.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgrepocnv -d backupDir
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgrepocnv -d backupDir
```

Note

- For restoration of the repository data, start a new window for command execution, and then perform the procedure on the window.

- For Solaris, add "/opt/FSUNrdb2b/lib" to the value of the environment variable LD_LIBRARY_PATH_64 of the terminal on which the command will be executed.

See

Refer to "stgrepocnv (Repository Data Migration Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

8.2.7 Changing Server Information

To ensure data consistency, execute the Web Console or stgxfwcmmodsrv command to change the server information. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

8.2.8 Restoring Management Information

Refer to the following sections to restore the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows	A.11 Restoring Management Information (for Windows)
Solaris, Linux	A.12 Restoring Management Information (for Solaris, Linux)
HP-UX, AIX	A.13 Restoring Management Information (for HP-UX, AIX)

8.2.9 Setting Backup and Restore in Exchange Server Database (for Windows)

Reconfigure the backup and restoration functions of the Exchange Server database for which the setting has been released in reference to the manual of this version.

- For Windows Server 2003:

  "Backup and Restore of Exchange Server Database in Windows Server 2003 " in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

  - Registration of provider

  - Configuring the source volume and replica volume
  - Registering the hardware provider copy set
  - Registering database information

- For Windows Server 2008 or later:

  "Backup and Restore of Exchange Server Database in Windows Server 2008 or Later" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

  - Installing and registering VSSHP
  - Configuring the source volume and replica volume
  - Registering the hardware provider copy set
  - Registering copy sets in a batch
  - Registering database information

8.2.10 Updating Version Information

If not using cluster operation, and moreover, if the restoration of repository data has already been performed with the restoration of the replication management list, execute the Web Console or stgxfwcmmodsrv command to update the version information for the Managed Server. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Finally, perform the following operations with the Web Console to reload the server information.

1. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.
2. On the Main pane, check the target server checkbox.
3. On the Action pane, click **Reload Conf**. under **Server**.

Note

For updating the version information, start a new window for command execution, and then perform the procedure on the window.

See

- Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.
- Refer to "Reload Server Configuration Information" in the *ETERNUS SF Web Console Guide* for information on reloading the server information using the Web Console.

8.3 Upgrading AdvancedCopy Manager Copy Control Module

This section describes the upgrade procedures from the AdvancedCopy Manager Copy Control Module Version 14.x.

8.3.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

8.3.1.1 Selecting Install Program

There are two methods of performing the upgrade for the AdvancedCopy Manager Copy Control Module, as follows:

- [**Method 1**] Install the ETERNUS SF Manager program and use the AdvancedCopy Manager Copy Control Module included with the ETERNUS SF Manager.
- [**Method 2**] Install and use the AdvancedCopy Manager Copy Control Module.

Point

For **Method 1**, in addition to the command line interface, it is also possible to perform the AdvancedCopy Manager Copy Control Module operations from the Web Console. However, this approach has the following drawbacks:

- The disk space required for installation is greater than that for **Method 2**.
- There are more incompatible software issues when compared to **Method 2**.
- Estimating the database size estimation will be necessary.

Using the information provided above, select the appropriate program to install.

8.3.1.2 Backing Up Environment Setting Files

Back up the operational environment for the previous version.

See

Refer to "A.6 Backing Up Environment Setting Files" for information on the backup method.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, back up the definition of the license information.

Back up the license management database of ETERNUS SF License Manager by executing the esflm backup command. Refer to the *ETERNUS SF AdvancedCopy Manager Installation and Setup Guide* for the previous version for information on the command.

Example of executing the command is shown below. The file specified with *backupFileName* will be created as a backup file.

```
> esflm backup backupFileName
Backup of license database was performed successfully
```

8.3.1.3 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

- For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

  "Operating Environment of ETERNUS SF Manager"

- For installing the AdvancedCopy Manager Copy Control Module:

  "Operating Environment of AdvancedCopy Manager CCM"

Required Disk Space for Previous Version

The space required to install this version of the AdvancedCopy Manager Copy Control Module of the previous version.
Refer to "Operating Environment" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide for Copy Control Module* for the relevant previous version for information on the required disk space.

8.3.1.4 Uninstalling Incompatible Software

Check if any incompatible software for AdvancedCopy Manager Copy Control Module of this version is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

8.3.1.5 Estimating Database Size

For installing the ETERNUS SF Manager, a database is necessary.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

8.3.2 Performing Upgrade (for Windows)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade. Note the following points when you upgrade.

- When requested to restart the computer, click **No**.
  If **Yes** is clicked, the upgrade will be interrupted. When re-executing the installation after a restart of the computer, the installation will be treated as new one.
- Do not delete files and folders that are output after uninstallation completes successfully.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "8.3.4 Tasks to Be Performed After Upgrade".

8.3.3 Performing Upgrade (for Solaris, Linux)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "8.3.4 Tasks to Be Performed After Upgrade".

8.3.4 Tasks to Be Performed After Upgrade

When the AdvancedCopy Manager Copy Control Module upgrade has been completed, the tasks below need to be performed.

8.3.4.1 Restoring Environment Setting Files

Restore the environment setup file that was backed up in "8.3.1.2 Backing Up Environment Setting Files".

Refer to "A.14 Restoring Environment Setting Files" for information on performing a restore.

License Information

When AdvancedCopy Manager and/or AdvancedCopy Manager Copy Control Module are installed, restore the definition of the license information.

Restore the license management database of ETERNUS SF License Manager by executing the esflm restore command. Refer to the *ETERNUS SF Installation and Setup Guide* for this version for information on the command.

Example of executing the command is shown below. The *backupFileName* is the file name specified when the backup data was created.

```
> esflm restore backupFileName
Restoration of license database was performed successfully
```

8.3.4.2 Reconfiguring Device Information

The following procedure is required to reconfigure the ETERNUS Disk storage system information.
Refer to "Command References" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module* for this version for information on the commands.

1. Confirm the registered ETERNUS Disk storage system by executing the acarray list command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray list

Name  BOX-ID                                    IP Address
----- ----------------------------------------- ------------
E4000 00E4000M3#####E450S20A####KD4030639004## 10.124.6.251
E8000 00E8000M9#####E890S20A####KO4070639003## 10.124.6.241
```

2. Confirm the detailed information of the registered ETERNUS Disk storage system by executing the acarray detail command.

```
C:\>acarray detail -a E4000

Disk Array Name : E4000
BOX-ID          : 00E4000M3#####E450S20A####KD4030639004##
IP Address      : 10.124.6.251
Admin User      : ****
Access Volume   : X:

C:\>C:\ETERNUS_SF\CCM\bin\acarray detail -a E8000

Disk Array Name : E8000
BOX-ID          : 00E8000M9#####E890S20A####KO4070639003##
IP Address      : 10.124.6.241
```

```
Admin User      : ****
Access Volume   : Y:
```

3. Remove all of the registered ETERNUS Disk storage system by executing the acarray remove command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray remove -a E4000
Successful completion.

C:\>acarray remove -a E8000
Successful completion.
```

4. Re-register all of the ETERNUS Disk storage systems that were removed in step 3 by executing the acarray add command.

```
C:\>C:\ETERNUS_SF\CCM\bin\acarray add -a E4000 -ip 10.124.6.251 -user **** -password **** -path
X:
Successful completion.

C:\>C:\ETERNUS_SF\CCM\bin\acarray add -a E8000 -ip 10.124.6.241 -user **** -password **** -path
Y:
Successful completion.
```

Point

When the ETERNUS Disk storage system was registered by specifying a nonexistent drive letter or device name in the previous version of AdvancedCopy Manager CCM, re-register its ETERNUS Disk storage system as a remote device.

8.3.4.3 Registering License

Register the appropriate licenses.

See

Refer to "License Management" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the license settings.

8.3.4.4 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

For Windows

Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

For Solaris,Linux

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server
Enterprise Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

4. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

8.3.5 Resuming Operation

When the tasks described above have been performed, the upgrade of AdvancedCopy Manager Copy Control Module is complete. The task below is the reconstruction of the managed environment in AdvancedCopy Manager. Refer to the following manual:

- "Setup of AdvancedCopy Manager CCM" in the *ETERNUS SF Installation and Setup Guide* for this version

Chapter 9 Upgrading AdvancedCopy Manager Version 15.x

This chapter describes the upgrade procedure for AdvancedCopy Manager Version 15.x.

To upgrade AdvancedCopy Manager's manager to this version, install the ETERNUS SF Manager.

If performing an upgrade to a system environment using Agent-based operation model, perform the upgrade in the following sequence.

1. AdvancedCopy Manager's manager
2. AdvancedCopy Manager's agent

Point

- In the version level of the AdvancedCopy Manager, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.
- If Storage Cruiser and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both Storage Cruiser and AdvancedCopy Manager Copy Control Module will be upgraded at the same time. Therefore, perform backups of the previous versions before starting the upgrade.
- When upgrading the AdvancedCopy Manager's manager, there is information that cannot be migrated. Refer to "12.3 What to Do When Configuration Import Is Not Possible" for information on the information that cannot be migrated and the corrective action.

9.1 Upgrading AdvancedCopy Manager's Manager (for Windows)

This section describes the upgrade procedure for the AdvancedCopy Manager's manager for Windows.

9.1.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.1.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

9.1.1.1.1 Backing Up Operational Environment of Previous Version

With the following steps, perform a backup of the operation environment of the previous version of the AdvancedCopy Manager's manager.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. Stop the ETERNUS SF Manager service
   Execute the following batch file:

```
$INS_DIR\Common\bin\Stop_ESFservice.bat
```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

4. Implement backup of the previous version.
   Execute the following batch file. For *backupDir,* specify the directory in which to store the backup data with an absolute path. In the *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir.*

```
dvdromDrive:\Manager_windows\vuptools\esfpreinst.bat backupDir [tmpDir]
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

9.1.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

9.1.1.1.3 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

9.1.1.1.4 Estimating Database Size

A database is necessary for this version of AdvancedCopy Manager.
The database size must be estimated before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

9.1.1.1.5 Preparing for Uninstallation

Refer to "A.7 Unsetting Up Database" to unsetup the repository database of the previous version:

9.1.1.2 Performing Upgrade (for Windows)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.1.1.3 Tasks to Be Performed After Upgrade".

9.1.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:

9.1.1.3.1 Restoring Environment from Previous Version

With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager. Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Implement restoration of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up , it is unnecessary to specify a directory for the *tmpDir*.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfpostinst.bat backupDir [tmpDir]
   ```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

   ### Point

   - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
   - The number of characters in a directory name must be up to 220.

4. Eject the DVD-ROM.

5. Restart the service of ETERNUS SF Manager
   Excute the following batch file:

```
$INS_DIR\Common\bin\Start_ESFservice.bat
```

   The $INS_DIR is the program directory specified at the ETERNUS SF Manager installation.

9.1.1.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

9.1.1.3.3 Change Associated Software

If the following related software was being used with the previous version, it is necessary to update these to a version that supports this edition.

- ETERNUS VASA Provider
- Fujitsu ETERNUS Storage Systems Monitoring Pack

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

9.1.1.3.4 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 4 of "9.1.1.1.1 Backing Up Operational Environment of Previous Version" maybe deleted.

9.1.1.3.5 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

- Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
  If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

9.1.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

The following values are used in the description:

Directory Name	Explanation
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.
$ETC_DIR	"Environment Directory" specified at the ETERNUS SF Manager installation.

9.1.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Check that the ETERNUS SF Manager services are stopped on the secondary node.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of ETERNUS SF Manager.
3. When using the ETERNUS VASA Provider or the ETERNUS Information Provider, on the secondary node, confirm that the ETERNUS Information Provider service has been stopped.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of the ETERNUS Information Provider.
4. On the primary node, stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.
5. When using the ETERNUS VASA Provider or the ETERNUS Information Provider, stop the ETERNUS Information Provider service on the primary node.
   Use the Failover Cluster Manager to stop the transactions of the ETERNUS Information Provider.
   However, the shared disk for shared data of the ETERNUS Information Provider must be online.
6. If Managed Server transactions coexist in the clustered system, perform the following procedure:
   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Use the Failover Cluster Manager to stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be online.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.
7. Stop the local transactions on all the nodes, perform the following procedure:

   Perform the following steps.

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.
   b. Select "AdvancedCopy Manager COM Service" and then click **Stop**.

8. On the primary node, perform a backup of the operating environment of the previous version of the AdvacnedCopy Manager's manager.
   Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

   a. Log on to the server using Administrator privileges.
      If already logged on as the Administrator privileges, this step is unnecessary.

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Implement backup of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfpreinst_cluster.bat backupDir [tmpDir] -primary
      ```

      When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

      Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
      - The number of characters in a directory name must be up to 220.
      - Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

   d. Eject the DVD-ROM.

9. Checking for available disk space

   Ensure that there is enough available disk space on the server where the upgrade will be performed.
   The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

   Required Disk Space for New Version

   The space required to install this version of the ETERNUS SF Manager.
   Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

   Required Disk Space for Previous Version

   The space required to install the previous version of the ETERNUS SF Manager.
   Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

10. Uninstalling incompatible software

    Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.

    If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

    See

    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

11. Estimating the database size

    A database is necessary for this version of AdvancedCopy Manager.
    The database size must be estimated before starting the upgrade.

    See

    Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

12. On the secondary node, perform a backup of the operating environment of the previous version of the AdvacnedCopy Manager's manager.
    The capacity required for performing this backup is 10MB.

    a. Log on to the server using Administrator privileges.
       If already logged on as the Administrator privileges, this step is unnecessary.

    b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
       Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

    c. Mount the shared disk for shared data of ETERNUS SF Manager.
       If it is mounted on the primary node, unmount it to mount on the secondary node.

    d. Implement backup of the previous version.
       Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

       ```
       dvdromDrive:\Manager_windows\vuptools\esfpreinst_cluster.bat backupDir [tmpDir] -secondary
       ```

       When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

       Point

       - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
       - The number of characters in a directory name must be up to 220.
       - Move the files (*tmpDir*) related to the performance management function to the same logical drive as the drive on which the product of the previous version is installed. In the case of backup to a different logical drive, it may take time to perform backup and restore.

    e. Unmount the shared disk for shared data of ETERNUS SF Manager.
       If it is required for the work on the primary node, mount it on the primary node.

    f. Eject the DVD-ROM.

13. Checking for available disk space

    Ensure that there is enough available disk space on the server where the upgrade will be performed.
    The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

    Required Disk Space for New Version

    The space required to install this version of the ETERNUS SF Manager.
    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

14. Uninstalling incompatible software

    Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
    If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

    See

    Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

15. Performing the cluster unsetup

    Refer to "Uninstallation of ETERNUS SF Manager" in "Deletion of Cluster Environment for Management Server Transactions" in the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version to delete the service resources, the cluster resources and unnecessary resources.

    Note

    - Do not uninstall the ETERNUS SF Manager.
    - Do not delete the ETERNUS SF Manager installation directory of each node.

    Note

    In cases when Managed Server transactions coexist, do not release the configurations of these Managed Server transactions.

9.1.2.2 Performing Upgrade (Primary Node)

Refer to "C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

a. Install the target version.

b. If the installation is successfully completed, continue from "9.1.2.3 Performing Upgrade (Secondary Node)".

9.1.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.
The upgrade procedure is the same as that for the primary node. Refer to "9.1.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.

2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* of this version for information on the cluster setup.

9.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.

2. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data.

   On the primary node for target transactions, edit the following files:

   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\clsetup.ini
   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

Note

Do not change anything other than the version information.

3. Implement restoration of the previous version.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager.
   Note that if step a and step b have already been performed, it is unnecessary to perform these again.

   a. Log on to the server using Administrator privileges.

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Implement restoration of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up , it is unnecessary to specify a directory for the *tmpDir*.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfpostinst_cluster.bat backupDir [tmpDir] -primary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
- The number of characters in a directory name must be up to 220.

d. Eject the DVD-ROM.

4. Start the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.

5. If Managed Server transactions coexist in a clustered system, change the server information of the Managed Server transactions.

   To ensure data consistency, execute the stgxfwcmmodsrv command to change the server information.
   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

   This operation should be performed on the primary node for Management Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)* for this version for information on the command.

6. Import the configuration information.
   Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.
   Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
programDir\Common\bin\esfadm devconf import -all
```

   After executing the esfadm devconf import command, confirm that the **IMPORT STATUS** column displays "Complete" with esfadm devconf importstatus command.

   In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

7. Uninstalling Symfoware
   In the version level of this ETERNUS SF Manager , Symfoware is not used.
   Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
   The procedures to uninstall Symfoware are stated below.

   - Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
     If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

Point

- If the ETERNUS VASA Provider was being used with the previous version:
  It is necessary to reinstall a version of the ETERNUS VASA Provider that supports this edition.
- If the Fujitsu ETERNUS Storage Systems Monitoring Pack was being used with the previous version:
  It is necessary to reinstall a version of the Fujitsu ETERNUS Storage Systems Monitoring Pack that supports this edition.

9.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check that the ETERNUS SF Manager services are stopped.
   If not stopped, use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
2. Implement restoration of the previous version.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager.
   Note that if step a and step b have already been performed, it is unnecessary to perform these again.
   a. Log on to the server using Administrator privileges.
   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   c. Mount the shared disk for shared data of ETERNUS SF Manager.
      If it is mounted on the primary node, unmount it to mount on the secondary node.
   d. Implement restoration of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfpostinst_cluster.bat backupDir [tmpDir] -secondary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

      Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory names.
      - The number of characters in a directory name must be up to 220.

   e. Unmount the shared disk for shared data of ETERNUS SF Manager.
      If it is required for the work on the primary node, mount it on the primary node.
   f. Eject the DVD-ROM.
1. Uninstalling Symfoware
   In the version level of this ETERNUS SF Manager , Symfoware is not used.
   Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
   The procedures to uninstall Symfoware are stated below.
   - Uninstall Symfoware from the **Add or Remove Programs** or **Programs and Features** page.
     If both Symfoware Server and Symfoware Client are installed, uninstall Symfoware Client first.

Point

- If the ETERNUS VASA Provider was being used with the previous version:
  It is necessary to reinstall a version of the ETERNUS VASA Provider that supports this edition.
- If the Fujitsu ETERNUS Storage Systems Monitoring Pack was being used with the previous version:
  It is necessary to reinstall a version of the Fujitsu ETERNUS Storage Systems Monitoring Pack that supports this edition.

9.1.2.6 Starting ETERNUS SF Manager

Perform the following procedure:

1. Check that ETERNUS SF Manager services are started on the primary node.

   If not started, use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.

2. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.

3. Start the local transactions on all the nodes, perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Start**.

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step8 -c and step 12-d of "9.1.2.1 Preparing for Upgrade" maybe deleted.

9.2 Upgrading AdvancedCopy Manager's Manager (for Solaris, Linux)

This section describes the upgrade procedure for the AdvancedCopy Manager's manager for Solaris and Linux.

9.2.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.2.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

9.2.1.1.1 Install of Essential Package.

According to the environment in which the upgrade is performed, the packages required should be installed.

The environment and the package are as follows. The installed package version shall be later than the described versions.

When the upgrade is performed excluding the following environments, this procedure is not needed.

- For Red Hat Enterprise Linux 5 (for Intel64), 32-bit AdvancedCopy Manager is installed of the previous version:

  ```
  libXrender-0.9.1-3.1.i386.rpm
  ```

- For Red Hat Enterprise Linux 6 (for Intel64):

  ```
  libXrender-0.9.5-1.el6.i686.rpm
  ```

Information

When libXrender is installed, other packages might be demanded. Install the package (the end of the package name is i386.rpm or i686.rpm) of 32-bit when OS is 64-bit environment.

The required packages for the installation are included in the OS installation media.

9.2.1.1.2 Backing Up Operational Environment of Previous Version

With the following procedures, back up the operation environment of the previous version of the AdvancedCopy Manager's manager.

Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

4. Execute the following command to stop the daemon of ETERNUS SF Manager:

   ```
   # /opt/FJSVesfcm/bin/stopesf.sh
   ```

5. Implement backup of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfpreinst.sh backupDir [tmpDir]
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

   Point

   - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
   - The number of characters in a directory name must be up to 220.
   - Move the files (*tmpDir*) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

9.2.1.1.3 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

9.2.1.1.4 Uninstalling Incompatible Software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

9.2.1.1.5 Estimating Database Size

A database is necessary for this version of AdvancedCopy Manager.
The database size must be estimated before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

9.2.1.1.6 Tuning Kernel Parameters

Kernel parameter tuning must be performed in order to use this version of the AdvancedCopy Manager's manager. Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

9.2.1.1.7 Confirming Port Number for Communication Service (for Solaris, Linux)

Therefore, ensure the new ports are available before starting the upgrade.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

9.2.1.1.8 Preparing for Uninstallation

The DB unsetup must be executed.
Refer to "A.8 Cancelling Repository Settings" to unsetup the repository database of the previous version.

9.2.1.2 Performing Upgrade

Refer to"C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.2.1.3 Tasks to Be Performed After Upgrade".

9.2.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

9.2.1.3.1 Restoring Environment from Previous Version

With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager.
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

4. Implement restoration of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpostinst.sh backupDir [tmpDir]
```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

   Point

   - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
   - The number of characters in a directory name must be up to 220.

5. Unmount the DVD-ROM.
   Example:

```
# umount /mnt/dvd
```

6. Eject the DVD-ROM.

7. Restart the daemon of ETERNUS SF Manager.

```
# /opt/FJSVesfcm/bin/startesf.sh
```

9.2.1.3.2 Importing Configuration Information

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.

Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
/opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.

In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

9.2.1.3.3 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 5 of "9.2.1.1.2 Backing Up Operational Environment of Previous Version" maybe deleted.

9.2.1.3.4 Uninstalling Symfoware

In the version level of this ETERNUS SF Manager , Symfoware is not used.
Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.

The procedures to uninstall Symfoware are stated below.

For Solaris or Linux

1. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

2. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server
   Enterprise Edition".

   Continue the uninstallation?
   y: Continue the uninstallation
   q: End directly without uninstallation
   [y,q]: y
   ```

```
Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

3. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

4. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

Subsequently, go to "9.2.3 Resuming Operation".

9.2.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

Note

If Cluster Unsetup is executed after upgrading from Version 15.0B to this version, the cluster resources and scripts created by the old version's commands starting with "stgclset" will not be deleted.

9.2.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Install of essential package.
   According to the environment in which the upgrade is performed, the packages required for primary node and secondary node should be installed.

   The environment and the package are as follows. The installed package version shall be later than the described versions.

   When the upgrade is performed excluding the following environments, this procedure is not needed.

- For Red Hat Enterprise Linux 5 (for Intel64), 32-bit AdvancedCopy Manager is installed of the previous version:

  ```
  libXrender-0.9.1-3.1.i386.rpm
  ```

- For Red Hat Enterprise Linux 6 (for Intel64):

  ```
  libXrender-0.9.5-1.el6.i686.rpm
  ```

Information

When libXrender is installed, other packages might be demanded. Install the package (the end of the package name is i386.rpm or i686.rpm) of 32-bit when OS is 64-bit environment.

The required packages for the installation are included in the OS installation media.

2. Check that the cluster application (transaction) has stopped on the secondary node.

   Check whether the cluster application (transaction) to which ETERNUS SF Manager belongs has stopped.
   If not stopped, stop the cluster application (transaction).

   Refer to the relevant cluster software manuals for information on stopping it (transaction).

3. Stop the cluster application (transaction) on the primary node.

   Stop the cluster application (transaction) to which ETERNUS SF Manager belongs.
   Refer to the relevant cluster software manuals for information on stopping it
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.

4. If Managed Server transactions coexist in a clustered system, perform the following.

   a. On the secondary node for the target transactions, check that the Managed Server transactions have stopped.

      If not stopped, stop them on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure for each secondary node for Managed Server transactions.

      Refer to the relevant cluster software manuals for information on stopping the Managed Server transactions.

   b. On the primary node for the target transactions, stop the Managed Server transactions.

      Refer to the relevant cluster software manuals to stop the Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be mounted.
      If multiple Managed Server transactions exist, perform this procedure for each primary node for Managed Server transactions.

5. Stop the local transactions on all the nodes.

   Stop the communication daemon for the local transactions of the AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on stopping the daemon.

6. On the primary node, perform a backup of the operating environment of the previous version of the AdvacnedCopy Manager's manager.
   Refer to "A.33 Capacity Necessary for Backup of Previous Version" for information on the capacity required to perform a backup.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

      ```
      # mount /mnt/dvd
      ```

d. Implement backup of the previous version.
Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpreinst_cluster.sh backupDir [tmpDir] -primary
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (*tmpDir*) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

e. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

f. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

7. Checking for available disk space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

8. Uninstalling incompatible software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

9. Estimating the database size

   The Symfoware product is bundled with this product. If Symfoware is already installed on the server where the upgrade will be performed, check the Symfoware environment before starting the upgrade.

   See

   Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for details.

10. Confirming the port number for the communication service

    Therefore, ensure the new ports are available before starting the upgrade.

    See

    Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

11. Perform the kernel parameter tuning on the primary node.

    Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

    See

    Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

12. On the secondary node, perform a backup of the operating environment of the previous version of the AdvacnedCopy Manager's manager.
    The capacity required for performing this backup is 10MB.

    a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

    b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
    Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents

    c. Mount the DVD-ROM (if automount is not enabled).
    Example:

    ```
    # mount /mnt/dvd
    ```

    d. Mount the shared disk for shared data of ETERNUS SF Manager.
    If it is mounted on the primary node, unmount it to mount on the secondary node.

    e. Implement backup of the previous version.
    Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path. For the *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not being used, it is unnecessary to specify a directory for the *tmpDir*.

    ```
    # /mnt/dvd/Manager_unix/vuptools/esfpreinst_cluster.sh backupDir [tmpDir] -secondary
    ```

    When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.
- Move the files (tmpDir) related to the performance management function to under /var/opt. In the case of backup to a different location from that under /var/opt, it may take time to perform backup and restore.

f. Unmount the shared disk for shared data of ETERNUS SF Manager.
If it is required for the work on the primary node, mount it on the primary node.

g. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

h. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

i. Eject the DVD-ROM.

13. Checking for available disk space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager.
Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

Required Disk Space for Previous Version

The space required to install the previous version of the ETERNUS SF Manager.
Refer to "Operating environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for the previous version for information on the required disk space.

14. Uninstalling incompatible software

Check if any incompatible software for this version of the ETERNUS SF Manager is installed on the server where the upgrade will be performed.
If incompatible software is found, refer to the relevant software manual and uninstall it before starting the upgrade.

See

Refer to "Operating Environment of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the incompatible software.

15. Confirming the port number for the communication service

Therefore, ensure the new ports are available before starting the upgrade.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on port numbers.

16. Perform the kernel parameter tuning on the secondary node.

    Therefore, perform the necessary kernel parameter tuning before starting the upgrade.

    See

    Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

17. In cases when Managed Server transactions coexist in the cluster system, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

    - On the primary node and the secondary node, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

18. Performing the cluster unsetup

    Refer to "Uninstallation of ETERNUS SF Manager" in "Deletion of Cluster Environment for Management Server Transactions" in the *ETERNUS SF Storage Cruiser Installation Guide* for the relevant previous version to delete unnecessary resources.

    Note

    Do not uninstall the ETERNUS SF Manager.

    Note

    In cases when Managed Server transactions coexist, do not release the configurations of these Managed Server transactions.

9.2.2.2 Performing Upgrade (Primary Node)

Refer to "C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.2.2.3 Performing Upgrade (Secondary Node)".

9.2.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.
The upgrade procedure is the same as that for the primary node. Refer to "9.2.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing Management Server Transactions" and "Customization for Management Server Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* of this version for information on the cluster setup.

In cases when Managed Server transaction coexist in the cluster system, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction evacuated in step 15 of "9.2.2.1 Preparing for Upgrade".

- On the primary node and the secondary node, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction.

9.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the cluster application (transaction). Stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it.
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.

2. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for shared data of Managed Server transactions, on the primary node for a target service.

   On the primary node for target transactions, edit the following files:

   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

   Note

   Do not change anything other than the version information.

3. Implement restoration of the previous version.
   Note that if step a through step c have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

```
# mount /mnt/dvd
```

   d. Implement restoration of the previous version.
      Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up , it is unnecessary to specify a directory for the *tmpDir*.

```
# /mnt/dvd/Manager_unix/vuptools/esfpostinst_cluster.sh backupDir [tmpDir] -primary
```

When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
- The number of characters in a directory name must be up to 220.

e. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

f. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

4. Start the cluster application (transaction).
Start the cluster application (transaction) to which ETERNUS SF Manager belongs.
Refer to the relevant cluster software manuals for information.

5. In cases when Managed Server transactions coexist in the cluster system, change the server information of the Managed Server transactions.

To ensure data consistency, use the stgxfwcmmodsrv command to change the server information.
When executing the stgxfwcmmodsrv command, specify the Management Server name for the -n option.

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

This operation should be performed on the primary node for Management Server transactions.
If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for the operating system of the Management Server for this version for information on the command.

6. Import the configuration information.

Import the configuration information from the previous version by executing the esfadm devconf import command using Administrator permissions.
Check that the managed devices and servers can be accessed before executing the esfadm devconf import command.

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
```

After executing the esfadm devconf import command, confirm that "Complete" is displayed in **IMPORT STATUS** column in the esfadm devconf importstatus command.
In addition, confirm that "Complete" is displayed in **STATUS** column of the import status of the migration target resources. When "Failed" is displayed, the import of configuration information has failed. Refer to "12.4 What to Do When Error Occurs" to take the corrective action.

Note

When executing the esfadm devconf import command, if a managed device or server is not accessible, the esfadm devconf import command should be re-executed since the device configuration information is not imported.

7. Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
The procedures to uninstall Symfoware are stated below.

   For Solaris or Linux

   a. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

   b. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

   c. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

   d. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

9.2.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check that the cluster application (transaction) has stopped.
   If not stopped, stop the cluster application (transaction) to which ETERNUS SF Manager belongs.
   Refer to the relevant cluster software manuals for information on stopping it (transaction).

2. Implement restoration of the previous version.
   Note that if step a through step c have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager's manager.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

      ```
      # mount /mnt/dvd
      ```

   d. Mount the shared disk for shared data of ETERNUS SF Manager.
      If it is mounted on the primary node, unmount it to mount on the secondary node.

   e. Implement restoration of the previous version.
      Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path. For *tmpDir*, specify a directory in which to temporarily place the files related to the performance management function of Storage Cruiser with an absolute path. When the performance management function is not backed up, it is unnecessary to specify a directory for the *tmpDir*.

      ```
      # /mnt/dvd/Manager_unix/vuptools/esfpostinst_cluster.sh backupDir [tmpDir] -secondary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

      Point

      - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory names.
      - The number of characters in a directory name must be up to 220.

   f. Unmount the shared disk for shared data of ETERNUS SF Manager.
      If it is required for the work on the primary node, mount it on the primary node.

   g. Change to a directory other than the DVD-ROM.
      Example:

      ```
      # cd
      ```

   h. Unmount the DVD-ROM.
      Example:

      ```
      # umount  /mnt/dvd
      ```

   i. Eject the DVD-ROM.

3. Symfoware should only be installed in cases where it was used by ETERNUS SF Manager only.
   The procedures to uninstall Symfoware are stated below.

   For Solaris or Linux

a. Start the uninstaller of Symfoware to delete the Symfoware package.
   Before deleting the package, confirm that none of the package functions used by any system other than ETERNUS SF Manager.

```
# /opt/symfoware/setup/symfo_remove
```

b. Confirmation message to uninstall Symfoware will be displayed. To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

c. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

d. When FSUNiconv package is installed, please delete it (only in the Solaris environment).
   Please delete after confirming that this package function is used only by ETERNUS SF Manager.

```
# pkgrm FSUNiconv
```

9.2.2.6 Starting ETERNUS SF Manager

Perform the following procedure:

1. Check that the cluster application (transaction) has started on the primary node.

   If not started, start the cluster application (transaction) to which ETERNUS SF Manager belongs.
   Refer to the relevant cluster software manuals for information on starting it.

2. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions on the primary node for the target transactions.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

3. Start the local transactions on all the nodes.

   Start the communication daemon for local transactions of AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for the operating system of the Management Server for this version for information on starting the daemon.

Subsequently, go to "9.2.3 Resuming Operation".

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step6-d and step 11-e of "9.2.2.1 Preparing for Upgrade" maybe deleted.

9.2.3 Resuming Operation

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's manager is complete. Restart the AdvancedCopy Manager operation.

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

9.3 Upgrading AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)

This section describes the upgrade procedure for the AdvancedCopy Manager's agent for Windows Server 2008 or later.

9.3.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.3.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

1. Log on to the server using Administrator privileges.
2. If the Storage Cruiser's agent has been installed, stop the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to stop the service.
3. Stop the service of AdvancedCopy Manager's agent.

   Perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Stop**.

4. Implement backup of the previous version.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

Information

The capacity required for performing the backup is the total value of the following:

- Environment Directory and Work Directory of "For Windows environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
- "For Windows environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

The procedure is shown below:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.

b. Confirm the architecture of the AdvancedCopy Manager's agent that has been installed.
   Select **Control Panel** > **Programs and Functions** and confirm the architecture of the AdvancedCopy Manager's agent.

   - When using the "AdvancedCopy Manager (x86) - Agent"
     The 32 bit version AdvancedCopy Manager's agent has been installed.
   - When using the "AdvancedCopy Manager (x64) - Agent"
     The 64 bit version AdvancedCopy Manager's agent has been installed.

c. Start the command prompt with "Run as administrator".

d. Implement backup of the previous version.

   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   [When using the 32 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\esfacmapreinst.bat
   backupDir
   ```

   [When using the 64 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\esfacmapreinst.bat
   backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

   #### Point

   - The characters " | : * ? / . < > % & ^ ; ! are not supported for directory names.
   - If the directory name contains any spaces, they should be surrounded by double quote characters.

e. Back up the operating system.

9.3.1.2 Performing Upgrade

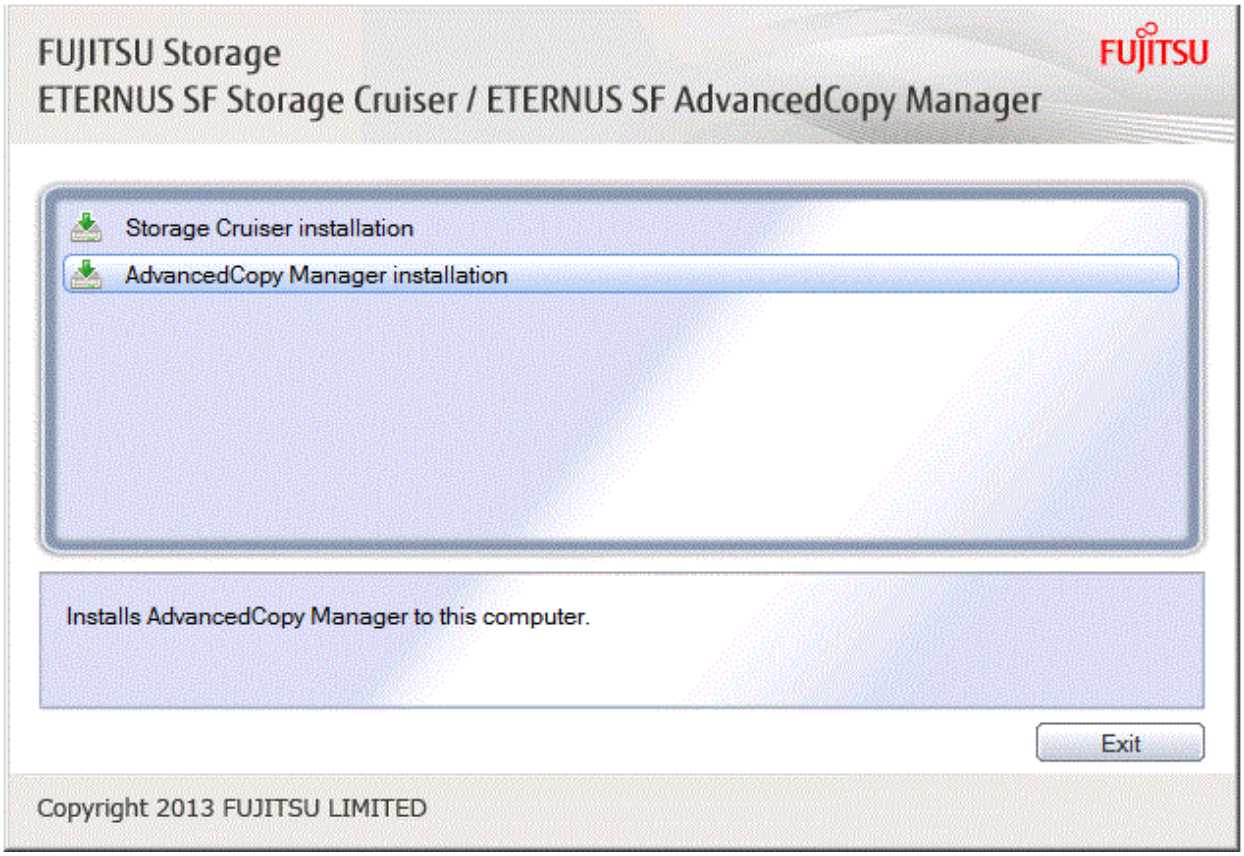
The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

Note

Although the initial screen of the installer will be displayed during these steps, this will not be used in the Upgrade Installation. Be sure to click **Exit** and end the screen.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. The following window will be displayed.
   For the Upgrade Installation, this window is not used. Click **Exit**.



4. Start the following installation wizard corresponding to the architecture of AdvancedCopy Manager's agent checked in preparing for the upgrade:

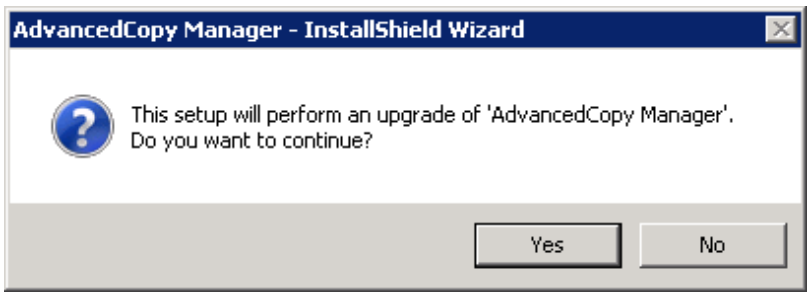
   - For 32-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\setup.exe

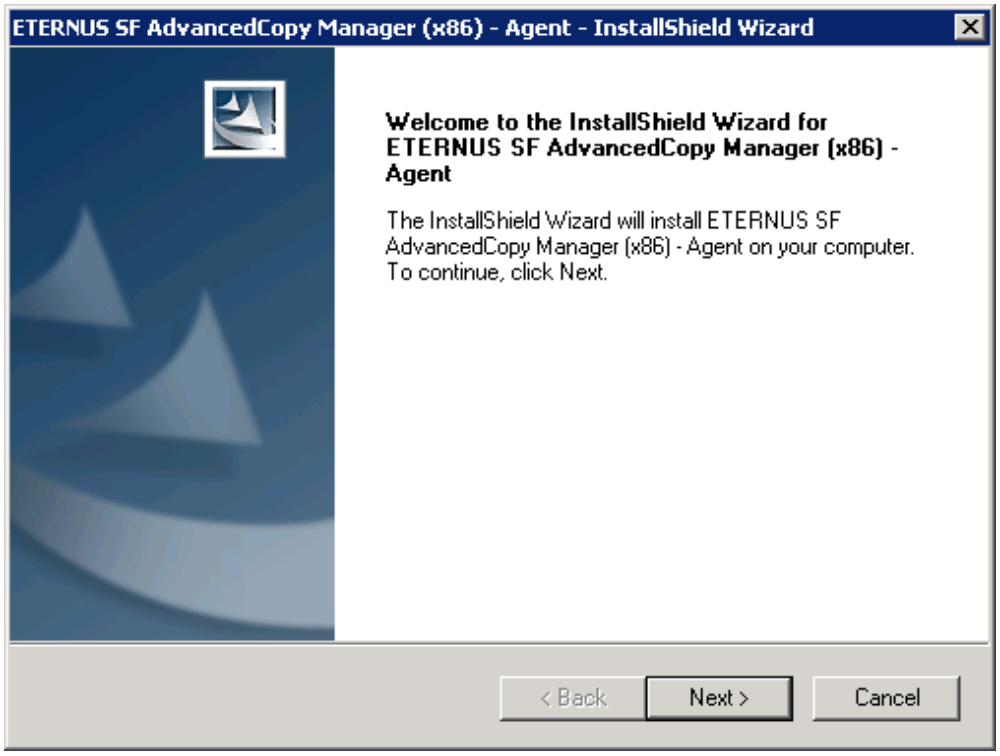
   - For 64-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\setup.exe

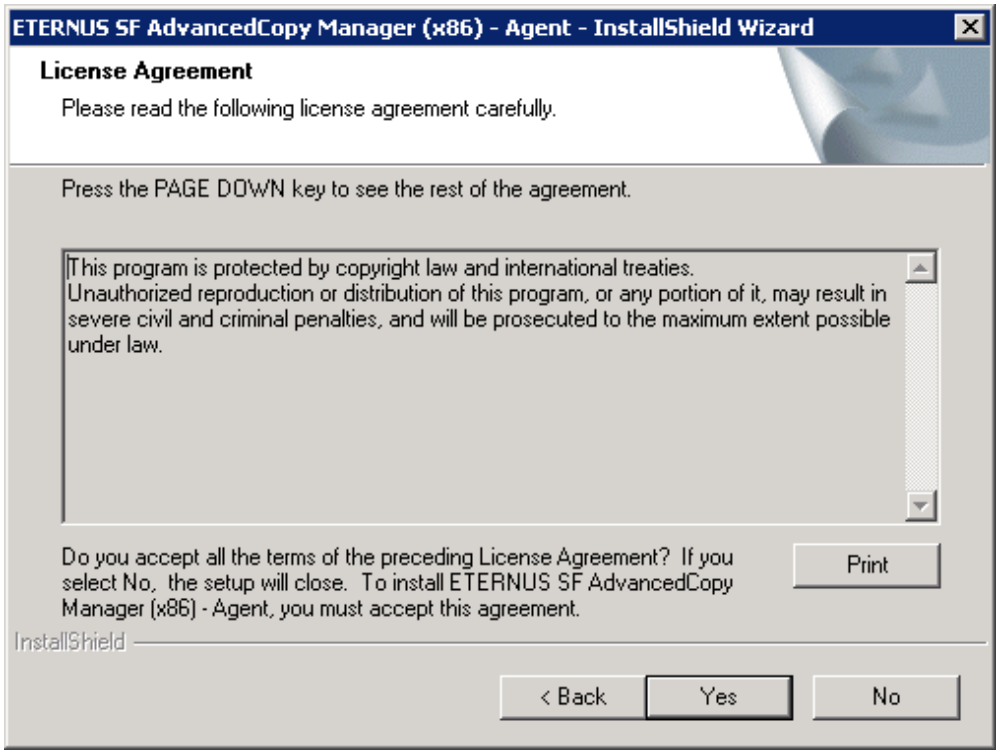
5. The following dialog box will be displayed. Click **Yes**.



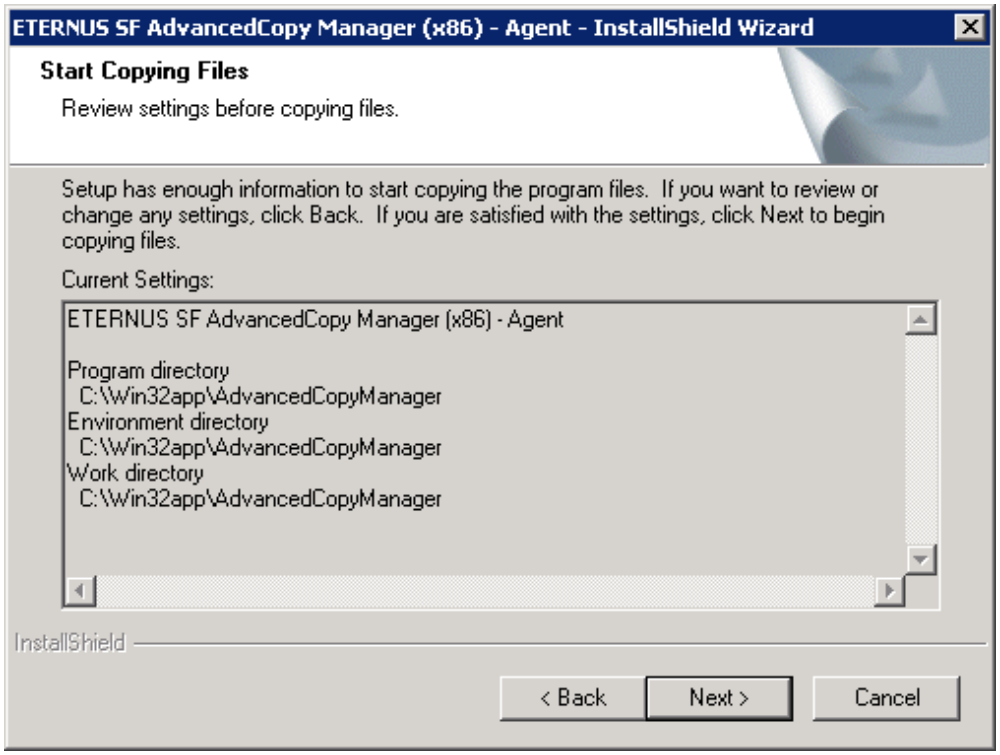
6. The installation wizard page will be displayed. Click **Next**.



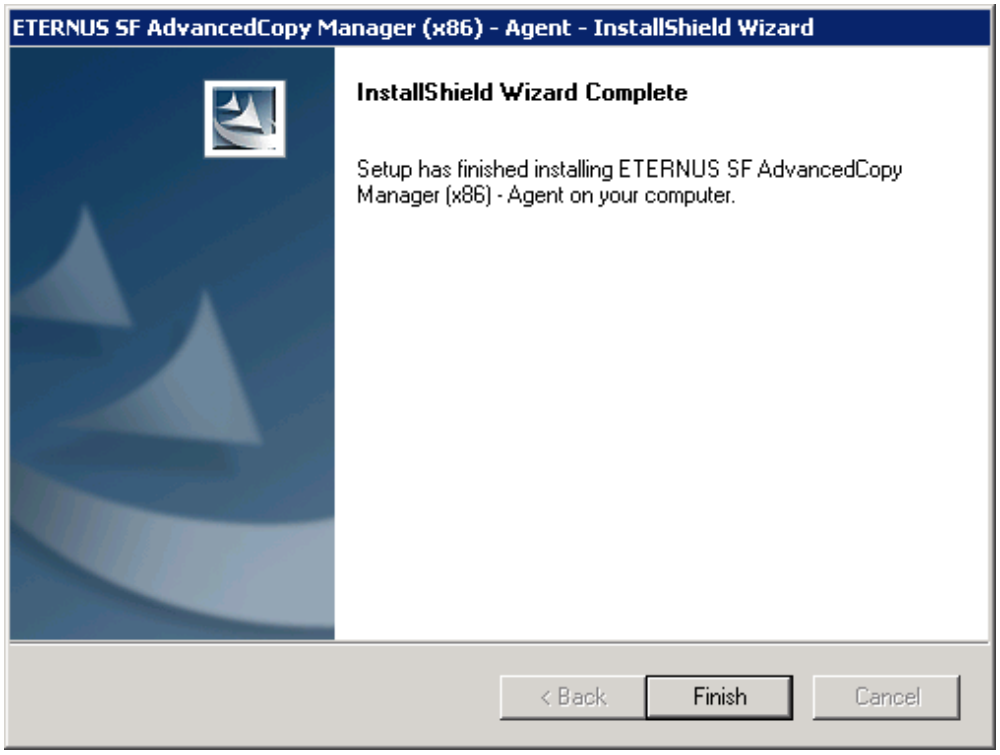
7. Read the terms and conditions of the **License Agreement** page.
   If the conditions are agreeable, click **Yes**.



8. Check the settings information in the **Start Copying Files** page, and then click **Next**.



9. Copying of the program is started.
   The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



10. Eject the DVD-ROM.

9.3.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. If the Storage Cruiser's agent has been installed, start the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to start the service.
2. Starting the service of AdvancedCopy Manager's agent

   Perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Start**.

3. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

   ```
   programDir\ACM\bin\stgxfwcmmodsrv -n serverName
   ```

   - When the Management Server OS is Solaris or Linux:

   ```
   /opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
   ```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on the command.

4. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

- Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 4-d of "9.3.1.1 Preparing for Upgrade" maybe deleted.
- When returning back to the state before installation of the upgrade, recover (restore) the system from the backup taken in step 4-e of "9.3.1.1 Preparing for Upgrade".

9.3.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

9.3.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

1. Log on to the server using Administrator privileges.
2. Check that Managed Server transactions are stopped on the secondary node.

   If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
   If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.

3. Stop the Managed Server transaction on the primary node.

   Use the Failover Cluster Manager to stop the Managed Server transactions.
   However, the shared disk for shared data of Managed Server transactions must be online.
   If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

4. In all of the nodes in which the Storage Cruiser's agent has been installed, stop the service of the Storage Cruiser's agent.
   Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to stop the service.
5. Stop the local transactions on all the nodes, perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Stop**.

6. Implement backup of the previous version with all of the nodes.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

- On the primary node and the secondary node, implement backup of the previous version.
- In cases when there are multiple Managed Server transactions, in each primary node of the Managed Server transactions, switch the shared disk for the shared data of the Managed Server transactions online.

Information

The capacity required for performing the backup is the total value of the following:

- Environment Directory and Work Directory of "For Windows environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
- "For Windows environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

In the case of a primary node operating a Managed Server transaction, add the following to the capacity required to perform the backup:

- "Capacity of Shared Disk" in the *ETERNUS SF Cluster Environment Setup Guide*

The procedure is shown below:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.

b. Confirm the architecture of the AdvancedCopy Manager's agent that has been installed.
Select **Control Panel** > **Programs and Functions** and confirm the architecture of the AdvancedCopy Manager's agent.
   - When using the "AdvancedCopy Manager (x86) - Agent"
     The 32 bit version AdvancedCopy Manager's agent has been installed.
   - When using the "AdvancedCopy Manager (x64) - Agent"
     The 64 bit version AdvancedCopy Manager's agent has been installed.

c. Start the command prompt with "Run as administrator".

d. Implement backup of the previous version.
Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   [When using the 32 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\esfacmapreinst.bat
backupDir
```

   [When using the 64 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\esfacmapreinst.bat
backupDir
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

   ### Point

   - The characters " | : * ? / . < > % & ^ ; ! are not supported for directory names.
   - If the directory name contains any spaces, they should be surrounded by double quote characters.

e. Perform a backup of the following.
   - Windows System (primary node and secondary node)
   - Shared Disk for the Shared Data of the Managed Server transactions

f. Eject the DVD-ROM.

9.3.2.2 Performing Upgrade (Primary Node)

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

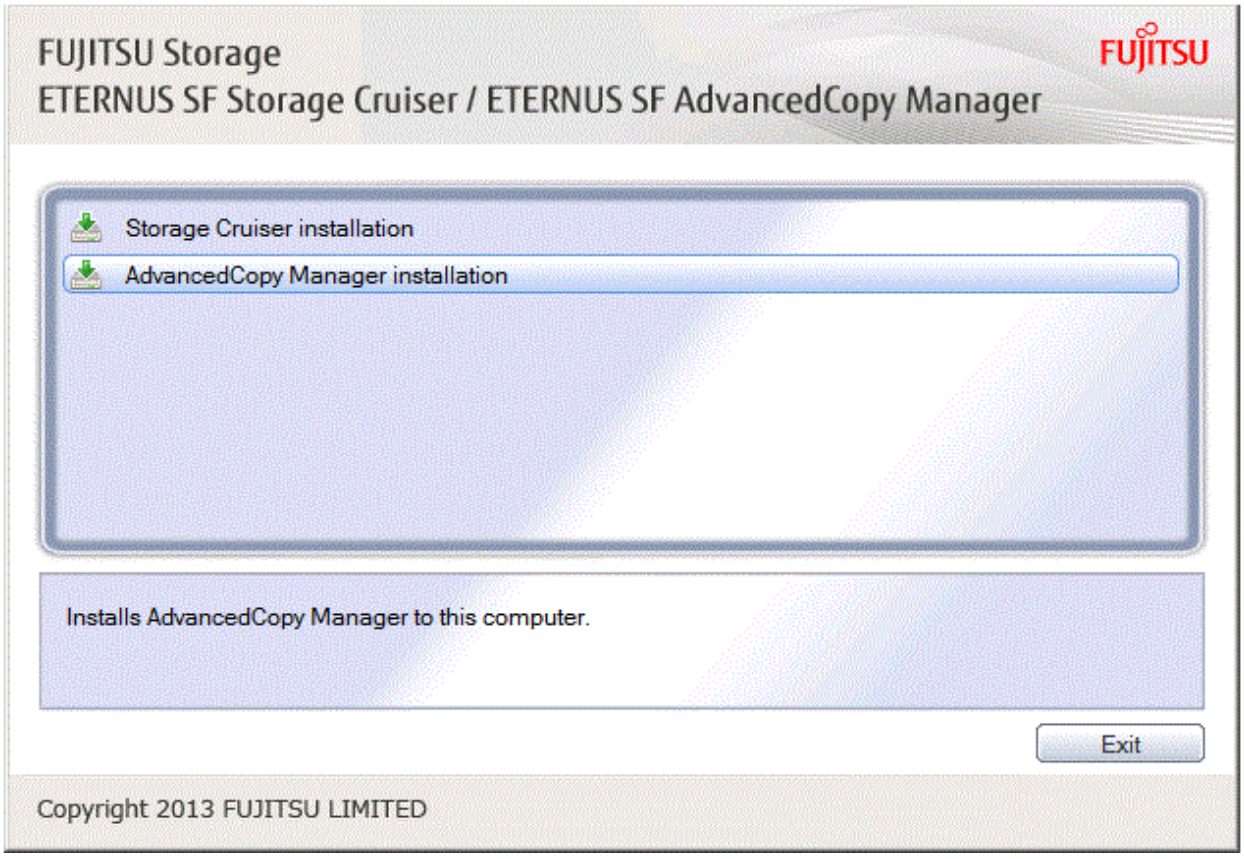
If multiple Managed Server transactions exist, use this procedure on each primary node for Managed Server transactions.

Note

Although the initial screen of the installer will be displayed during these steps, this will not be used in the Upgrade Installation. Be sure to click **Exit** and end the screen.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. The following window will be displayed.
   For the Upgrade Installation, this window is not used. Click **Exit**.



4. Start the following installation wizard corresponding to the architecture of AdvancedCopy Manager's agent checked in preparing for the upgrade:

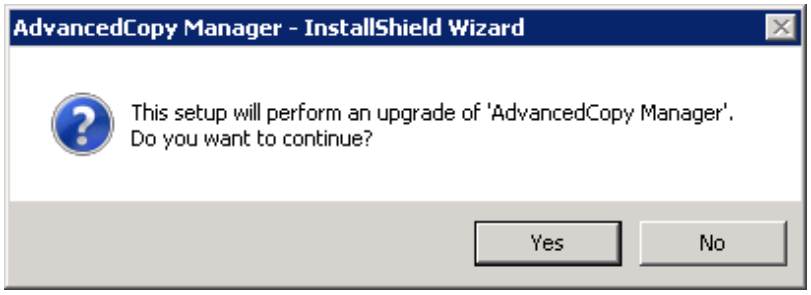
   - For 32-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\setup.exe

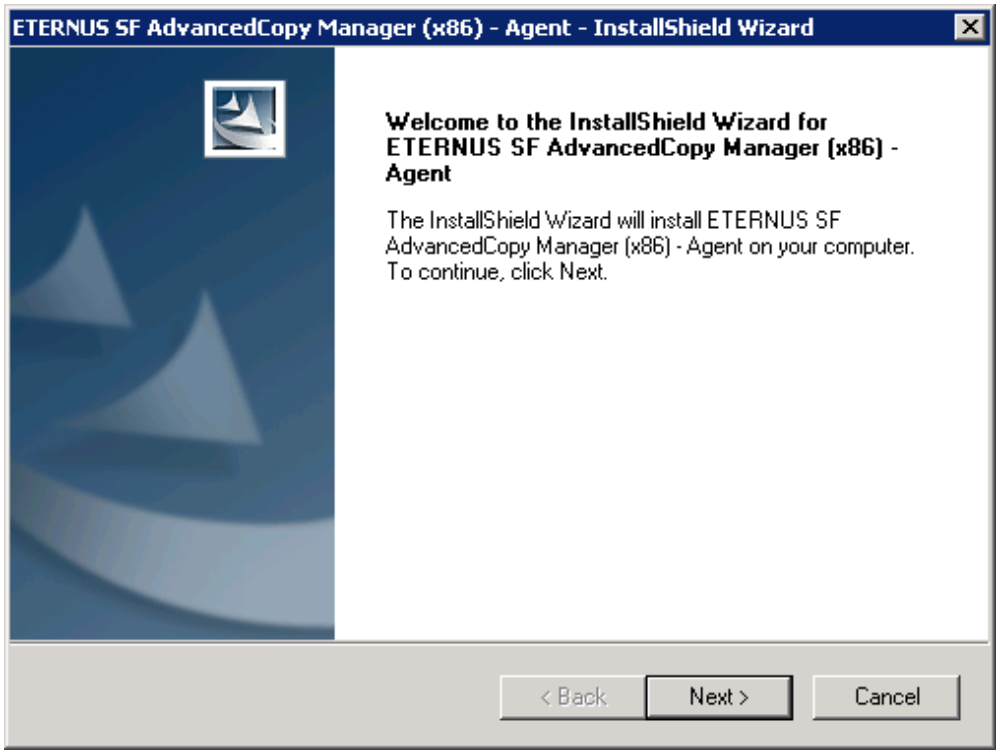
- For 64-bit version:

  dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\setup.exe

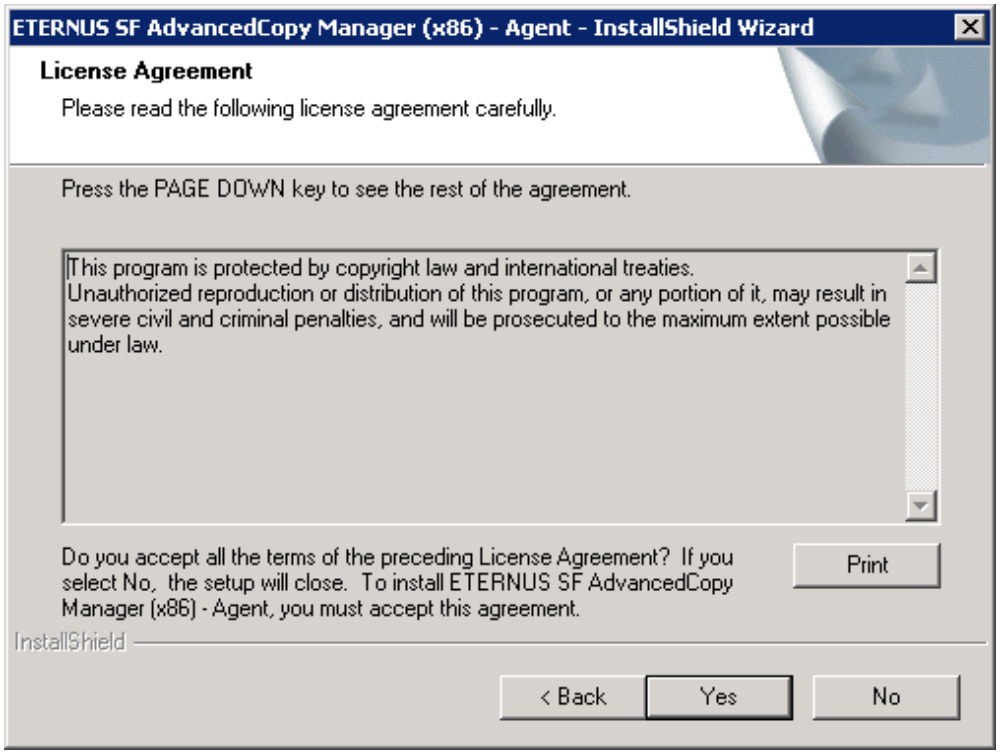
5. The following dialog box will be displayed. Click **Yes**.



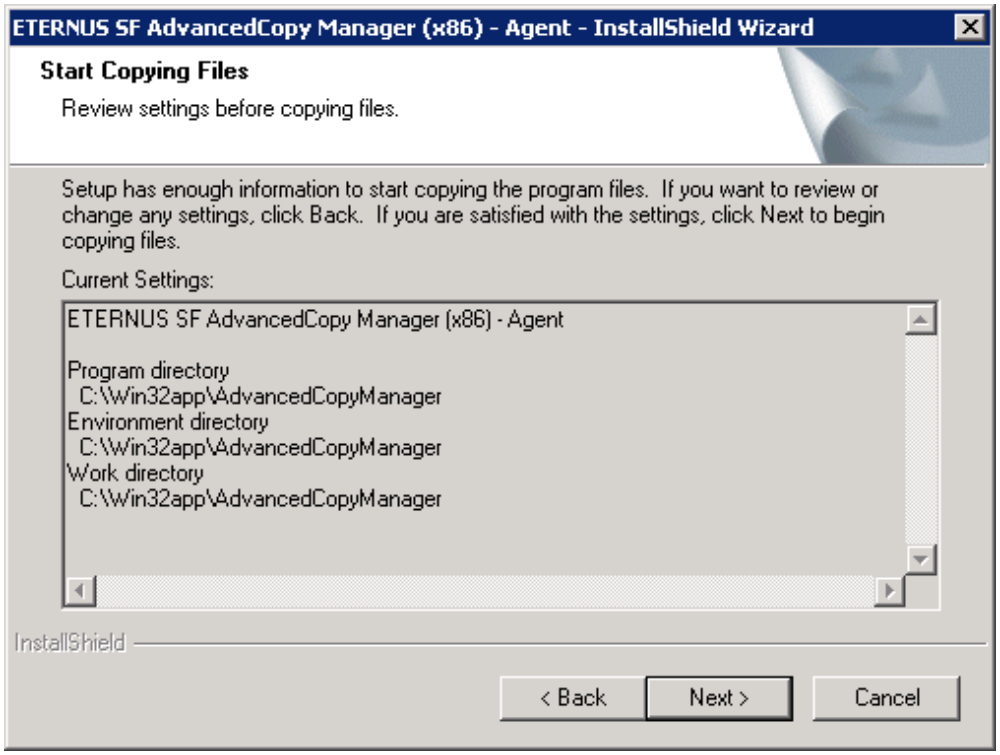
6. The following installation wizard page will be displayed. Click **Next**.



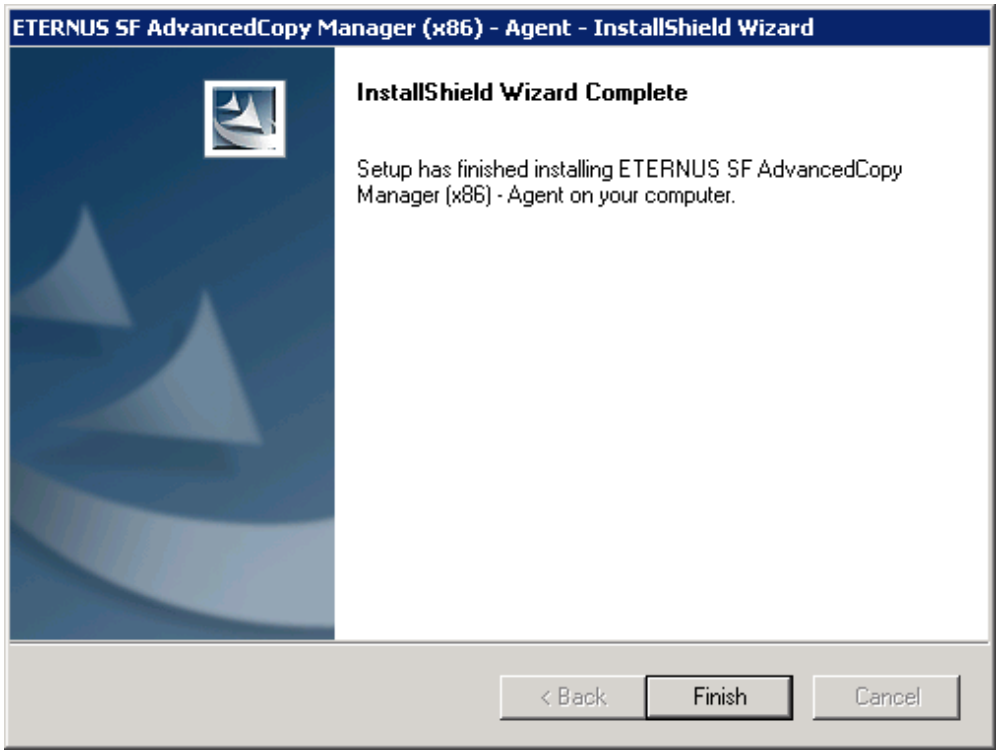
7. Read the terms and conditions of the **License Agreement** page.
   If the conditions are agreeable, click **Yes**.



8. Check the settings information in the **Start Copying Files** page, and then click **Next**.



9. Copying of the program is started.
   The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



10. Eject the DVD-ROM.

9.3.2.3 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed:

If multiple Managed Server transactions exist, use this procedure in each primary node for Managed Server transaction.

Edit the following environment setting files for Managed Server transaction on the shared disk for shared data:

- <*Drive of shared disk for shared data of Managed Server transaction*>:\etc\opt\swstorage\clsetup.ini
- <*Drive of shared disk for shared data of Managed Server transaction*>:\etc\opt\swstorage\etc\swstg.ini

Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

Note

Do not change anything other than the version information.

9.3.2.4 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "9.3.2.2 Performing Upgrade (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

9.3.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

There is no further action required after the upgrade for the secondary node.

9.3.2.6 Starting Managed Server Transactions

Perform the following procedure:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. On the primary node, start the Managed Server transactions.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

2. In all of the nodes in which the Storage Cruiser's agent has been installed, start the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to start the service.

3. Start the local transactions on all the nodes, perform the following procedure:

   a. Select **Control Panel** > **Administrative Tools** > **Services** to open the Windows Services screen.

   b. Select "AdvancedCopy Manager COM Service" and then click **Start**.

4. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

   ```
   programDir\ACM\bin\stgxfwcmmodsrv -n serverName
   ```

   - When the Management Server OS is Solaris or Linux:

   ```
   /opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
   ```

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

   In addition, if there is any node that is running local transactions, perform this procedure on the relevant node.

   Note

   For changing the server information, start a new window for command execution, and then perform the procedure on the window.

   See

   Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

5. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.

b. On the Main pane, check the target server checkbox.

c. On the Action pane, click **Reload Conf**. under **Server**.

Point

- Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 6-d of "9.3.2.1 Preparing for Upgrade" maybe deleted.
- When returning back to the state before installation of the upgrade, recover (restore) the system from the backup taken in step 6-e of "9.3.2.1 Preparing for Upgrade".

9.4 Upgrading AdvancedCopy Manager's Agent (for Solaris, RHEL5/ RHEL6, SUSE Linux Enterprise Server 11)

This section explains the upgrade procedures for the AdvancedCopy Manager's agent for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11.

9.4.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.4.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade installation, it will be possible to return the system to its state prior to the upgrade installation, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Execute the following command to stop the daemon of AdvancedCopy Manager's agent.

```
# /opt/swstorage/bin/stopacm
```

3. Implement backup of the previous version.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   Information

   The capacity required for performing the backup is the total value of the following:

   - Fixed configuration directory and Modifying configuration directory of "For Solaris environment" or "For Linux environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
   - "For Solaris, Linux, HP-UX or AIX environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

   The procedure is shown below:

   a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

b. Mount the DVD-ROM.

- Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

- Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

c. In the case of Red Hat Enterprise Linux 5 (for Intel64), execute file command and confirm the architecture of AdvancedCopy Manager Agent that has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
```

For example, when "ELF 32-bit" is included in the contents of the command as shown below, the 32-bit version of AdvancedCopy Manager Agent (RHEL5 x86 version Agent) has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
/opt/FJSVswstf/bin/stgenvdisp: ELF 32-bit LSB executable, Intel 80386, version 1 (SYSV), for
GNU/
Linux 2.6.9, dynamically linked (uses shared libs), for GNU/Linux 2.6.9, not stripped
```

When "ELF 32-bit" is not included in the contents of the command shown, the 64-bit version of AdvancedCopy Manager Agent (RHEL5 x64 version Agent) has been installed.

d. Implement backup of the previous version.
Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

[When using the RHEL5 x86 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x86/esfacmapreinst.sh backupDir
```

[When using the RHEL5 x64 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x64/esfacmapreinst.sh backupDir
```

[When using the RHEL6 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel6_x86/esfacmapreinst.sh backupDir
```

[When using the Solaris Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/Solaris/esfacmapreinst.sh backupDir
```

[When using the SUSE Linux Enterprise Server 11 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/sles11_x86/esfacmapreinst.sh backupDir
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

9.4.1.2 Performing Upgrade

The upgrade is performed as follows:
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
3. Mount the DVD-ROM.
   - Example for Solaris:

     ```
     # mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.
   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

     ```
     # mount /dev/cdrom dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.
4. Install the AdvancedCopy Manager's agent.

   Execute the following commands to install the AdvancedCopy Manager's agent.

   ```
   # cd environmentDir
   # ./swsetup
   ```

   The *environmentDir* is as follows:

OS Type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/sles11_x86

5. The installation information is displayed.

```
swsetup: Installer is preparing for installation...

+-------------------------------------------------------------+
|              ETERNUS SF AdvancedCopy Manager                |
|                          16.1                               |
|                  Copyright FUJITSU LIMITED 2013-2014        |
+-------------------------------------------------------------+


Welcome to Setup.
This program will install "AdvancedCopy Manager" on your system.


Agent setup...
```

6. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to upgrade? [y,q]:
```

7. If "y" was entered for step 6, the upgrade will continue.

   If the upgrade completes successfully, the following message is displayed.

```
swsetup: AdvancedCopy Manager was installed successfully.
```

8. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

Point

If the upgrade was terminated abnormally, refer to "11.2.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

9.4.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Execute the following command to start the daemon of AdvancedCopy Manager's agent.

```
# /opt/swstorage/bin/startacm
```

2. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

   - When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

3. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

b. On the Main pane, check the target server checkbox.

c. On the Action pane, click **Reload Conf**. under **Server**.

Point

Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 3-d of "9.4.1.1 Preparing for Upgrade" maybe deleted.

9.4.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

Note

If Cluster Unsetup is executed after upgrading from Version 15.0B to this version, the cluster resources and scripts created by the old version's commands starting with "stgclset" will not be deleted.

9.4.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade installation, it will be possible to return the system to its state prior to the upgrade installation, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Managed Server transactions

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Check that Managed Server transactions are stopped on the secondary node.

   If not stopped, stop them on the secondary node. Refer to the relevant cluster software manuals for information on stopping it.
   If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.
3. Stop the Managed Server transaction on the primary node.

   Stop the Managed Server transactions by referring to the relevant cluster software manuals.
   However, the shared disk for shared data of Managed Server transactions must be mounted.
   If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.
4. Execute the following command to stop the local transactions on all the nodes.

   ```
   # /opt/swstorage/bin/stopacm
   ```
5. Implement backup of the previous version with all of the nodes.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   - On the primary node and the secondary node, implement backup of the previous version.
   - In cases when there are multiple Managed Server transactions, in each primary node of the Managed Server transactions, switch the shared disk for the shared data of the Managed Server transactions online.

Information

The capacity required for performing the backup is the total value of the following:

- Fixed configuration directory and Modifying configuration directory of "For Solaris environment" or "For Linux environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
- "For Solaris, Linux, HP-UX or AIX environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

In the case of a primary node operating a Managed Server transaction, add the following to the capacity required to perform the backup:

- "Capacity of Shared Disk" in the *ETERNUS SF Cluster Environment Setup Guide*

The procedure is shown below:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.
Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

b. Mount the DVD-ROM.

- Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

- Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

c. In the case of Red Hat Enterprise Linux 5 (for Intel64), execute file command and confirm the architecture of AdvancedCopy Manager Agent that has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
```

For example, when "ELF 32-bit" is included in the contents of the command as shown below, the 32-bit version of AdvancedCopy Manager Agent (RHEL5 x86 version Agent) has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
/opt/FJSVswstf/bin/stgenvdisp: ELF 32-bit LSB executable, Intel 80386, version 1 (SYSV), for
GNU/
Linux 2.6.9, dynamically linked (uses shared libs), for GNU/Linux 2.6.9, not stripped
```

When "ELF 32-bit" is not included in the contents of the command shown, the 64-bit version of AdvancedCopy Manager Agent (RHEL5 x64 version Agent) has been installed.

d. Implement backup of the previous version.
Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

[When using the RHEL5 x86 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x86/esfacmapreinst.sh backupDir
```

[When using the RHEL5 x64 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x64/esfacmapreinst.sh backupDir
```

[When using the RHEL6 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel6_x86/esfacmapreinst.sh backupDir
```

[When using the Solaris Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/Solaris/esfacmapreinst.sh backupDir
```

[When using the SUSE Linux Enterprise Server 11 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/sles11_x86/esfacmapreinst.sh backupDir
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

e. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

f. Back up the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions.

On the primary node and the secondary node, back up the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions.

9.4.2.2 Performing Upgrade (Primary Node)

The upgrade is performed as follows:
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
3. Mount the DVD-ROM.
   - Example for Solaris:

     ```
     # mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

     ```
     # mount /dev/cdrom dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.
4. Install the AdvancedCopy Manager's agent.

   Execute the following commands to install the AdvancedCopy Manager's agent.

   ```
   # cd environmentDir
   # ./swsetup
   ```

   The *environmentDir* is as follows:

OS Type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	

OS Type	Directory
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/sles11_x86

5. The installation information is displayed.

```
swsetup: Installer is preparing for installation...

+-------------------------------------------------------------+
|              ETERNUS SF AdvancedCopy Manager                |
|                          16.1                               |
|                  Copyright FUJITSU LIMITED 2013-2014        |
+-------------------------------------------------------------+


Welcome to Setup.
This program will install "AdvancedCopy Manager" on your system.


Agent setup...
```

6. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to upgrade ? [y,q]:
```

7. If "y" was entered for step 6, the upgrade will continue.

   If the upgrade completes successfully, the following message is displayed.

```
swsetup: AdvancedCopy Manager was installed successfully.
```

8. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

Point

If the upgrade was terminated abnormally, refer to "11.2.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

9.4.2.3 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed:

1. When the AdvancedCopy Manager's agent upgrade has been completed for the primary node, perform the following procedure:

   If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

   Edit the following environment setting files for Managed Server transaction on the shared disk for shared data:

   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 15.0B to 16.1	Version=V15.0	Version=V16.1
Version 15.1 to 16.1	Version=V15.1	
Version 15.2 to 16.1	Version=V15.2	
Version 15.3 to 16.1	Version=V15.3	

Note

Do not change anything other than the version information.

2. For the ETERNUS SF Manager Version 15.0B installed environment, perform the following procedure.

   Edit the line starting with "System=" in /opt/FJSVswstf/cluster/swcluster.ini as follows:

```
System=GEN
```

Note

Do not change anything other than the line starting with "System=".

9.4.2.4 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "9.4.2.2 Performing Upgrade (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

9.4.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

For the ETERNUS SF Manager Version 15.0B installed environment, perform the following procedure.

Edit the line starting with "System=" in /opt/FJSVswstf/cluster/swcluster.ini as follows:

```
System=GEN
```

Note

Do not change anything other than the line starting with "System=".

9.4.2.6 Starting Managed Server Transactions

Perform the following procedure:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Start the Managed Server transactions on the primary node.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

2. Perform the following command to start the local transactions on all the nodes.

```
# /opt/swstorage/bin/startacm
```

3. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

     ```
     programDir\ACM\bin\stgxfwcmmodsrv -n serverName
     ```

   - When the Management Server OS is Solaris or Linux:

     ```
     /opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
     ```

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

   In addition, if there is any node that is running local transactions, perform this procedure on the relevant node.

   Note

   For changing the server information, start a new window for command execution, and then perform the procedure on the window.

   See

   Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

4. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 5-d of "9.4.2.1 Preparing for Upgrade" maybe deleted.

9.5 Upgrading AdvancedCopy Manager's agent (for Windows Server 2003, RHEL-AS4, RHEL-ES4, HP-UX, AIX)

This section describes the upgrade procedure for AdvancedCopy Manager's agent.

1. 9.5.1 Backing Up Repository Data
2. 9.5.2 Backing Up Management Information
3. 9.5.3 Releasing Backup and Restore in Exchange Server Database (for Windows Server 2003)
4. 9.5.4 Uninstalling Previous Version
5. 9.5.5 Installing This Version
6. 9.5.6 Restoring Repository Data

7. 9.5.7 Changing Server Information
8. 9.5.8 Restoring Management Information
9. 9.5.9 Setting Backup and Restore in Exchange Server Database (for Windows Server 2003)
10. 9.5.10 Updating Version Information

9.5.1 Backing Up Repository Data

Refer to the following sections to back up the repository data on the Management Server (only when the Managed Server is operated in a clustered system).

OS Type of Managed Server	Reference
Windows Server 2003	A.1 Backing Up Repository Data (for Windows)
RHEL-AS4, RHEL-ES4	A.2 Backing Up Repository Data (for Solaris, Linux)

9.5.2 Backing Up Management Information

Refer to the following sections to back up the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows Server 2003	A.3 Backing Up Management Information (for Windows)
RHEL-AS4, RHEL-ES4	A.4 Backing Up Management Information (for Solaris, Linux)
HP-UX, AIX	A.5 Backing Up Management Information (for HP-UX, AIX)

9.5.3 Releasing Backup and Restore in Exchange Server Database (for Windows Server 2003)

When the backup and restoration function of the Exchange Server database are used, release the setting by referring to the manual of the previous version.

"Backup and restore of Exchange Server database in Windows Server 2003" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

- Stopping backup copy process
- Delete the copy set of the hardware provider
- Delete source and replica volumes
- Cancel the hardware provider registration

9.5.4 Uninstalling Previous Version

Uninstall the previous version by referring to the relevant previous version manual.

For Non-clustered Systems

For the procedures below, be careful not to perform the procedure "Deletion of all Managed Servers".

- For Windows Server 2003:

  Perform "Uninstallation procedure of AdvancedCopy Manager's agent (for Windows)" in the *ETERNUS SF Installation and Setup Guide*.

- For RHEL-AS4, RHEL-ES4, HP-UX or AIX:

  Perform the procedures for "Stopping services/daemons" in the *ETERNUS SF Installation and Setup Guide*.

For Clustered Systems

If clustered systems are used for Managed Servers as Managed Server transactions, perform the unsetup of cluster settings before performing uninstallation.

Refer to "Deletion of Cluster Environment for Managed Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for the previous version for information on the unsetup of cluster settings.

9.5.5 Installing This Version

Install the AdvancedCopy Manager's agent of this version, and setup the operating environment.

About Installation

- For non-clustered systems:

  Refer to "Installation of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to install the AdvancedCopy Manager's agent.

- For clustered systems:

  Refer to "Installation of ETERNUS SF Agent" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to install the AdvancedCopy Manager's agent.

Setting Up Operating Environment

- For non-clustered systems:

  Refer to "Setup of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

  Afterwards, start the AdvancedCopy Manager's agent on the Managed Server. Refer to "Starting and Stopping Daemons" or "Starting and Stopping Services" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Managed Server for the start procedure.

- For clustered systems:

  Refer to "Customization of Managed Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

9.5.6 Restoring Repository Data

Restore the backed up repository data on the Management Server (only when the Managed Server is operated in a cluster configuration).

Execute the stgrepocnv command to restore the repository data and then convert it for use with the current version of the repository.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgrepocnv -d backupDir
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgrepocnv -d backupDir
```

Note

For restoration of the repository data, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgrepocnv (Repository Data Migration Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

9.5.7 Changing Server Information

To ensure data consistency, execute the Web Console or stgxfwcmmodsrv command to change the server information. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

9.5.8 Restoring Management Information

Refer to the following sections to restore the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows Server 2003	A.11 Restoring Management Information (for Windows)
RHEL-AS4, RHEL-ES4	A.12 Restoring Management Information (for Solaris, Linux)
HP-UX, AIX	A.13 Restoring Management Information (for HP-UX, AIX)

9.5.9 Setting Backup and Restore in Exchange Server Database (for Windows Server 2003)

Reconfigure the backup and restoration functions of the Exchange Server database for which the setting has been released by referring to the manual of this version.

"Backup and Restore of Exchange Server Database in Windows Server 2003" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

- Registration of provider
- Configuring the source volume and replica volume
- Registering the hardware provider copy set
- Registering database information

9.5.10 Updating Version Information

If not using clustered systems, and moreover, if the restoration of repository data has already been performed with the restoration of the replication management list, execute the Web Console or stgxfwcmmodsrv command to update the version information for the Managed Server. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Finally, perform the following operations with the Web Console to reload the server information.

1. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.
2. On the Main pane, check the target server checkbox.
3. On the Action pane, click **Reload Conf**. under **Server**.

Note

For updating the version information, start a new window for command execution, and then perform the procedure on the window.

See

- Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.
- Refer to "Reload Server Configuration Information" in the *ETERNUS SF Web Console Guide* for information on reloading the server information using Web Console.

9.6 Upgrading AdvancedCopy Manager Copy Control Module (for Windows)

This section describes the upgrade procedures for the AdvancedCopy Manager Copy Control Module for Windows.

If only AdvancedCopy Manager CCM is installed and used, perform the upgrade mentioned in this section.

If ETERNUS SF Manager is installed and AdvancedCopy Manager CCM is used, refer to "9.1 Upgrading AdvancedCopy Manager's Manager (for Windows)" to perform the upgrade.

9.6.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.6.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

9.6.1.1.1 Backing Up Environment Setting Files

With the following procedures, back up the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module.

Note that the capacity required for performing this backup is 100MB.

Point

It is recommended to backup the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Implement backup of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfccmpreinst.bat backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

   Point

   - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
   - The number of characters in a directory name must be up to 220.

9.6.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

- For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

  "Operating Environment of ETERNUS SF Manager"

- For installing the AdvancedCopy Manager Copy Control Module:

  "Operating Environment of AdvancedCopy Manager CCM"

Required Disk Space for Previous Version

The space required to install previous version of the ETERNUS SF Manager or the AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

- When using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program

  "Operating environment of the ETERNUS SF Manager"

- When installing and using the AdvancedCopy Manager Copy Control Module Program

  "Operating environment of the AdvancedCopy Manager CCM"

9.6.1.2 Performing Upgrade (for Windows)

Refer to "C.5 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.6.1.3 Tasks to Be Performed After Upgrade".

9.6.1.3 Tasks to Be Performed After Upgrade

When the AdvancedCopy Manager Copy Control Module upgrade has been completed, the tasks below need to be performed.

9.6.1.3.1 Restoring Environment Setting Files

With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module. Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Implement restoration of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

   ```
   dvdromDrive:\Manager_windows\vuptools\esfccmpostinst.bat backupDir
   ```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
- The number of characters in a directory name must be up to 220.

4. Eject the DVD-ROM.

9.6.1.3.2 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 3 of "9.6.1.1.1 Backing Up Environment Setting Files" maybe deleted.

9.6.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

The following values are used in the description:

Value	Description
$INS_DIR	"Program Directory" specified at the AdvancedCopy Manager CCM installation.

9.6.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Check that the CCM Server transactions are stopped on the secondary node.

   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of AdvancedCopy Manager Copy Control Module.
3. Stop the CCM Server transactions on the primary node.

   Use the Failover Cluster Manager to stop the transactions of AdvancedCopy Manager Copy Control Module.
   However, the shared disk for shared data of AdvancedCopy Manager Copy Control Module must be online.
4. On the primary node, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager Copy Control Module.
   Note that the capacity required for performing this backup is 100MB.

   a. Log on to the server using Administrator privileges.
      If already logged on as the Administrator privileges, this step is unnecessary.

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

c. Implement backup of the previous version.
Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
dvdromDrive:\Manager_windows\vuptools\esfccmpreinst_cluster.bat backupDir -primary
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
- The number of characters in a directory name must be up to 220.

d. Eject the DVD-ROM.

5. Checking for available disk space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

- For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

  "Operating Environment of ETERNUS SF Manager"

- For installing the AdvancedCopy Manager Copy Control Module:

  "Operating Environment of AdvancedCopy Manager CCM"

Required Disk Space for Previous Version

The space required to install previous version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

- When using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program
  "Operating environment of the ETERNUS SF Manage"
- When installing and using the AdvancedCopy Manager Copy Control Module Program
  "Operating environment of the AdvancedCopy Manager CCM"

6. On the secondary node, perform a backup of the operating environment of the previous version of theAdvancedCopy Manager Copy Control Module.
The capacity required for performing this backup is 10MB.

a. Log on to the server using Administrator privileges.
If already logged on as the Administrator privileges, this step is unnecessary.

b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guid*e for this version for information on the DVD-ROM structure and detailed contents.

c. Implement backup of the previous version.
Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
dvdromDrive:\Manager_windows\vuptools\esfccmpreinst_cluster.bat backupDir -secondary
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
- The number of characters in a directory name must be up to 220.

d. Eject the DVD-ROM.

7. Checking for available disk space

   Ensure that there is enough available disk space on the server where the upgrade will be performed.

   The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

   Required Disk Space for New Version

   The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

   - For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

     "Operating Environment of ETERNUS SF Manager"

   - For installing the AdvancedCopy Manager Copy Control Module:

     "Operating Environment of AdvancedCopy Manager CCM"

   Required Disk Space for Previous Version

   The space required to install previous version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

   - For using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program

     "Operating environment of the ETERNUS SF Manager"

   - For installing and using the AdvancedCopy Manager Copy Control Module Program

     "Operating environment of the AdvancedCopy Manager CCM"

8. Performing the cluster unsetup

See

Refer to "Deletion of Cluster Environments for CCM Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for the previous version for information.

9.6.2.2 Performing Upgrade (Primary Node)

Refer to "C.5 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Windows)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.6.2.3 Performing Upgrade (Secondary Node)".

9.6.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "9.6.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing CCM Server Transactions" and "Customization for CCM Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for this version.

9.6.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the CCM Server transactions
   Use the Failover Cluster Manager to stop the transactions to which the AdvancedCopy Manager CCM.
   However, the shared disk for shared data of the AdvancedCopy Manager CCM must be online.
2. Implement restoration of the previous version. Note that if step a and step b have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module.
   a. Log on to the server using Administrator privileges.
   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   c. Implement restoration of the previous version.
      Execute the following batch file. Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfccmpostinst_cluster.bat backupDir -primary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

      #### Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
      - The number of characters in a directory name must be up to 220.

   d. Eject the DVD-ROM.

9.6.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check that the CCM Server transactions are stopped.
   If not stopped, use the Failover Cluster Manager to stop the transactions to which the AdvancedCopy Manager CCM belongs.

2. Implement restoration of the previous version. Note that if step a and step b have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module.

   a. Log on to the server using Administrator privileges.

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Implement restoration of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

      ```
      dvdromDrive:\Manager_windows\vuptools\esfccmpostinst_cluster.bat backupDir -secondary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

      Point

      - Spaces and the characters " | : * ? / . < > , % & ^ = ! ; ( ) are not supported for directory name.
      - The number of characters in a directory name must be up to 220.

   d. Eject the DVD-ROM.

9.6.2.6 Start CCM Server Transactions

Start the CCM Server transactions.

Use the Failover Cluster Manager on the primary node to start the transactions of AdvancedCopy Manager CCM.

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 4-c and step 6-c of "9.6.2.1 Preparing for Upgrade" maybe deleted.

9.7 Upgrading AdvancedCopy Manager Copy Control Module (for Solaris, Linux)

This section describes the upgrade procedures for the AdvancedCopy Manager Copy Control Module for Solaris and Linux.

If only AdvancedCopy Manager CCM is installed and used, perform the procedure mentioned in this section.

If ETERNUS SF Manager is installed and AdvancedCopy Manager CCM is used, refer to "9.2 Upgrading AdvancedCopy Manager's Manager (for Solaris, Linux)" to perform the upgrade.

9.7.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

9.7.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

9.7.1.1.1 Backing Up Environment Setting Files

With the following proceduress, backup the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module.
Note that the capacity required for performing this backup is 100MB.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

4. Implement a backup of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfccmpreinst.sh backupDir
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the command again.

   Point

   - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
   - The number of characters in a directory name must be up to 220.

9.7.1.1.2 Checking for Available Disk Space

Ensure that there is enough available disk space on the server where the upgrade will be performed.
The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

- For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

  "Operating Environment of ETERNUS SF Manager"

- For installing the AdvancedCopy Manager Copy Control Module:

  "Operating Environment of AdvancedCopy Manager CCM"

Required Disk Space for Previous Version

The space required to install previous version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

- When using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program

  "Operating environment of the ETERNUS SF Manager"

- When installing and using the AdvancedCopy Manager Copy Control Module Program

  "Operating environment of the AdvancedCopy Manager CCM"

9.7.1.2 Performing Upgrade (for Solaris, Linux)

Refer to "C.6 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.7.1.3 Tasks to Be Performed After Upgrade".

9.7.1.3 Tasks to Be Performed After Upgrade

When the AdvancedCopy Manager Copy Control Module upgrade has been completed, the tasks below need to be performed.

9.7.1.3.1 Restoring Environment Setting Files

With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module. Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

4. Implement restoration of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfccmpostinst.sh backupDir
   ```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the command again.

   Point

   - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
   - The number of characters in a directory name must be up to 220.

5. Unmount the DVD-ROM.
   Example:

   ```
   # umount  /mnt/dvd
   ```

6. Eject the DVD-ROM.

9.7.1.3.2 Deleting Backup Data

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 4 of "9.7.1.1.1 Backing Up Environment Setting Files" maybe deleted.

9.7.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

9.7.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended to back up the system before starting the upgrade. If a failure occurs during the upgrade, you cannot restore the environment to the pre-installation status (rollback).

When returning back to the state before installation of the upgrade, recover (restore) the system from the backup.

1. Check that the CCM Server transactions are stopped on the secondary node.

   If not stopped, stop the transaction of AdvancedCopy Manager Copy Control Module.
   Refer to the relevant cluster software manuals for information on stopping it.

2. Stop the CCM Server transaction on the primary node.

   Refer to the relevant cluster software manuals for information on stopping it.

   The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be mounted.

3. On the primary node, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager Copy Control Module.
   Note that the capacity required for performing this backup is 100MB.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
   Example:

   ```
   # mount /mnt/dvd
   ```

   d. Implement backup of the previous version.
   Execute the following command. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   ```
   # /mnt/dvd/Manager_unix/vuptools/esfccmpreinst_cluster.sh backupDir -primary
   ```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

   Point

   - Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
   - The number of characters in a directory name must be up to 220.

e. Change to a directory other than the DVD-ROM.
   Example:

```
# cd
```

f. Unmount the DVD-ROM.
   Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

4. Checking for available disk space

   Ensure that there is enough available disk space on the server where the upgrade will be performed.
   The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

   Required Disk Space for New Version

   The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

   - For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

     "Operating Environment of ETERNUS SF Manager"

   - For installing the AdvancedCopy Manager Copy Control Module:

     "Operating Environment of AdvancedCopy Manager CCM"

   Required Disk Space for Previous Version

   The space required to install previous version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

   - When using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program
     "Operating environment of the ETERNUS SF Manager"

   - When installing and using the AdvancedCopy Manager Copy Control Module Program
     "Operating environment of the AdvancedCopy Manager CCM"

5. On the secondary node, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager Copy Control Module.
   The capacity required for performing this backup is 10MB.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

```
# mount /mnt/dvd
```

   d. Implement backup of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

```
# /mnt/dvd/Manager_unix/vuptools/esfccmpostinst_cluster.sh backupDir -secondary
```

      When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
- The number of characters in a directory name must be up to 220.

e. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

f. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

6. Checking for available disk space

Ensure that there is enough available disk space on the server where the upgrade will be performed.

The required disk space for the upgrade is calculated as the "Required Disk Space for New Version" minus the "Required Disk Space for Previous Version".

Required Disk Space for New Version

The space required to install this version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for this version for information on the required disk space.

- For using the AdvancedCopy Manager Copy Control Module in ETERNUS SF Manager:

  "Operating Environment of ETERNUS SF Manager"

- For installing the AdvancedCopy Manager Copy Control Module:

  "Operating Environment of AdvancedCopy Manager CCM"

Required Disk Space for Previous Version

The space required to install previous version of the ETERNUS SF Manager or AdvancedCopy Manager Copy Control Module. Refer to the following locations in the *ETERNUS SF Installation and Setup Guide* for the relevant previous version for information on the required disk space.

- When using the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager Program
  "Operating environment of the ETERNUS SF Manager"
- When installing and using the AdvancedCopy Manager Copy Control Module Program
  "Operating environment of the AdvancedCopy Manager CCM"

7. Performing the cluster unsetup

See

Refer to "Deletion of Cluster Environments for CCM Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for the previous version for information.

9.7.2.2 Performing Upgrade (Primary Node)

Refer to "C.6 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Solaris,Linux)" to perform the upgrade.

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from "9.7.2.3 Performing Upgrade (Secondary Node)".

9.7.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "9.7.2.2 Performing Upgrade (Primary Node)".

Information

When the Upgrade Installation terminates in an error, perform recovery by following the steps outlined below.

1. Install the target version.
2. If the installation is successfully completed, continue from the following tasks.

After upgrading on the primary node and the secondary node, perform the cluster setup. Refer to "Preparations for Customizing CCM Server Transactions" and "Customization for CCM Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for this version.

9.7.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.

1. Stop the CCM Server transactions.
   Refer to the relevant cluster software manuals for information on stopping it.
   However, the shared disk for shared data of the AdvancedCopy Manager CCM must be mounted.
2. Implement restoration of the previous version. Note that if step a through step c have already been performed, it is unnecessary to perform these again.
   With the following procedures, restore the operation environment of the previous version of the AdvancedCopy Manager Copy Control Module.
   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
   c. Mount the DVD-ROM (if automount is not enabled).
      Example:

      ```
      # mount /mnt/dvd
      ```

   d. Implement restoration of the previous version.
      Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

      ```
      # /mnt/dvd/Manager_unix/vuptools/esfccmpostinst_cluster.sh backupDir -primary
      ```

      When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again.

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
- The number of characters in a directory name must be up to 220.

e. Change to a directory other than the DVD-ROM.
Example:

```
# cd
```

f. Unmount the DVD-ROM.
Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

9.7.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. Check that the CCM Server transactions are stopped.
If not stopped, stop the CCM Server transactions. Refer to the relevant cluster software manuals for information on stopping it.

2. Implement restoration of the previous version. Note that if step a through step c have already been performed, it is unnecessary to perform these again.
With the following procedures, restore the operation environment of the previous version of theAdvancedCopy Manager Copy Control Module.

   a. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).

   b. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   c. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

   d. Implement restoration of the previous version.
   Execute the following batch file. For *backupDir*, specify the directory in which the backup data is stored with an absolute path.

```
# /mnt/dvd/Manager_unix/vuptools/esfccmpostinst_cluster.sh backuDir -secondary
```

   When the restore fails, after confirming the output error message and removing the cause of the failure, execute the batch again

Point

- Spaces and the characters " / ` * ? \ $ [ ] , % ! { } are not supported for directory name.
- The number of characters in a directory name must be up to 220.

   e. Change to a directory other than the DVD-ROM.
   Example:

```
# cd
```

f. Unmount the DVD-ROM.
   Example:

```
# umount  /mnt/dvd
```

g. Eject the DVD-ROM.

9.7.2.6 Start CCM Server Transactions

Start the transactions of AdvancedCopy Manager Copy Control Module.

Refer to the relevant cluster software manuals for information on stopping it.

Point

Once normal operation has been confirmed after the upgrade, the backup data in the backup destination directory created in step 3-d and step 5-d of "9.7.2.1 Preparing for Upgrade" maybe deleted.

9.7.3 Resuming Operation

When the tasks described above have been performed, the upgrade and setup of AdvancedCopy Manager Copy Control Module is complete. Restart the AdvancedCopy Manager Copy Control Module operation.

Chapter 10 Upgrading AdvancedCopy Manager Version 16.x

This chapter describes the upgrade procedure for AdvancedCopy Manager Version 16.x.

To upgrade AdvancedCopy Manager's manager to this version, install the ETERNUS SF Manager.

If performing an upgrade to a system environment using Agent-based operation model, perform the upgrade in the following sequence.

1. AdvancedCopy Manager's manager
2. AdvancedCopy Manager's agent

For the upgrade, there is a method where the upgrade is performed in an interactive format and a method where the upgrade is performed using a command for silent installation without the need of responses (silent installation procedure).
The operating environment that supports the upgrade with the silent installation procedure is as follows.

- Windows Server 2008 later
- Solaris
- Red Hat Enterprise Linux 5, Red Hat Enterprise Linux 6, SUSE Linux Enterprise Server 11

Point

- In the version level of the AdvancedCopy Manager, there are conditions for the combination of manager and agent. Please upgrade your version, in order to fulfill the conditions of "Combining ETERNUS SF Agent and ETERNUS SF Manager" of the *ETERNUS SF Installation and Setup Guide*.
- If Storage Cruiser and AdvancedCopy Manager Copy Control Module are both installed on the same server, when upgrading, both Storage Cruiser and AdvancedCopy Manager Copy Control Module will be upgraded at the same time. Therefore, perform backups of the previous versions before starting the upgrade.

10.1 Upgrading AdvancedCopy Manager's Manager (for Windows)

This section describes the upgrade procedure for the AdvancedCopy Manager's manager for Windows.

10.1.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.1.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity

required for the installation.
Output message (when the drive letter of the destination of the installation is C):

```
The available capacity of the specified disk (C:) is insufficient. Please execute it again after
increasing the disk area.
```

3. Execute the following batch to stop the ETERNUS SF Manager services.

```
$INS_DIR\Common\bin\Stop_ESFservice.bat
```

$INS_DIR means "Program Directory" specified at the ETERNUS SF Manager installation.

4. When using the ETERNUS VASA Provider, stop the Provider function.
With the Windows services screen, stop the ETERNUS Information Provider.

10.1.1.2 Performing Upgrade (for Windows)

Refer to "C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)" to perform the upgrade.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

10.1.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Feature**s page.
   If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

2. Execute the following batch to start the ETERNUS SF Manager services.

```
$INS_DIR\Common\bin\Start_ESFservice.bat
```

$INS_DIR means "Program Directory" specified at the ETERNUS SF Manager installation.

Subsequently, go to "10.1.3 Resuming Operation"

10.1.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.1.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)

- Shared disk for shared data of Management Server transactions
- Shared disk for shared data of Managed Server transactions

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

3. Check that the ETERNUS SF Manager services are stopped on the secondary node.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of ETERNUS SF Manager.
4. When using the ETERNUS VASA Provider, on the secondary node, confirm that the ETERNUS VASA Provider service has been stopped.
   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of the ETERNUS VASA Provider.
5. Ensure that there is enough available disk space (400MB) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

6. On the primary node, stop the ETERNUS SF Manager services.
   Use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.
   However, the shared disk for shared data of ETERNUS SF Manager must be online.
7. When using the ETERNUS VASA Provider, stop the ETERNUS VASA Provider service on the primary node.
   Use the Failover Cluster Manager to stop the transactions of the ETERNUS VASA Provider.
   However, the shared disk for shared data of the ETERNUS Information Provider must be online.
8. If Managed Server transactions coexist in the clustered system, perform the following procedure:

   a. On the secondary node for a target transaction, check that the Managed Server transactions are stopped.

      If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.

   b. On the primary node for a target transaction, stop the Managed Server transaction.

      Use the Failover Cluster Manager to stop Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be online.
      If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

9. Stop the local transactions on all the nodes, perform the following procedure:

   With the Windows services screen, stop the AdvancedCopy Manager COM Service.

10.1.2.2 Performing Upgrade (Primary Node)

Performing the upgrade is as follows.

1. Save the environment setting files for AdvancedCopy Manager Copy Control Module (sys.properties).
   The environment setting files for AdvancedCopy Manager Copy Control Module :

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

   Make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The evacuated file will be used in tasks after the upgrade.

2. Recover the original environment configurations file (sys.properties) of the AdvancedCopy Manager CCM.
   Overwrite the original environment configurations file onto the file of the copying destination.

Original Environment Configurations File	Copying Destination File
$INS_DIR\CCM\noncluster\sys\sys.properties	$INS_DIR\CCM\sys\sys.properties

3. Evacuate the general script for the AdvancedCopy Manager CCM.
   In corresponding previous version of "Preparing General Scripts for AdvancedCopy Manager CCM" corresponding to each OS and nodes in the ETERNUS SF Cluster Environment Setup Guide, in cases when the general scripts have been stored under the bin directory of the program directory of the AdvancedCopy Manager CCM, make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The evacuated file will be used in tasks after the upgrade.

4. Refer to "C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)" to perform the upgrade.

5. The shared disk for shared data of ETERNUS SF Manager must be offline.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

10.1.2.3 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.
The upgrade procedure is the same as that for the primary node. Refer to "10.1.2.2 Performing Upgrade (Primary Node)".

10.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.
The shared disk for shared data of ETERNUS SF Manager must be online.

In the version level of this ETERNUS SF Manager, Symfoware is not used.
Follow the procedures listed below to uninstall the Symfoware Server.

1. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

2. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Features** page.
   If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

3. Restore the environment setting files for AdvancedCopy Manager Copy Control Module (sys.properties).
   Overwrite the environment configurations file (sys.properties) evacuated during "10.1.2.2 Performing Upgrade (Primary Node)" onto the following file after upgrade installation.
   The environment setting files for AdvancedCopy Manager Copy Control Module :

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

4. Restore the saved general scripts for the AdvancedCopy Manager CCM.
   When general scripts are backed up in "10.1.2.2 Performing Upgrade (Primary Node)", restore the backed-up general scripts to

the directory stored in "Preparing General Scripts for AdvancedCopy Manager CCM", which corresponds to respective operating systems and nodes described in the *ETERNUS SF Cluster Environment Setup Guide* of the appropriate earlier version.

5. Edit the environment setting files for AdvancedCopy Manager on the shared disk for ETERNUS SF Manager shared data.

   Edit the following files:

   - <*Drive of shared disk for shared data of ETERNUS SF Manager*>:\etc\opt\swstorage\clsetup.ini
   - <*Drive of shared disk for shared data of ETERNUS SF Manager* >:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	Before
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

6. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for Managed Server transactions shared data.

   On the primary node for target transactions, edit the following files:

   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\clsetup.ini
   - <*Drive of shared disk for shared data of Managed Server transactions*>:\etc\opt\swstorage\etc\swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	Before
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

7. The resource is deleted from the transactions belonging to the ETERNUS SF Manager.
   Making use of failover cluster manager, the resources stated below are deleted from the transactions belonging to ETERNUS SF Manager. No measures are necessary where the resources do not exist.

   - Name of Resources
     - AdvancedCopy GUI Service
     - SymfoWARE RDB RDBSWSTF

   When the operation divides shared disk for shared data use and the shared disk for repository use, the resources of the shared disk for repository use are deleted.

10.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Uninstall Symfoware from the **Adding and Deleting Programs** page or the **Programs and Feature**s page.
      If Symfoware Server and Symfoware Client are both installed, uninstall the Symfoware Client first.

2. Check that the ETERNUS SF Manager services are stopped.
   If not stopped, use the Failover Cluster Manager to stop the transactions of ETERNUS SF Manager.

3. Restore the environment setting files (sys.properties) for AdvancedCopy Manager Copy Control Module.
   Overwrite the environment configurations file (sys.properties) evacuated during "10.1.2.3 Performing Upgrade (Secondary Node)" onto the following file after upgrade installation.
   Environment setting files for AdvancedCopy Manager Copy Control Module:

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

4. Restore the saved general scripts for the AdvancedCopy Manager CCM.
   When general scripts are backed up in "10.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)", restore the backed-up general scripts to the directory stored in "Preparing General Scripts for AdvancedCopy Manager CCM", which corresponds to respective operating systems and nodes described in the *ETERNUS SF Cluster Environment Setup Guide* of the appropriate earlier version.

10.1.2.6 Starting ETERNUS SF Manager

After performing "10.1.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and "10.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node)", perform the following procedure:

1. Check that ETERNUS SF Manager services are started on the primary node.

   If not started, use the Failover Cluster Manager to start the transactions of ETERNUS SF Manager.

2. When using the ETERNUS VASA Provider, start the ETERNUS VASA Provider service on the primary node.
   Use the Failover Cluster Manager to start the transactions of the ETERNUS VASA Provider.

3. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions in the primary node for a target transaction.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, apply this procedure for each Managed Server transaction.

4. Start the local transactions on all the nodes:

   With the Windows services screen, start the AdvancedCopy Manager COM Service.

Subsequently, go to "10.1.3 Resuming Operation".

10.1.3 Resuming Operation

With the above, the upgrade is completed. Restart the AdvancedCopy Manager operation.

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

10.2 Upgrading AdvancedCopy Manager's Manager (for Solaris, Linux)

This section describes the upgrade procedure for the AdvancedCopy Manager's manager for Solaris and Linux.

10.2.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.2.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```

3. Execute the following command to stop the daemon of ETERNUS SF Manager:

   ```
   # /opt/FJSVesfcm/bin/stopesf.sh
   ```

10.2.1.2 Performing Upgrade

Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux)" to perform the upgrade.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.2.1.3 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed.

1. The shared disk for shared data of ETERNUS SF Manager must be offline.
2. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Start the uninstaller of Symfoware to delete the Symfoware package.

      ```
      # /opt/symfoware/setup/symfo_remove
      ```

   c. Confirmation message to uninstall Symfoware will be displayed.
      To perform the uninstallation, enter "y". To cancel the process, enter "q".
      When ""y" is entered, a message allowing to select the function to uninstall is shown. Please input ""all" or "number to

delete" to select the function to uninstall.
A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

d. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

3. The shared disk for shared data of ETERNUS SF Manager must be offline.
4. Perform the kernel parameter tuning.

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

5. As required, start the daemon of ETERNUS SF Manager.
   If the operating system is not restarted after having performed kernel parameter tuning in step 4, execute the following command to start the ETERNUS SF Manager daemon.

```
# /opt/FJSVesfcm/bin/startesf.sh
```

Subsequently, go to "10.2.3 Resuming Operation".

10.2.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.2.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's manager, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Management Server transactions
- Shared disk for shared data of Managed Server transactions

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```

3. On the secondary node, check whether the cluster application (transaction) to which ETERNUS SF Manager belongs has stopped. If not stopped, refer to the relevant cluster software manuals for information on stopping it.
4. Ensure that there is enough available disk space (650MB in a Solaris environment, 200MB in a Linux environment) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```

5. On the primary node, stop the cluster application (transaction) to which ETERNUS SF Manager belongs. Refer to the relevant cluster software manuals for information on stopping it
   However, the shared disk for shared data of ETERNUS SF Manager must be mounted.
6. If Managed Server transactions coexist in a clustered system, perform the following.
   a. On the secondary node for the target transactions, check that the Managed Server transactions have stopped.

      If not stopped, stop them on the secondary node.
      If multiple Managed Server transactions exist, perform this procedure for each secondary node for Managed Server transactions.

      Refer to the relevant cluster software manuals for information on stopping the Managed Server transactions.

   b. On the primary node for the target transactions, stop the Managed Server transactions.

      Refer to the relevant cluster software manuals to stop the Managed Server transactions.
      However, the shared disk for shared data of Managed Server transactions must be mounted.
      If multiple Managed Server transactions exist, perform this procedure for each primary node for Managed Server transactions.

7. Stop the local transactions on all the nodes.

   Stop the communication daemon for the local transactions of the AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on stopping the daemon.

8. On the primary node and the secondary node, save the start and stop script of the Management Server transaction.
9. In cases when Managed Server transactions coexist in the cluster system, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.
   - On the primary node and the secondary node, move the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions to a backup location.

10.2.2.2 Performing Upgrade (Primary Node)

1. Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux)" to perform the upgrade.
2. Unmount the shared disk for shared data of ETERNUS SF Manager.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.2.2.3 Performing Upgrade (Secondary Node)

1. Mount the shared disk for shared data of ETERNUS SF Manager.
2. Refer to "C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux)" to perform the upgrade.
3. Unmount the shared disk for shared data of ETERNUS SF Manager.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.
The shared disk for shared data of ETERNUS SF Manager must be mounted.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Start the uninstaller of Symfoware to delete the Symfoware package.

   ```
   # /opt/symfoware/setup/symfo_remove
   ```

   c. Confirmation message to uninstall Symfoware will be displayed.
   To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

   ```
   Start checking the installation environment.
   Check of installation environment is ended.

   WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
   Edition".
   ```

```
Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

d. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

2. Edit the environment setting files for ETERNUS SF Manager.
   Edit the following files:

   - <*Mount point of shared disk for shared data of ETERNUS SF Manager*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of ETERNUS SF Manager*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

3. If Managed Server transactions coexist in the clustered system, edit the environment setting files for AdvancedCopy Manager on the shared disk for shared data of Managed Server transactions, on the primary node for a target service.

   On the primary node for target transactions, edit the following files:

   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
   - <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

   Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

4. Recover the activation suspension script of Management Server tasks evacuated during "10.2.2.1 Preparing for Upgrade".
5. In cases when Managed Server transaction coexist in the cluster system, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction evacuated of "10.2.2.1 Preparing for Upgrade".
6. Perform the kernel parameter tuning.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

10.2.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

When the upgrade has been completed, the tasks below need to be performed on the secondary node.

1. In the version level of this ETERNUS SF Manager, Symfoware is not used.
   Follow the procedures listed below to uninstall the Symfoware Server.

   a. Confirm that other products are not utilizing the Symfoware. If Symfoware is in use by another product, refrain from uninstalling Symfoware.

   b. Start the uninstaller of Symfoware to delete the Symfoware package.

```
# /opt/symfoware/setup/symfo_remove
```

   c. Confirmation message to uninstall Symfoware will be displayed.
   To perform the uninstallation, enter "y". To cancel the process, enter "q".
   When "y" is entered, a message allowing to select the function to uninstall is shown. Please input "all" or "number to delete" to select the function to uninstall.
   A message to re-confirm uninstallation appears. Enter "y" to perform the uninstallation and "q" when it is not required.

   An example of uninstallation with the specification "all":

```
Start checking the installation environment.
Check of installation environment is ended.

WARNING: There is a possibility that another product uses "Symfoware Server Enterprise
Edition".

Continue the uninstallation?
y: Continue the uninstallation
q: End directly without uninstallation
[y,q]: y

Uninstallation of "Symfoware Server Enterprise Edition" begins.

Please select the functions to be uninstalled.
1: Base function (Server function, Client function)
Separate multiple selections with ",". (Example: 1, 2)
[all:All functions,1,q]: all

Selected functions
- Base function (Server function, Client function)

Start the uninstallation of the above functions?
y: Uninstallation begins
n: Select the functions again
```

```
q: End directly without uninstallation
[y,n,q]: y

Uninstallation begins.
```

d. The following message will be displayed after the Symfoware uninstallation is completed normally.

```
Uninstallation of "Symfoware Server Enterprise Edition" is ended normally.
```

2. Recover the activation suspension script of Management Server tasks evacuated during "10.2.2.1 Preparing for Upgrade".
3. In cases when Managed Server transaction coexist in the cluster system, recover the AdvancedCopy Manager daemon start and stop script of the Managed Server transaction evacuated of "10.2.2.1 Preparing for Upgrade
4. Perform the kernel parameter tuning.

See

Refer to "Before Installation" in "Installation of ETERNUS SF Manager" in the *ETERNUS SF Installation and Setup Guide* for this version for information on tuning.

5. Check that the cluster application (transaction) has stopped.
   If not stopped, stop the cluster application (transaction) to which ETERNUS SF Manager belongs.
   Refer to the relevant cluster software manuals for information on stopping it (transaction).

10.2.2.6 Starting ETERNUS SF Manager

After performing "10.2.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and "10.1.2.5 Tasks to Be Performed After Upgrade (Secondary Node) ", perform the following procedure:

1. Check that the cluster application (transaction) has started on the primary node.

   If not started, start the cluster application (transaction) to which ETERNUS SF Manager belongs.
   Refer to the relevant cluster software manuals for information on starting it.

2. If Managed Server transactions coexist in a clustered system, start the Managed Server transactions on the primary node for the target transactions.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

3. Start the local transactions on all the nodes.

   Start the communication daemon for local transactions of AdvancedCopy Manager's manager.

   Refer to "Starting and Stopping Communication Daemon" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for the operating system of the Management Server for this version for information on starting the daemon.

Subsequently, go to "10.2.3 Resuming Operation".

10.2.3 Resuming Operation

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's manager is complete. Restart the AdvancedCopy Manager operation.

Note

If operating the Web Console from the same web browser as before the upgrade, delete the web browser's cache prior to operation.

10.3 Upgrading AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)

This section describes the upgrade procedure for the AdvancedCopy Manager's agent for Windows Server 2008 or later.

10.3.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.3.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Log on to the server using Administrator privileges.
2. If the Storage Cruiser's agent has been installed, stop the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to stop the service.
3. Stop the service of AdvancedCopy Manager's agent.

   With the Windows services screen, stop the AdvancedCopy Manager COM Service.
4. Implement backup of the previous version.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   Information

   The capacity required for performing the backup is the total value of the following:

   - Environment Directory and Work Directory of "For Windows environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
   - "For Windows environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

   The procedure is shown below:

   a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

      Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.

   b. Confirm the architecture of the AdvancedCopy Manager's agent that has been installed.
      Select **Control Panel** > **Programs and Functions** and confirm the architecture of the AdvancedCopy Manager's agent.

      - When using the "AdvancedCopy Manager (x86) - Agent"
        The 32 bit version AdvancedCopy Manager's agent has been installed.
      - When using the "AdvancedCopy Manager (x64) - Agent"
        The 64 bit version AdvancedCopy Manager's agent has been installed.

   c. Start the command prompt with "Run as administrator".

d. Implement backup of the previous version.

Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

[When using the 32 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\esfacmapreinst.bat
backupDir
```

[When using the 64 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\esfacmapreinst.bat
backupDir
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

Point

- The characters " | : * ? / . < > % & ^ ; ! are not supported for directory names.
- If the directory name contains any spaces, they should be surrounded by double quote characters.

10.3.1.2 Performing Upgrade

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

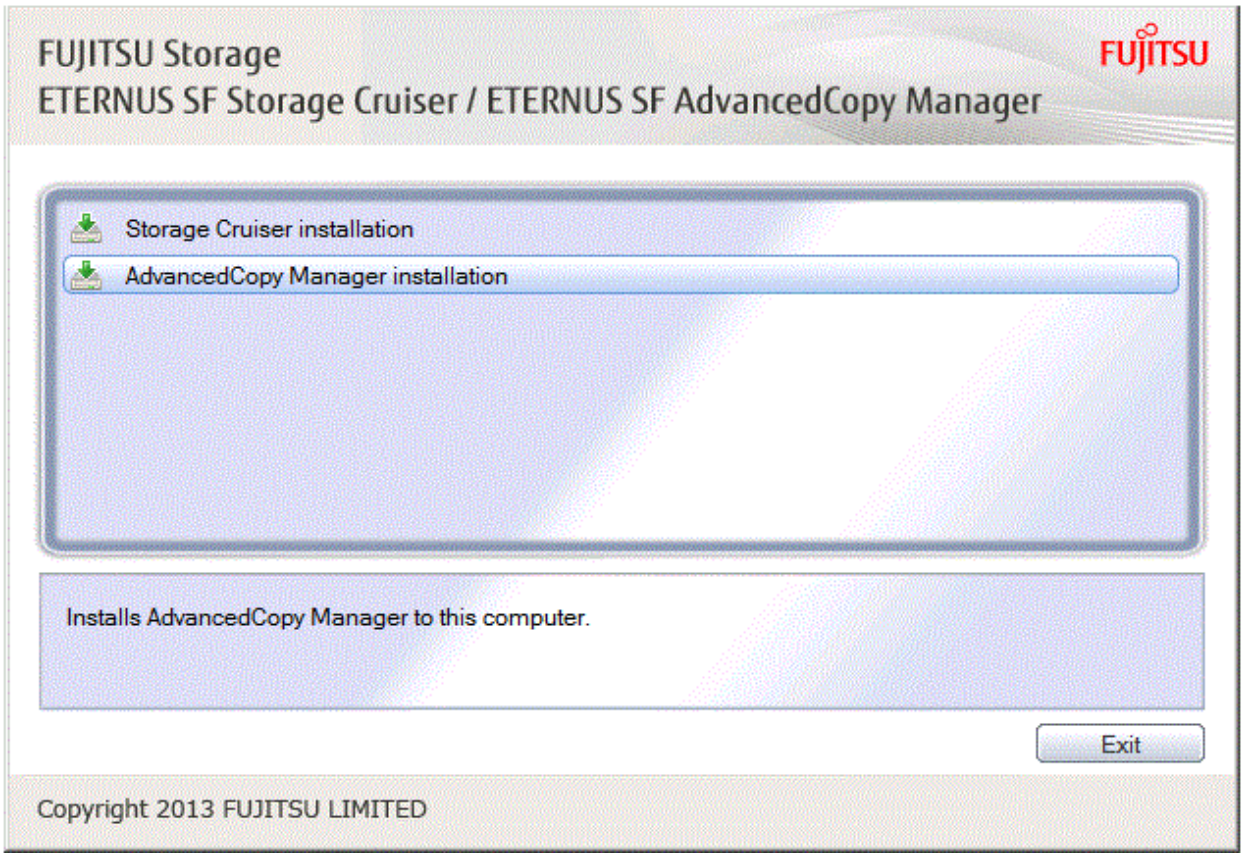
Note

Although the initial screen of the installer will be displayed during these steps, this will not be used in the Upgrade Installation. Be sure to click **Exit** and end the screen.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. The following window will be displayed.
   For the Upgrade Installation, this window is not used. Click **Exit**.



4. Start the following installation wizard corresponding to the architecture of AdvancedCopy Manager's agent checked in preparing for the upgrade:

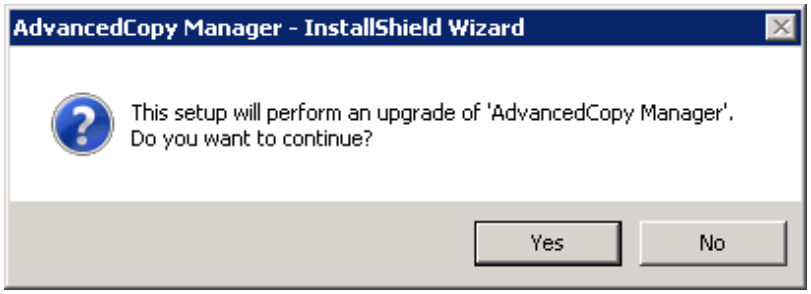
   - For 32-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\setup.exe

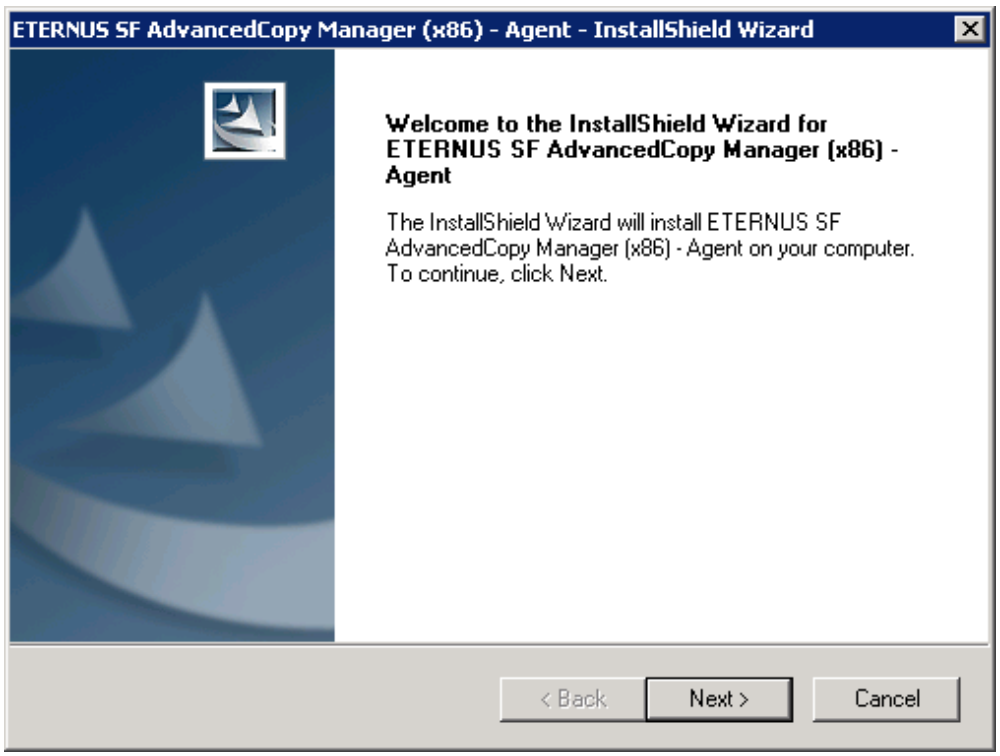
   - For 64-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\setup.exe

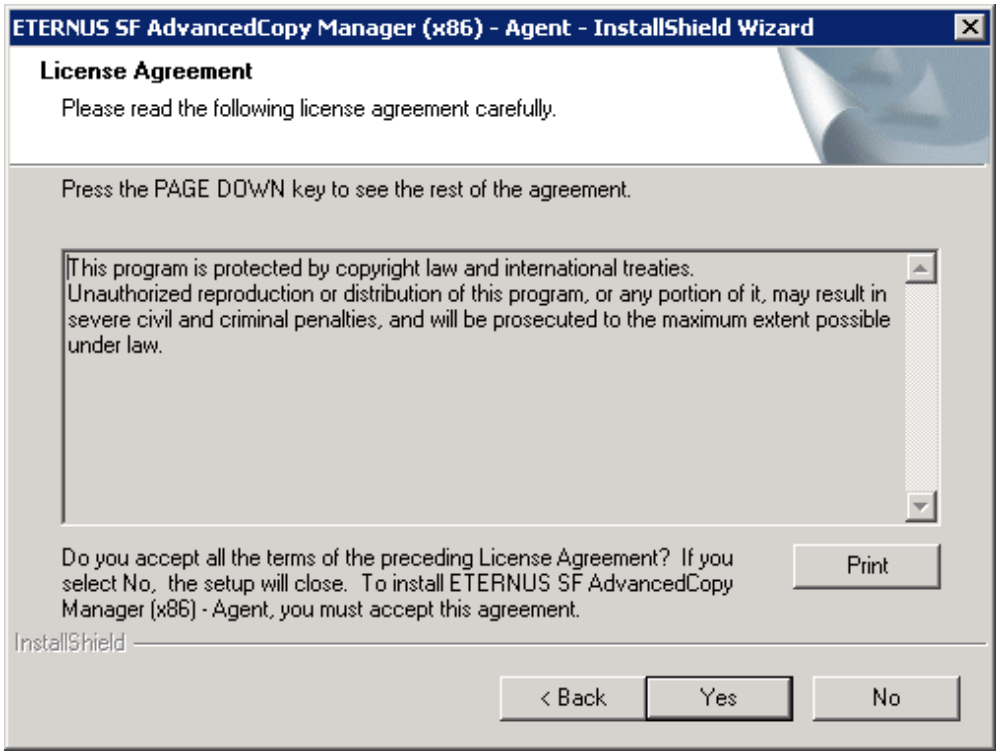
5. The following dialog box will be displayed. Click **Yes**.



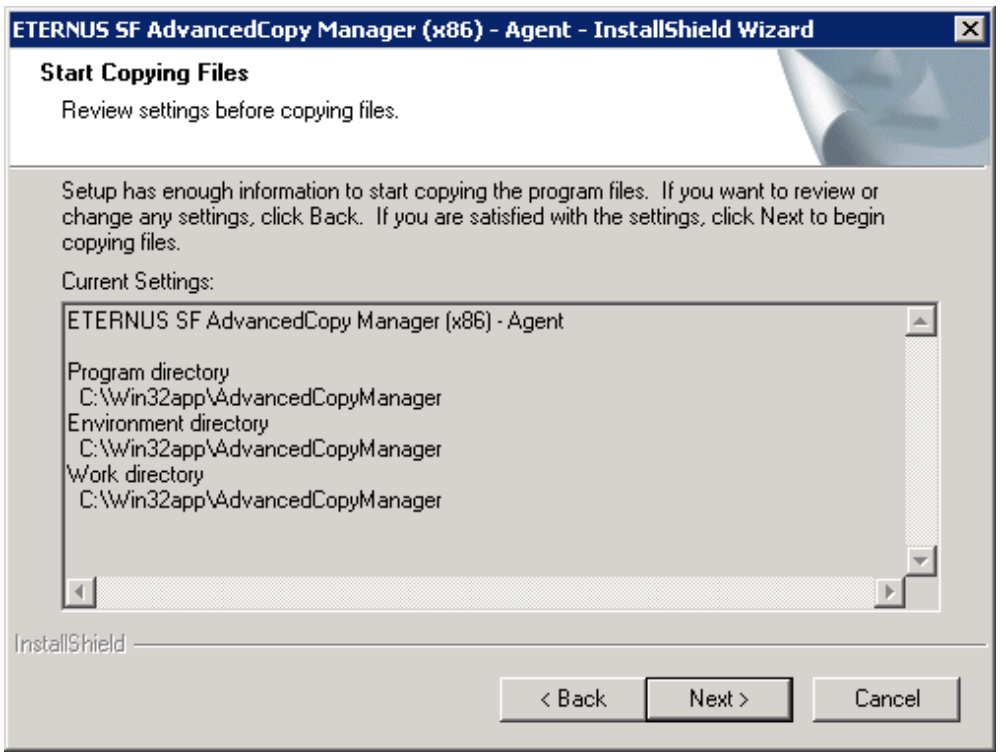
6. The installation wizard page will be displayed. Click **Next**.



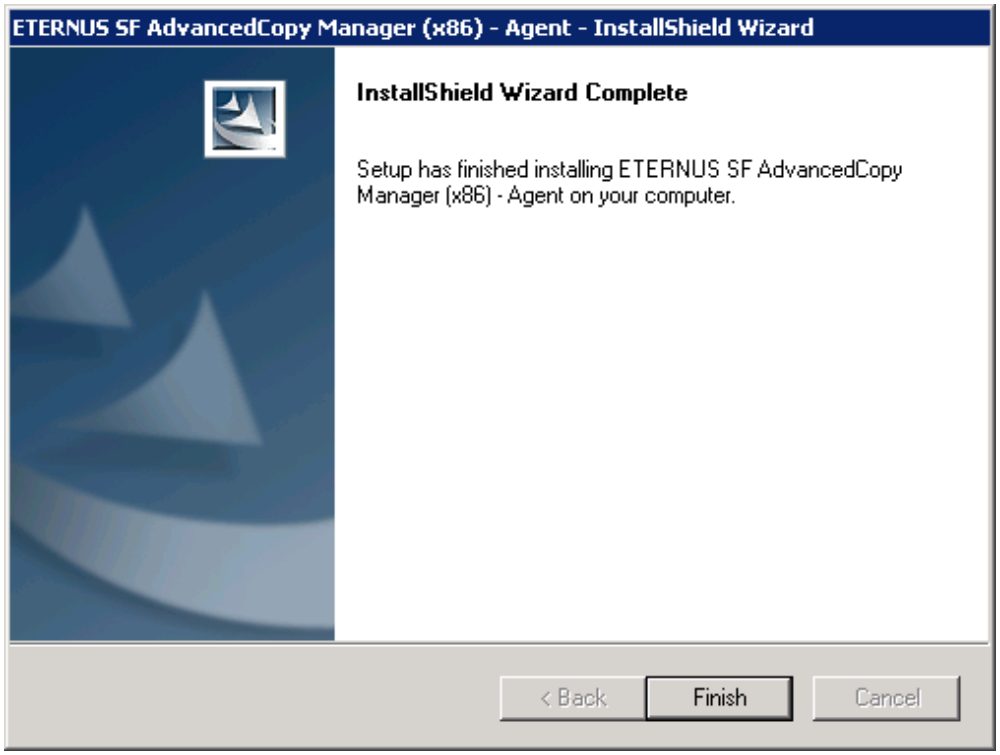
7. Read the terms and conditions of the **License Agreement** page.
   If the conditions are agreeable, click **Yes**.



8. Check the settings information in the **Start Copying Files** page, and then click **Next**.



9. Copying of the program is started.
   The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



10. Eject the DVD-ROM.

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's agent is complete.

Refer to "10.3.1.4 Tasks to Be Performed After Upgrade" to setup the AdvancedCopy Manager's agent.

Point

When the installation of the version update has ended in an error, refer to "11.3.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)" and return the system to a normal state.

10.3.1.3 Upgrade with Silent Installation Tasks

The upgrade is performed as follows:

1. 10.3.1.3.1 Performing Upgrade with Silent Installation Procedure
2. 10.3.1.3.2 Confirming Results of Upgrade with Silent Installation

10.3.1.3.1 Performing Upgrade with Silent Installation Procedure

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVDROM drive. Furthermore, if the Installer screen is displayed by autorun, exit the installer.
3. Start the command prompt with "Run as administrator".
4. Install the AdvancedCopy Manager's agent.
   In response to the architecture of the AdvancedCopy Manager's agent confirmed at the operation before upgrade, execute the commands for silent installation below to install.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

   [When using the 32 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\acmagtsilentinstall.bat [-l <installLogFile >]
   ```

   [When using the 64 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\acmagtsilentinstall.bat [-l <installLogFile >]
   ```

   ### Point

   - If nothing is specified for *installLogFile*, an install log file named "acmagtsilentinstall.log" is created in the working directory specified by the environment variable TEMP.
   - If there is any file of the same name as the specified install log file, it is overwritten.
   - It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
   - If the path name of the installation log file contains any spaces, they should be surrounded by double quote characters.
   - The characters " | : * ? / . < > % & ^ ; ! are not supported for path name of the installation log file.

   ### Note

   - If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.

- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

5. On completion of installation, a command prompt is displayed.
   Eject the DVD-ROM.

10.3.1.3.2 Confirming Results of Upgrade with Silent Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (AdvancedCopy Manager's agent for Windows)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

When the installation of the version update has ended in an error, refer to "11.3.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)" and return the system to a normal state.

10.3.1.4 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. If the Storage Cruiser's agent has been installed, start the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to start the service.
2. Starting the service of AdvancedCopy Manager's agent

   With the Windows services screen, start the AdvancedCopy Manager COM Service.
3. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

     ```
     programDir\ACM\bin\stgxfwcmmodsrv -n serverName
     ```

   - When the Management Server OS is Solaris or Linux:

     ```
     /opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
     ```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for this version for information on the command.

4. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 4-d of "10.3.1.1 Preparing for Upgrade" maybe deleted.

10.3.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.3.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Managed Server transactions

1. Log on to the server using Administrator privileges.
2. Check that Managed Server transactions are stopped on the secondary node.

   If not stopped, use the Failover Cluster Manager to stop Managed Server transactions on the secondary node.
   If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.
3. Stop the Managed Server transaction on the primary node.

   Use the Failover Cluster Manager to stop the Managed Server transactions.
   However, the shared disk for shared data of Managed Server transactions must be online.
   If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.
4. In all of the nodes in which the Storage Cruiser's agent has been installed, stop the service of the Storage Cruiser's agent.
   Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to stop the service.
5. Stop the local transactions on all the nodes, perform the following procedure:

   With the Windows services screen, stop the AdvancedCopy Manager COM Service.
6. Implement backup of the previous version with all of the nodes.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   - On the primary node and the secondary node, implement backup of the previous version.
   - In cases when there are multiple Managed Server transactions, in each primary node of the Managed Server transactions, switch the shared disk for the shared data of the Managed Server transactions online.

Information

The capacity required for performing the backup is the total value of the following:

- Environment Directory and Work Directory of "For Windows environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
- "For Windows environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

In the case of a primary node operating a Managed Server transaction, add the following to the capacity required to perform the backup:

- "Capacity of Shared Disk" in the *ETERNUS SF Cluster Environment Setup Guide*

The procedure is shown below:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents. Furthermore, if the Installer screen is displayed by autorun, exit the installer.

b. Confirm the architecture of the AdvancedCopy Manager's agent that has been installed.
Select **Control Panel** > **Programs and Functions** and confirm the architecture of the AdvancedCopy Manager's agent.

   - When using the "AdvancedCopy Manager (x86) - Agent"
     The 32 bit version AdvancedCopy Manager's agent has been installed.
   - When using the "AdvancedCopy Manager (x64) - Agent"
     The 64 bit version AdvancedCopy Manager's agent has been installed.

c. Start the command prompt with "Run as administrator".

d. Implement backup of the previous version.
Execute the following batch file. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

   [When using the 32 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\esfacmapreinst.bat
backupDir
```

   [When using the 64 bit version Agent]

```
dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\esfacmapreinst.bat
backupDir
```

   When the backup fails, after confirming the output error message and removing the cause of the failure, execute the batch file again.

   #### Point

   - The characters " | : * ? / . < > % & ^ ; ! are not supported for directory names.
   - If the directory name contains any spaces, they should be surrounded by double quote characters.

e. Eject the DVD-ROM.

10.3.2.2 Performing Upgrade (Primary Node)

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

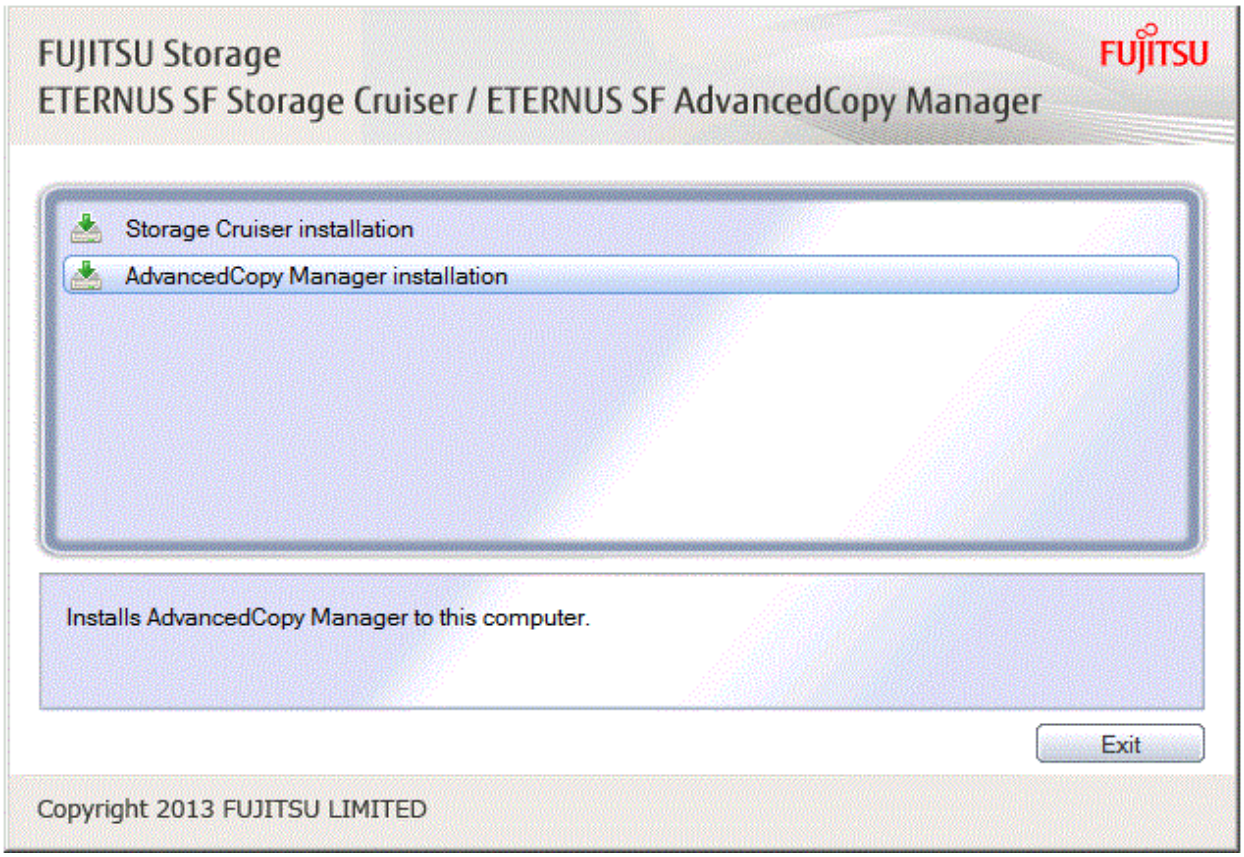
If multiple Managed Server transactions exist, use this procedure on each primary node for Managed Server transactions.

Note

Although the initial screen of the installer will be displayed during these steps, this will not be used in the Upgrade Installation. Be sure to click **Exit** and end the screen.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. The following window will be displayed.
   For the Upgrade Installation, this window is not used. Click **Exit**.



4. Start the following installation wizard corresponding to the architecture of AdvancedCopy Manager's agent checked in preparing for the upgrade:

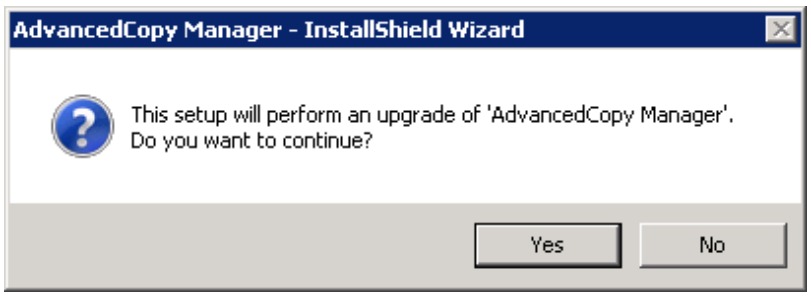
   - For 32-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\setup.exe

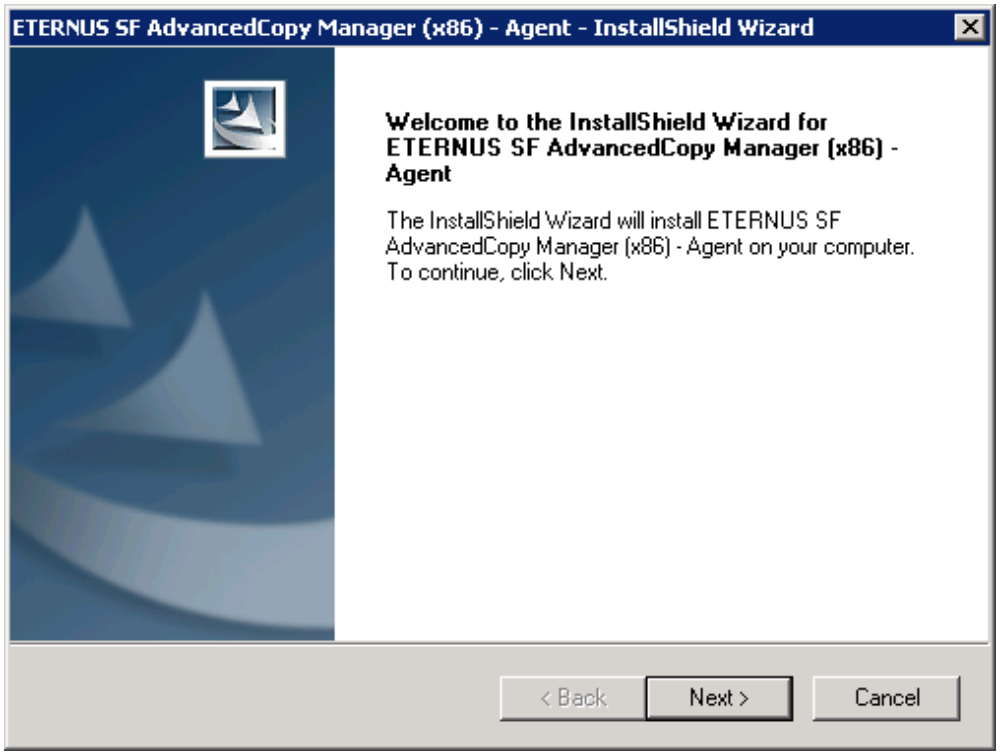
   - For 64-bit version:

     dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\setup.exe

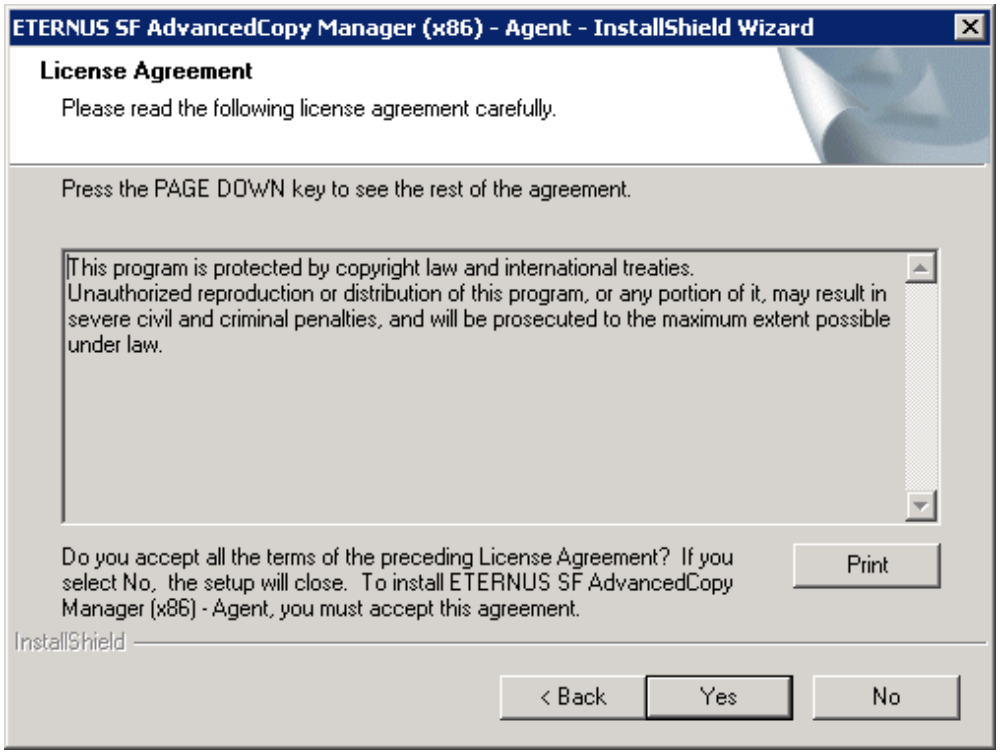
5. The following dialog box will be displayed. Click **Yes**.



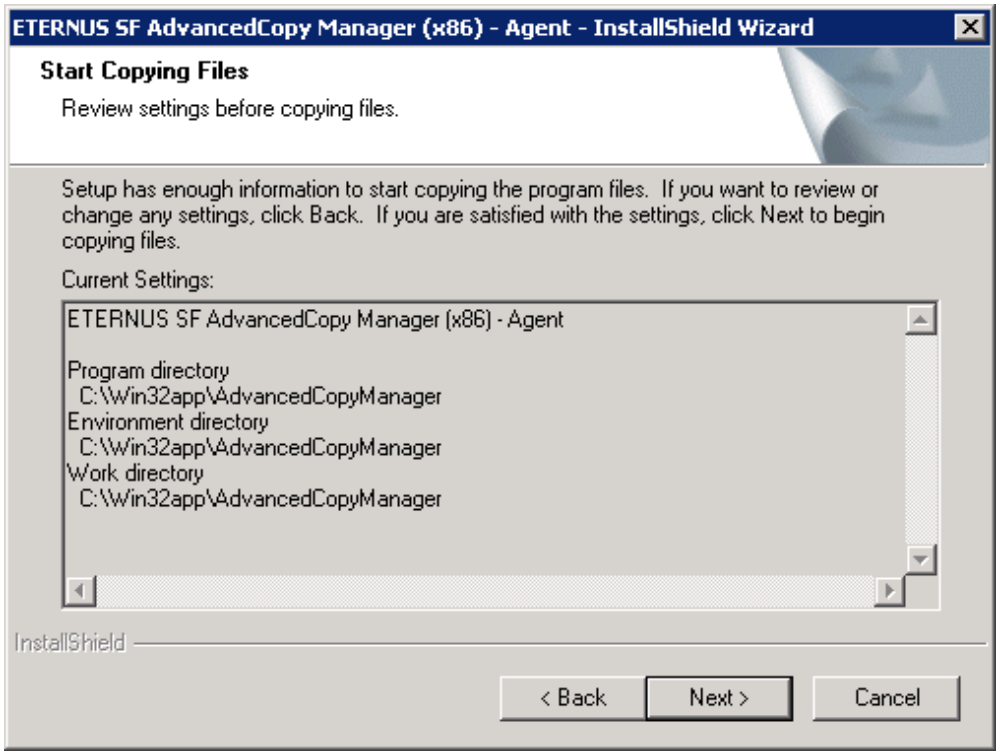
6. The following installation wizard page will be displayed. Click **Next**.



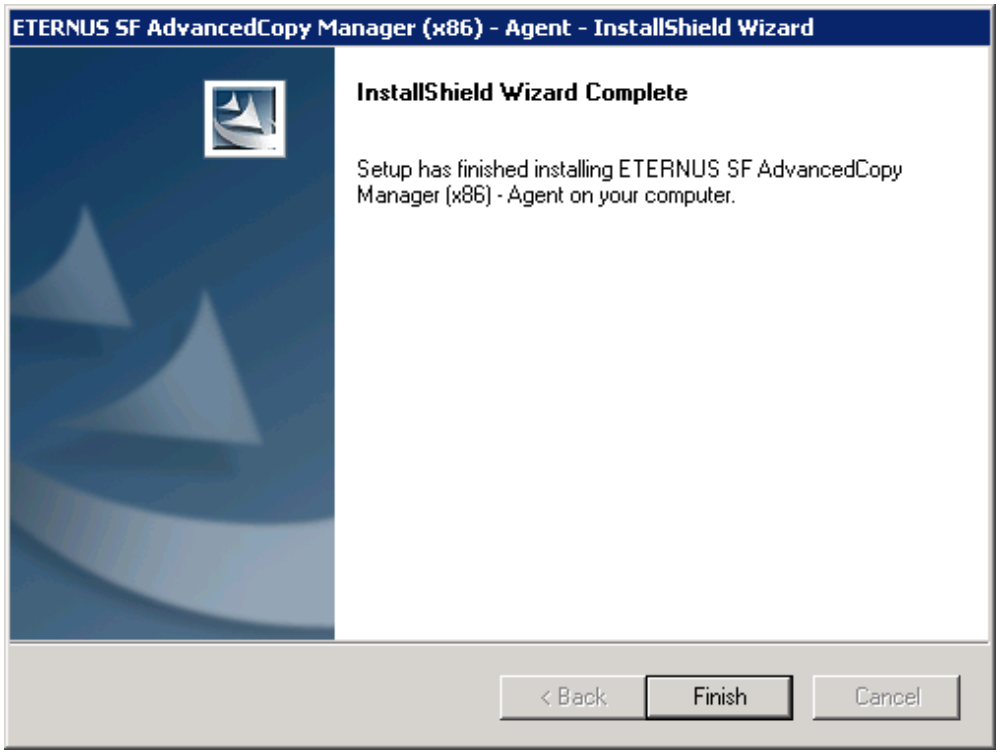
7. Read the terms and conditions of the **License Agreement** page.
   If the conditions are agreeable, click **Yes**.



8. Check the settings information in the **Start Copying Files** page, and then click **Next**.



9. Copying of the program is started.
   The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



10. Eject the DVD-ROM.

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's agent is complete.

When the upgrade of the primary node has been completed, refer to "10.3.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and set up the AdvancedCopy Manager's agent of the primary node.
When the upgrade of the secondary node has been completed, refer to "10.3.2.7 Tasks to Be Performed After Upgrade (Secondary Node) " and set up the AdvancedCopy Manager's agent of the secondary node.

Point

When the installation of the version update has ended in an error, refer to "11.3.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)" and return the system to a normal state.

10.3.2.3 Upgrade with Silent Installation Tasks (Primary Node)

The upgrade is performed as follows:

1. 10.3.2.3.1 Upgrade with Silent Installation Tasks (Primary Node)
2. 10.3.2.3.2 Confirming Results of Upgrade with Silent Installation (Primary Node)

10.3.2.3.1 Upgrade with Silent Installation Tasks (Primary Node)

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVDROM drive. Furthermore, if the Installer screen is displayed by autorun, exit the installer.

3. Start the command prompt with "Run as administrator".

4. Install the AdvancedCopy Manager's agent.
   In response to the architecture of the AdvancedCopy Manager's agent confirmed at the operation before upgrade, execute the commands for silent installation below to install.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

   [When using the 32 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\acmagtsilentinstall.bat [-l <installLogFile>]
   ```

   [When using the 64 bit version Agent]

   ```
   dvdromDrive:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\acmagtsilentinstall.bat [-l <installLogFile>]
   ```

   Point

   - If nothing is specified for *installLogFile*, an install log file named "acmagtsilentinstall.log" is created in the working directory specified by the environment variable TEMP.
   - If there is any file of the same name as the specified install log file, it is overwritten.
   - It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
   - If the path name of the installation log file contains any spaces, they should be surrounded by double quote characters.
   - The characters " | : * ? / . < > % & ^ ; ! are not supported for path name of the installation log file.

   Note

   - If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
   - Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
   - During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

5. On completion of installation, a command prompt is displayed.
   Eject the DVD-ROM.

10.3.2.3.2 Confirming Results of Upgrade with Silent Installation (Primary Node)

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (AdvancedCopy Manager's agent for Windows)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

When the installation of the version update has ended in an error, refer to "11.3.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)" and return the system to a normal state.

10.3.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed:

If multiple Managed Server transactions exist, use this procedure in each primary node for Managed Server transaction.

Edit the following environment setting files for Managed Server transaction on the shared disk for shared data:

- <*Drive of shared disk for shared data of Managed Server transaction*>:\etc\opt\swstorage\clsetup.ini
- <*Drive of shared disk for shared data of Managed Server transaction*>:\etc\opt\swstorage\etc\swstg.ini

Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

10.3.2.5 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "10.3.2.2 Performing Upgrade (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

10.3.2.6 Upgrade with Silent Installation Tasks (Secondary Node)

Perform the upgrade with silent installation for the secondary node.

The upgrade with silent installation procedure is the same as that for the primary node. Refer to "10.3.2.3 Upgrade with Silent Installation Tasks (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

10.3.2.7 Tasks to Be Performed After Upgrade (Secondary Node)

There is no further action required after the upgrade for the secondary node.

10.3.2.8 Starting Managed Server Transactions

Perform the following procedure:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. On the primary node, start the Managed Server transactions.

   Use the Failover Cluster Manager to start the Managed Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

2. In all of the nodes in which the Storage Cruiser's agent has been installed, start the service of the Storage Cruiser's agent. Refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* for information on how to start the service.

3. Start the local transactions on all the nodes, perform the following procedure:

   With the Windows services screen, start the AdvancedCopy Manager COM Service.

4. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

     ```
     programDir\ACM\bin\stgxfwcmmodsrv -n serverName
     ```

   - When the Management Server OS is Solaris or Linux:

     ```
     /opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
     ```

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

   In addition, if there is any node that is running local transactions, perform this procedure on the relevant node.

   Note

   For changing the server information, start a new window for command execution, and then perform the procedure on the window.

   See

   Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

5. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 6-d of "10.3.2.1 Preparing for Upgrade" maybe deleted.

10.4 Upgrading AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

This section explains the upgrade procedures for the AdvancedCopy Manager's agent for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11.

10.4.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.4.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Execute the following command to stop the daemon of AdvancedCopy Manager's agent.

```
# /opt/swstorage/bin/stopacm
```

3. Implement backup of the previous version.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   Information

   The capacity required for performing the backup is the total value of the following:

   - Fixed configuration directory and Modifying configuration directory of "For Solaris environment" or "For Linux environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
   - "For Solaris, Linux, HP-UX or AIX environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

   The procedure is shown below:

   a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

   b. Mount the DVD-ROM.

   - Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

   In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

c. In the case of Red Hat Enterprise Linux 5 (for Intel64), execute file command and confirm the architecture of AdvancedCopy Manager Agent that has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
```

For example, when "ELF 32-bit" is included in the contents of the command as shown below, the 32-bit version of AdvancedCopy Manager Agent (RHEL5 x86 version Agent) has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
/opt/FJSVswstf/bin/stgenvdisp: ELF 32-bit LSB executable, Intel 80386, version 1 (SYSV), for
GNU/
Linux 2.6.9, dynamically linked (uses shared libs), for GNU/Linux 2.6.9, not stripped
```

When "ELF 32-bit" is not included in the contents of the command shown, the 64-bit version of AdvancedCopy Manager Agent (RHEL5 x64 version Agent) has been installed.

d. Implement backup of the previous version.
Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

[When using the RHEL5 x86 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x86/esfacmapreinst.sh backupDir
```

[When using the RHEL5 x64 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x64/esfacmapreinst.sh backupDir
```

[When using the RHEL6 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel6_x86/esfacmapreinst.sh backupDir
```

[When using the Solaris Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/Solaris/esfacmapreinst.sh backupDir
```

[When using the SUSE Linux Enterprise Server 11 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/sles11_x86/esfacmapreinst.sh backupDir
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

10.4.1.2 Performing Upgrade

The upgrade is performed as follows:
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
3. Mount the DVD-ROM.
   - Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

- Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

4. Install the AdvancedCopy Manager's agent.

Execute the following commands to install the AdvancedCopy Manager's agent.

```
# cd environmentDir
# ./swsetup
```

The *environmentDir* is as follows:

OS Type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/sles11_x86

5. The installation information is displayed.

```
swsetup: Installer is preparing for installation...

+-------------------------------------------------------------+
|              ETERNUS SF AdvancedCopy Manager                |
|                           16.1                              |
|              Copyright FUJITSU LIMITED 2013-2014            |
+-------------------------------------------------------------+


Welcome to Setup.
This program will install "AdvancedCopy Manager" on your system.


Agent setup...
```

6. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to upgrade? [y,q]:
```

7. If "y" was entered for step 6, the upgrade will continue.

If the upgrade completes successfully, the following message is displayed.

```
swsetup: AdvancedCopy Manager was installed successfully.
```

8. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's agent is complete.

Refer to "10.4.1.4 Tasks to Be Performed After Upgrade" to setup the AdvancedCopy Manager's agent.

Point

If the upgrade was terminated abnormally, refer to "11.3.6 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

10.4.1.3 Upgrade with Silent Installation Tasks

The upgrade is performed as follows:

1. 10.4.1.3.1 Performing Upgrade with Silent Installation Procedure
2. 10.4.1.3.2 Confirming Results of Upgrade with Silent Installation

10.4.1.3.1 Performing Upgrade with Silent Installation Procedure

The upgrade is performed as follows:

Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVDROM drive.
3. Mount the DVD-ROM.
   - Example for Solaris:

     ```
     # mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVDROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

     ```
     # mount /dev/cdrom dvdromMountPoint
     ```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.
4. Install the AdvancedCopy Manager's agent.

   Execute the following commands for the silent installation to install the AdvancedCopy Manager's agent. For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

   ```
   # environmentDir /acmagtsilentinstall.sh [-l <installLogFile>]
   ```

   The environmentDir is as follows:

OS type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	

OS type	Directory
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/sles11_x86

Point

- If nothing is specified for *installLogFile*, an install log file named "acmagtsilentinstall.log" is created in /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

5. On completion of installation, a command prompt is displayed.

   Execute the following commands, and then eject the DVD-ROM:

```
# umount dvdromMountPoint
```

10.4.1.3.2 Confirming Results of Upgrade with Silent Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (AdvancedCopy Manager's agent for Solaris/Linux)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

If the upgrade was terminated abnormally, refer to "11.3.6 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

10.4.1.4 Tasks to Be Performed After Upgrade

When the upgrade has been completed, the tasks below need to be performed:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Execute the following command to start the daemon of AdvancedCopy Manager's agent.

```
# /opt/swstorage/bin/startacm
```

2. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

   - When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

3. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

- Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 3-d of "10.4.1.1 Preparing for Upgrade" maybe deleted.

10.4.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.4.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager's agent, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- Shared disk for shared data of Managed Server transactions

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Check that Managed Server transactions are stopped on the secondary node.

   If not stopped, stop them on the secondary node. Refer to the relevant cluster software manuals for information on stopping it.
   If multiple Managed Server transactions exist, perform this procedure on each secondary node for Managed Server transactions.
3. Stop the Managed Server transaction on the primary node.

   Stop the Managed Server transactions by referring to the relevant cluster software manuals.
   However, the shared disk for shared data of Managed Server transactions must be mounted.
   If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.
4. Execute the following command to stop the local transactions on all the nodes.

```
# /opt/swstorage/bin/stopacm
```

5. Implement backup of the previous version with all of the nodes.

   For recovery in case the upgrade fails, perform a backup of the operating environment of the previous version of the AdvancedCopy Manager's agent.

   - On the primary node and the secondary node, implement backup of the previous version.
   - In cases when there are multiple Managed Server transactions, in each primary node of the Managed Server transactions, switch the shared disk for the shared data of the Managed Server transactions online.

Information

The capacity required for performing the backup is the total value of the following:

- Fixed configuration directory and Modifying configuration directory of "For Solaris environment" or "For Linux environment" under "Required disk space for installation" in the *ETERNUS SF Installation and Setup Guide*
- "For Solaris, Linux, HP-UX or AIX environment" under "Required disk space for operation" in the *ETERNUS SF Installation and Setup Guide*

In the case of a primary node operating a Managed Server transaction, add the following to the capacity required to perform the backup:

- "Capacity of Shared Disk" in the *ETERNUS SF Cluster Environment Setup Guide*

The procedure is shown below:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Agent Program and Manual)" for this version into the DVD-ROM drive.
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

b. Mount the DVD-ROM.

   - Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

c. In the case of Red Hat Enterprise Linux 5 (for Intel64), execute file command and confirm the architecture of AdvancedCopy Manager Agent that has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
```

For example, when "ELF 32-bit" is included in the contents of the command as shown below, the 32-bit version of AdvancedCopy Manager Agent (RHEL5 x86 version Agent) has been installed.

```
# file /opt/FJSVswstf/bin/stgenvdisp
/opt/FJSVswstf/bin/stgenvdisp: ELF 32-bit LSB executable, Intel 80386, version 1 (SYSV), for
GNU/
Linux 2.6.9, dynamically linked (uses shared libs), for GNU/Linux 2.6.9, not stripped
```

When "ELF 32-bit" is not included in the contents of the command shown, the 64-bit version of AdvancedCopy Manager Agent (RHEL5 x64 version Agent) has been installed.

d. Implement backup of the previous version.
Execute the following shell script included in the DVD-ROM. For *backupDir*, specify the directory in which to store the backup data with an absolute path.

[When using the RHEL5 x86 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x86/esfacmapreinst.sh backupDir
```

[When using the RHEL5 x64 Edition Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x64/esfacmapreinst.sh backupDir
```

[When using the RHEL6 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel6_x86/esfacmapreinst.sh backupDir
```

[When using the Solaris Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/Solaris/esfacmapreinst.sh backupDir
```

[When using the SUSE Linux Enterprise Server 11 Agent]

```
# dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/sles11_x86/esfacmapreinst.sh backupDir
```

When the backup fails, after confirming the output error message and removing the cause of the failure, execute the shell script again.

e. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

f. Back up the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions.

On the primary node and the secondary node, back up the AdvancedCopy Manager daemon start and stop script of the Managed Server transactions.

10.4.2.2 Performing Upgrade (Primary Node)

The upgrade is performed as follows:
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.

3. Mount the DVD-ROM.

   - Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

4. Install the AdvancedCopy Manager's agent.

   Execute the following commands to install the AdvancedCopy Manager's agent.

```
# cd environmentDir
# ./swsetup
```

   The *environmentDir* is as follows:

OS Type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/sles11_x86

5. The installation information is displayed.

```
swsetup: Installer is preparing for installation...

+-------------------------------------------------------------+
|              ETERNUS SF AdvancedCopy Manager                |
|                           16.1                              |
|              Copyright FUJITSU LIMITED 2013 -2014           |
+-------------------------------------------------------------+


Welcome to Setup.
This program will install "AdvancedCopy Manager" on your system.


Agent setup...
```

6. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to upgrade ? [y,q]:
```

7. If "y" was entered for step 6, the upgrade will continue.

   If the upgrade completes successfully, the following message is displayed.

```
swsetup: AdvancedCopy Manager was installed successfully.
```

8. Execute the following commands, and then eject the DVD-ROM:

```
# cd /
# umount dvdromMountPoint
```

When the tasks described above have been performed, the upgrade of the AdvancedCopy Manager's agent is complete.

When the upgrade of the primary node has been completed, refer to "10.4.2.4 Tasks to Be Performed After Upgrade (Primary Node)" and set up the AdvancedCopy Manager's agent of the primary node.
When the upgrade of the secondary node has been completed, refer to "10.4.2.7 Tasks to Be Performed After Upgrade (Secondary Node)" and set up the AdvancedCopy Manager's agent of the secondary node.

Point

If the upgrade was terminated abnormally, refer to "11.3.6 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

10.4.2.3 Upgrade with Silent Installation Tasks (Primary Node)

The upgrade is performed as follows:

1. 10.4.2.3.1 Performing Upgrade with Silent Installation Procedure (Primary Node)
2. 10.4.2.3.2 Confirming Results of Upgrade with Silent Installation (Primary Node)

10.4.2.3.1 Performing Upgrade with Silent Installation Procedure (Primary Node)

The upgrade is performed as follows:
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVDROM drive.
3. Mount the DVD-ROM.
   - Example for Solaris:

```
# mount -F hsfs -o ro /dev/dsk/c0t4d0s0 dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/dsk/c0t4d0s0. The device name of the DVD-ROM drive will differ depending on the device.

   - Example for RHEL5/RHEL6 and SUSE Linux Enterprise Server 11:

```
# mount /dev/cdrom dvdromMountPoint
```

     In command example, the device name of the DVD-ROM drive is mounted as /dev/cdrom. The device name of the DVD-ROM drive will differ depending on the device.

4. Install the AdvancedCopy Manager's agent.
   Execute the following commands for the silent installation to install the AdvancedCopy Manager's agent. For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
# environmentDir /acmagtsilentinstall.sh [-l <installLogFile>]
```

   The *environmentDir* is as follows:

OS type	Directory
Solaris	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/Solaris
Red Hat Enterprise Linux 5 (for x86)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x86
Red Hat Enterprise Linux 5 (for Intel64), using the Symfoware linkage function	
Red Hat Enterprise Linux 5 (for Intel64), not using the Symfoware linkage function	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel5_x64
Red Hat Enterprise Linux 6 (for x86) Red Hat Enterprise Linux 6 (for Intel64)	*dvdromMountPoint*/Agent_unix/AdvancedCopy_Manager/rhel6_x86
SUSE Linux Enterprise Server 11 for x86 SUSE Linux Enterprise Server 11 for EM64T	*dvdromMountPoin*/Agent_unix/AdvancedCopy_Manager/sles11_x86

Point

- If nothing is specified for *installLogFile*, an install log file named "acmagtsilentinstall.log" is created in /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

5. On completion of installation, a command prompt is displayed.

   Execute the following commands, and then eject the DVD-ROM:

```
# umount dvdromMountPoint
```

10.4.2.3.2 Confirming Results of Upgrade with Silent Installation (Primary Node)

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (AdvancedCopy Manager's agent for Solaris/Linux)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

Point

If the upgrade was terminated abnormally, refer to "11.3.6 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to recover the system to the normal state.

10.4.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed:

When the AdvancedCopy Manager's agent upgrade has been completed for the primary node, perform the following procedure:

If multiple Managed Server transactions exist, perform this procedure on each primary node for Managed Server transaction.

Edit the following environment setting files for Managed Server transaction on the shared disk for shared data:

- <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/clsetup.ini
- <*Mount point of shared disk for shared data of Managed Server transaction*>/etc/opt/swstorage/swstg.ini

Change the version information within each file, as follows:

Upgrade Patterns	Descriptive Contents of Version Information	
	Before	After
Version 16.0 to 16.1	Version=V16.0	Version=V16.1

Note

Do not change anything other than the version information.

10.4.2.5 Performing Upgrade (Secondary Node)

Perform the upgrade for the secondary node.

The upgrade procedure is the same as that for the primary node. Refer to "10.4.2.2 Performing Upgrade (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

10.4.2.6 Upgrade with Silent Installation Tasks (Secondary Node)

Perform the upgrade with silent installation for the secondary node.

The upgrade with silent installation procedure is the same as that for the primary node. Refer to "10.4.2.3 Upgrade with Silent Installation Tasks (Primary Node)".

Point

If this secondary node acts as a primary node for other Managed Server transactions, it is upgraded as a primary node, so this procedure is not needed.

10.4.2.7 Tasks to Be Performed After Upgrade (Secondary Node)

No operation is required after upgrade at the secondary node.

10.4.2.8 Starting Managed Server Transactions

Perform the following procedure:
Note that in these tasks, in addition to operations with the Managed Server, there are operations to execute from the Management Server and the Web Console.

1. Start the Managed Server transactions on the primary node.

   Refer to the relevant cluster software manuals to start the Managed Server transactions.
   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

2. Perform the following command to start the local transactions on all the nodes.

```
# /opt/swstorage/bin/startacm
```

3. To ensure data consistency, with the Management Server, execute the stgxfwcmmodsrv command to change the server information.

   When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

   - When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

   - When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

   If multiple Managed Server transactions exist, perform this procedure for each Managed Server transaction.

   In addition, if there is any node that is running local transactions, perform this procedure on the relevant node.

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

4. Perform the following operations with the Web Console to reload the server information.

   a. On the global navigation tab, click **Server**.
      The registered server list is displayed on the Main pane.

   b. On the Main pane, check the target server checkbox.

   c. On the Action pane, click **Reload Conf**. under **Server**.

Point

Once normal operation has been confirmed after the upgrade of the AdvancedCopy Manager's agent, the backup data in the backup destination directory created in step 5-d of "10.4.2.1 Preparing for Upgrade" maybe deleted.

10.5 Upgrading AdvancedCopy Manager's agent (for Windows Server 2003, RHEL-AS4, RHEL-ES4, HP-UX, AIX)

This section describes the upgrade procedure for AdvancedCopy Manager's agent.

1. 10.5.1 Backing Up Repository Data
2. 10.5.2 Backing Up Management Information
3. 10.5.3 Releasing Backup and Restore in Exchange Server Database (for Windows Server 2003)

4. 10.5.4 Uninstalling Previous Version
5. 10.5.5 Installing This Version
6. 10.5.6 Restoring Repository Data
7. 10.5.7 Changing Server Information
8. 10.5.8 Restoring Management Information
9. 10.5.9 Setting Backup and Restore in Exchange Server Database (for Windows Server 2003)
10. 10.5.10 Updating Version Information

10.5.1 Backing Up Repository Data

Refer to the following sections to back up the repository data on the Management Server (only when the Managed Server is operated in a clustered system).

OS Type of Managed Server	Reference
Windows Server 2003	A.1 Backing Up Repository Data (for Windows)
RHEL-AS4, RHEL-ES4	A.2 Backing Up Repository Data (for Solaris, Linux)

10.5.2 Backing Up Management Information

Refer to the following sections to back up the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows Server 2003	A.3 Backing Up Management Information (for Windows)
RHEL-AS4, RHEL-ES4	A.4 Backing Up Management Information (for Solaris, Linux)
HP-UX, AIX	A.5 Backing Up Management Information (for HP-UX, AIX)

10.5.3 Releasing Backup and Restore in Exchange Server Database (for Windows Server 2003)

When the backup and restoration function of the Exchange Server database are used, release the setting by referring to the manual of the previous version.

"Backup and restore of Exchange Server database in Windows Server 2003" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

- Stopping backup copy process
- Delete the copy set of the hardware provider
- Delete source and replica volumes
- Cancel the hardware provider registration

10.5.4 Uninstalling Previous Version

Uninstall the previous version by referring to the relevant previous version manual.

For Non-clustered Systems

Note

For the procedures below, be careful not to perform the procedure "Deletion of all Managed Servers".

- For Windows Server 2003:

  Perform "Uninstallation procedure of AdvancedCopy Manager's agent (for Windows)" in the *ETERNUS SF Installation and Setup Guide*.

- For RHEL-AS4, RHEL-ES4, HP-UX or AIX:

  Perform the procedures for "Stopping services/daemons" in the *ETERNUS SF Installation and Setup Guide*.

For Clustered Systems

If clustered systems are used for Managed Servers as Managed Server transactions, perform the unsetup of cluster settings before performing uninstallation.

See

Refer to "Deletion of Cluster Environment for Managed Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for the previous version for information on the unsetup of cluster settings.

10.5.5 Installing This Version

Install the AdvancedCopy Manager's agent of this version, and setup the operating environment.

About Installation

- For non-clustered systems:

  Refer to "Installation of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to install the AdvancedCopy Manager's agent.

- For clustered systems:

  Refer to "Installation of ETERNUS SF Agent" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to install the AdvancedCopy Manager's agent.

Setting Up Operating Environment

- For non-clustered systems:

  Refer to "Setup of AdvancedCopy Manager's Agent" in the *ETERNUS SF Installation and Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

  Afterwards, start the AdvancedCopy Manager's agent on the Managed Server. Refer to "Starting and Stopping Daemons" or "Starting and Stopping Services" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Managed Server for the start procedure.

- For clustered systems:

  Refer to "Customization of Managed Server Transactions" in the *ETERNUS SF Cluster Environment Setup Guide* for this version to setup the AdvancedCopy Manager's agent.

10.5.6 Restoring Repository Data

Restore the backed up repository data on the Management Server (only when the Managed Server is operated in a cluster configuration).

Execute the stgrepocnv command to restore the repository data and then convert it for use with the current version of the repository.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgrepocnv -d backupDir
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgrepocnv -d backupDir
```

Note

For restoration of the repository data, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgrepocnv (Repository Data Migration Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

10.5.7 Changing Server Information

To ensure data consistency, execute the Web Console or stgxfwcmmodsrv command to change the server information. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Note

For changing the server information, start a new window for command execution, and then perform the procedure on the window.

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

10.5.8 Restoring Management Information

Refer to the following sections to restore the management information on the Managed Server.

OS Type of Managed Server	Reference
Windows Server 2003	A.11 Restoring Management Information (for Windows)
RHEL-AS4, RHEL-ES4	A.12 Restoring Management Information (for Solaris, Linux)
HP-UX, AIX	A.13 Restoring Management Information (for HP-UX, AIX)

10.5.9 Setting Backup and Restore in Exchange Server Database (for Windows Server 2003)

Reconfigure the backup and restoration functions of the Exchange Server database for which the setting has been released by referring to the manual of this version.

"Backup and Restore of Exchange Server Database in Windows Server 2003" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)*, please do the following.

- Registration of provider
- Configuring the source volume and replica volume
- Registering the hardware provider copy set
- Registering database information

10.5.10 Updating Version Information

If not using clustered systems, and moreover, if the restoration of repository data has already been performed with the restoration of the replication management list, execute the Web Console or stgxfwcmmodsrv command to update the version information for the Managed Server. The stgxfwcmmodsrv command must be executed on the Management Server.

When executing the stgxfwcmmodsrv command, specify the Managed Server name for the -n option.

- When the Management Server OS is Windows:

```
programDir\ACM\bin\stgxfwcmmodsrv -n serverName
```

- When the Management Server OS is Solaris or Linux:

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -n serverName
```

Finally, perform the following operations with the Web Console to reload the server information.

1. On the global navigation tab, click **Server**.
   The registered server list is displayed on the Main pane.
2. On the Main pane, check the target server checkbox.
3. On the Action pane, click **Reload Conf**. under **Server**.

Note

For updating the version information, start a new window for command execution, and then perform the procedure on the window.

See

- Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* relevant to the OS of the Management Server for information on the command.

10.6 Upgrading AdvancedCopy Manager Copy Control Module (for Windows)

This section describes the upgrade procedures for the AdvancedCopy Manager Copy Control Module for Windows.

If only AdvancedCopy Manager CCM is installed and used, perform the upgrade mentioned in this section.

If ETERNUS SF Manager is installed and AdvancedCopy Manager CCM is used, refer to "10.1 Upgrading AdvancedCopy Manager's Manager (for Windows)" to perform the upgrade.

10.6.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.6.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Log on to the server using Administrator privileges.
2. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.
   Output message (when the drive letter of the destination of the installation is C):

```
The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
```

10.6.1.2 Performing Upgrade (for Windows)

Refer to "C.7 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Windows) " to perform the upgrade. When this work ends, operation can be restarted.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

10.6.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.6.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- The shared disk for shared data of the AdvancedCopy Manager CCM

1. Log on to the server using Administrator privileges.

2. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

3. Check that the CCM Server transactions are stopped on the secondary node.

   If not stopped, use the Failover Cluster Manager on the secondary node to stop the transactions of AdvancedCopy Manager Copy Control Module.

4. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output message (when the drive letter of the destination of the installation is C):

   ```
   The available capacity of the specified disk (C:) is insufficient. Please execute it again after increasing the disk area.
   ```

5. Stop the CCM Server transactions on the primary node.

   Use the Failover Cluster Manager to stop the transactions of AdvancedCopy Manager Copy Control Module.
   However, the shared disk for shared data of AdvancedCopy Manager Copy Control Module must be online.

10.6.2.2 Performing Upgrade (Primary Node)

Performing the upgrade is as follows.

1. Save the environment setting files for AdvancedCopy Manager Copy Control Module (sys.properties).
   The environment setting files for AdvancedCopy Manager Copy Control Module :

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

   Make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The evacuated file will be used in tasks after the upgrade.

2. Recover the original environment configurations file (sys.properties) of the AdvancedCopy Manager CCM.
   Overwrite the original environment configurations file onto the file of the copying destination.

Original Environment Configurations File	Copying Destination File
$INS_DIR\CCM\noncluster\sys\sys.properties	$INS_DIR\CCM\sys\sys.properties

3. Evacuate the general script for the AdvancedCopy Manager CCM.
   In corresponding previous version of "Preparing General Scripts for AdvancedCopy Manager CCM" corresponding to each OS and nodes in the ETERNUS SF Cluster Environment Setup Guide, in cases when the general scripts have been stored under the bin directory of the program directory of the AdvancedCopy Manager CCM, make a copy on any directory that is other than the directory which is the destination of the installation of AdvancedCopy Manager CCM.
   The evacuated file will be used in tasks after the upgrade.

4. Refer to "C.7 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Windows) " to perform the upgrade.

5. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be offline.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

10.6.2.3 Performing Upgrade (Secondary Node)

1. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be online.
2. Perform the upgrade for the secondary node.
   The upgrade procedure is the same as that for the primary node. Refer to "10.6.2.2 Performing Upgrade (Primary Node)".
3. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be offline.

Point

When the installation of the version update has ended in an error, refer to "11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)" and return the system to a normal state.

10.6.2.4 Tasks to Be Performed After Upgrade (Primary Node)

When the upgrade has been completed, the tasks below need to be performed on the primary node.
The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be online.

1. Restore the environment setting files (sys.properties) for AdvancedCopy Manager Copy Control Module
   Overwrite the environment configurations file (sys.properties) evacuated during "10.6.2.2 Performing Upgrade (Primary Node)" onto the following file after upgrade installation.
   Environment setting files for AdvancedCopy Manager Copy Control Module:

   ```
   $INS_DIR\CCM\sys\sys.properties
   ```

2. Restore the saved general scripts for the AdvancedCopy Manager CCM.
   When general scripts are backed up in "10.6.2.2 Performing Upgrade (Primary Node)", restore the backed-up general scripts to the directory stored in "Preparing General Scripts for AdvancedCopy Manager CCM", which corresponds to respective operating systems and nodes described in the *ETERNUS SF Cluster Environment Setup Guide* of the appropriate earlier version.

10.6.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

Tasks that are required after installing the upgrade of the secondary node are the same as with the primary node. Refer to "10.6.2.4 Tasks to Be Performed After Upgrade (Primary Node)".

When the upgrade has been completed, the shared disk for shared data of AdvancedCopy Manager Copy Control Module must be offline.
Afterwards, it must be online on the primary node.

10.6.2.6 Start CCM Server Transactions

When the upgrade has been completed, start the CCM Server transactions.

Use the Failover Cluster Manager on the primary node to start the transactions of AdvancedCopy Manager CCM.
Check that the CCM Server transactions are stopped on the secondary node.
If not stopped, stop the CCM Server transactions. Refer to the relevant cluster software manuals for information on stopping it.

10.7 Upgrading AdvancedCopy Manager Copy Control Module (for Solaris, Linux)

This section describes the upgrade procedures for the AdvancedCopy Manager Copy Control Module for Solaris and Linux.

If only AdvancedCopy Manager CCM is installed and used, perform the procedure mentioned in this section.

If ETERNUS SF Manager is installed and AdvancedCopy Manager CCM is used, refer to "10.2 Upgrading AdvancedCopy Manager's Manager (for Solaris, Linux)" to perform the upgrade.

10.7.1 Upgrading Non-clustered Systems

The section describes the upgrade of non-clustered systems.

10.7.1.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

It is recommended that the system is backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.
   Output Message (in cases when the directory of the destination of the installation is /opt):

```
ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
```

10.7.1.2 Performing Upgrade (for Solaris, Linux)

Refer to "C.8 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Solaris,Linux) " to perform the upgrade. When this work ends, operation can be restarted.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.7.2 Upgrading Clustered Systems

The section describes the upgrade of clustered systems.

10.7.2.1 Preparing for Upgrade

The operational environment must be prepared prior to upgrading the AdvancedCopy Manager Copy Control Module, as described below.

Point

The following are recommended to be backed up before starting the upgrade.
By preparing a backup, in cases when an error occurs during the upgrade, it will be possible to return the system to its state prior to the upgrade, simply by recovering (restoring) the system from the backup.

- System (the primary node and the secondary node)
- The shared disk for shared data of the AdvancedCopy Manager CCM

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed on the secondary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```
3. Check that the CCM Server transactions are stopped on the secondary node.

   If not stopped, stop the transaction of AdvancedCopy Manager Copy Control Module.
   Refer to the relevant cluster software manuals for information on stopping it.
4. On the secondary node, recover the start and stop script of the CCM Server transaction.
5. Ensure that there is enough available disk space (100MB) on the server where the upgrade will be performed on the primary node.
   In cases when upgrade installation is executed in a state where the capacity required for the upgrade is not available, the following message will be displayed and the installation will end in an error. Re-execute the upgrade after securing the capacity required for the installation.

   Output Message (in cases when the directory of the destination of the installation is /opt):

   ```
   ERROR:Disk /opt has an insufficient free space. Please execute it again after increasing the disk area.
   ```
6. Stop the CCM Server transaction on the primary node.

   Refer to the relevant cluster software manuals for information on stopping it.
   The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be mounted.
7. On the primary node, recover the start and stop script of the CCM Server transaction.

10.7.2.2 Performing Upgrade (Primary Node)

1. Refer to "C.8 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Solaris,Linux)" to perform the upgrade.
2. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be unmounted.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.7.2.3 Performing Upgrade (Secondary Node)

1. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be mounted.
2. Refer to "C.8 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Solaris,Linux)" to perform the upgrade.
3. The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be unmounted.

Point

If the installation of the version update has ended in an error, after removing the cause of the failure of the installation of the version update, re-execute the installation from the execution of the installation shell.

10.7.2.4 Tasks to Be Performed After Upgrade (Primary Node)

After installing the upgrade of the primary node, recover the activation suspension script for the CCM server tasks evacuated during "10.7.2.1 Preparing for Upgrade".

The shared disk for shared data of AdvancedCopy Manager Copy Control Module must be mounted.

10.7.2.5 Tasks to Be Performed After Upgrade (Secondary Node)

After installing the upgrade of the secondary node, recover the activation suspension script for the CCM server tasks saved during "10.7.2.1 Preparing for Upgrade".

10.7.2.6 Start CCM Server Transactions

On the primary node, start the transactions of AdvancedCopy Manager Copy Control Module.

Refer to the relevant cluster software manuals for information on startting it.
Check that the CCM Server transactions are stopped on the secondary node.

If not stopped, stop the CCM Server transactions. Refer to the relevant cluster software manuals for information on stopping it.

10.7.3 Resuming Operation

When the tasks described above have been performed, the upgrade and setup of AdvancedCopy Manager Copy Control Module is complete. Restart the AdvancedCopy Manager Copy Control Module operation.

Chapter 11 Collecting Troubleshooting Information

This chapter describes the method for troubleshooting if a problem occurs during the Upgrade Installation process.

The troubleshooting method differs according to the way the Upgrade Installation fails.
Please use the appropriate method according to the problem type.

11.1 In Case of Problem During Migration from Version 14.x

11.1.1 In Case of Problem During Uninstallation of Previous Version

After the problem has been diagnosed and solved, restart the upgrade process from the beginning.

Point

- When an error message is displayed, refer to the following manuals for the previous version, and take the appropriate action for relevant message.

Target for Upgrade	Reference
Express	"Messages" in the *ETERNUS SF Express User's Guide*
Storage Cruiser	*ETERNUS SF Storage Cruiser Message Guide*
AdvancedCopy Manager	*ETERNUS SF AdvancedCopy Manager Message Guide*
AdvancedCopy Manager Copy Control Module	"Messages for AdvancedCopy Manager CCM" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide for Copy Control Module*

- When no error message is displayed, refer to the following manuals for the previous version, to collect the troubleshooting information and then contact Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Trouble analysis" in the *ETERNUS SF Express User's Guide* for the previous version
Storage Cruiser	"Troubleshooting information" in the *ETERNUS SF Storage Cruiser User's Guide* for the previous version
AdvancedCopy Manager	"Collecting maintenance information" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide* for the previous version
AdvancedCopy Manager Copy Control Module	" How to Collect Data" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide for Copy Control Module* for the previous version

11.1.2 In Case of Problem During Installation of This Version

The uninstallation of the previous version has succeeded.
After the installation problem has been diagnosed and solved, refer to the *ETERNUS SF Installation and Setup Guide* for this version to install this version.

Point

- When an error message is displayed, refer to the following manuals for this version, and take the appropriate action for relevant message.

Target for Upgrade	Reference
Express	*ETERNUS SF Messages*
Storage Cruiser	
AdvancedCopy Manager	
AdvancedCopy Manager Copy Control Module	

- When no error message is displayed, refer to the following manuals for this version, to collect the troubleshooting information and then contact Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

11.2 In Case of Problem During Migration from Version 15.x

This section describes the method for troubleshooting if a problem occurs during the Upgrade Installation process for version 15.x.

11.2.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows, Solaris, Linux)

The workaround is stated in the procedures for upgrade in this document. Confirm the individual procedures for upgrading.

If the problem persists, refer to the following manuals, to collect the troubleshooting information and then contact Fujitsu Technical Support.

- In Case of problem during uninstallation of previous version:

Target for Upgrade	Reference (*1)
Express	"Trouble analysis" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Troubleshooting information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting maintenance information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"How to collect data" in the *ETERNUS SF Operation Guide for Copy Control Module*

*1: Refer to the applicable manual of the previous version.

- In Case of problem during installation of this version:

Target for Upgrade	Reference (*1)
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*

Target for Upgrade	Reference (*1)
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

*1: Refer to the manual of this version.

11.2.2 In Case of Problem During Upgrade of Storage Cruiser's Agent (for Windows)

The workaround is stated in the procedures for upgrade in this document. Confirm the individual procedures for upgrading.

If the problem persists, refer to "Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide* to collect the troubleshooting information and then contact Fujitsu Technical Support.

11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

The system can be recovered to the same status as Upgrade Installation completed normally.

For the server on which Upgrade Installation failed, perform the following actions:

1. Resolve any problems of installation failure.
2. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
3. Execute the following command to uninstall the previous version.

   [For Linux]

   ```
   # rpm -e FJSVssage
   ```

   [For Solaris]

   ```
   # pkgrm FJSVssage
   ```

4. Install Storage Cruiser's agent.

   Newly install this version of the Storage Cruiser's agent from the DVD-ROM.
   However, on completion of installation, the Storage Cruiser's agent setup is unnecessary.

5. Restore the environment in which the previous version was used.

   Take the following procedure to restore the previous version:

   a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
      If already inserted, this step is unnecessary.

   b. Mount the DVD-ROM.
      If already mounted, this step is unnecessary.

   c. Execute the following shell scripts in the DVD-ROM, to restore the previous version.

      [For Linux]

      ```
      # dvdromMountPoint/Agent_unix/Storage_Cruiser/Linux/scagtpostinst.sh backupDir
      ```

      [For Solaris]

      ```
      # dvdromMountPoint/Agent_unix/Storage_Cruiser/Solaris/scagtpostinst.sh backupDir
      ```

      For *backupDir*, specify the directory in which backup data is stored with the absolute path.

d. Unmount the DVD-ROM.

e. Eject the DVD-ROM.

6. Execute the following command to start the daemon.

```
# /opt/FJSVssage/bin/sstorageagt
```

7. Reload the server information on the Web Console.

11.2.4 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)

The workaround is stated in the procedures for upgrade in this document. Confirm the individual procedures for upgrading.

If the problem persists, refer to "Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* to collect the troubleshooting information and then contact Fujitsu Technical Support.

11.2.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

The system can be restore to the same status as Upgrade Installation completed normally.

For the server on which Upgrade Installation failed, perform the following actions.
For cluster environment, take the following procedure for the node on which Upgrade Installation failed, which is not necessary for the node on which Upgrade Installation succeeded:

Point

For non-cluster environment, recheck the following matters before performing the actions:

- AdvancedCopy Manager communication daemon should be stopped.
- The user should be a root user.

For cluster environment, in addition to non-cluster environment, recheck the following matters before performing the actions:

- On all the nodes for which Upgrade Installation is done, the Managed Server transactions should be stopped.
- On the primary node for which Upgrade Installation is done, the shared disk for shared data of Managed Server transactions should be mounted.

1. Resolve any problems of installation failure.
2. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
3. Execute the following command to uninstall the previous version.

```
# /opt/swstorage/setup/stg/swunsetup
```

Information

- After executing the swunsetup command, when reinstalling AdvancedCopy Manager's agent in other directory, make sure that the directory of the package listed in "Program Components of AdvancedCopy Manager's Agent" in this version of the *ETERNUS SF Installation and Setup Guide* is not left.
- Even if the swunsetup command is executed, the directory of the package listed in "Program Components of AdvancedCopy Manager's Agent" in this version of the *ETERNUS SF Installation and Setup Guide* may not be removed. If not needed, delete the remaining directory manually.

4. Newly install this version of the AdvancedCopy Manager's agent from the DVD-ROM.
However, on completion of installation, the AdvancedCopy Manager's agent setup is unnecessary.

5. Restore the environment in which the previous version was used.

   Take the following procedure to restore the previous version:

   a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
      If already inserted, this step is unnecessary.

   b. Mount the DVD-ROM.
      If already mounted, this step is unnecessary.

   c. Execute the following shell scripts in the DVD-ROM, to restore the previous version.

      [For RHEL5 x86 Agent]

      ```
      # dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x86/esfacmapostinst.sh backupDir
      ```

      [For RHEL5 x64 Agent]

      ```
      # dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel5_x64/esfacmapostinst.sh backupDir
      ```

      [For RHEL6 Agent]

      ```
      # dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/rhel6_x86/esfacmapostinst.sh backupDir
      ```

      [For Solaris Agent]

      ```
      # dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/Solaris/esfacmapostinst.sh backupDir
      ```

      [For SUSE Agent]

      ```
      # dvdromMountPoint/Agent_unix/AdvancedCopy_Manager/sles11_x86/esfacmapostinst.sh backupDir
      ```

      For *backupDir*, specify the directory in which backup data is stored with the absolute path.

      If restore should fail, check the output error message and resolve any problems of failure. After that, rerun the shell scripts.

   d. Unmount the DVD-ROM.

   e. Eject the DVD-ROM.

6. For cluster environment, restore the "AdvancedCopy Manager daemon start/stop script" for the Managed Server transactions.

   Restore the "AdvancedCopy Manager daemon start/stop script" for the Managed Server transactions, which was backed up prior to Upgrade Installation, to the same directory as prior to backup.

This is the end of the actions in case of problem during upgrade.

Continue the Upgrade Installation. Take the following procedure:

- For non-cluster environment:
  "9.4.1.3 Tasks to Be Performed After Upgrade"
- For primary node in cluster environment:
  "9.4.2.3 Tasks to Be Performed After Upgrade (Primary Node)"
- For secondary node in cluster environment:
  "9.4.2.5 Tasks to Be Performed After Upgrade (Secondary Node)"

11.2.6 In Case of Problem During Uninstallation of Previous Version of Storage Cruiser's Agent or AdvancedCopy Manager's Agent

The target environment is as follows:

- Windows Server 2003 (only for AdvancedCopy Manager's agent)
- RHEL-AS4/RHEL-ES4
- HP-UX

- AIX

After the problem has been diagnosed and solved, restart the Upgrade Installation from the beginning.

Point

- When an error message is displayed, refer to the following manuals for the previous version, and take the appropriate action for relevant message.

Target for Upgrade	Reference
Express	*ETERNUS SF Messages*
Storage Cruiser	
AdvancedCopy Manager	
AdvancedCopy Manager Copy Control Module	

- When no error message is displayed, refer to the following manuals for the previous version, to collect the troubleshooting information and then contact Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Trouble analysis" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Troubleshooting information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting maintenance information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"How to collect data" in the *ETERNUS SF Operation Guide for Copy Control Module*

11.2.7 In Case of Problem During Installation of This Version of Storage Cruiser's Agent or AdvancedCopy Manager's Agent

The target environment is as follows:

- Windows Server 2003 (only for AdvancedCopy Manager's agent)
- RHEL-AS4/RHEL-ES4
- HP-UX
- AIX

The uninstallation of the previous version has succeeded.
After the installation problem has been diagnosed and solved, refer to the *ETERNUS SF Installation and Setup Guide* for this version to install this version.

Point

- When an error message is displayed, refer to the following manuals for this version, and take the appropriate action for relevant message.

Target for Upgrade	Reference
Express	*ETERNUS SF Messages*
Storage Cruiser	

Target for Upgrade	Reference
AdvancedCopy Manager	
AdvancedCopy Manager Copy Control Module	

- When no error message is displayed, refer to the following manuals for this version, to collect the troubleshooting information and then contact Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

11.3 In Case of Problem During Migration from Version 16.x

This section describes the method for troubleshooting if a problem occurs during the Upgrade Installation process for version 16.x.

11.3.1 In Case of Problem During Upgrade of ETERNUS SF Manager (for Windows)

If a problem occurs during the Upgrade Installation process for ETERNUS SF Manager version 16.x. for the server on which Upgrade Installation failed, perform the following actions.

1. For cluster environment, if the general script files (for start/stop) of the following services are in use, back up to an optional directory.
   - ETERNUS SF Manager Apache Service
   - ETERNUS SF Manager Tomcat Service
2. Start the command prompt.
3. Execute the following command in the DVD-ROM to uninstall the previous version.

   ```
   <DVD-ROM drive>\Manager_windows\vuptools\esfvup_recovery_first.bat
   ```

   When the command is executed, the following message is displayed.

   - displayed message when the command ends with no errors

   ```
   esfvup_recovery_first processing was finished successfully.
   Please reboot a system. Afterwards, please install this version of the ETERNUS SF Manager or
   AdvancedCopy Manager Copy Control Module in the same directory as the previous version.
   ```

   - displayed message when the command ends in an error

   ```
   esfvup_recovery_first processing has failed.
   ```

   If this message is output, malfunction of the system is possible. Contact your Fujitsu Technical Support.

Note

This command backs up the data of the previous version to an installation destination directory and uninstalls the ETERNUS SF Manager program. At this point, do not delete the installation destination directory. On completion of restoring steps, the program deletes the following backup destination directory:

<*Installation directory*>\backup_recovery_dir

4. Restart the system.

5. Install the product of this version.
For the installation procedure, refer to this version of the *ETERNUS SF Installation and Setup Guide.*

Note

Install the product in the directory in which the previous version was installed. Also, if the port number is changed in the previous version, set it at the time of installation.

6. To restore the data of the previous version, execute the following command:

<*DVD-ROM drive*>\Manager_windows\vuptools\esfvup_recovery_second.bat

When the command is executed, the following message is displayed.

- displayed message when the command ends with no errors

```
esfvup_recovery_second processing was finished successfully.
```

- displayed message when the command ends in an error

```
esfvup_recovery_second processing has failed.
```

If this message is output, malfunction of the system is possible. Contact your Fujitsu Technical Support.

7. For cluster environment, if Step 1 is performed, the general script files (for start/stop) of services are restored.

This is the end of the actions in case of problem during upgrade.

Return to the steps for installing the upgrade to continue with the tasks.

11.3.2 In Case of Problem During Upgrade of ETERNUS SF Manager (for Solaris, Linux)

The workaround is stated in the procedures for upgrade in this document. Confirm the individual procedures for upgrading.

If the problem persists, refer to the manual below, to collect the troubleshooting information and then contact Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

11.3.3 In Case of Problem During Upgrade of Storage Cruiser's Agent (for Windows)

The system can be recovered to the same status as Upgrade Installation completed normally.

For the server on which Upgrade Installation failed, perform the following actions.

1. Resolve any problems of installation failure.
2. Uninstall the previous version.

   If the previous version number is displayed on the Program and Function screen, uninstall the previous version. If no previous version number is displayed, or even if it is displayed but its uninstallation fails, force delete Storage Cruiser's agent in the following steps:

   a. Stop Storage Cruiser's agent services

      Open Service Control Manager to stop ETERNUS SF Storage Cruiser's agent services.

      If no ETERNS SF Storage Cruiser's agent service exists in Service Control Manager, execute the following command from the command prompt executed as an administrator:

      ```
      sc stop "ETERNUS SF Storage Cruiser Agent"
      ```

      Even if this command terminates with error, ignore it.

   b. Delete Storage Cruiser's agent services

      Delete Storage Cruiser's agent services.

      Execute the following command from the command prompt executed as an administrator to delete Storage Cruiser's agent services.

      ```
      sc delete "ETERNUS SF Storage Cruiser Agent"
      ```

   c. Delete registry
      Delete Storage Cruiser's agent associated registry.

      If no appropriate registry exists, this process is not necessary.

      Note

      If registry deletion fails, a critical impact may be given on the system. It is recommended to back up the registry beforehand.

      Delete the following registries by Registry Editor:

      [32-bit operating system]

      ```
      HKEY_CLASSES_ROOT\Installer\Products\472B5B2AC92C5C44682AC58BE99AA69B
      HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\ETERNUS-SSC\Agent
      HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\Install\ETERNUS-SSC\AgentLevel
      HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData
      \S-1-5-18\Products\472B5B2AC92C5C44682AC58BE99AA69B
      HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{A2B5B274-
      C29C-44C5-86A2-5CB89EA96AB9}
      HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall
      \InstallShield_{A2B5B274-C29C-44C5-86A2-5CB89EA96AB9}
      ```

      [64-bit operating system]

      ```
      HKEY_CLASSES_ROOT\Installer\Products\472B5B2AC92C5C44682AC58BE99AA69B
      HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\ETERNUS-SSC\Agent
      HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\Install\ETERNUS-SSC\AgentLevel
      HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData
      \S-1-5-18\Products\472B5B2AC92C5C44682AC58BE99AA69B
      HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{A2B5B274-
      C29C-44C5-86A2-5CB89EA96AB9}
      ```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall
\InstallShield_{A2B5B274-C29C-44C5-86A2-5CB89EA96AB9}
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Fujitsu\ETERNUS-SSC\Agent
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Fujitsu\Install\ETERNUS-SSC\AgentLevel
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Installer\UserData
\S-1-5-18\Products\472B5B2AC92C5C44682AC58BE99AA69B
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall\
{A2B5B274-C29C-44C5-86A2-5CB89EA96AB9}
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall
\InstallShield_{A2B5B274-C29C-44C5-86A2-5CB89EA96AB9}
```

d. Delete Storage Cruiser's agent installed directories

Delete by Explorer the program directory, environment configuration directory and working directory when Storage Cruiser's agent of the previous version was installed.

e. Delete the directory created by Installer

If the following directories created by Installer exist, delete them by Explorer:

[32-bit operating system]

```
<Windows Install Drive>\Program Files\InstallShield Installation Information\{A2B5B274-
C29C-44C5-86A2-5CB89EA96AB9}
```

[64-bit operating system]

```
<Windows Install Drive>\Program Files (x86)\InstallShield Installation Information\
{A2B5B274-C29C-44C5-86A2-5CB89EA96AB9}
```

Point

Installer creates a hidden directory.
Select the "Show hidden files, folders and drives" radio button on the View tab for Folder and Search options in Explorer, and hidden directories are displayed.

f. Delete service name

Delete the service name.

Delete the line when the following lines exist in the %SystemRoot%\system32\drivers\etc\services file.

- sscruisera

3. Install Storage Cruiser's agent.

Newly install this version of the Storage Cruiser's agent from the DVD-ROM.

4. Restore the environment in which the previous version was used.

Take the following procedure to restore the previous version:

a. Log on to the target server as Administrator privileges.If already logged on as the Administrator privileges, this step is unnecessary.

b. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.

For the configuration and contents of the DVD-ROM, see "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide*.
If already inserted, this step is unnecessary.

c. Execute the following batch file in the DVD-ROM to restore the previous version.

```
<DVD-ROM drive>\Agent_windows\Storage_Cruiser\windows_x86\scagtpostinst.bat backupDir
```

For *backupDir*, specify the directory in which backup data is stored with the absolute path.

Point

If the directory name contains any spaces, it is surrounded by double quote characters.

d. Eject the DVD-ROM.

This is the end of the actions in case of problem during upgrade.

Subseuently, perform the post-Upgrade Installation work. Take the appropriate actions described in "7.3.4 Tasks to Be Performed After Upgrade".

11.3.4 In Case of Problem During Upgrade of Storage Cruiser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

In case of problem during upgrade of Storage Cruiser's agent, refer to "11.2.3 In Case of Problem During Upgrade of Storage Cruieser's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" to action.

11.3.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Windows Server 2008 or Later)

The system can be recovered to the same status as Upgrade Installation completed normally.

For the server on which Upgrade Installation failed, perform the following actions.

For cluster environment, take the following procedure for the node on which Upgrade Installation failed, which is not necessary for the node on which Upgrade Installation succeeded:

Point

- If Storage Cruiser's agent is installed, recheck the following matter before taking the action:
  - Storage Cruiser's agent services are stopped.
    If not, refer to "Starting and Stopping Agent" in the *ETERNUS SF Storage Cruiser Operation Guide* to stop the services.
- For non-cluster environment, recheck the following matters before performing the actions:
  - The user should be with Administrator privileges.
- For cluster environment, in addition to non-cluster environment, recheck the following matters before performing the actions:
  - On all the nodes for which Upgrade Installation is done, the Managed Server transactions should be stopped.
  - On the primary node for which Upgrade Installation is done, the shared disk for shared data of Managed Server transactions should be mounted.

1. Resolve any problems of installation failure.
2. Log on to the server using Administrator privileges.
   If already logged on as the Administrator privileges, this step is unnecessary.
3. Uninstall the previous version.

   If the previous version cannot be uninstalled, force delete AdvancedCopy Manager's agent with the following steps:

   a. Stop AdvancedCopy Manager COM Service's services

      ```
      > sc stop "AdvancedCopy COM"
      ```

   b. Delete AdvancedCopy Manger COM Service's services

      ```
      > sc delete "AdvancedCopy COM"
      ```

c. Delete registry

Delete AdvancedCopy Manager's agent associated registry.
If no appropriate registry exists, this process is not necessary.

Note

If deleting the registry fails, a critical impact may be given to the system. It is recommended to back up the registry beforehand.

Delete the following registries by Registry Editor:

[When AdvancedCopy Manager's agent is a 32-bit version on 32-bit operating system:]

```
HKEY_CLASSES_ROOT\Installer\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\Install\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData
\S-1-5-18\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall
\{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall
\InstallShield_{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
```

[When AdvancedCopy Manager's agent is a 32-bit version on 64-bit operating system:]

```
HKEY_CLASSES_ROOT\Installer\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData
\S-1-5-18\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Fujitsu\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Fujitsu\Install\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall
\{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall
\InstallShield_{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
```

[When AdvancedCopy Manager's agent is a 64-bit version on 64-bit operating system:]

```
HKEY_CLASSES_ROOT\Installer\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\Install\AdvancedCopy Manager
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData
\S-1-5-18\Products\F8087B8841D72AB4F9C6DCD4966C1565
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall
\{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall
\InstallShield_{88B7808F-7D14-4BA2-9F6C-CD4D69C65156}
```

d. Delete AdvancedCopy Manger installed directories.

Delete the program directory, environment configuration directory and working directory when Advanced Copy Manager's agent was installed.

The command example of a default installation directory is as follows. Execute the command to delete the directory:

```
> rd /s /q C:\Win32app\AdvancedCopyManager
```

When custom installation was used, delete the directories specified during installation.

4. Newly install this version of the AdvancedCopy Manager 's agent from the DVD-ROM.

   However, on completion of installation, the AdvancedCopy Manager's agent setup is unnecessary.

5. Restore the environment in which the previous version was used.

   Take the following procedure to restore the previous version:

a. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack (Agent Program and Manual)" for this version into the DVD-ROM drive.
For the configuration and contents of the DVD-ROM, see "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide*.
If already inserted, this step is unnecessary.

b. Execute the following batch file in the DVD-ROM to restore the previous version.

[When AdvancedCopy Manager's agent is a 32-bit version:]

```
<DVD-ROM Drive>:\Agent_windows\AdvancedCopy_Manager\agent\windows_x86\esfacmapostinst.bat backupDir
```

[When AdvancedCopy Manager's agent is a 64-bit version:]

```
<DVD-ROM Drive>:\Agent_windows\AdvancedCopy_Manager\agent\windows_x64\esfacmapostinst.bat backupDir
```

For *backupDir*, specify the directory in which backup data is stored with the absolute path.

Point

If the directory name contains any spaces, it is surrounded by double quote characters.

c. Eject the DVD-ROM.

This is the end of the actions in case of problem during upgrade.

Subseuently, perform the post-Upgrade Installation work. Perform the following actions:

- For non-cluster environment:
"10.3.1.4 Tasks to Be Performed After Upgrade"
- For primary node in cluster environment:
"10.3.2.4 Tasks to Be Performed After Upgrade (Primary Node)"
- For secondary node in cluster environment:
"10.3.2.7 Tasks to Be Performed After Upgrade (Secondary Node)"

11.3.6 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)

In case of problem during upgrade of AdvancedCopy Manger's agent, take the following actions:

1. The system can be recovered to the same status as Upgrade Installation completed normally.
"11.2.5 In Case of Problem During Upgrade of AdvancedCopy Manager's Agent (for Solaris, RHEL5/RHEL6, SUSE Linux Enterprise Server 11)" follow Steps 1 through 6 to restore to the status that Upgrade Installation is normally completed.
2. Perform the post-Upgrade Installation work. Perform the following matters:
   - For non-cluster environment:
   "10.4.1.4 Tasks to Be Performed After Upgrade"
   - For primary node in cluster environment:
   "10.4.2.4 Tasks to Be Performed After Upgrade (Primary Node)"
   - For secondary node in cluster environment:
   "10.4.2.7 Tasks to Be Performed After Upgrade (Secondary Node)"

11.3.7 In Case of Problem During Uninstallation of Previous Version of Storage Cruiser's Agent or AdvancedCopy Manager's Agent

The target environment is as follows:

- Windows Server 2003 (only the AdvancedCopy Manager's agent)
- RHEL-AS4/RHEL-ES4
- HP-UX
- AIX

After the problem has been diagnosed and solved, restart the upgrade process from the beginning.

Point

- When an error message is displayed, refer to the following manuals for the previous version, and take the appropriateaction for relevant message.

Target for Upgrade	Reference
Express	*ETERNUS SF Messages*
Storage Cruiser	
AdvancedCopy Manager	
AdvancedCopy Manager Copy Control Module	

- When no error message is displayed, refer to the following manuals for the previous version, to collect the troubleshooting information and then contact your Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

11.3.8 In Case of Problem During Installation of This Version of Storage Cruiser's Agent or AdvancedCopy Manager's Agent

The target environment is as follows:

- Windows Server 2003 (only the AdvancedCopy Manager's agent)
- RHEL-AS4/RHEL-ES4
- HP-UX
- AIX

The uninstallation of the previous version has succeeded.

After the installation problem has been diagnosed and solved, refer to the ETERNUS SF Installation and Setup Guide for this version to install.

Point

- When an error message is displayed, refer to the following manuals for this version, and take the appropriate action for relevant message.

Target for Upgrade	Reference
Express	*ETERNUS SF Messages*
Storage Cruiser	
AdvancedCopy Manager	
AdvancedCopy Manager Copy Control Module	

- When no error message is displayed, refer to the following manuals for this version, to collect the troubleshooting information and then contact your Fujitsu Technical Support.

Target for Upgrade	Reference
Express	"Collecting Troubleshooting Information" in the *ETERNUS SF Express Operation Guide*
Storage Cruiser	"Collecting Troubleshooting Information" in the *ETERNUS SF Storage Cruiser Operation Guide*
AdvancedCopy Manager	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*
AdvancedCopy Manager Copy Control Module	"Collecting Troubleshooting Information" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module*

Chapter 12 Configuration Import

This chapter describes the configuration import.

12.1 Devices Supported by Configuration Import Command

The devices supported by the configuration import command are listed in the following table.

- Storage devices

Type	Device Name	Notes
Disk array devices	ETERNUS DX60/DX60 S2/DX80/DX80 S2/DX90/DX90 S2 ETERNUS DX400/DX400 S2 series ETERNUS DX8000/DX8000 S2 series	Automatic registration only
	For ETERNUS Disk storage systems other than those listed above	Manual registration only
Fibre channel switches	ETERNUS SN200 series (except model 250M) Brocade Fibre Channel switches PRIMERGY Fibre Channel switch blades	Automatic registration only
Tape library	ETERNUS LT250 ETERNUS LT270	Automatic registration only
	ETERNUS LT20/LT20 S2 ETERNUS LT40/LT40 S2 ETERNUS LT60/LT60 S2 ETERNUS LT200 ETERNUS LT210 ETERNUS LT220 ETERNUS LT230	Manual registration only
Other devices	ETERNUS VS850/VS850 S2 ETERNUS CS800 NetApp FAS Series	Manual registration

- Servers

  The migration judge depends on the previous version and the server configuration of the previous version. The migration pattern for the previous version configuration information to this version is shown below.
  Register on the Web Console, if the server cannot be migrated.

  However, the migration of the server to which the Softek Storage Cruiser's agent is registered is not supported.

  - If only Storage Cruiser's agent is registered on the configuration information in the previous version.

No.	Server Type in Previous Version	This Version	
		Server Type	Function Level
1	VMware Host	VMware Host	Storage Cruiser
2	VMware Guest	VMware Guest	No Agent
3	Server registered automatically	Stand-alone	Storage Cruiser
4	Server registered manually		No Agent

  - If only AdvancedCopy Manager's agent is registered on the configuration information in the previous version.

No.	Server Type in Previous Version	Previous Version	This Version	
			Server Type	Function Level
1	Management Server	14.x	Cannot be migrated	
2		15.x	Stand-alone (Only when registering as AdvancedCopy Manager's agent)	AdvancedCopy Manager
3	Managed Server	14.x	Stand-alone	AdvancedCopy Manager
4		15.x		

- If Storage Cruiser's agent and AdvancedCopy Manager's agent are registered on the configuration information in the previous version.

No.	Server Type in Previous Version		Previous Version	This Version	
	Storage Cruiser	AdvancedCopy Manager		Server Type	Function Level
1	VMware Host	-	14.x	VMware Host	Storage Cruiser (*1)
2			15.x		
3	VMware Guest	Management Server	14.x	VMware Guest	No Agent
4			15.x		- No Agent (No AdvancedCopy Manager's agent registered or the VMware Tool is in unstartup state) - AdvancedCopy Manager (When registering as AdvancedCopy Manager's agent)
5		Managed Server	14.x		- No Agent (VMware Tool is in unstartup state)
6			15.x		- AdvancedCopy Manager (VMware Tool is in startup state)
7	Server registered automatically	Management Server	14.x	Stand-alone	Storage Cruiser
8			15.x		- Storage Cruiser (When not registering as AdvancedCopy Manager's agent) - Storage Cruiser AdvancedCopy Manager (When registering as AdvancedCopy Manager's agent)
9		Managed Server	14.x		Storage Cruiser AdvancedCopy Manager
10			15.x		
11	Server registered manually	Management Server	14.x	Stand-alone	No Agent
12			15.x		- No Agent (When not registering as

No.	Server Type in Previous Version		Previous Version	This Version	
	Storage Cruiser	AdvancedCopy Manager		Server Type	Function Level
					AdvancedCopy Manager's agent) - AdvancedCopy Manager (When registering as AdvancedCopy Manager's agent)
13		Managed Server	14.x		AdvancedCopy Manager
14			15.x		
15	Server unregistered	Management Server	14.x	Cannot be migrated	
16			15.x		
17		Managed Server	14.x		
18			15.x		

*1: In this version, the AdvancedCopy Manager's agent cannot be registered to a server in which VMware host is registered.

12.2 Command References

This section explains the command used for importing configuration information from a previous version.

12.2.1 esfadm devconf import (Configuration Import Command)

NAME

esfadm devconf import - import the configuration information from the previous version

SYNOPSIS

Windows Environment

```
$INS_DIR\Common\bin\esfadm devconf import -all
```

($INS_DIR is the program directory specified at the ETERNUS SF Manager installation.)

Solaris or Linux Environment

```
/opt/FJSVesfcm/bin/esfadm devconf import -all
```

DESCRIPTION

A request for the configuration information import from the previous version is issued to this product. OS Administrator permissions are required in order to execute the command.

When the command is executed, this product starts asynchronously to import and convert the configuration information from the previous version.

OPTIONS

-all

All configuration information registered at the previous version is imported.
At this version, specify this option.

EXIT STATUS

=0: Completed successfully
>0: Terminated abnormally

EXAMPLES

Windows Environment

```
> C:\ETERNUS_SF\Common\bin\esfadm devconf import -all
esfadm90000 Operation is accepted.
```

Solaris or Linux Environment

```
# /opt/FJSVesfcm/bin/esfadm devconf import -all
esfadm90000 Operation is accepted.
```

NOTES

- Check that the targeted devices can be accessed from this product before executing the import command.
  Refer to "12.1 Devices Supported by Configuration Import Command" about the devices targeted by the command.
- Some configuration information cannot be imported by the configuration import command.
  Refer to "12.3 What to Do When Configuration Import Is Not Possible" about the alternative options for these configurations.
- Operation is not possible on the targeted devices during the command execution.
- When the removed devices are registered in the configuration information at the previous version, the import of configuration information for their devices fails. In this case, the action is unnecessary.
- Import time for a storage device is approximately 10 minutes. For an estimate of the total import time, do the following calculation:

  ```
  [Total import time] = number of storage devices x 10 minutes
  ```

- The result of the import process is output in the Web Console Operation History. To try again to import the devices for which the import process has failed, re-execute this command after taking appropriate action for the message of Operation History.

12.2.2 esfadm devconf importstatus (Configuration Import Status Display Command)

NAME

esfadm devconf importstatus - displays the import status of configuration information of the previous version

SYNOPSIS

Windows Environment

```
$INS_DIR\Common\bin\esfadm devconf importstatus -detail
```

($INS_DIR is the program directory specified at the ETERNUS SF Manager installation.)

Solaris or Linux Environment

```
/opt/FJSVesfcm/bin/esfadm devconf importstatus -detail
```

DESCRIPTION

The import status of configuration information of the previous version is displayed.
OS Administrator permissions are required in order to execute the command.

The information displayed is as follows:

- Import process status
  The status of the process of configuration information import into previous version is displayed.

Title	Displayed Contents
IMPORT STATUS	Configuration information import status Execute : the configuration information import process is executing Complete : the configuration information import is complete

- Import status of migration target resources
  The import status for the configuration information of the previous version is displayed.

Title	Displayed Contents
CATEGORY	Type of migration target resource tierpolicy: Tiering policy storage : storage fcswitch : fibre channel switch server : server library : tape library
DEVICE NAME	Name of the device When the CATEGORY is "tierpolicy", "-" is displayed.
IP ADDRESS	IP address of the device When the CATEGORY is "tierpolicy", "-" is displayed.
REGISTER MODE	Device registration mode Auto : Automatic registration Manual : Manual registration When the CATEGORY is "tierpolicy", "-" is displayed.
STATUS	Import status for the migration target resource Wait : Paused Execute : Executing Complete : Completed Failed : Failed (*1)

*1: Refer to the Web Console Operation History for details.

OPTIONS

-detail

All of the import processing status and the import status of the migration target resources are displayed.
At this version, specify this option.

EXIT STATUS

=0: Completed successfully
>0: Terminated abnormally

EXAMPLES

Windows Environment

```
> C:\ETERNUS_SF\Common\bin\esfadm devconf importstatus -detail
-----------------------------------------------------------------------
IMPORT STATUS
-----------------------------------------------------------------------
Complete
-----------------------------------------------------------------------
```

```
-----------------------------------------------------------------------
CATEGORY   DEVICE NAME     IP ADDRESS      REGISTER MODE   STATUS
-----------------------------------------------------------------------
tierpolicy -                -              -               Complete
server     WIN-IJP9VFKMUQQ 10.xxx.xxx.xxx  Manual          Complete
server     fujitsu-7370c8b 10.xxx.xxx.xxx  Auto            Complete
storage    ETERNUSDX80     10.xxx.xxx.xxx  Auto            Complete
storage    DX90S2          10.xxx.xxx.xxx  Auto            Complete
storage    DX410S2         10.xxx.xxx.xxx  Auto            Complete
storage    DX440S2         10.xxx.xxx.xxx  Auto            Complete
storage    DX90_6_5        10.xxx.xxx.xxx  Auto            Complete
fcswitch   sn200_6_8       10.xxx.xxx.xxx  Auto            Complete
fcswitch   SN200_02        10.xxx.xxx.xxx  Auto            Complete
fcswitch   Switch          10.xxx.xxx.xxx  Auto            Complete
library    LT270           10.xxx.xxx.xxx  Auto            Complete
-----------------------------------------------------------------------
```

12.3 What to Do When Configuration Import Is Not Possible

When the configuration information cannot be imported with the command, they can be registered as described below:

No.	Information That Cannot Be Imported	Corrective Action
1	AdvancedCopy Manager Copy Control Module configuration (Only when the previous version is 14.x)	Register the configuration information with the following procedure: 1. Delete the existing registered information with the acarray remove command. 2. Register the ETERNUS Disk storage system in AdvancedCopy Manager Copy Control Module with the acarray add command. Set the ETERNUS Disk storage system name as the ETERNUS name. 3. Log in to the Web Console. 4. If the user name and password are not set for the specified device, click **Reset Password** in the Action pane and register the user name and password. 5. Execute the **Reload Conf.** operation in the Action pane.
2	iSCSI HBA information (Only when the previous version is 14.x)	Register the iSCSI HBA information with the following procedure: 1. Log in to the Web Console. 2. Select the server where the iSCSI HBA is configured, click **Add** under **HBA** in the Action pane and set the HBA information.
3	VMware vCenter Server configuration information (Only when the previous version is 15.x)	Register the configuration information with the following procedure: - Preparing for the upgrade 1. Log in to the Web Console. 2. On the global navigation tab, click **Server**. 3. On the Category pane, click **Correlation**. The items of the Category pane change into the items concerning the correlation management. Then, on the Category pane, click **End to End View (VMware)**. 4. Record the IP address and the port number of VMware vCenter Server displayed on the Main pane. - Tasks to be performed after the upgrade 1. Log in to the Web Console

No.	Information That Cannot Be Imported	Corrective Action
		2. On the global navigation tab, click **Server**. 3. On the Category pane, click **Correlation**. The items of the Category pane change into the items concerning the correlation management. Then, on the Category pane, click **End to End View (VMware)**. 4. On the Action pane, click **Register/Reload**. Then, configure the VMware vCenter Server information from which it refrains beforehand.
4	Hyper-V host configuration information (Only when the previous version is 15.x)	Register the configuration information with the following procedure: - Preparing for the upgrade 1. Log in to the Web Console. 2. On the global navigation tab, click **Server**. 3. On the Category pane, click **Correlation**. The items of the Category pane change into the items concerning the correlation management. Then, on the Category pane, click **End to End View (Hyper-V)**. 4. Record the IP address of the server which the **Registration as Hyper-V Host** column is "Registered" among servers displayed in the Main pane. - Tasks to be performed after the upgrade 1. Log in to the Web Console. 2. On the global navigation tab, click **Server**. 3. On the Category pane, click **Correlation**. The items of the Category pane change into the items concerning the correlation management. Then, on the Category pane, click **End to End View (Hyper-V)**. 4. On the Main pane, check the target server checkbox to be registered as Hyper-V host. 5. On the Action pane, click **Register/Reload.** Then, configure the Hyper-V host information from which it refrains beforehand.

See

- Refer to the *ETERNUS SF Web Console Guide* for this version for information on the instructions regarding the Web Console operations.
- Refer to "Command References" in the *ETERNUS SF AdvancedCopy Manager Operation Guide for Copy Control Module* for this version for information on the acarray remove command and acarray add command.

12.4 What to Do When Error Occurs

The results of the import process are output in the Web Console Operation History. To try and import again the devices for which the import process has failed, re-execute the esfadm devconf import command after taking appropriate action for the message of Operation History.

If the import status does not change or nothing is displayed, there is a possibility of this product malfunctioning. Check that there is no error message in the Web Console Event log.

Appendix A Operation for Previous Version Environment

A.1 Backing Up Repository Data (for Windows)

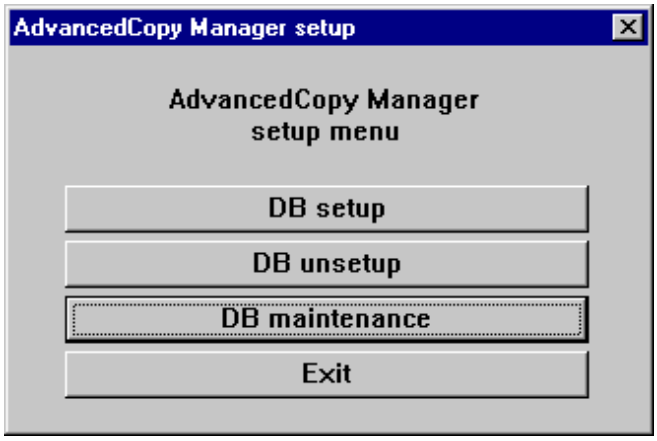
Save the repository data to the specified directory all at once.
Perform this operation on the Management Server (Storage Management Server).

Note

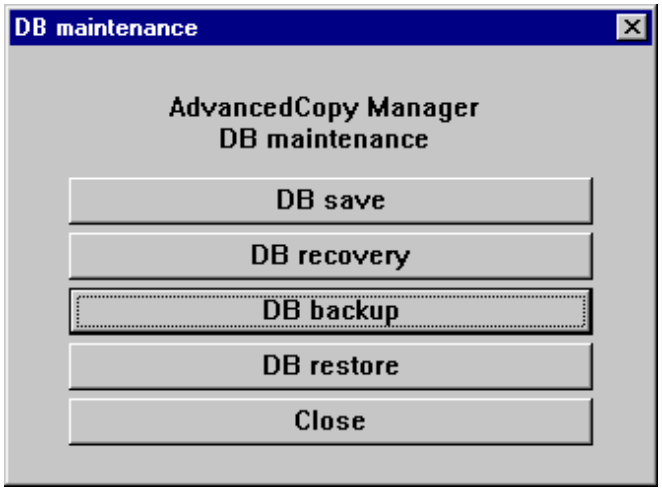
- Create a directory in which data will be saved in advance.
- Do not use the telnet server service.
  This operation will fail when issued from the telnet server service.

The procedure is shown below:

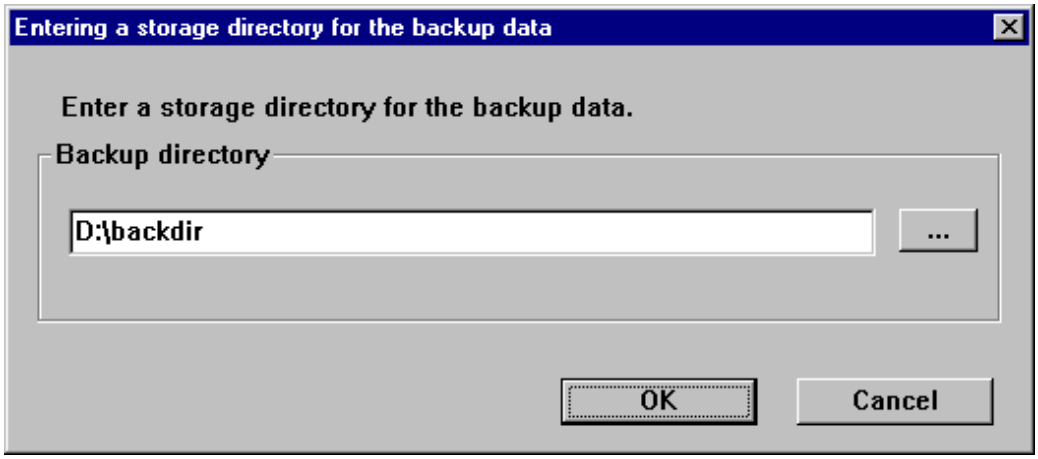
1. Click **Start** > **Programs** > **AdvancedCopy Manager** or **ETERNUS SF Manager** > **DB Setup**.
2. The following screen is displayed.
   Click **DB maintenance**.



3. The following screen is displayed.
   Click **DB backup**.

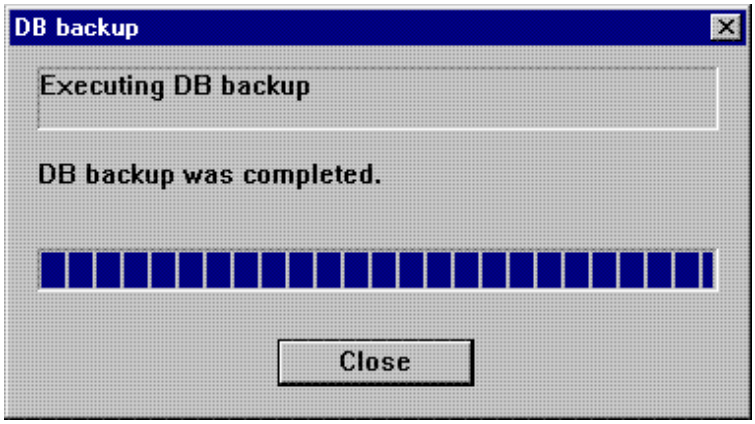


4. The following screen is displayed.
   Enter a backup directory and click **OK**.



5. The following screen is displayed.
   Check that the displayed information is correct and click **Start**.

6. The following screen is displayed after the process is completed.
   Click **Close**.



7. Click **Close** displayed in step 3 to complete the DB maintenance.
8. Click **Exit** displayed in step 2 to complete the DB backup.
9. Check that the backup of database has been completed successfully.
   Make sure that the file with ".unl" extension is created in the specified directory.

A.2 Backing Up Repository Data (for Solaris, Linux)

Save the repository data to the specified directory all at once.
Perform this operation on the Management Server (Storage Management Server).

Note

- Create a directory in which data will be saved in advance.
- Perform this operation as a root user.
- Perform this operation with the locale specified when you installed the Management Server. If Symfoware has been installed in advance, perform this operation with the locale specified at the time of installing Symfoware.

The procedure is shown below:

1. Execute the following command.

```
# /opt/swstorage/bin/stgdbbackup
```

2. The following message is displayed.
   To continue processing, enter "y". To stop processing, enter "n".

```
////////////////////////////////////////////////////////////////////
      AdvancedCopy Manager Storage Management Server ( **** )
                          Database backup
////////////////////////////////////////////////////////////////////

  +--------------------------------------------------------------+
  |                                                              |
  |   All of the stored data will be saved in an external file.  |
  |                                                              |
  |  [Notes]                                                     |
  |    Prepare a directory for storing the data to be saved.     |
  |                                                              |
  +--------------------------------------------------------------+

         Do you want to continue with processing? [y/n] ==> y
```

3. The following message is displayed.
   Enter the absolute path name of the directory for storing the data to be saved.

```
////////////////////////////////////////////////////////////////////
      AdvancedCopy Manager Storage Management Server ( **** )
                          Database backup
////////////////////////////////////////////////////////////////////


         Enter the absolute path name of the directory
         for storing the data to be saved.

                  Enter ==> /storage/backdir
```

Note

If the saved data exists in the directory, the processing is not performed.
Delete the saved data in the directory or specify another directory to retry the processing.

4. The following message is displayed.
   Enter "y" to continue processing or "n" to stop processing.
   When you enter "n", the screen returns step 2.

```
////////////////////////////////////////////////////////////////
      AdvancedCopy Manager Storage Management Server ( **** )
                          Database backup
////////////////////////////////////////////////////////////////

          Directory containing the saved data : /storage/backdir

          Do you want to continue with processing? [y/n] ==> y
```

5. The processing is performed and the execution results are displayed on the screen.
   The following example is for the execution result.

```
////// AdvancedCopy Manager database backup //////

================================================================
DB data backup will start.
================================================================
....
Unloading of data is complete.(base)
...
Unloading of data is complete.(backup)
.
Unloading of data is complete.(repl)

================================================================
Backup of DB data is complete.
================================================================

Database backup ended normally.

#
```

6. Check that the backup of database has been completed successfully.
   Make sure that the file with ".unl" extension is created in the specified directory.

A.3 Backing Up Management Information (for Windows)

Save the management information which exists in the Managed Server (Storage Server).

If Backup Operation Has Been Done

1. Check the data size of the backup management list under the following directory:

   - If the Managed Server is in a non-cluster environment:
     environmentDir\etc\backup\data
   - If the Managed Server is in a cluster environment:
     <*Drive letter of shared disk for shared data for AdvancedCopy Manager*>:\etc\opt\swstorage\etc\backup\data

   If you were backing up Symfoware databases, also check the file sizes in the target directory for output of the recovery control file.

2. Save the device.ini file.

   Save the following file by using the copy command:

   For Non-clustered Systems

File for Save	File Name
device.ini	*environmentDir*\etc\device.ini

For Clustered Systems

File for Save	File Name
device.ini	<*shared disk*>:\etc\opt\swstorage\etc\device.ini

3. Save the backup management list.

   Specify the directory which can store the data size checked in step 1 and execute the following command:

   ```
   C:\> programDir\bin\swstresback saveDir
   ```

See

Refer to the manuals according to the previous operating environment's version for information on the command.

- In the case of Version 14.2 or earlier
  "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide*.
- In the case of Version 15.0 or later
  "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*.

4. Save pre-processing and post-processing scripts and specification files.

   Save the following files by using the copy command:

   - Pre-processing and post-processing scripts for backup management function
   - Transaction volume locking specification file for backups
   - Backup volume locking specification file for backups
   - Backup-restored volume locking specification file

Information

The volume locking specification files might not exist according to the environment. In this case, it is unnecessary to save them.

For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	*environmentDir*\etc\backup\scripts\OpcBackupPre.js *environmentDir*\etc\backup\scripts\OpcBackupPost.js *environmentDir*\etc\backup\scripts\OpcRestorePre.js *environmentDir*\etc\backup\scripts\OpcRestorePost.js
Transaction volume locking specification file for backups	*environmentDir*\etc\backup\data\BTRANLOCK.INI
Backup volume locking specification file for backups	*environmentDir*\etc\backup\data\BBACKLOCK.INI
Backup-restored volume locking specification file	*environmentDir*\etc\backup\data\RDSTLOCK.INI

For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	<*shared disk*>:\etc\opt\swstorage\etc\backup\scripts\OpcBackupPre.js <*shared disk*>:\etc\opt\swstorage\etc\backup\scripts\OpcBackupPost.js <*shared disk*>:\etc\opt\swstorage\etc\backup\scripts\OpcRestorePre.js <*shared disk*>:\etc\opt\swstorage\etc\backup\scripts\OpcRestorePost.js

File for Save	File Name
Transaction volume locking specification file for backups	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\BTRANLOCK.INI
Backup volume locking specification file for backups	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\BBACKLOCK.INI
Backup-restored volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\RDSTLOCK.INI

If Replication Operation Has Been Done

1. Save the device.ini file.

   Save the following file by using the copy command:

   For Non-clustered Systems

File for Save	File Name
device.ini	*environmentDir*\etc\device.ini

   For Clustered systems

File for Save	File Name
device.ini	<*shared disk*>:\etc\opt\swstorage\etc\device.ini

2. Save the replication management list.

   The replication management list is stored in the repository on the Management Server. For this reason, if the repository data has been saved when migrating the Management Server, this step is not required.

   If the repository data on the Storage Management Serve has not been saved, perform the operation with reference to the following:

   - If the Management Server is in Windows environment:

     "A.1 Backing Up Repository Data (for Windows)"

   - If the Management Server is in Solaris, Linux environment:

     "A.2 Backing Up Repository Data (for Solaris, Linux)"

3. Save pre-processing and post-processing scripts and specification files.

   Save the following files by using the copy command:

   - Pre-processing and post-processing scripts for replication management function
   - Copy source volume locking specification file
   - Copy destination volume locking specification file
   - Timeout value setting file for the concurrent suspend function

   ## Information

   The volume locking specification files might not exist according to the environment. In this case, it is unnecessary to save them.

   For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	*environmentDir*\etc\repl\scripts\RepSrcPre.js *environmentDir*\etc\repl\scripts\RepDstPre.js

File for Save	File Name
	environmentDir\etc\repl\scripts\RepSrcPost.js *environmentDir*\etc\repl\scripts\RepDstPost.js
Copy source volume locking specification file	*environmentDir*\etc\repl\data\SRCLOCK.INI
Copy destination volume locking specification file	*environmentDir*\etc\repl\data\DSTLOCK.INI
Timeout value setting file for the concurrent suspend function	*environmentDir*\etc\repl\data\DEFAULT\check.ini

For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	<*shared disk*>:\etc\opt\swstorage\etc\repl\scripts\RepSrcPre.js <*shared disk*>:\etc\opt\swstorage\etc\repl\scripts\RepDstPre.js <*shared disk*>:\etc\opt\swstorage\etc\repl\scripts\RepSrcPost.js <*shared disk*>:\etc\opt\swstorage\etc\repl\scripts\RepDstPost.js
Copy source volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\SRCLOCK.INI
Copy destination volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\DSTLOCK.INI
Timeout value setting file for the concurrent suspend function	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\DEFAULT\check.ini

Note

There is incompatibility in the copy source volume locking specification file between Version 14.2 or earlier and this version. If the previous environment's version is 14.2 or earlier, change the settings of file by referring to "Swsrpmake command and swsrpcancel command processing (for Windows)" in the *ETERNUS SF Release Notes*, and then perform the backup.

4. If using the backup and the restoration function of the Exchange Database, save the following management information:

   - Drive letter map file
   - Device definition file (Windows Server 2003 environment only)

File for Save	File Name
Drive letter map file	*environmentDir*\etc\repl\data\EXDMAP.INI
Device definition file	*environmentDir*\etc\eternus_hardope.def

A.4 Backing Up Management Information (for Solaris, Linux)

Save the management information which exists in the Managed Server (Storage Server).

If Backup Operation Has Been Done

1. Check the data size of the backup management list under the following directory:

   - If the Managed Server is in a non-cluster environment:
     /etc/opt/FJSVswsts/data
   - If the Managed Server is in a cluster environment:
     /etc/opt/FJSVswsts/*logicalNodeName*/data

If you were backing up Symfoware databases, also check the file sizes in the target directory for output of the recovery control file.

Point

When you use the directory which has been saved as the save directory before, at least three times greater than the size calculated above is required.

2. Save the backup management list.

   Specify the directory which can store the data size checked in step 1 and execute the following command:

   ```
   # /opt/FJSVswsts/bin/swstresback saveDir
   ```

See

Refer to the manuals according to the previous operating environment's version for information on the command.

- In the case of Version 14.2 or earlier
  "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide*.
- In the case of Version 15.0 or later
  "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*.

3. Save pre-processing and post-processing scripts.

   Save the following files by using the cp command:

   - Pre-processing and post-processing scripts for backup management function

   For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	/etc/opt/FJSVswsts/sh/OpcBackup.pre /etc/opt/FJSVswsts/sh/OpcBackup.post /etc/opt/FJSVswsts/sh/OpcRestore.pre /etc/opt/FJSVswsts/sh/OpcRestore.post

   For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	/etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcBackup.pre /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcBackup.post /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcRestore.pre /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcRestore.post

If Replication Operation Has Been Done

1. Save the replication management list.

   The replication management list is stored in the repository on the Management Server (Storage Management Server). For this reason, if the repository data has been saved when migrating the Management Server, this step is not required.

   If the repository data on the Storage Management Serve has not been saved, perform the operation with reference to the following:

   - If the Management Server is in Windows environment:

     "A.1 Backing Up Repository Data (for Windows)"

   - If the Management Server is in Solaris, Linux environment:

     "A.2 Backing Up Repository Data (for Solaris, Linux)"

2. Save pre-processing and post-processing scripts and specification files.

   Save the following files by using the cp command:

   - Pre-processing and post-processing scripts for replication management function
   - Timeout value setting file for the concurrent suspend function

   For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	/etc/opt/FJSVswsrp/sh/RepSrc.pre /etc/opt/FJSVswsrp/sh/RepDst.pre /etc/opt/FJSVswsrp/sh/RepSrc.post /etc/opt/FJSVswsrp/sh/RepDst.post
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/data/DEFAULT/check.ini

   For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	/etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepSrc.pre /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepDst.pre /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepSrc.post /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepDst.post
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/*logicalNodeName*/data/DEFAULT/check.ini

A.5 Backing Up Management Information (for HP-UX, AIX)

Save the management information which exists in the Managed Server (Storage Server).

If Backup Operation Has Been Done

1. Check the data size of the backup management list under the following directory:

   - If the Managed Server is in a non-cluster environment:
     /etc/opt/FJSVswsts/data
   - If the Managed Server is in a cluster environment:
     /etc/opt/FJSVswsts/*logicalNodeName*/data

2. Save the backup management list.

   Specify the directory which can store the data size checked in step 1 and execute the following command:

   ```
   # /opt/FJSVswsts/bin/swstresback saveDir
   ```

   See

   Refer to the manuals according to the previous operating environment's version for information on the command.

   - In the case of Version 14.2 or earlier
     "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operator's Guide*.
   - In the case of Version 15.0 or later
     "swstresback (Resource backup command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide*.

3. Save pre-processing and post-processing scripts.

   Save the following files by using the cp command.

   - Pre-processing and post-processing scripts for backup management function

For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	/etc/opt/FJSVswsts/sh/OpcBackup.pre /etc/opt/FJSVswsts/sh/OpcBackup.post /etc/opt/FJSVswsts/sh/OpcRestore.pre /etc/opt/FJSVswsts/sh/OpcRestore.post

For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for backup management function	/etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcBackup.pre /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcBackup.post /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcRestore.pre /etc/opt/FJSVswsts/*logicalNodeName*/sh/OpcRestore.post

If Replication Operation Has Been Done

1. Save the replication management list.

   The replication management list is stored in the repository on the Management Server (Storage Management Server). For this reason, if the repository data has been saved when migrating the Management Server, this step is not required.

   If the repository data on the Storage Management Serve has not been saved, perform the operation with reference to the following:

   - If the Management Server is in Windows environment:

     "A.1 Backing Up Repository Data (for Windows)"

   - If the Management Server is in Solaris, Linux environment:

     "A.2 Backing Up Repository Data (for Solaris, Linux)"

2. Save pre-processing and post-processing scripts and specification files.

   Save the following files by using the cp command:

   - Pre-processing and post-processing scripts for replication management function
   - Timeout value setting file for the concurrent suspend function

   For Non-clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	/etc/opt/FJSVswsrp/sh/RepSrc.pre /etc/opt/FJSVswsrp/sh/RepDst.pre /etc/opt/FJSVswsrp/sh/RepSrc.post /etc/opt/FJSVswsrp/sh/RepDst.post
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/data/DEFAULT/check.ini

   For Clustered Systems

File for Save	File Name
Pre-processing and post-processing scripts for replication management function	/etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepSrc.pre /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepDst.pre /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepSrc.post /etc/opt/FJSVswsrp/*logicalNodeName*/sh/RepDst.post
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/*logicalNodeName*/data/DEFAULT/check.ini

A.6 Backing Up Environment Setting Files

Save the environment setting files for AdvancedCopy Manager Copy Control Module.

It is unnecessary to save files which are not listed in the following table.

For Non-clustered Systems

Copy the following files to any directory.

For Windows:

[AdvancedCopy Manager Copy Control Module Version 14.2 or earlier]

File Name	Remarks
- $INS_DIR\etc\db\eternus.xml - All files under $INS_DIR\etc\db\cg directory	
- $INS_DIR\etc\prop\user.properties - $INS_DIR\etc\stxc.alias - $INS_DIR\etc\stxcvolinf	Only when files exist.
- $INS_DIR\var\micc\database\DeviceRegList.xml	

$INS_DIR is the "Program Directory" as specified during AdvancedCopy Manager CCM installation.

[AdvancedCopy Manager Copy Control Module Version 15.0 or later]

File Name	Remarks
- $ENV_DIR\CCM\etc\db\eternus.xml - All files under $ENV_DIR\CCM\etc\db\cg directory	
- $ENV_DIR\CCM\etc\prop\user.properties - $ENV_DIR\CCM\etc\stxc.alias - $ENV_DIR\CCM\etc\stxc_ext.alias - $ENV_DIR\CCM\etc\stxcvolinf	Only when files exist.
- $TMP_DIR\CCM\var\micc\database\DeviceRegList.xml	

$ENV_DIR is the "Environment Directory" as specified during AdvancedCopy Manager CCM installation.
$TMP_DIR is the "Work Directory" as specified during AdvancedCopy Manager CCM installation.

For Solaris or Linux:

[AdvancedCopy Manager Copy Control Module Version 14.2 or earlier]

File Name	Remarks
- /etc/opt/FJSVccm/db/eternus.xml - All files under /etc/opt/FJSVccm/db/cg directory	
- /etc/opt/FJSVccm/prop/user.properties - /etc/opt/FJSVccm/accc/etc/stxc.alias - /etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files exist.
- /var/opt/FJSVccm/micc/database/DeviceRegList.xml	

[AdvancedCopy Manager Copy Control Module Version 15.0 or later]

File Name	Remarks
- /etc/opt/FJSVccm/db/eternus.xml - All files under /etc/opt/FJSVccm/db/cg directory	
- /etc/opt/FJSVccm/prop/user.properties - /etc/opt/FJSVccm/accc/etc/stxc.alias - /etc/opt/FJSVccm/accc/etc/stxc_ext.alias - /etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files exist.
- /var/opt/FJSVccm/micc/database/DeviceRegList.xml	

For Clustered Systems

Copy the following files to any directory.

For Windows:

File Name	Remarks
- $SHARE_DL:$SHARE_TOP\etc\db\eternus.xml - All files under $SHARE_DL:$SHARE_TOP\etc\db\cg directory	
- $SHARE_DL:$SHARE_TOP\etc\prop\user.properties - $SHARE_DL:$SHARE_TOP\etc\stxc.alias - $SHARE_DL:$SHARE_TOP\etc\stxc_ext.alias - $SHARE_DL:$SHARE_TOP\etc\stxcvolinf	Only when files exist.
- $SHARE_DL:$SHARE_TOP\var\micc\database\DeviceRegList.xml	
- $INS_DIR\micc\sys\.install.sys - $INS_DIR\bin\.stxc_install.sys - $INS_DIR\sys\sys.properties - $INS_DIR\noncluster\micc\sys\.install.sys - $INS_DIR\noncluster\bin\.stxc_install.sys - $INS_DIR\noncluster\sys\sys.properties	Do not restore using the procedure described at "Restoring environment settings files" or "Changing the cluster environment" in the *ETERNUS SF Operation Guide for Copy Control Module*.

$SHARE_DL is the drive letter of the shared disk for AdvancedCopy Manager CCM shared data.

$SHARE_TOP is the directory that contains "Environment Directory" and "Work Directory" of the shared disk for AdvancedCopy Manager CCM shared data.

$INS_DIR is the "Program Directory" as specified during AdvancedCopy Manager CCM installation.

For Solaris or Linux:

File Name	Remarks
- $SHARE_MNT/etc/opt/FJSVccm/db/eternus.xml - All files under $SHARE_MNT/etc/opt/FJSVccm/db/cg directory	
- $SHARE_MNT/etc/opt/FJSVccm/prop/user.properties - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc_ext.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files exist.

File Name	Remarks
- $SHARE_MNT/var/opt/FJSVccm/micc/database/DeviceRegList.xml	
- /opt/FJSVccm/micc/sys/.install.sys - /opt/FJSVccm/bin/.stxc_install.sys - /opt/FJSVccm/sys/sys.properties - /opt/FJSVccm/noncluster/micc/sys/.install.sys - /opt/FJSVccm/noncluster/bin/.stxc_install.sys - /opt/FJSVccm/noncluster/sys/sys.properties	Do not restore using the procedure described at "Restoring environment settings files" or "Changing the cluster environment" in the *ETERNUS SF Operation Guide for Copy Control Module*.

$SHARE_MNT is the mount point of the shared disk for AdvancedCopy Manager CCM shared data.

A.7 Unsetting Up Database

Perform the database unsetup to delete the database, its environment or cancel the repository settings.

Note

- Do not use the telnet server service.
  This operation will fail when issued from the telnet server service.
- When another software is monitoring Symfoware, stop Symfoware monitoring before executing the database unsetup.
  During Symfoware monitoring, the database unsetup may fail.
  The monitoring of Symfoware must restart after the operation of the upgrade restarts.

The procedure is shown below:

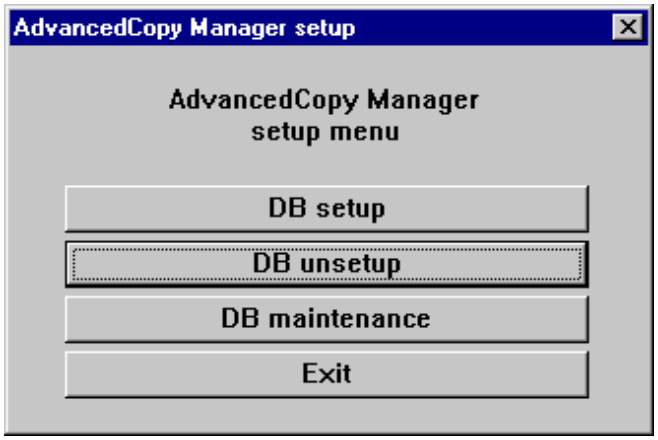
1. Login to the server where the database unsetup will be performed.

   For installing AdvancedCopy Manager of the previous version, login to the server as the user that has been specified when setting the database information.

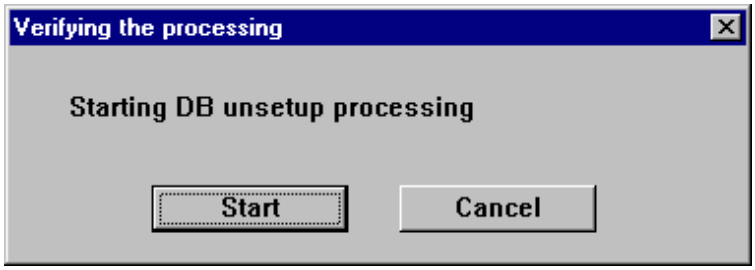
   If you login to the server with another user, this operation may fail.

2. Click **Start** > **Programs** > **AdvancedCopy Manager** or **ETERNUS SF Manager** > **DB Setup**.

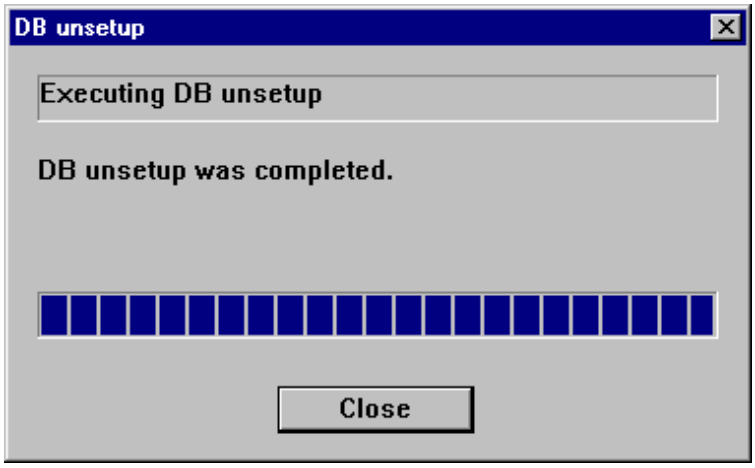
3. The following screen is displayed.
   Click **DB unsetup**.



4. The following screen is displayed.
   Click **Start**.



5. When the processing is completed, the following screen is displayed.
   Click **Close**.



6. Finish the database unsetup by clicking **Exit** on the screen displayed in step 3.

A.8 Cancelling Repository Settings

Delete the database and its environment to cancel the repository configurations.

Note

- Perform this operation as a root user.
- When the Management Server (Storage Management Server) is operated on the clustered system, the repository configurations are cancelled by deleting the Management Server transaction. Therefore, it is unnecessary to carry out this operation.
- Perform this operation with the locale specified when you installed the Management Server. If Symfoware has been installed in advance, perform this operation with the locale specified at the time of installing Symfoware.
- When another software is monitoring Symfoware, stop Symfoware monitoring before cancelling the repository settings.
  During Symfoware monitoring, cancelling the repository settings may fail.
  The monitoring of Symfoware must restart after the operation of the upgrade restarts.

The procedure is shown below:

1. Execute the following command:

```
# /opt/swstorage/bin/stgdbunset
```

2. The following message is displayed.
   To continue processing, enter "y". To stop processing, enter "n".

```
////////////////////////////////////////////////////////////////////
      AdvancedCopy Manager Storage management server ( **** )
                          Database unsetup
////////////////////////////////////////////////////////////////////

  +----------------------------------------------------------------+
  |                                                                |
  |   All of database environments of AdvancedCopy Manager         |
  |   will be deleted.                                             |
  |                                                                |
  |  [Notes]                                                       |
  |    Once processing has started, all stored data is discarded.  |
  |    Make sure that the environment allows execution             |
  |    before proceeding.                                          |
  |                                                                |
  +----------------------------------------------------------------+

         Do you want to continue with processing? [y/n] ==>
```

3. Deletion of the Management Server database is executed and the execution results are displayed on the screen.
   The following example is for the execution result.

Point

If an RDA-SV definition file overwrite confirmation message is displayed on the screen during processing, enter "y".

```
////// AdvancedCopy Manager database unsetup //////

Activation of RDB is complete.
====================================================================
The replication management will be deleted.
====================================================================

====================================================================
Clearing of database will start. (replication management)
====================================================================
.
Tables have been deleted. (replication management)
====================================================================
Clearing of database is complete. (replication management)
====================================================================

====================================================================
The replication management has been deleted.
====================================================================

            :

====================================================================
Clearing of database environment is complete.
====================================================================

====================================================================
The basic section has been deleted.
====================================================================

Database unsetup ended normally.
```

A.9 Restoring Repository Data (for Windows)

Restore the repository data from the specified directory.
Perform this operation on the Management Server.

The procedure is shown below:

1. Restore the repository data.

   Execute the stgrepocnv command to recover the migration target repository data to the current version repository.

   ```
   C:\> programDir\ACM\bin\stgrepocnv -d saveDir
   ```

   See

   Refer to "stgrepocnv (Repository Data Migration Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

2. Change the server information.

   To ensure data consistency, execute the stgxfwcmmodsrv command to perform the server information change processing.
   Specify the Management Server name to the -n option and execute the stgxfwcmmodsrv command.
   Check **Server** column of the stgxfwcmdispsrv command execution result for the Management Server name specified to the -n option.

   ```
   C:\> programDir\ACM\bin\stgxfwcmmodsrv -n ManagementServerName
   ```

   See

   Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

A.10 Restoring Repository Data (for Solaris, Linux)

Restore the repository data from the specified directory.
Perform this operation on the Management Server.

The procedure is shown below:

1. Restore the repository data.

   Execute the stgrepocnv command to recover the migration target repository data to the current version repository.

   ```
   # /opt/FJSVswstf/bin/stgrepocnv -d saveDir
   ```

   See

   Refer to "stgrepocnv (Repository Data Migration Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

   Note

   For Solaris, add "/opt/FSUNrdb2b/lib" to the value of the environment variable LD_LIBRARY_PATH_64 of the terminal on which the command will be executed.

2. Change the server information.

   To ensure data consistency, execute the stgxfwcmmodsrv command to perform the server information change processing.
   Specify the Management Server name to the -n option and execute the stgxfwcmmodsrv command.

Check **Server** column of the stgxfwcmdispsrv command execution result for the Management Server name specified to the -n option.

```
# /opt/FJSVswstf/bin/stgxfwcmmodsrv -n ManagementServerName
```

See

Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

A.11 Restoring Management Information (for Windows)

Restore the management information which exists in the Managed Server.

If Backup Operation Has Been Done

1. Restore the device.ini file.

   Restore the device.ini file saved in "A.3 Backing Up Management Information (for Windows)" by executing the copy command.

   For Non-clustered Systems on Management Server Which Also Serves as Managed Server

File for Restoration	Full Path Name for Restoration Destination
device.ini	*environmentDir*\ACM\etc\device.ini

   For Non-clustered Systems on Managed Server

File for Restoration	Full Path Name for Restoration Destination
device.ini	*environmentDir*\etc\device.ini

   For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
device.ini	<*shared disk*>:\etc\opt\swstorage\etc\device.ini

2. Restore the backup management list.

   Specify the directory saved in "A.3 Backing Up Management Information (for Windows)" and execute the following command:

   For Management Server Which Also Serves as Managed Server

   ```
   C:\> programDir\ACM\bin\swstresrst saveDir
   ```

   For Managed Server

   ```
   C:\> programDir\bin\swstresrst saveDir
   ```

   See

   Refer to "swstresrst (Resource Restore Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

3. Restore specification files.

   Information

   The volume locking specification files might not exist according to the environment. If they were not backed up in "A.3 Backing Up Management Information (for Windows)", this step is not needed.

Restore the following files saved in "A.3 Backing Up Management Information (for Windows)" by executing the copy command:

- Transaction volume locking specification file for backups
- Backup volume locking specification file for backups
- Backup-restored volume locking specification file

For Non-clustered Systems on Management Server Which Also Serves as Managed Server

File for Restoration	Full Path Name for Restoration Destination
Transaction volume locking specification file for backups	*environmentDir*\ACM\etc\backup\data\BTRANLOCK.INI
Backup volume locking specification file for backups	*environmentDir*\ACM\etc\backup\data\BBACKLOCK.INI
Backup-restored volume locking specification file	*environmentDir*\ACM\etc\backup\data\RDSTLOCK.INI

For Non-clustered Systems on Managed Server

File for Restoration	Full Path Name for Restoration Destination
Transaction volume locking specification file for backups	*environmentDir*\etc\backup\data\BTRANLOCK.INI
Backup volume locking specification file for backups	*environmentDir*\etc\backup\data\BBACKLOCK.INI
Backup-restored volume locking specification file	*environmentDir*\etc\backup\data\RDSTLOCK.INI

For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Transaction volume locking specification file for backups	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\BTRANLOCK.INI
Backup volume locking specification file for backups	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\BBACKLOCK.INI
Backup-restored volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\backup\data\RDSTLOCK.INI

Note

Do not restore pre-processing and post-processing scripts for backup management function by using copy command.

The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

If Replication Operation Has Been Done

1. Restore the device.ini file. No need to restore this file if you have already restored it in "If Backup Operation Has Been Done".

   Restore the device.ini file saved in "A.3 Backing Up Management Information (for Windows)" by executing the copy command.

   For Non-clustered Systems on Management Server Which Also Serves as Managed Server

File for Restoration	Full Path Name for Restoration Destination
device.ini	*environmentDir*\ACM\etc\device.ini

For Non-clustered Systems on Managed Server

File for Restoration	Full Path Name for Restoration Destination
device.ini	*environmentDir*\etc\device.ini

For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
device.ini	<*shared disk*>:\etc\opt\swstorage\etc\device.ini

2. Restore the replication management list.

   The replication management list is stored in the repository on the Management Server. Execute the following command:

   For Management Server Which Also Serves as Managed Server

   ```
   C:\> programDir\ACM\bin\swsrprecoverres -r
   ```

   For Managed Server

   ```
   C:\> programDir\bin\swsrprecoverres -r
   ```

   ### See

   Refer to "swsrprecoverres (Resource Adjustment Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

3. Restore specification files.

   Restore the following files saved in "A.3 Backing Up Management Information (for Windows)" by executing the copy command:

   - Copy source volume locking specification file
   - Copy destination volume locking specification file
   - Timeout value setting file for the concurrent suspend function

   ### Information

   The volume locking specification files might not exist according to the environment. If they were not backed up in "A.3 Backing Up Management Information (for Windows)", this step is not needed.

   For Non-clustered Systems on Management Server Which Also Serves as Managed Server

File for Restoration	Full Path Name for Restoration Destination
Copy source volume locking specification file	*environmentDir*\ACM\etc\repl\data\SRCLOCK.INI
Copy destination volume locking specification file	*environmentDir*\ACM\etc\repl\data\DSTLOCK.INI
Timeout value setting file for the concurrent suspend function	*environmentDir*\ACM\etc\repl\data\DEFAULT\check.ini

   For Non-clustered Systems on Managed Server

File for Restoration	Full Path Name for Restoration Destination
Copy source volume locking specification file	*environmentDir*\etc\repl\data\SRCLOCK.INI
Copy destination volume locking specification file	*environmentDir*\etc\repl\data\DSTLOCK.INI

File for Restoration	Full Path Name for Restoration Destination
Timeout value setting file for the concurrent suspend function	*environmentDir*\etc\repl\data\DEFAULT\check.ini

For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Copy source volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\SRCLOCK.INI
Copy destination volume locking specification file	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\DSTLOCK.INI
Timeout value setting file for the concurrent suspend function	<*shared disk*>:\etc\opt\swstorage\etc\repl\data\DEFAULT\check.ini

Note

Do not restore pre-processing and post-processing scripts for replication management function by using copy command.

The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

4. If using the backup and the restoration function of the Exchange Database, restore the following management information:

   - Drive letter map file
   - Device definition file (Windows Server 2003 environment only)

File for Restoration	Full Path Name for Restoration Destination
Drive letter map file	*environmentDir*\etc\repl\data\EXDMAP.INI
Device definition file	*environmentDir*\etc\eternus_hardope.def

A.12 Restoring Management Information (for Solaris, Linux)

Restore the management information which exists in the Managed Server.

Note

Caution about AdvancedCopy Manager's Agent in Linux Environment

For environments in which udev devices exist, prioritize and use the following udev device names after upgrade.

- Normal device
- PRIMECLUSTER GDS SDX object (operating time of slice unit only)

  Refer to "Managing Device on AdvancedCopy Manager" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Linux)* for information on udev device names.

If you had used compatible device names before the upgrade, perform the following actions depending on the device names using after the upgrade:

- For operations that use compatible device names:

  Execute the stgxfwcmsetmode command to change the information collection mode such that udev device names are not used.

  Refer to "Managing Device on AdvancedCopy Manager" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Linux)* for information on changing the information collection mode.

- For operations that use udev device names:

  Delete the backup management definition information and replication management definition information, and fetch the udev device names. Then, it is necessary to redefine the backup and replication using udev device names.
  Refer to "Changing Device Configuration" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Linux)* for the procedures.

If Backup Operation Has Been Done

1. Restore the backup management list.

   Specify the directory saved in "A.4 Backing Up Management Information (for Solaris, Linux)" and execute the following command:

   ```
   # /opt/FJSVswsts/bin/swstresrst saveDir
   ```

   See

   Refer to "swstresrst (Resource Restore Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

2. Restore pre-processing and post-processing scripts.

   Note

   Do not restore pre-processing and post-processing scripts for backup management function by using copy command.

   The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

If Replication Operation Has Been Done

1. Restore the replication management list.

   The replication management list is stored in the repository on the Management Server. Execute the following command:

   ```
   # /opt/FJSVswsrp/bin/swsrprecoverres -r
   ```

   See

   Refer to "swsrprecoverres (Resource Adjustment Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

2. Restore specification files.

   Restore the following files saved in "A.4 Backing Up Management Information (for Solaris, Linux)" by executing the copy command:

   - Timeout value setting file for the concurrent suspend function

   For Non-clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/data/DEFAULT/check.ini

   For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/*logicalNodeName*/data/DEFAULT/check.ini

Note

Do not restore pre-processing and post-processing scripts for replication management function by using copy command.

The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

A.13 Restoring Management Information (for HP-UX, AIX)

Restore the management information which exists in the Managed Server.

Note

Caution about AdvancedCopy Manager's Agent in HP-UX Environment

- If using HP-UX 11i v2 or earlier:

  Fetch the device information. If new devices, modified devices or deleted devices are detected, perform the reflective operation if necessary. Refer to "Fetching Device Information on Managed Server" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for HP-UX)* for information on how to fetch device information.

- If using HP-UX 11i v3 or later:

  In HP-UX 11i v3 or later, as a device format, there are two device names: new format and legacy format. Refer to "Managing Device on AdvancedCopy Manager" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for HP-UX)* for information on device names. Depending on the device format, perform the procedure below.

  - If using a different format device name before and after upgrade:

    Before upgrading, set the device format executing the stgxfwcmsetmode command, and then delete the definition for the backup management and replication management. After that, set the device format used after upgrading executing the stgxfwcmsetmode command, and then fetch the device information and redefine the backup management and replication management.
    Refer to "Configuration Management Commands" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for HP-UX)* for information on setting the information collection mode.

    Refer to "Changing Device Configuration" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for HP-UX)* for information on backup management and replication management.

  - If using the same format device name before and after upgrade:

    Even if using the same format device name as before upgrade, always set up the device format being used by executing the stgxfwcmsetmode command.
    Refer to "Configuration Management Commands" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for HP-UX)* for information on setting the information collection mode.

If Backup Operation Has Been Done

1. Restore the backup management list.

   Specify the directory saved in "A.5 Backing Up Management Information (for HP-UX, AIX)" and execute the following command:

   ```
   # /opt/FJSVswsts/bin/swstresrst saveDir
   ```

See

Refer to "swstresrst (Resource Restore Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

2. Restore pre-processing and post-processing scripts.

Note

Do not restore pre-processing and post-processing scripts for backup management function by using copy command.

The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

If Replication Operation Has Been Done

1. Restore the replication management list.

   The replication management list is stored in the repository on the Management Server. Execute the following command:

   ```
   # /opt/FJSVswsrp/bin/swsrprecoverres -r
   ```

See

Refer to "swsrprecoverres (Resource Adjustment Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for this version for information on the command.

2. Restore specification files.

   Restore the following files saved in "A.5 Backing Up Management Information (for HP-UX, AIX)" by executing the cp command:

   - Timeout value setting file for the concurrent suspend function

   For Non-clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/data/DEFAULT/check.ini

   For Clustered Systems

File for Restoration	Full Path Name for Restoration Destination
Timeout value setting file for the concurrent suspend function	/etc/opt/FJSVswsrp/*logicalNodeName*/data/DEFAULT/check.ini

Note

Do not restore pre-processing and post-processing scripts for replication management function by using copy command.

The sample of pre-processing and post-processing scripts may be changed when upgrading a version. If you have customized pre-processing and post-processing scripts before the upgrade, re-customize it in reference to pre-processing and post-processing scripts which has been saved before the upgrade.

A.14 Restoring Environment Setting Files

Restore the environment setting files for AdvancedCopy Manager Copy Control Module saved in "A.6 Backing Up Environment Setting Files".

For Non-clustered Systems

Restore the environment setting files according to the following procedure.

1. Delete the following files.

   - For Windows:

File Name	Remarks
- All files under $ENV_DIR\CCM\etc\db\cg directory	
- $ENV_DIR\CCM\etc\prop\user.properties - $ENV_DIR\CCM\etc\stxc.alias - $ENV_DIR\CCM\etc\stxc_ext.alias - $ENV_DIR\CCM\etc\stxcvolinf	Only when files exist.

     $ENV_DIR is the "Environment Directory" as specified during AdvancedCopy Manager CCM installation.

   - For Solaris or Linux:

File Name	Remarks
- All files under /etc/opt/FJSVccm/db/cg directory	
- /etc/opt/FJSVccm/prop/user.properties - /etc/opt/FJSVccm/accc/etc/stxc.alias - /etc/opt/FJSVccm/accc/etc/stxc_ext.alias - /etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files exist.

2. Copy the files which are saved in "A.6 Backing Up Environment Setting Files" to the following files and directories:

   - For Windows:

File Name	Remarks
- $ENV_DIR\CCM\etc\db\eternus.xml - All files under $ENV_DIR\CCM\etc\db\cg directory	
- $ENV_DIR\CCM\etc\prop\user.properties - $ENV_DIR\CCM\etc\stxc.alias - $ENV_DIR\CCM\etc\stxc_ext.alias - $ENV_DIR\CCM\etc\stxcvolinf	Only when files were backed up.
- $TMP_DIR\CCM\var\micc\database\DeviceRegList.xml	

     $ENV_DIR is the "Environment Directory" as specified during AdvancedCopy Manager CCM installation.
     $TMP_DIR is the "Work Directory" as specified during AdvancedCopy Manager CCM installation.

   - For Solaris or Linux:

File Name	Remarks
- /etc/opt/FJSVccm/db/eternus.xml - All files under /etc/opt/FJSVccm/db/cg directory	
- /etc/opt/FJSVccm/prop/user.properties - /etc/opt/FJSVccm/accc/etc/stxc.alias	Only when files were backed up.

File Name	Remarks
- /etc/opt/FJSVccm/accc/etc/stxc_ext.alias - /etc/opt/FJSVccm/accc/etc/stxcvolinf	
- /var/opt/FJSVccm/micc/database/DeviceRegList.xml	

The restoration for the environment setting files is completed.

For Clustered Systems

Restore the environment setting files according to the following procedure.

1. Delete the following files.

   - For Windows:

File Name	Remarks
- All files under $SHARE_DL:$SHARE_TOP\etc\db\cg directory	
- $SHARE_DL:$SHARE_TOP\etc\prop\user.properties - $SHARE_DL:$SHARE_TOP\etc\stxc.alias - $SHARE_DL:$SHARE_TOP\etc\stxc_ext.alias - $SHARE_DL:$SHARE_TOP\etc\stxcvolinf	Only when files exist.

     $SHARE_DL is the drive letter of the shared disk for AdvancedCopy Manager CCM shared data.

     $SHARE_TOP is the directory that contains "Environment Directory" and "Work Directory" of the shared disk for AdvancedCopy Manager CCM shared data.

   - For Solaris or Linux:

File Name	Remarks
- All files under $SHARE_MNT/etc/opt/FJSVccm/db/cg directory	
- $SHARE_MNT/etc/opt/FJSVccm/prop/user.properties - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc_ext.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files exist.

     $SHARE_MNT is the mount point of the shared disk for AdvancedCopy Manager CCM shared data.

2. Copy the files which are saved in "A.6 Backing Up Environment Setting Files" to the following files and directories:

   - For Windows:

File Name	Remarks
- $SHARE_DL:$SHARE_TOP\etc\db\eternus.xml - All files under $SHARE_DL:$SHARE_TOP\etc\db\cg directory	
- $SHARE_DL:$SHARE_TOP\etc\prop\user.properties - $SHARE_DL:$SHARE_TOP\etc\stxc.alias - $SHARE_DL:$SHARE_TOP\etc\stxc_ext.alias - $SHARE_DL:$SHARE_TOP\etc\stxcvolinf	Only when files were backed up.
- $SHARE_DL:$SHARE_TOP\var\micc\database\DeviceRegList.xml	

$SHARE_DL is the drive letter of the shared disk for AdvancedCopy Manager CCM shared data.
$SHARE_TOP is the directory that contains "Environment Directory" and "Work Directory" of the shared disk for AdvancedCopy Manager CCM shared data.

- For Solaris or Linux:

File Name	Remarks
- $SHARE_MNT/etc/opt/FJSVccm/db/eternus.xml - All files under $SHARE_MNT/etc/opt/FJSVccm/db/cg directory	
- $SHARE_MNT/etc/opt/FJSVccm/prop/user.properties - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxc_ext.alias - $SHARE_MNT/etc/opt/FJSVccm/accc/etc/stxcvolinf	Only when files were backed up.
- $SHARE_MNT/var/opt/FJSVccm/micc/database/DeviceRegList.xml	

$SHARE_MNT is the mount point of the shared disk for AdvancedCopy Manager CCM shared data.

The restoration for the environment setting files is completed.

A.15 Backing Up Common Control Repository (for Windows)

Save the common control repository.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.

1. Stop the ETERNUS SF Express Tomcat service.

   Open Service Control Manager to stop the following service.

   - ETERNUS SF Manager Tomcat Service

2. Create backup data.

   1. Using Explorer, create the following backup directories:

      - $BAK_DIR\Common

   2. From a user with OS Administrator privilege, execute the following command to create backup data.

      If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for *portNumber*.
      The file name of the created backup data is *backupFileName*.

      ```
      $INS_DIR\Common\sys\postgres\bin\pg_dump -U esfpostgres -C --attribute-inserts -p
      portNumber -f $BAK_DIR\Common\backupFileName esfdb
      ```

   3. The prompt is displayed, and waiting for input. Input the following strings.

      ```
      master01!
      ```

3. Start the ETERNUS SF Express Tomcat service.

   Open Service Control Manager to start the following service.

   - ETERNUS SF Manager Tomcat Service

A.16 Backing Up Common Control Repository (for Solaris, Linux)

Save the common control repository.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

1. Stop the ETERNUS SF Manager Web service.
   Execute the following shell script to stop the service.

   ```
   /opt/FJSVesfcm/bin/stop-webservice.sh
   ```

2. Create backup data.

   1. Create the following backup directories:

      ```
      mkdir -p $BAK_DIR/Common
      ```

   2. From a user with OS Administrator privilege, execute the following command to create backup data.

      If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for *portNumber*.
      The file name of the created backup data is *backupFileName*.

      ```
      /opt/FJSVesfcm/postgres/bin/pg_dump -U esfpostgres -C --attribute-inserts -p portNumber -f
      $BAK_DIR/Common/backupFileName esfdb
      ```

   3. The prompt is displayed, and waiting for input. Input the following strings.

      ```
      master01!
      ```

3. Start the ETERNUS SF Manager Web service.

   Execute the following shell script to start the service.

   ```
   /opt/FJSVesfcm/bin/start-webservice.sh
   ```

A.17 Backing Up License Management Database (for Windows)

Save the license management database.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.

1. Using Explorer, create the following backup directories:

   - $BAK_DIR\LM

2. From a user with OS Administrator privilege, execute the following command to create backup data.
   The file name of the created backup data is *backupFileName*.

   ```
   $INS_DIR\LM\bin\esflm backup $BAK_DIR\LM\backupFileName
   ```

A.18 Backing Up License Management Database (for Solaris, Linux)

Save the license management database.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

1. Create the following backup directories:

   ```
   mkdir -p $BAK_DIR/LM
   ```

2. From a user with OS Administrator privilege, execute the following command to create backup data.
   The file name of the created backup data is *backupFileName*.

   ```
   /opt/FJSVesflm/bin/esflm backup $BAK_DIR/LM/backupFileName
   ```

A.19 Restoring Common Control Repository (for Windows)

Restore the common control repository.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.

1. Stop the ETERNUS SF Express Tomcat service.

   Open Service Control Manager to stop the following service.

   - ETERNUS SF Manager Tomcat Service

2. Restore the backup data. The following procedure must be implemented by a user with administrator privileges for the operating system.

   1. Execute the following command.

      If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for *portNumber*.

      ```
      $INS_DIR\Common\sys\postgres\bin\psql -U esfpostgres -p portNumber postgres
      ```

2. The prompt is displayed, and waiting for input. Input the following strings in order.

   ```
   master01!
   drop database esfdb;
   \q
   ```

3. Execute the following command to restore the backup data.
   If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for *portNumber*.
   The *backupFileName* is the file name specified when the backup data was created.

   ```
   $INS_DIR\Common\sys\postgres\bin\psql -U esfpostgres -p portNumber -f $BAK_DIR\Common
   \backupFileName postgres
   ```

4. The prompt is displayed, and waiting for input. Input the following strings.

   ```
   master01!
   ```

3. Start the ETERNUS SF Express Tomcat service.

   Open Service Control Manager to start the following service.

   - ETERNUS SF Manager Tomcat Service

Note

After restoring the shared control repository, it takes approximately 2 minutes before the Web Console becomes available.

A.20 Restoring Common Control Repository (for Solaris, Linux)

Restore the common control repository.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

1. Stop the ETERNUS SF Manager Web service.

   Execute the following shell script to stop the service.

   ```
   /opt/FJSVesfcm/bin/stop-webservice.sh
   ```

2. Restore the backup data. The following procedure must be implemented by a user with administrator privileges for the operating system.

3. Execute the following command.

   If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for <*port number*>.

   ```
   /opt/FJSVesfcm/postgres/bin/psql -U esfpostgres -p portNumber postgres
   ```

   1. The prompt is displayed, and waiting for input. Input the following strings in order.

      ```
      master01!
      drop database esfdb;
      \q
      ```

2. Execute the following command to restore the backup data.
   If you did not change the port number, specify 15432 for *portNumber*. If you did change the port number, specify the changed port number for *portNumber*.
   The *backupFileName* is the file name specified when the backup data was created.

   ```
   /opt/FJSVesfcm/postgres/bin/psql -U esfpostgres -p portNumber -f $BAK_DIR/Common/
   backupFileName postgres
   ```

3. The prompt is displayed, and waiting for input. Input the following strings.

   ```
   master01!
   ```

4. Start the ETERNUS SF Manager Web service.

   Execute the following shell script to start the service.

   ```
   /opt/FJSVesfcm/bin/start-webservice.sh
   ```

Note

After restoring the shared control repository, it takes approximately 2 minutes before the Web Console becomes available.

A.21 Restoring License Management Database (for Windows)

Restore the license management database.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.

Execute the following command with administrator privileges for the operating system.
The *backupFileName* is the file name specified when the backup data was created.

```
$INS_DIR\LM\bin\esflm restore $BAK_DIR\LM\backupFileName
```

A.22 Restoring License Management Database (for Solaris, Linux)

Restore the license management database.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

Execute the following command with administrator privileges for the operating system.
The *backupFileName* is the file name specified when the backup data was created.

```
/opt/FJSVesflm/bin/esflm restore $BAK_DIR/LM/backupFileName
```

A.23 Backup of Express Operational Environment

Follow the procedure below to save the environment for the Express's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	The directory in which the Express's manager has been installed

1. Stop the service.
   With the Windows services screen, stop the following 4 services:
   - ETERNUS SF Express Manager
   - ETERNUS SF Express Apache Service
   - ETERNUS SF Express Tomcat Service
   - ETERNUS SF Storage Cruiser Manager
2. Backup the administration information of the disk array.
   Using Explorer, create the following backup directories:
   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current
   - $BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

   Copy the subdirectories and files belonging to the following directory from their backup directory.

Copy Source Directory	Backup Destination Directory
$INS_DIR\Storage Cruiser\Manager\var\opt\FJSVssmgr \current\opencimom\logr	$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current \opencimom\logr

   Copy the following file of the backup source to the directory of the backup destination.

Copy Source File	Backup Destination Directory
$INS_DIR\Storage Cruiser\Manager\etc\opt\FJSVssmgr \current\sanma.conf	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current

3. Back up the files related to the performance management function.
   This step can be skipped if you are not using the performance management function.
   Using Explorer, create the following backup directories:
   - $BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

   Copy the following file and sub-directory under the backup source directory to the backup destination directory.

Backup Source Directory	Backup Destination Directory
$INS_DIR\Storage Cruiser\Manager\var\opt\FJSVssmgr \current\perf	$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current \perf

A.24 Restoring of Express Operational Environment

Follow the procedure below to restore the environment for the Express's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.
$ENV_DIR	"Environment Directory" specified at the ETERNUS SF Manager installation.
$TMP_DIR	"Work Directory" specified at the ETERNUS SF Manager installation.

1. Execute the following batch to stop the ETERNUS SF Manager services.

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

2. Restore the device administration information.
   Using Explorer or a similar program, delete the files belonging to the following restore destination directory.
   However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   - $TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

   Using Explorer or a similar program, copy the files belonging to the following directory from their backup location.

Copy Source Directory	Copy Destination Directory
$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current \opencimom\logr	$TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current \opencimom\logr

3. Restore the files related to the performance management function.
   This step can be skipped if you are not using the performance management function or the files related to the performance management function are not backed up.
   Using Explorer or a similar program, delete the subdirectories and files belonging to the following restore destination directory.
   However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   - $TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

   Using Explorer or a similar program, copy the subdirectories and files belonging to the following directory from their backup location.

Copy Source Directory	Copy Destination Directory
$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf	$TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current \perf

4. Restore the other files which can be customized.
   This restoration is unnecessary for the files or the directories which have not been backed up.
   Using Explorer or a similar program, copy the following files from the backup locations.

Copy Source File	Copy Destination Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current \sanma.conf	$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current

5. Execute the following batch to start ETERNUS SF Manager services.

   ```
   $INS_DIR\Common\bin\Start_ESFservice.bat
   ```

A.25 Backup of Manager Operation Environment (for Windows)

Follow the procedure below to back up the environment for the Storage Cruiser's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	The "Program Directory" when the manager was installed
$ENV_DIR	The "Environment Directory" when the manager was installed
$TMP_DIR	The "Work Directory" when the manager was installed

1. Stop the Storage Cruiser's manager.
   With the Windows services screen, stop the following service:

   - ETERNUS SF Storage Cruiser Manager

2. Backup the device administration information.
   Create the following directory for the backup data in Explorer or a similar program.

   - $BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

   Using Explorer or a similar program, copy the files belonging to the following directories to their backup locations.

Copy Source Directory	Copy Destination Directory
$TMP_DIR\Manager\var\opt\FJSVssmgr\current\opencimom\logr	$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

3. Back up the files related to the performance management function.
   This step can be skipped if you are not using the performance management function. Backup is not required if there are no subdirectories or files.

   ## Note

   If a pile of files related to the performance management function exists, calculate the backup time according to the amount of files.

   Using Explorer, create the following backup directories:

   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current
   - $BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

   Using Explorer or a similar program, copy the following file to the backup location.

Copy Source File	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\perf.conf	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current

   Using Explorer or a similar program, copy the subdirectories and files belonging to the following directories to their backup locations.

Copy Source Directory	Copy Destination Directory
$TMP_DIR\Manager\var\opt\FJSVssmgr\current\perf	$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

4. Back up the other files which can be customized.
   It is unnecessary to back up the files or the directories which are not existed.
   Create the following backup directories in Explorer or a similar program.

   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current
   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\eventmail

   Using Explorer or a similar program, copy the following files to their backup locations.

Copy Source File	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\sanma.conf	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\ssmgr.conf	
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\trapop.bat	
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\traprm.bat	

   Using Explorer or a similar program, copy the subdirectories and files belonging to the following directory to their backup location.

Copy Source Directory	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\eventmail	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\eventmail

5. Back up the SNMP Trap XML definition files.
   This step can be skipped if you are not customizing the SNMP Trap XML definition files.
   Below is an example for if the SNMP Trap XML definition file 1_3_6_1_1588_2_1_1_1.xml has been customized. As shown in this example, back up each file one at a time.
   Create the following backup directory in Explorer or a similar program.

   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

   Using Explorer or a similar program, copy the following file to its backup location.

Copy Source File	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\snmpth\1_3_6_1_1588_2_1_1_1.xml	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

6. Back up the device polling setting files.
   This step can be skipped if you are not customizing the device polling setting files.
   Below is an example for if the device polling setting file DP_config.xml is being customized. As in this example, back up each file one at a time.
   Create the following backup directory in Explorer or a similar program.

   - $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\devicepolling

   Using Explorer or a similar program, copy the following file to its backup location.

Copy Source File	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\devicepolling\DP_config.xml	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\devicepolling

7. Back up the polling service setting file.
   This step can be skipped if you are not customizing the polling service setting file.

If customizing the polling service setting file pollingService.xml, follow the step below to back it up.
Create the following backup directory in Explorer or a similar program.

- $BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling

Using Explorer or a similar program, copy the following file to its backup location.

Copy Source File	Copy Destination Directory
$ENV_DIR\Manager\etc\opt\FJSVssmgr\current\polling \pollingService.xml	$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current \polling

A.26 Backup of Windows Version Manager Operation Environment (for Cluster Environment)

For cluster environment, follow the procedure below to back up the environment for the Storage Cruiser's manager.

1. Stop all cluster services to which the Manager belongs.
   Refer to "Cluster Transaction and Local Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for details of cluster transaction.
2. Mount the shared disk on the primary node.
3. Perform step 2 to 7 of "A.25 Backup of Manager Operation Environment (for Windows)" on the primary node.
   Directory description in "A.25 Backup of Manager Operation Environment (for Windows)" are replaced to the following directories.
   - $BAK_DIR means the backup destination directory.
   - $INS_DIR means "Program Directory" specified at the manager installation.
   - $ENV_DIR means "Environment Directory" specified at the ETERNUS SF Manager installation.
   - $TMP_DIR means "Work Directory" as specified during installation.
4. Unmount the shared disk mounted in step 2.
5. Start all cluster transactions to which the Manager belongs.

A.27 Backup of Manager Operation Environment (for Solaris, Linux)

Follow the procedure below to back up the environment for the Storage Cruiser's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

1. Stop the Storage Cruiser's manager.
   Execute the following command:

   ```
   /opt/FJSVssmgr/sbin/managerctl stop
   ```

2. Backup the device administration information.
   Create the f backup directories.

   ```
   mkdir -p $BAK_DIR/var/opt/FJSVssmgr/current/opencimom/logr
   ```

   Copy the file to the backup location.

```
cp -Rp /var/opt/FJSVssmgr/current/opencimom/logr/* $BAK_DIR/var/opt/FJSVssmgr/current/opencimom/
logr/
```

3. Back up the files related to the performance management function.
   This step can be skipped if you are not using the performance management function. Backup is not required if there are no subdirectories or files.

   Note

   If a pile of files related to the performance management function exists, calculate the backup time according to the amount of files.

   Create the directories for the backup data.

   ```
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current
   mkdir -p $BAK_DIR/var/opt/FJSVssmgr/current/perf
   ```

   Copy the subdirectories and files to the backup locations.

   ```
   cp -p /etc/opt/FJSVssmgr/current/perf.conf $BAK_DIR/etc/opt/FJSVssmgr/current/
   cp -Rp /var/opt/FJSVssmgr/current/perf/* $BAK_DIR/var/opt/FJSVssmgr/current/perf/
   ```

4. Back up the other files which can be customized.
   It is unnecessary to back up the files or the directories which are not existed.
   Create the directories for the backup data.

   ```
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current/eventmail
   ```

   Copy the subdirectories and files to the backup locations.

   ```
   cp -p /etc/opt/FJSVssmgr/current/sanma.conf $BAK_DIR/etc/opt/FJSVssmgr/current/
   cp -p /etc/opt/FJSVssmgr/current/ssmgr.conf $BAK_DIR/etc/opt/FJSVssmgr/current/
   cp -p /etc/opt/FJSVssmgr/current/trapop.sh $BAK_DIR/etc/opt/FJSVssmgr/current/
   cp -p /etc/opt/FJSVssmgr/current/traprm.sh $BAK_DIR/etc/opt/FJSVssmgr/current/
   cp -Rp /etc/opt/FJSVssmgr/current/eventmail/* $BAK_DIR/etc/opt/FJSVssmgr/current/eventmail/
   ```

5. Back up the SNMP Trap XML definition files.
   This step can be skipped if you are not customizing the SNMP Trap XML definition files.
   Below is an example for if the SNMP Trap XML definition file 1_3_6_1_1588_2_1_1_1.xml has been customized. As shown in this example, back up each customized file one at a time.
   Create the directories for the backup data.

   ```
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current/snmpth
   ```

   Copy the file to the backup location.

   ```
   cp -p /etc/opt/FJSVssmgr/current/snmpth/1_3_6_1_1588_2_1_1_1.xml
   $BAK_DIR/etc/opt/FJSVssmgr/current/snmpth/
   ```

6. Back up the device polling setting files.
   This step can be skipped if you are not customizing the device polling setting files.
   Below is an example for if the device polling setting file, DP_config.xml, has been customized. As shown in this example, back up each customized file one at a time.

   Create the directories for the backup data.

   ```
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current/devicepolling
   ```

   Copy the file to the backup location.

   ```
   cp -p /etc/opt/FJSVssmgr/current/devicepolling/DP_config.xml $BAK_DIR/etc/opt/FJSVssmgr/current/
   devicepolling/
   ```

7. Back up the polling service setting file.
   This step can be skipped if you are not customizing the polling service setting file.
   If you have customized the polling service setting file pollingService.xml, back up this file using the step shown below.
   Create the directories for the backup data.

   ```
   mkdir -p $BAK_DIR/etc/opt/FJSVssmgr/current/polling
   ```

   Copy the file to the backup location.

   ```
   cp -p /etc/opt/FJSVssmgr/current/polling/pollingService.xml $BAK_DIR/etc/opt/FJSVssmgr/current/
   polling/
   ```

A.28 Backup of Solaris/Linux Version Manager Operation Environment (for Cluster Environment)

For cluster environment, follow the procedure below to back up the environment for the Storage Cruiser's manager.

1. Stop all cluster services to which the Manager belongs.
   Refer to "Cluster Transaction and Local Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for details of cluster transaction.
2. Mount the shared disk on the primary node.
3. Perform step 2 to 7 of "A.27 Backup of Manager Operation Environment (for Solaris, Linux)" on the primary node.
4. Unmount the shared disk mounted in step 2.
5. Start all cluster transactions to which the Manager belongs.

A.29 Restoring of Manager Operation Environment (for Windows)

Follow the procedure below to restore the environment for the Storage Cruiser's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.
$INS_DIR	"Program Directory" specified at the ETERNUS SF Manager installation.
$ENV_DIR	"Environment Directory" specified at the ETERNUS SF Manager installation.
$TMP_DIR	"Work Directory" specified at the ETERNUS SF Manager installation.

1. Execute the following batch to stop the ETERNUS SF Manager services.

   ```
   $INS_DIR\Common\bin\Stop_ESFservice.bat
   ```

2. Restore the device administration information
   Using Explorer or a similar program, delete the files belonging to the following restore destination directory.
   However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   - $TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

   Using Explorer or a similar program, copy the following subdirectories and files from its backup location.

Copy Source Directory	Copy Destination Directory
$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr	$TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\opencimom\logr

3. Restore the files related to the performance management function.
   This step can be skipped if you are not using the performance management function or the files related to the performance management function are not backed up.
   Using Explorer or a similar program, delete the subdirectories and files belonging to the following restore destination directory. However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   - $TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

   Using Explorer or a similar program, copy the following file from its backup location.

Copy Source File	Copy Destination Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\perf.conf	$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current

   Using Explorer or a similar program, copy the subdirectories and files belonging to the following directory from their backup location.

Copy Source Directory	Copy Destination Directory
$BAK_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf	$TMP_DIR\ESC\Manager\var\opt\FJSVssmgr\current\perf

   After copying, edit perf.conf(performance management definition file).
   What is edited is as follows:

   MONITORING_SIZE

   The number of devices whose performance is being monitored is specified in decimal format.
   Set the MONITORING_SIZE parameter to 0 (zero).

   MONITORING_NUMBER

   The information for the device whose performance is being monitored and the valid/invalid values for threshold monitoring are set up.
   Delete all the lines of MONITORING_*number* parameters.

   [Before editing]

```
#Tue Nov 05 20:11:02 JST 2013
PERF_DATA_KEEP_DAYS=7;
LOG_ROTATION=2;
MONITORING_SIZE=1
MONITORING_0=1.3.6.1.4.1.211.1.21.1.100@00ETERNUSDXMS0ET410SA#####KP1234567890##:
30,0,63,Thresholds_Enable
```

   [After editing]

```
#Tue Nov 05 20:11:02 JST 2013
PERF_DATA_KEEP_DAYS=7;
LOG_ROTATION=2;
MONITORING_SIZE=0
```

Note

If there is no ENABLED_ECO_MODE or ENABLED_PORT_ISCSI parameter definition in the perf.conf file, add the definition after migration.

Refer to "perf.conf Parameter" in the *ETERNUS SF Storage Cruiser Operation Guide* for details of customizing the parameter of the perf.conf file.

4. Restore the other files which can be customized.
   This restoration is unnecessary for the files or the directories which have not been backed up.
   Using Explorer or a similar program, copy the following files from the backup locations.

Copy Source File	Copy Destination Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\sanma.conf	$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\ssmgr.conf	
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\trapop.bat	
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\traprm.bat	

   Using Explorer or a similar program, copy the subdirectories and files belonging to the following directory from their backup location.

Copy Source Directory	Copy Destination Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\eventmail	$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\eventmail

5. Customization of the SNMP Trap XML Definition file is executed again.
   This restoration is unnecessary for the files which have not been backed up.
   Refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. For the contents of customization, refer to the SNMP Trap XML Definition file for the use of theprevious version located below.

Backup File Location Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\snmpth

6. Restore the device polling setting files.
   This restoration is unnecessary for the files which have not been backed up.
   Using Explorer or a similar program, copy the device polling setting file from its backup location.

Copy Source File	Copy Destination Directory
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\devicepolling\DP_config.xml	$ENV_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\devicepolling

7. Customization of the Polling Service Setting file is executed again.
   This restoration is unnecessary for the files which have not been backed up.
   Refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. For the contents of customization, refer to the Polling Service Setting file for the use of the previous version shown below.

Backup file
$BAK_DIR\ESC\Manager\etc\opt\FJSVssmgr\current\polling\pollingService.xml

8. Execute the following batch to start the ETERNUS SF Manager services.

```
$INS_DIR\Common\bin\Start_ESFservice.bat
```

A.30 Restoring of Windows Version Manager Operation Environment (for Cluster Environment)

For cluster environment, follow the procedure below to restore the environment for the Storage Cruiser's manager.

1. Stop all cluster services to which the Manager belongs.
   Refer to "Cluster Transaction and Local Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for details of cluster transaction.
2. Mount the shared disk on the primary node.
3. Perform steps step 2 to 7 of "A.29 Restoring of Manager Operation Environment (for Windows)" on the primary node.
   Directory description in "A.29 Restoring of Manager Operation Environment (for Windows)" are replaced to the following directories.
   - $BAK_DIR means the backup destination directory.
   - $INS_DIR means "Program Directory" specified at the ETERNUS SF Manager installation.
   - $ENV_DIR means "Environment Directory" specified at the ETERNUS SF Manager installation.
   - $TMP_DIR means "Work Directory" as specified during installation.
4. Unmount the shared disk mounted in step 2.
5. Start all cluster transactions to which the Manager belongs.

A.31 Restoring of Manager Operation Environment (for Solaris, Linux)

Follow the procedure below to restore the environment for the Storage Cruiser's manager.

Information

Notation in Procedure:

Directory Name	Explanation
$BAK_DIR	Backup destination directory.

1. Execute the following shell script to stop ETERNUS SF Manager services.
   An error will occur if the shell script is executed before the ETERNUS SF manager service activation completes. It was automatically activated by the installation process. In the case that an error does occur, execute the script again after a 30 seconds.

   ```
   /opt/FJSVesfcm/bin/stopesf.sh
   ```

2. Restore the device administration information.
   Delete the files belonging to the restore destination directory.
   However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   ```
   rm -rf /var/opt/FJSVssmgr/current/opencimom/logr/*
   ```

   Copy the files from their backup locations.

   ```
   cp -Rp $BAK_DIR/var/opt/FJSVssmgr/current/opencimom/logr/* /var/opt/FJSVssmgr/current/opencimom/
   logr/
   ```

3. Restore the files related to the performance management function.
   This step can be skipped if you are not using the performance management function or the files related to the performance management function are not backed up.
   Delete the subdirectories and files belonging to the restore destination directory.
   However, be sure not to delete the restore destination directory itself. If the restore destination directory itself does not exist, create it.

   ```
   rm -f /etc/opt/FJSVssmgr/current/perf.conf
   rm -rf /var/opt/FJSVssmgr/current/perf/*
   ```

   Copy the subdirectories and files from the backup location.

```
cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/perf.conf /etc/opt/FJSVssmgr/current/
cp -Rp $BAK_DIR/var/opt/FJSVssmgr/current/perf/* /var/opt/FJSVssmgr/current/perf/
```

After copying, edit perf.conf(performance management definition file).
What is edited is as follows:

MONITORING_SIZE

The number of devices whose performance is being monitored is specified in decimal format.
Set the MONITORING_SIZE parameter to 0 (zero).

MONITORING_NUMBER

The information for the device whose performance is being monitored and the valid/invalid values for threshold monitoring are set up.
Delete all the lines of MONITORING_*number* parameters.

[Before editing]

```
#Tue Nov 05 20:11:02 JST 2013
PERF_DATA_KEEP_DAYS=7;
LOG_ROTATION=2;
MONITORING_SIZE=1
MONITORING_0=1.3.6.1.4.1.211.1.21.1.100@00ETERNUSDXMS0ET410SA#####KP1234567890##:
30,0,63,Thresholds_Enable
```

[After editing]

```
#Tue Nov 05 20:11:02 JST 2013
PERF_DATA_KEEP_DAYS=7;
LOG_ROTATION=2;
MONITORING_SIZE=0
```

If there is no ENABLED_ECO_MODE or ENABLED_PORT_ISCSI parameter definition in the perf.conf file, add the definition after migration.

Refer to "perf.conf Parameter" in the *ETERNUS SF Storage Cruiser Operation Guide* for details of customizing the parameter of the perf.conf file.

4. Restore the other files which can be customized.
This restoration is unnecessary for the files or the directories which have not been backed up.
Copy the subdirectories and files from the backup location.

```
cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/sanma.conf /etc/opt/FJSVssmgr/current/
cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/ssmgr.conf /etc/opt/FJSVssmgr/current/
cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/trapop.sh /etc/opt/FJSVssmgr/current/
cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/traprm.sh /etc/opt/FJSVssmgr/current/
cp -Rp $BAK_DIR/etc/opt/FJSVssmgr/current/eventmail/* /etc/opt/FJSVssmgr/current/eventmail/
```

5. Customization of the SNMP Trap XML Definition file is executed again.
This restoration is unnecessary for the files which have not been backed up.
Refer to "SNMP Trap XML Definition File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the SNMP trap XML definition file for the use of this version level. For the contents of customization, refer to the SNMP Trap XML Definition file for the use of the previous version located below.

Backup File Location Directory
/etc/opt/FJSVssmgr/current/snmpth

6. Restore the device polling setting files.
   This restoration is unnecessary for the files which have not been backed up.
   Copy the files from the backup location.

   ```
   cp -p $BAK_DIR/etc/opt/FJSVssmgr/current/devicepolling/*.xml /etc/opt/FJSVssmgr/current/
   devicepolling/
   ```

7. Customization of the Polling Service Setting file is executed again.
   This restoration is unnecessary for the files which have not been backed up.
   Refer to "Polling Service Setting File" of the *ETERNUS SF Storage Cruiser Operation Guide* and customize the Polling Service Setting file for the use of this version level. For the contents of customization, refer to the Polling Service Setting file for the use of the previous version shown below.

Backup file
/etc/opt/FJSVssmgr/current/polling/pollingService.xml

8. Execute the following shell script to start ETERNUS SF Manager services.

   ```
   /opt/FJSVesfcm/bin/startesf.sh
   ```

A.32 Restoring of Solaris/Linux Version Manager Operation Environment (for Cluster Environment)

For cluster environment, follow the procedure below to restore the environment for the Storage Cruiser's manager.

1. Stop all cluster transaction to which the Manager belongs.
   Refer to "Cluster Transaction and Local Transaction" in the *ETERNUS SF Cluster Environment Setup Guide* for details of cluster transaction.
2. Mount the shared disk on the primary node.
3. Perform and step 2 to 7 of "A.31 Restoring of Manager Operation Environment (for Solaris, Linux)" on the primary node.
4. Unmount the shared disk mounted in step 2.
5. Start all cluster transactions to which the Manager belongs.

A.33 Capacity Necessary for Backup of Previous Version

The formula for estimation of the capacity required in order to backup a previous version is listed below.

According to the number of registered storage devices, servers, switches and users (number of user accounts) using the Web Console, add the following capacity:

```
Capacity (MB) = 125 + devicesToBeManaged * 4.1 + users
```

According to the number of registered storage devices add the total of the following capacity to the abovementioned capacity:

- When using an ETERNUS DX80 S2/DX90 S2 (firmware version V10L40 or later)

  ```
  Capacity (MB) = devicesToBeManaged * 4
  ```

- When using an ETERNUS DX400 S2 series (firmware version V10L40 or later)

  ```
  Capacity (MB) = devicesToBeManaged * 6
  ```

- When using an ETERNUS DX8000 S2 series (firmware version V10L40 or later)

  ```
  Capacity (MB) = devicesToBeManaged * 23
  ```

- In cases other than those listed above

```
Capacity (MB) = 0
```

Appendix B Install parameter

This appendix explains the install parameter file and the details of each install parameter.

B.1 Install Parameter File (for ETERNUS SF Manager)

The sample of the install parameter file is provided on the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version.

- Stored location

```
dvdromMountPoint/Manager_unix/install_parameter.txt
```

For changing install parameters, copy the form of the install parameter file in a convenient location and modify the installation information.

The following is the form of the install parameter file.

Refer to "B.2 Install Parameters (for ETERNUS SF Manager)" for the description of each parameter.

```
#-----------------------------------------------#
# Installation function
#     1: ETERNUS SF Manager
#     2: ETERNUS SF AdvancedCopy Manager CCM
#-----------------------------------------------#
Installation_function: 1


#-----------------------------------------------#
# Port number
#     range: 1024 - 65535
#-----------------------------------------------#
ETERNUS_SF_Manager_apache_service: 9855
Communications_service_1: 1226
Communications_service_2: 4917
Repository_service: 15432
Internal_port_1: 28005
Internal_port_2: 28009
Internal_port_3: 28443
Internal_port_4: 24916
Internal_port_5: 24917

#-----------------------------------------------#
# Repository database setup
#   Repository_data_size: Min. 65
#   Management_server_IP_address: format xxx.xxx.xxx.xxx
#-----------------------------------------------#
Management_server_IP_address:

#-----------------------------------------------#
# AdvancedCopy Manager ARCH
#    Linux(RHEL5):
#        NULL: System dependence
#           1: 32bit
#           2: 64bit
#-----------------------------------------------#
AdvancedCopy_Manager_ARCH:

#-----------------------------------------------#
# esfpostgres UID
#    For primecluster system:
```

```
#        NULL: System allocate
#        integer : range 100-59999
#-------------------------------------------------#
esfpostgres_UID:
```

Note

- Only LF is permitted for linefeed code.
  Do not use CR+LF or CR.
- Do not use double-byte character such as double-byte space.

B.2 Install Parameters (for ETERNUS SF Manager)

The explanation of the install parameters described below:

Parameter Name	Description	Default Value
Installation_function	When installing ETERNUS SF Manager, set to [1].	1
ETERNUS_SF_Manager_apache_service	Web Console service port number	9855
Communications_service_1	Communications service 1 port number	1226
Communications_service_2	Communications service 2 port number	4917
Repository_service	Repository service 2 port number	15432
Internal_port_1	Port numbers for various internal services	28005
Internal_port_2		28009
Internal_port_3		28443
Internal_port_4		24916
Internal_port_5		24917
Management_server_IP_address	Management Server IP address (*1,*4)	None
AdvancedCopy_Manager_ARCH	Architecture of AdvancedCopy Manager to be installed (*2)	None
esfpostgres_UID	User ID which ETERNUS SF Manager internally uses on installation of PRIMECLUSTER (*3)	None

*1: When the Management Server has two or more IP addresses, specify the IP address which is available for communicating with the Management Server from all of the AdvancedCopy Manager's agents. (For upgrading Storage Cruiser)

*2: If 32-bit architecture Symfoware is installed on Red Hat Enterprise Linux 5 (for Intel64), specify "1" to install 32-bit architecture AdvancedCopy Manager. Specify a blank in other cases. (For upgrading Storage Cruiser)

*3: On installation in PRIMECLUSTER environments, specify an unregistered user ID for the system by using integer number from 100 to 59999. Specify a blank in other cases.

*4: The value set to Management_Server_IP_address is as follows.

- When you use only the IPv4 address with the Management Server:
  Set the IPv4 address used.
- When you use only the IPv6 address with the Management Server:
  Set a temporary IPv4 address (127.0.0.1 for instance).

The following operations are executed after the Upgrade Installation is completed and the IP address version of the Management Server is changed to IPv6.

1. Create a server information change instruction file on the Management Server. Describe only the IPv6 address as the IP address after it changes in the server information change instruction file.
2. Execute the stgxfwcmmodsrv command with the -f option.

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -f serverInformationChangeInstructionFileName
```

- When you use both the IPv4 and IPv6 addresses with the Management Server:
  Set the IPv4 address used.
  The following operations are executed after the Upgrade Installation is completed and the IPv6 address is added as the IP address of the Management Server.

1. Create a server information change instruction file on the Management Server. Describe both the IPv4 and the IPv6 addresses as the IP address after it changes in the server information change instruction file.
2. Execute the stgxfwcmmodsrv command with the -f option.

```
/opt/FJSVswstf/bin/stgxfwcmmodsrv -f serverInformationChangeInstructionFileName
```

Information

- Refer to "Changing IP Address of Management Server" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* at this version corresponding to OS of the Management Server for the update procedure of IP address information.
- Refer to "stgxfwcmmodsrv (Server Information Change Command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* at this version corresponding to OS of the Management Server for this version for information on the command.

B.3 Install Parameter File (for AdvancedCopy Manager Copy Control Module)

The sample of the install parameter file is provided on the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version.

- Stored location

```
dvdromMountPoint/Manager_unix/install_parameter_ccm.txt
```

The following is the form of the install parameter file.

```
#-----------------------------------------------#
# Installation function
#     1: ETERNUS SF Manager
#     2: ETERNUS SF AdvancedCopy Manager CCM
#-----------------------------------------------#
Installation_function: 2
```

Appendix C Performing Upgrading

This chapter describes the upgrade procedure.

C.1 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Windows)

There are two methods of performing the upgrade, as follows.

- Default installation

  The following configuration is used without the need to input any values.

  - Installation destination

    The "*systemDrive*:\ETERNUS_SF" directory is used as the root location for the Program Directory, Environment Directory and Work Directory.

  - Port numbers for the various communication services

    9 port numbers are used, as follows:

Service	[Port Registration] Display Name	Port Number
Web Console service	ETERNUS SF Manager Apache service	9855
communication service 1	Communications service 1	1226
communication service 2	Communications service 2	4917
Repository service	Repository service	15432
Internal use	Internal Port 1	28005
	Internal Port 2	28009
	Internal Port 3	28443
	Internal Port 4	24916
	Internal Port 5 (No screen display)	24917

- Custom installation

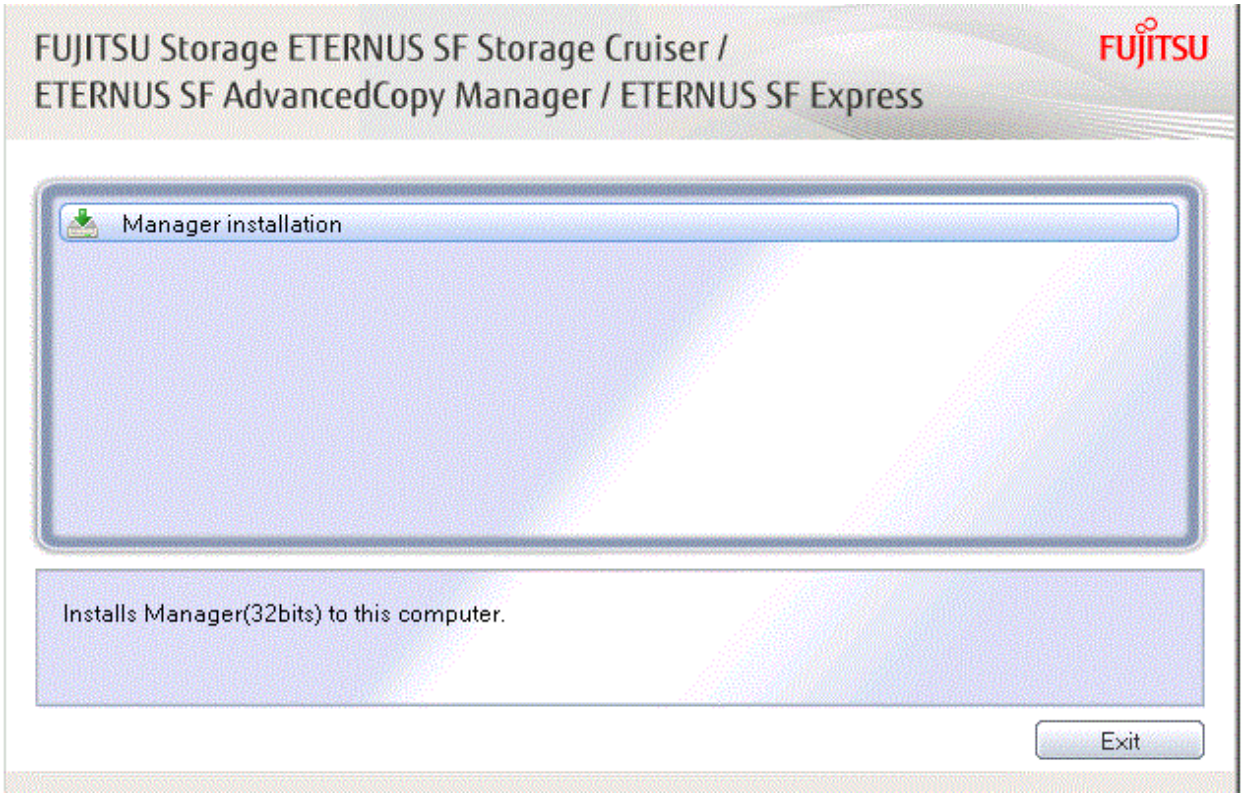
  The upgrade is performed by manually entering the configuration information into the interface (installation destination and communication service port numbers).

The upgrade is performed as follows:

1. Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.

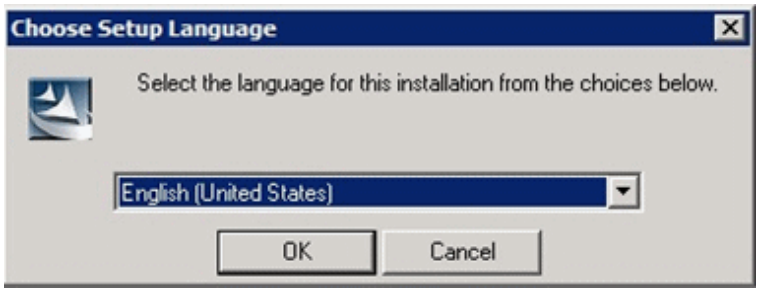
   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. The following window will be displayed. Click **Manager installation**.
   To cancel the upgrade at this point, click **Exit**.

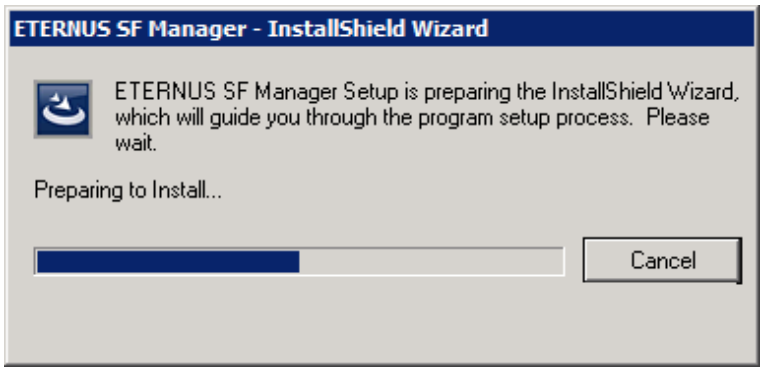


4. The **Choose Setup Language** dialog box will be displayed. Select the appropriate language and click **OK**.

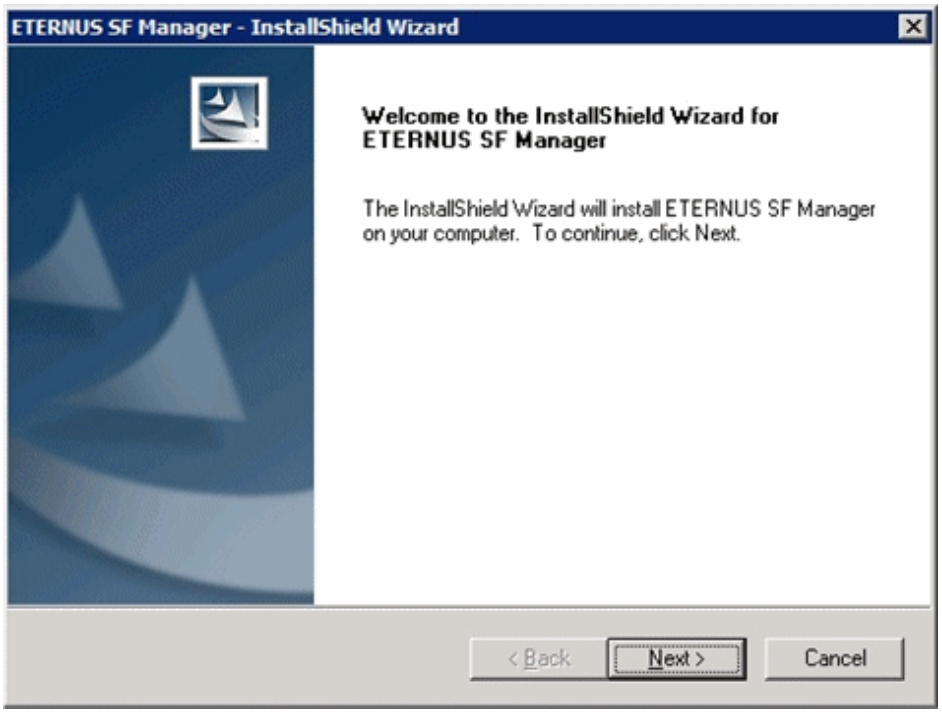
   The language selected in this dialog box will be used during installation and uninstallation.



5. The following progress bar will be displayed. To cancel the upgrade, click **Cancel**.

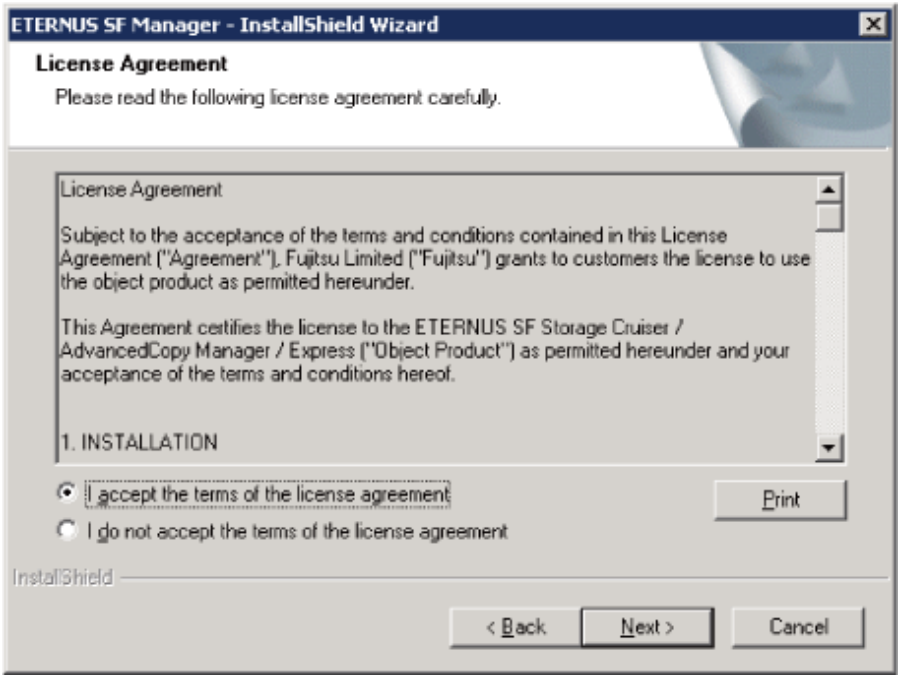


6. The installation wizard page will be displayed. Click **Next**.

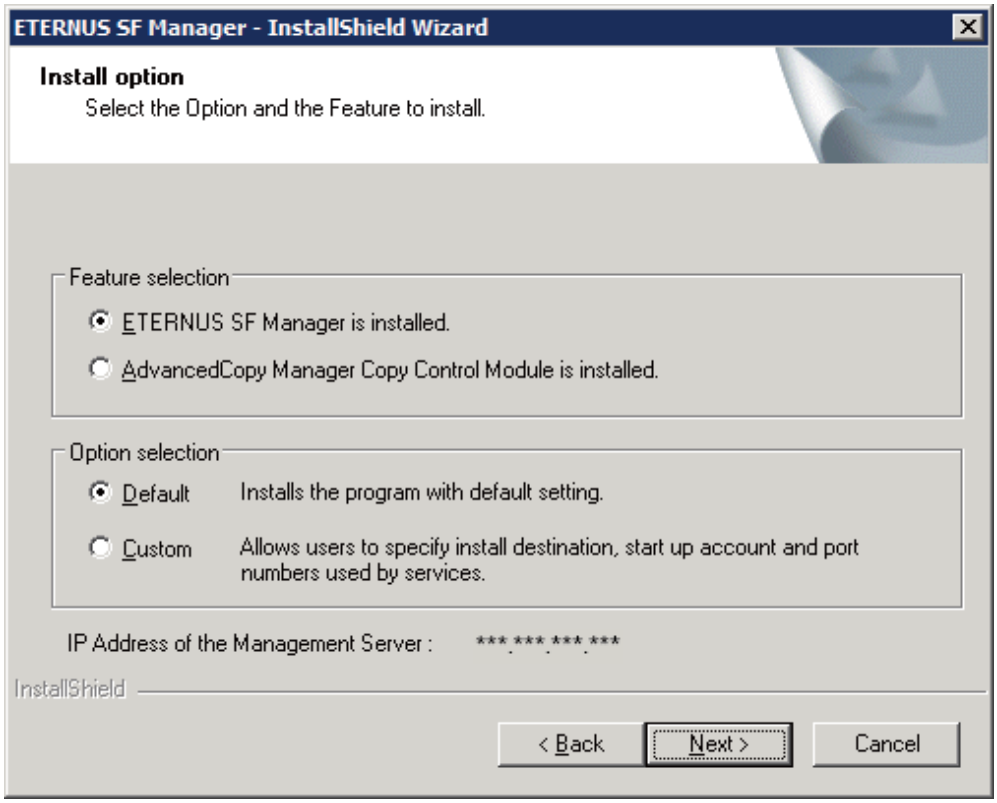


7. Read the terms and conditions of the **License Agreement** page.

   If the conditions are agreeable, select [I accept the terms of the license agreement] and then click **Next**.



8. Select the features and options to install from the **Install option** page. Confirm the IP address of the Management Server that is displayed and perform a customized installation if it is necessary to make changes.



Feature selection

Select [ETERNUS SF Manager is installed.].

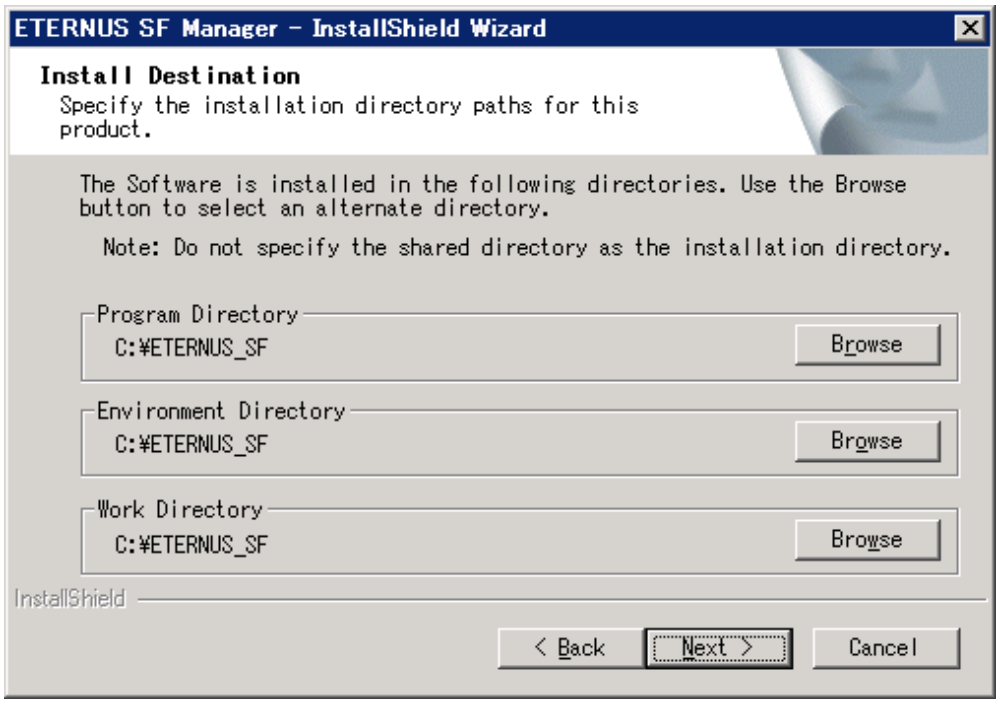
Option selection

Select the desired options according to the following information.

Install Option	Explanation
Default	Changing values in the **Installation Destination** page and **Port Registration** page is optional. In this case, steps 9 and 10 can be skipped. For this installation method, the following checks are automatically performed relating to the information provided by default: - Is there enough disk space for the installation in the default directory? - Are the default port numbers available? If an error is detected at this stage, a warning dialog box will be displayed. If no error is detected, the **Start Copying Files** page will be displayed.
Custom	The installation information must be manually entered in the pages for step 9 and later.

9. Specify the installation directory in the **Installation Destination** page.

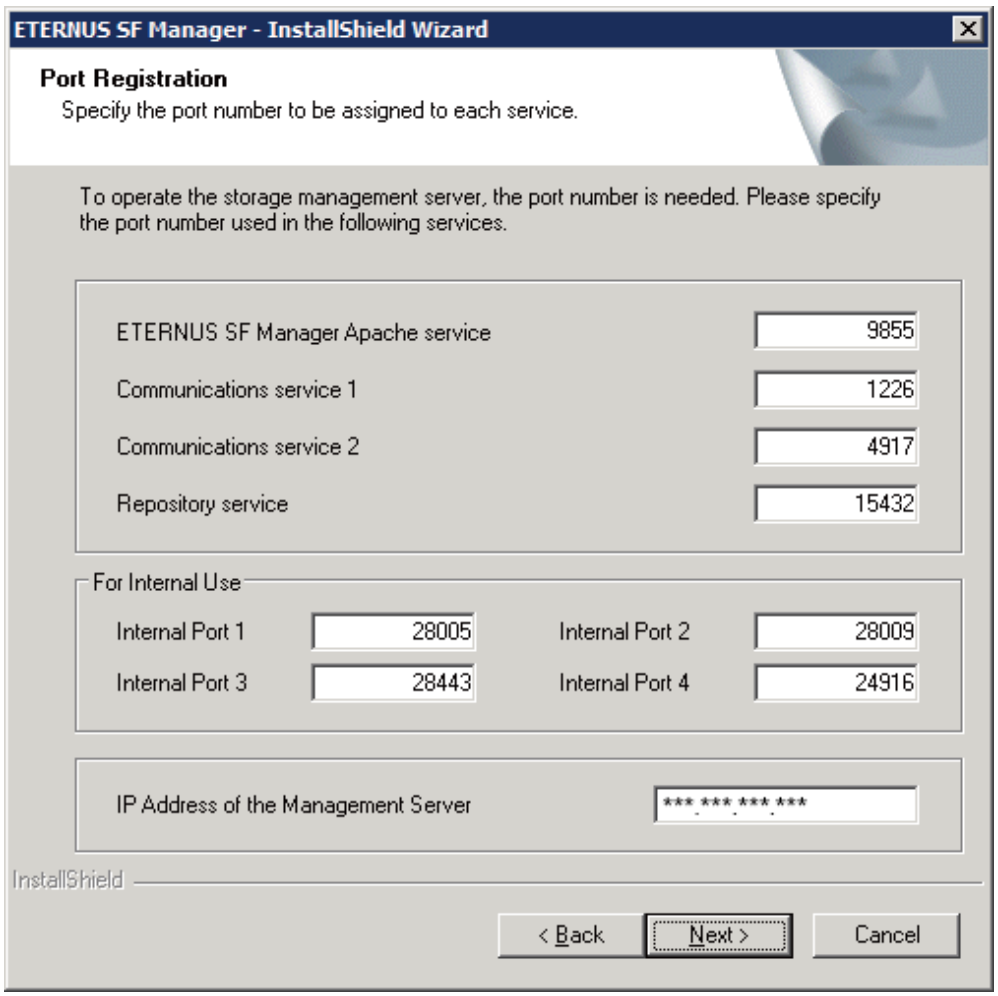
   If installing to a directory other than the default directory, click **Browse** and change the install destination. After designating all of the directories, click **Next**.



Point

- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; # ' @ ( ) + are not supported for directory names.
- The number of characters in a directory name must be between 4 and 70.

10. Specify the port number for the services in the **Port Registration** page.



Port number

The default values are displayed. If necessary, enter alternative port numbers suitable for your environment. Values between 1024 and 65535 are valid.

To change the port number of Internal Port 5, edit the %SystemRoot%\system32\drivers\etc\services file by manual and define the unused port number under the following service name and in the range of 1024-65535:

Service Name	Receive Port	Purpose
astm	24917/tcp	Use for internal communication.

IP address

Enter the IP address of the Management Server (local system).
Specify Internet Protocol address referring to the following.

- When you use only the IPv4 address with the Management Server:
  Set the IPv4 address used.
- When you use only the IPv6 address with the Management Server:
  Set a temporary IPv4 address (127.0.0.1 for instance).
  The following operations are executed after the Upgrade Installation is completed and the IP address version of the Management Server is changed to IPv6.

  a. Create a server information change instruction file on the Management Server. Describe only the IPv6 address as the IP address after it changes in the server information change instruction file.

b. Execute the stgxfwcmmodsrv command with the -f option.

```
programDir\ACM\bin\stgxfwcmmodsrv -f serverInformationChangeInstructionFileName
```

- When you use both the IPv4 and IPv6 addresses with the Management Server:
  Set the IPv4 address used.
  The following operations are executed after the Upgrade Installation is completed and the IPv6 address is added as the IP address of the Management Server.

  a. Create a server information change instruction file on the Management Server. Describe both the IPv4 and the IPv6 addresses as the IP address after it changes in the server information change instruction file.

  b. Execute the stgxfwcmmodsrv command with the -f option.

```
programDir\ACM\bin\stgxfwcmmodsrv -f serverInformationChangeInstructionFileName
```

Information

- Refer to "Changing the IP address of Management Server" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)* for this version for the update procedure of IP address information.
- Refer to "stgxfwcmmodsrv (Server information change command)" in the *ETERNUS SF AdvancedCopy Manager Operation Guide (for Windows)* for this version for information on the command.

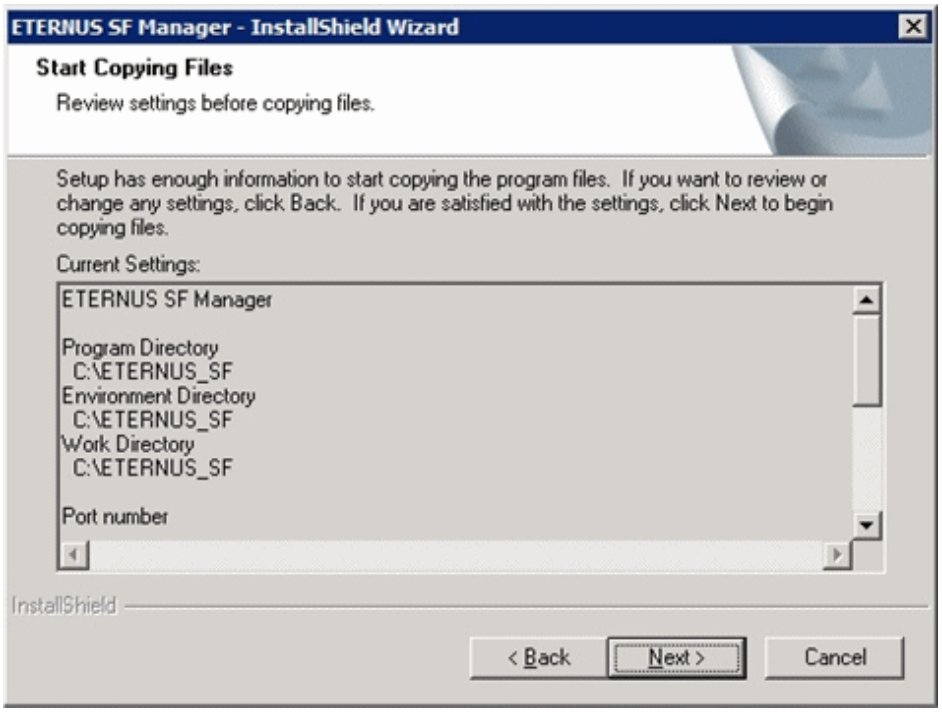
Point

When the Management Server has multiple IP addresses, specify an IP address that can communicate with the Management Server from all of the AdvancedCopy Manager's agents.

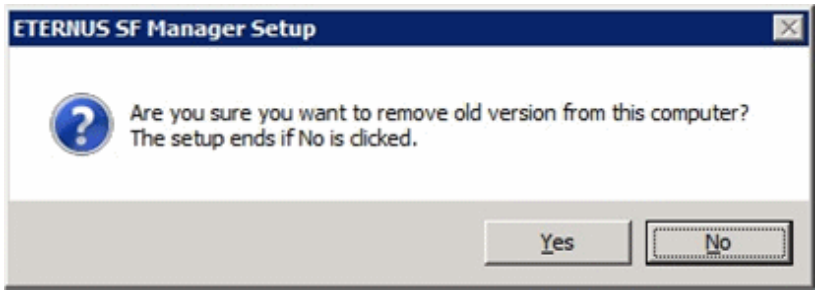
Then, click **Next**. If an entered value is already being used, the page will be displayed again.

11. Check the settings information in the **Start Copying Files** page.

    If the settings are correct, click **Next**.
    To change a setting, click **Back**.



12. The following dialog box will be displayed. To proceed with the uninstallation, click **Yes**.

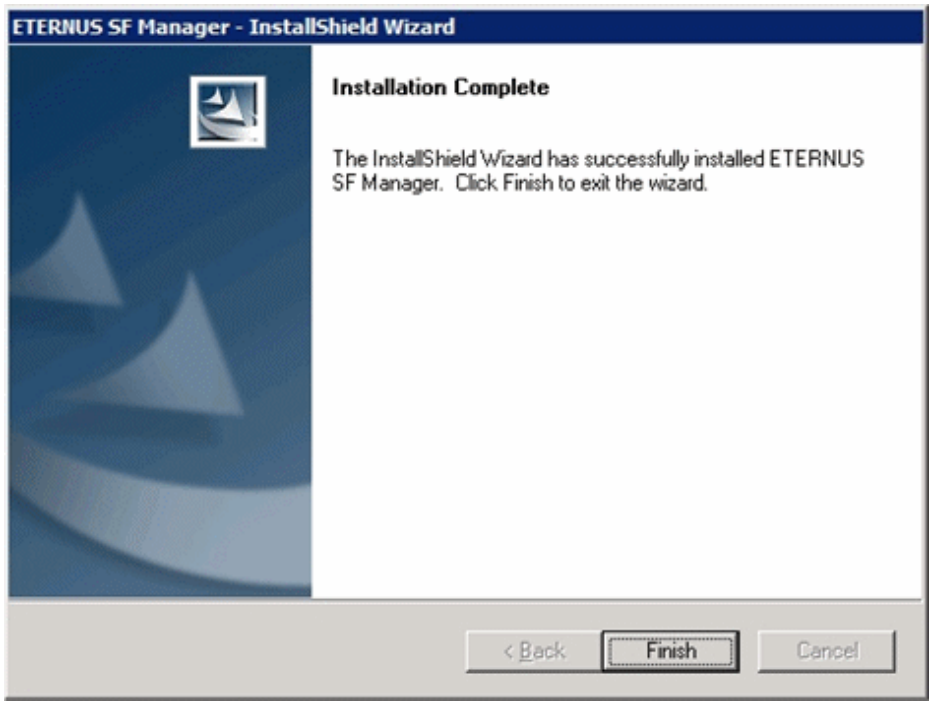


13. When the uninstallation is completed, the copying of the files for the new version will be started.

    During this process, the file copy completion status will be displayed in the **Setup Status** page.

14. When the copying process is completed, the system configuration will be updated. Wait for the configuration update process to complete.

15. The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



16. Eject the DVD-ROM.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.2 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 14.x and 15.x (for Solaris,Linux)

There are two methods of performing the upgrade, as follows.

- Default installation

  The following configuration is used without the need to input any values.

  - Installation destination

    The installation destination directories (/opt, /etc/opt/, /var/opt) cannot be modified.

  - Port numbers for the various communication services

    The following ports are used:

Service	Service Name	Used Port Number	Install Parameter Name
Web Console service	esfmanagerweb	9855/tcp	ETERNUS_SF_Manager_apache_service
communication service 1	stgxfws	1226/tcp	Communications_service_1
communication service 2	sscruisera	4917/tcp	Communications_service_2
Repository service	esfpostgres	15432/tcp	Repository_service
Internal use	esfmanagertomcat1	28005/tcp	Internal_port_1
	esfmanagertomcat2	28009/tcp	Internal_port_2
	esfmanagertomcat3	28443/tcp	Internal_port_3
	sscruiserm	24916/tcp	Internal_port_4
	astm	24917/tcp	Internal_port_5

- Custom installation

  The upgrade is performed by manually entering the configuration information into the interface (communication service port number and so on).

  Define the installation information in the install parameter file. Specify the install parameter file for which the installation information has been defined when executing the install shell.

  Refer to "B.1 Install Parameter File (for ETERNUS SF Manager)" for information on the install parameter file.

Note

- You cannot change these install directories: /opt, /etc/opt, /var/opt.
- Perform the custom installation when the previous version of AdvancedCopy Manager has been installed and the Management Server has multiple IP addresses.

Point

If an IP address for the Management Server is not specified in the install parameter "Management_server_IP_address", the IP address will be set automatically during installation. Change the IP address, if required, after the installation has completed. Refer to "Changing IP Address of Management Server" in the *ETERNUS SF AdvancedCopy Manager Operation Guide* for the operating system of the Management Server for information on changing the IP address.

Point

When Symfoware has already been installed, perform the following procedure:

1. Stop the processes of Symfoware/RDB, WebDBtools, and RDA-SV temporarily.
2. Perform the upgrade.

The upgrade is performed as follows:

Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM Contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

4. Change the directory on the DVD-ROM where the installation shell script is stored.
   Example:

```
# cd /mnt/dvd/Manager_unix
```

5. Execute the following installation shell script.

   Example of a default installation:

```
# ./esfinstall.sh
```

   Example of a custom installation:

```
# ./esfinstall.sh -s installParamFile
```

   Specify the full path name of the install parameter file edited in advance for *installParamFile*.
6. The license agreement information will be displayed. Display example is mentioned below.
   If the conditions are agreeable, enter "y".

```
+-------------------------------------------------------------+
|                       ETERNUS SF V16.1                      |
|                                                             |
| All Rights Reserved, Copyright (C) FUJITSU LIMITED 2013-2014 |
+-------------------------------------------------------------+


License Agreement

Subject to the acceptance of the terms and conditions contained in this License Agreement
("Agreement"), Fujitsu Limited ("Fujitsu") grants to customers the license to use the obje
ct product as permitted hereunder.

This Agreement certifies the license to the ETERNUS SF Storage Cruiser / AdvancedCopy Mana
ger / Express ("Object Product") as permitted hereunder and your acceptance of the terms a
nd conditions hereof.


1. INSTALLATION
You are allowed to install and use manager module and agent module of the Object Product o
```

n any computer connected to the Storage Device directly or through network and you are als
o allowed to install and use client module of the Object Product on any computer.

2. ARCHIVAL COPY
You may make one (1) archival copy of the Object Product.

3. EMBEDDING
If the Object Product is expected to be used as embedded in another program, you may embed
the Object Product, in whole or in part, in such other program, in accordance with the pr
ocedure described in the applicable documentation.

4. NO ASSIGNMENT
You may not rent, lease, sublicense, assign, transfer or create lien against the Object Pr
oduct.

5. MODIFICATION
You may not modify or, except to the extent expressly permitted by applicable law, reverse
engineer (including, without limitation, decompile and disassemble) the Object Product, a
nd you may not permit others to do so.

6. LIMITED WARRANTY
(a) You acknowledge that Fujitsu cannot guarantee that your use of the Object Product will
be uninterrupted, that the Object Product will be error free or that all Product errors w
ill be corrected. However, if within ninety (90) days following your acquisition of the Ob
ject Product you notify the reseller from which you have acquired the Object Product of ph
ysical defects of the media containing the Object Product, Fujitsu will, at its sole discr
etion, correct the non-conformance or provide you with information necessary to correct th
e non-conformance, or replace the defective media with a new media. Only if you inform suc
h reseller of your problem with the Object Product during the above mentioned warranty per
iod and provide satisfactory evidence of the date you acquired the Object Product will Fuj
itsu be obligated to honor this warranty.

(b) THIS IS A LIMITED WARRANTY AND IT IS THE ONLY WARRANTY MADE BY FUJITSU. FUJITSU MAKES
NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTY OF MER
CHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF THIRD PARTIES' RIGHTS
. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO LIMITATION MAY N
OT APPLY TO YOU. NO FUJITSU RESELLER, AGENT, EMPLOYEE IS AUTHORIZED TO MAKE ANY MODIFICATI
ONS, EXTENSIONS, OR ADDITIONS TO THIS WARRANTY. IF ANY MODIFICATIONS ARE MADE TO THE OBJEC
T PRODUCT BY YOU DURING THE WARRANTY PERIOD, IF THE MEDIA IS SUBJECTED TO ACCIDENT, ABUSE,
OR IMPROPER USE, OR IF YOU VIOLATE THE TERMS AND CONDITIONS HEREOF, THEN THIS WARRANTY SH
ALL IMMEDIATELY BE TERMINATED.

(c) LIMITATION OF LIABILITY. UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, TORT, CONTR
ACT, OR OTHERWISE, SHALL FUJITSU BE LIABLE TO YOU OR ANY OTHER PERSON FOR ANY INDIRECT, SP
ECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING, WITHOUT LIMITATIO
N, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, OR LOSS OF DATA, OR FOR ANY DAMAGES IN EXC
ESS OF THE LIST PRICE TO THE PRODUCT, EVEN IF FUJITSU SHALL HAVE BEEN INFORMED OF THE POSS
IBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY. THIS LIMITATION OF LIABILITY
SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONNEL INJURY TO THE EXTENT APPLICABLE LAW P
ROHIBITS SUCH LIMITATION. FURTHERMORE, SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LI
MITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS LIMITATION AND EXCLUSION MAY NOT
APPLY TO YOU.

(d) The above states the entire liability of Fujitsu in connection with the use, performan
ce or non-performance of the Object Product.

(e) Even if a part of the Object Product has been developed by a third party, the warranty
and remedy for that part of the Object Product are limited to those provided for in this
Section, and the third party developer shall have no liability in connection with the use,
performance or non-conformance of the Object Product.

7. MISCELLANEOUS
(a) The terms and conditions hereof represent the complete agreement concerning this licen

```
se between the parties and supersede all prior or contemporaneous oral and written communi
cations between them. In the event that any additional terms or conditions are provided in
 the accompanied documentation, you must also comply with such terms and conditions.

(b) You agree to comply with all applicable export laws and regulations.

(c) Use, duplication or disclosure of the Object Product by the U.S. Government is subject
to restrictions set forth in subparagraph (a) through (b) of the Commercial Computer-Rest
ricted Rights clause at FAR 52.227 - 19 when applicable, or in subparagraphs (c)(1) and (2
) of the Rights in Technical Data and Computer Software clause at DFAR 252.227 - 7013, and
in similar clauses in the NASA FAR Supplement. Contractor/manufacturer is Fujitsu Limited
, 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki-shi, Kanagawa-ken 211-8588, Japan.


Do you accept the terms of the above License Agreement? (default: n) [y,n]:
```

7. A confirmation message will be displayed containing the installation information. To continue, enter "y". To cancel, enter "q". Press **Enter** to proceed.

```
Setting of installation parameter file.

    Installation_function:       ETERNUS SF Manager
    Port number
      ETERNUS_SF_Manager_apache_service: 9855
      Communications_service_1:          1226
      Communications_service_2:          4917
      Repository_service:                15432
      Internal_port_1:                   28005
      Internal_port_2:                   28009
      Internal_port_3:                   28443
      Internal_port_4:                   24916
      Internal_port_5:                   24917
    Management_server_IP_address:
    AdvancedCopy_Manager_ARCH: 32bit
    esfpostgres_UID:

Do you want to continue the installation? [y,q]:
```

8. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to remove old version from this system? [y,q]:
```

Point

For confirmation of uninstallation of the previous version, enter "y" to continue the uninstallation. If the uninstallation is cancelled, the upgrade process will be interrupted. When re-executing the installation after restart of the computer, the installation will be treated as new one.

9. If the upgrade completes successfully, the following message is displayed.

```
INFO: ETERNUS SF was installed successfully.
```

10. Change to a directory other than the DVD-ROM.
    Example:

```
# cd
```

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.3 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Windows)

The procedures for installing the version update are explained below.

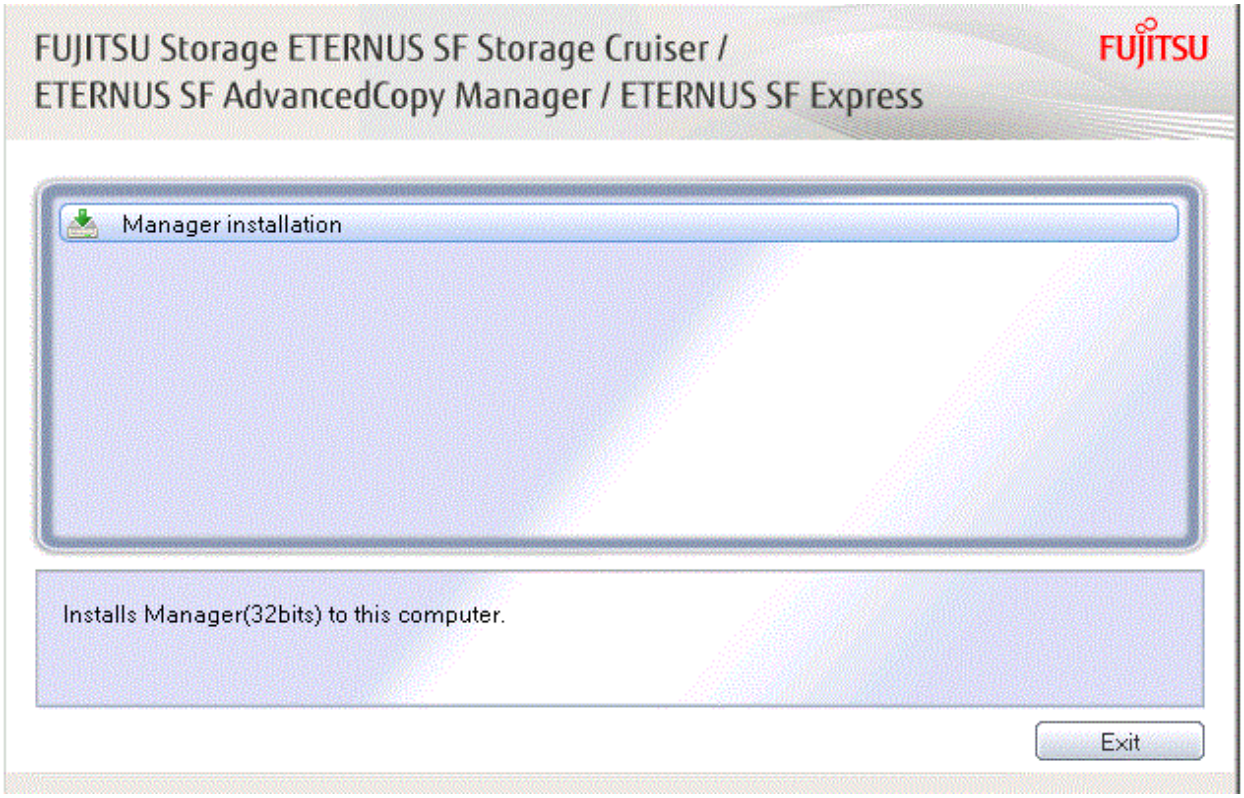
For the version update, there is an installation method where required information is entered interactively and a method where no questions are asked (silent version update installation).

When implementing the interactive method, refer to "C.3.1 Performing the upgrade" and when implementing the silent method, refer to "C.3.2 Performing Upgrade with Silent Installation Procedure".

C.3.1 Performing the upgrade

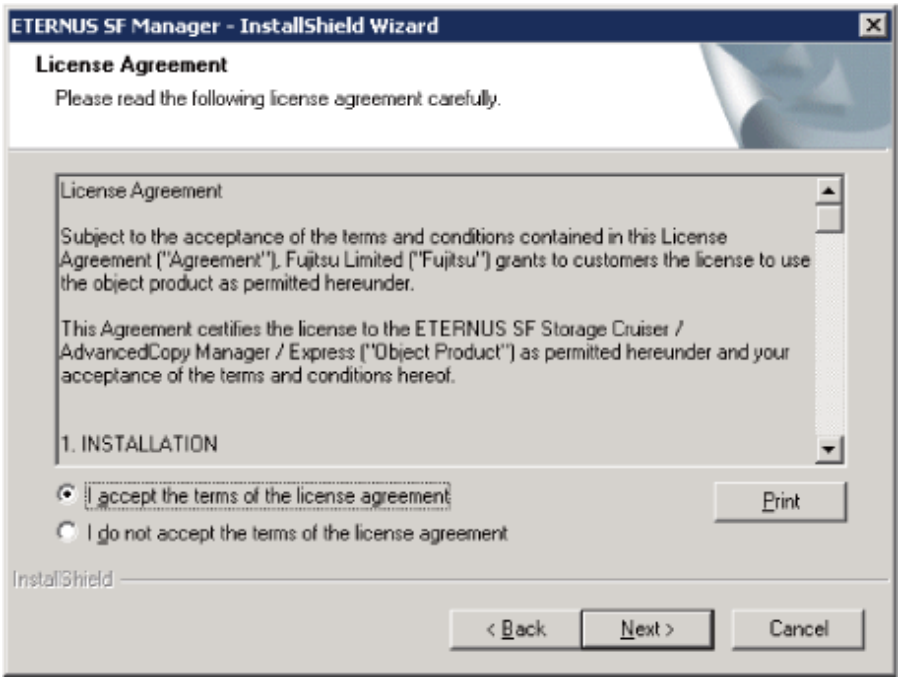
The upgrade is performed as follows:

1. Insert the "ETERNUS SF SC / ACM / Express Media Pack (Windows 64bit Edition) Manager Program (1/2)" DVD-ROM of this version level into the DVD-ROM drive.
2. The following initial screen will be displayed.Click on **Manager installation**.
   When aborting the installation of the version update, click **Finish**.

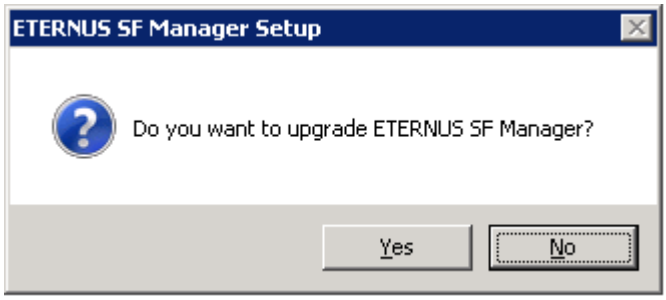


3. Read the terms and conditions of the **License Agreement** page.

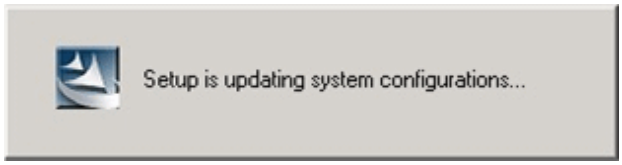
   If the conditions are agreeable, select [I accept the terms of the license agreement] and then click **Next**.



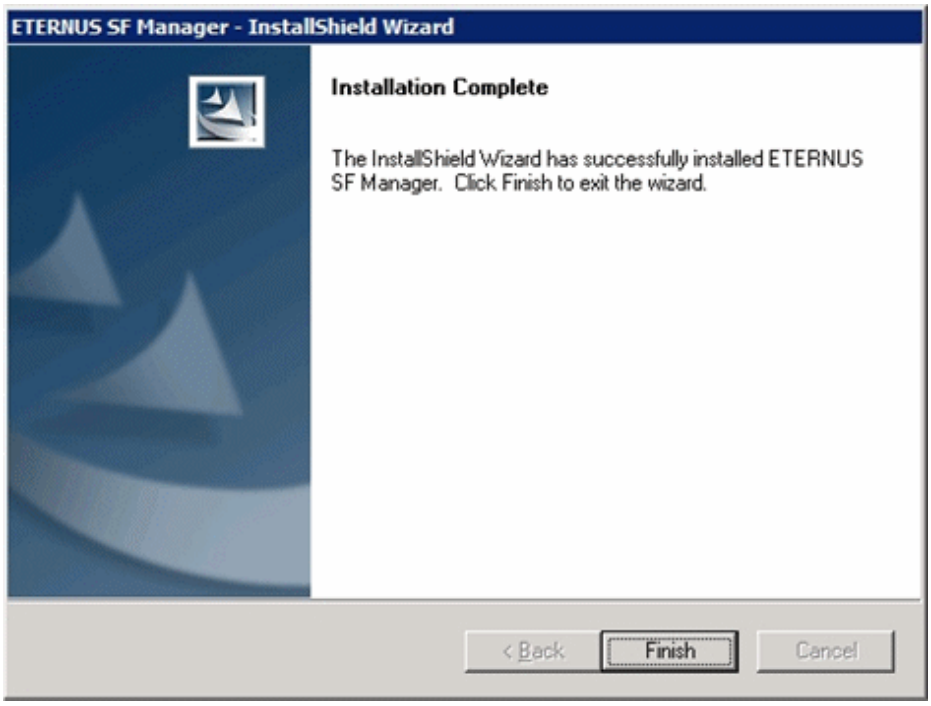
4. The following screen will be displayed.Click **Yes**.
   In order to abort the installation of the version update, click **No**.



1. The system configuration will be updated. Wait for the configuration update process to complete.



2. The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



3. Eject the DVD-ROM.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.3.2 Performing Upgrade with Silent Installation Procedure

The procedures for the silent version update installation are as listed below.

1. Install the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" of this version into the DVD-ROM drive. If the Installer screen is displayed by autorun, exit the installer.
2. Start the command prompt.
3. Execute the following silent installation command.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
<dvdromDrive>:\Manager_windows\esfsilentinstall.bat -eula agreed [-l <installLogFile>]
```

Point

- The -eula option is specified to agree to licensing. Only when "agreed" is specified for option parameter is installation enabled. The -eula option must be specified before other options.
- If nothing is specified for *installLogFile*, an install log file named "esfsilentinstall.log" is created in the working directory specified by the environment variable TEMP.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
- If the paths to the install log file contain any spaces, they should be surrounded by double quote characters.

- The characters " | : * ? / . < > , % & ^ ; ! are not supported for path name for install log file.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

4. On completion of installation, a command prompt is displayed.
   Remove the DVD-ROM media used for installation out of the device.

Confirming the Results of the Silent Version Update Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (ETERNUS SF Manager, AdvancedCopy Manager CCM)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.4 Procedures for Installing a Version Update of the Manager Feature of Express / Storage Cruiser / AdvancedCopy Manager 16.x (for Solaris,Linux)

The procedures for installing the version update are explained below.

For the version update, there is an installation method where required information is entered interactively and a method where no questions are asked (silent version update installation).

When implementing the interactive method, refer to "C.4.1 Performing the upgrade" and when implementing the silent method, refer to "C.4.2 Procedures for the Silent Version Update Installation".

C.4.1 Performing the upgrade

The upgrade is performed as follows:

1. Insert the "ETERNUS SF SC / ACM Media Pack (Solaris Edition) Manager Program (2/2)" or "ETERNUS SF SC / ACM / Express Media Pack (Linux 64bit Edition) Manager Program (2/2)" DVD-ROM of this version level into the DVD-ROM drive.
   Refer to "Configuration of the DVD-ROM" of the *ETERNUS SF Installation and Setup Guide* for the configuration and the stored contents of the DVD-ROM.
2. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

3. Change the directory on the DVD-ROM where the installation shell script is stored.
   Example:

```
# cd /mnt/dvd/Manager_unix
```

4. Execute the shell script.
   Execute the following installation shell script.

```
# ./esfinstall.sh
```

5. The license agreement information will be displayed. Display example is mentioned below.
   If the conditions are agreeable, enter "y".

```
Notes
Thank you for purchasing media which contains Fujitsu software program (hereafter referred
to as "Media"). Fujitsu provides the Media to you subject to agreement to "Conditions of
Use" below.
This document will not be reissued and please keep it in a secure place.
Conditions of Use
1. Using programs
In order to use the software program contained in the Media (hereafter referred to as "Sof
tware"), in addition to the Media itself, you shall purchase a license which grants you a
right to use the Software.
2. Backup
(1) You may duplicate a Media for backup purpose.
(2) When you duplicate the Media for backup purpose in accordance with Section 2. (1), you
must copy the copyright notice that appears on the original Media on the duplication ther
eof.
(3) The duplication of the Media shall be treated as the Media under this Condition of Use
.
3. Transfer to a third party
You may not transfer, loan, sublicense the Media to third parties, or provide it as collat
eral to a third party.
4. Warranty range
Fujitsu warrants that the Media will be free from defects in materials and manufacture und
er normal use for a period of 90 days from the date of delivery to you. Your sole and excl
usive remedy and the entire liability of Fujitsu under this Condition of Use will be, at F
ujitsu's option,replacement of the Media or refund of the money paid by you for the Media.
Do you accept the terms of the above License Agreement? (default: n) [y,n]:
```

6. A confirmation message will be displayed containing the installation information. To continue, enter "y". To cancel, enter "q".
   Press Enter to proceed.

```
Do you want to upgrade? [y,q]:
```

7. If the upgrade completes successfully, the following message is displayed.

```
INFO: ETERNUS SF was installed successfully.
```

8. Change to a directory other than the DVD-ROM.
   Example:

```
# cd
```

9. Unmount the DVD-ROM.
   Example:

```
# umount /mnt/dvd
```

10. Remove the DVD-ROM used for the installation of the version update from the device.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.4.2 Procedures for the Silent Version Update Installation

The procedures for the silent version update installation are as listed below.

1. Insert the "ETERNUS SF SC / ACM Media Pack (Solaris Edition) Manager Program (2/2)" or "ETERNUS SF SC / ACM / Express Media Pack (Linux 64bit Edition) Manager Program (2/2)" DVD-ROM of this version level into the DVD-ROM drive.
   Refer to "Configuration of the DVD-ROM" of the *ETERNUS SF Installation and Setup Guide* for the configuration and the stored contents of the DVD-ROM.

2. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount  /mnt/dvd
```

3. Execute the following silent installation command.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
# <dvdromMountPoint>/Manager_unix/esfsilentinstall.sh -eula agreed [-l <installLogFile >]
```

Point

- The -eula option is specified to agree to licensing. Only when "agreed"is specified for option parameter is installation enabled. The -eula option must be specified before other options.
- If nothing is specified for *installLogFile*, an install log file named "esfsilentinstall.log" is created in the /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
- If the paths to the install log file contain any spaces, they should be surrounded by double quote characters.
- The characters " ! $ are not supported for path name for install log file.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

4. On completion of installation, a command prompt is displayed.

5. Remove the DVD-ROM media used for installation out of the device.
   Example:

```
# umount  /mnt/dvd
```

6. Eject the DVD-ROM.

Confirming the Results of the Silent Version Update Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (ETERNUS SF Manager, AdvancedCopy Manager CCM)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.5 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Windows)

If use the AdvancedCopy Manager Copy Control Module included in the ETERNUS SF Manager

Refer to "8.1.2 Performing Upgrade (for Windows)" to perform the upgrade.

After the upgrade has completed, refer to the following manual for this version and set up the AdvancedCopy Manager Copy Control Module.

- "Setup of AdvancedCopy Manager CCM" in the *ETERNUS SF Installation and Setup Guide*

If install and use the AdvancedCopy Manager Copy Control Module

There are two methods of performing the upgrade, as follows.

- Default installation

  The following configuration is used without the need to input any values.

  - Installation destination

    The "*systemDrive*:\ETERNUS_SF" directory is used as the root location for the Program Directory, Environment Directory and Work Directory.

- Custom installation

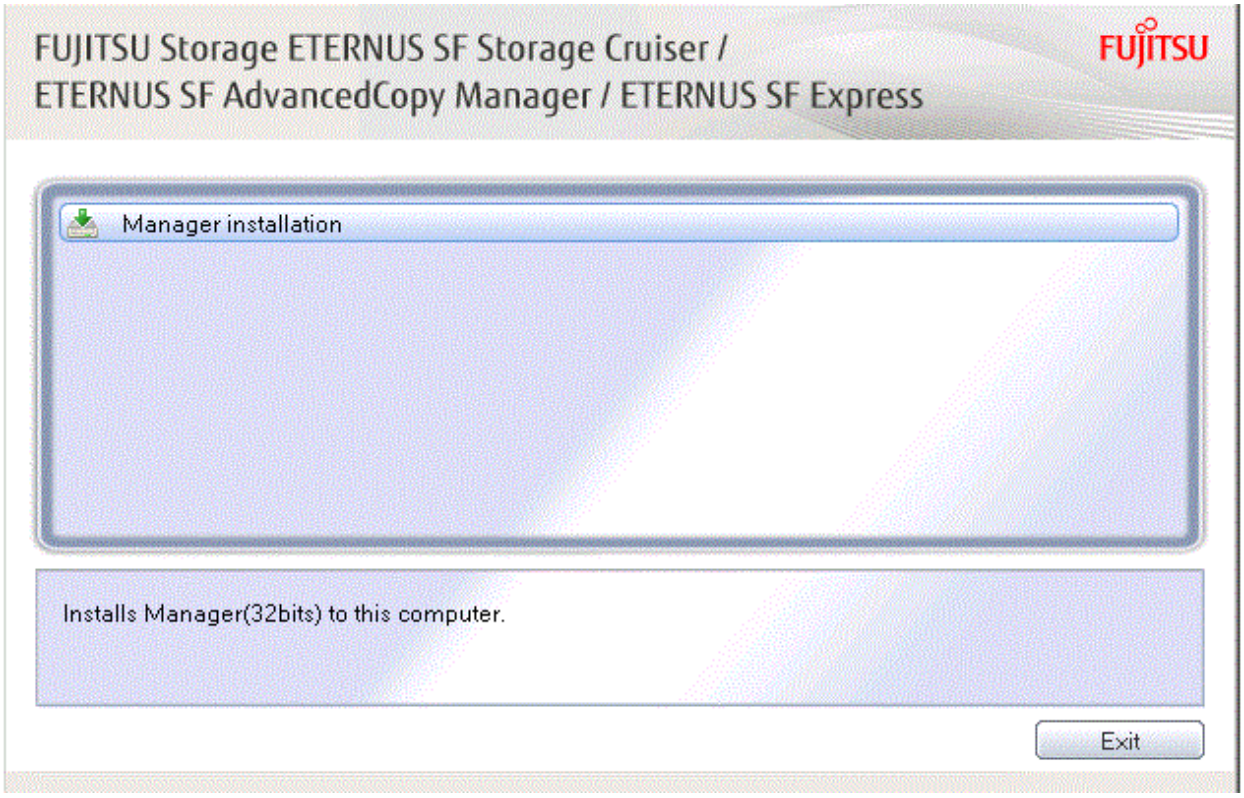
  The upgrade is performed by manually entering the configuration information into the interface (installation destination).

The upgrade is performed as follows:
Note that if step 1 and step 2 have already been performed, it is unnecessary to perform these again.

1. Log on to the server using Administrator privileges.
2. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.

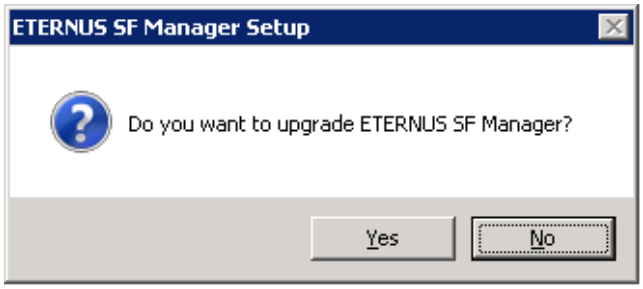
   Refer to "DVD-ROM contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

3. The following window will be displayed. Click **Manager installation**.
   To cancel the upgrade at this point, click **Exit**.

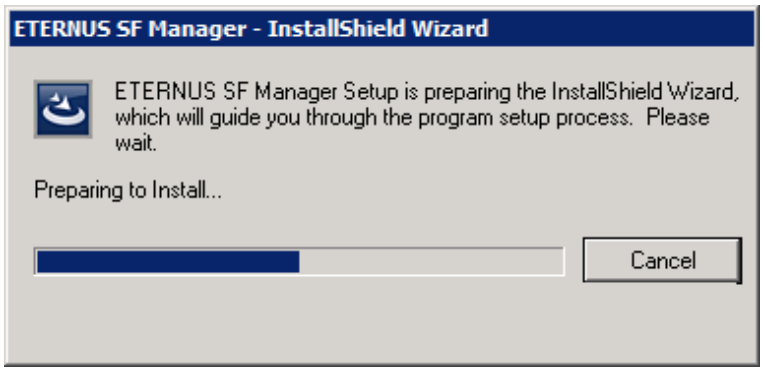


4. The **Choose Setup Language** dialog box will be displayed. Select the appropriate language and click **OK**.

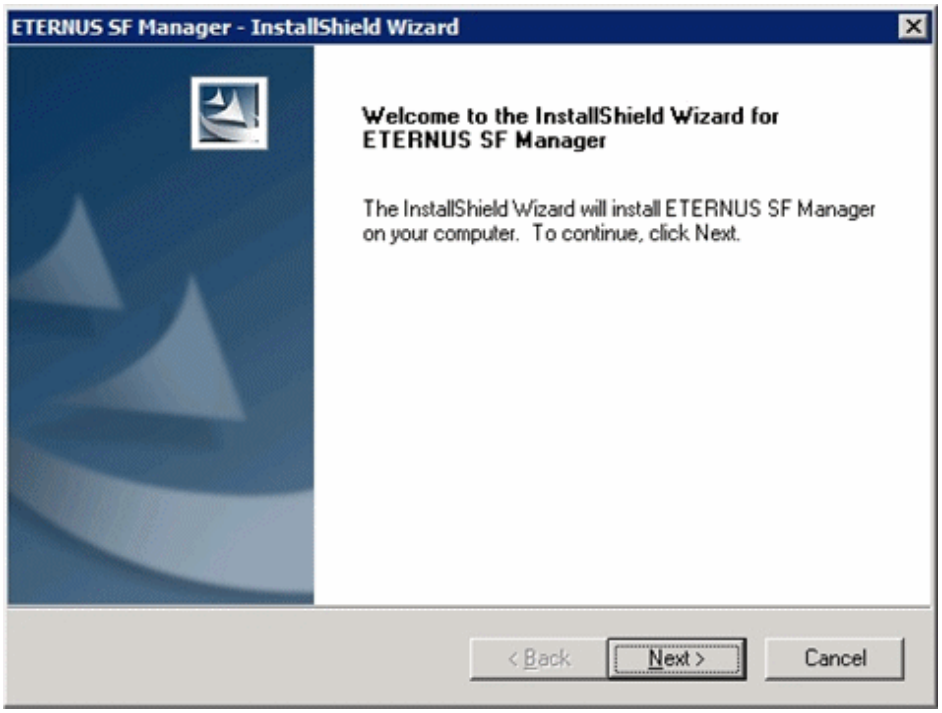
   The language selected in this dialog box will be used during installation and uninstallation.



5. The following progress bar will be displayed. To cancel the upgrade, click **Cancel**.

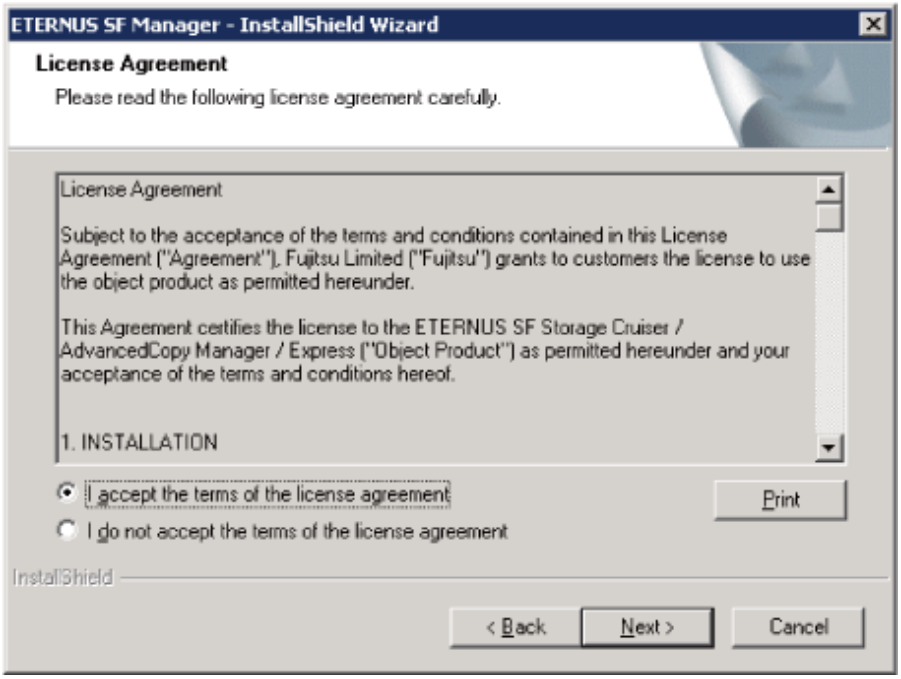


6. The installation wizard page will be displayed. Click **Next**.

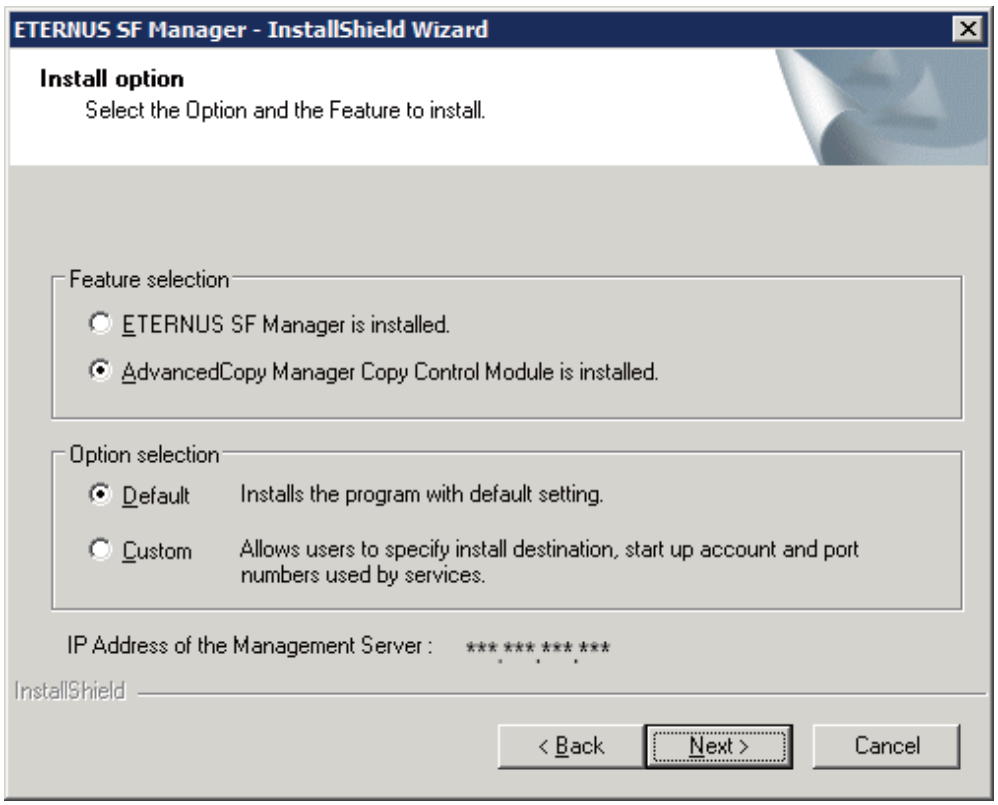


7. Read the terms and conditions of the **License Agreement** page.

   If the conditions are agreeable, select [I accept the terms of the license agreement] and then click **Next**.



8. Select the features and options to install from the **Install option** page.



Feature selection

Select [AdvancedCopy Manager Copy Control Module is installed.].

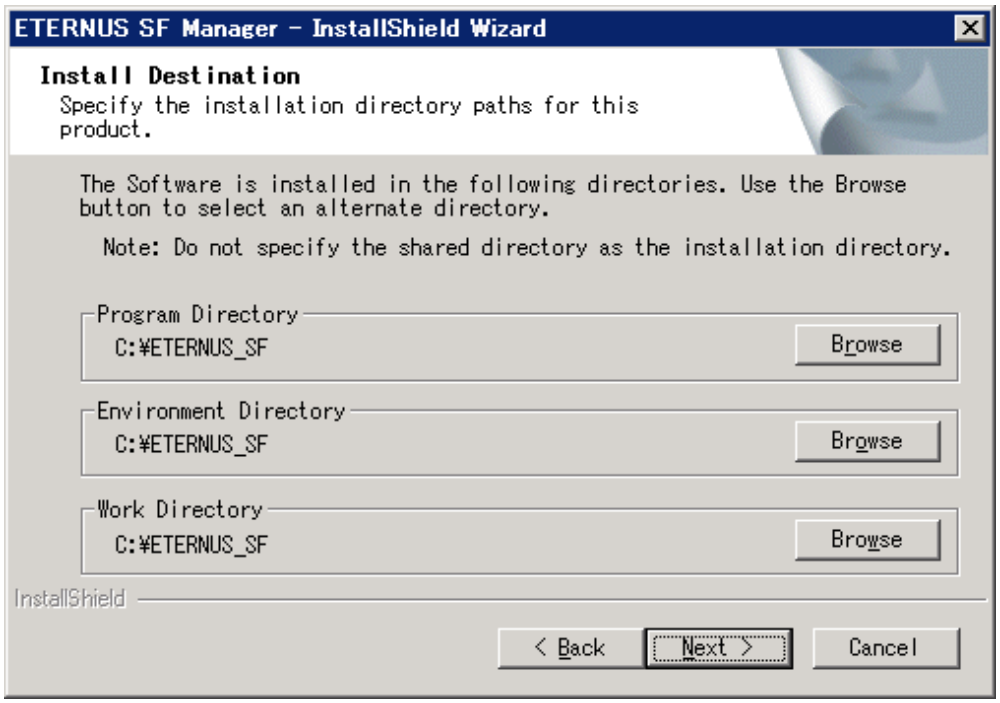
Option selection

Select the desired options according to the following information.

Install option	Explanation
Default	Changing values in the **Installation Destination** page is optional. In this case, step 9 can be skipped. For this installation method, the following checks are automatically performed relating to the information provided by default: - Is there enough disk space for the installation in the default directory? If an error is detected at this stage, a warning dialog box will be displayed. If no error is detected, the **Start Copying Files** page will be displayed.
Custom	The installation information must be manually entered in the pages of step 9.

9. Specify the installation directory in the **Installation Destination** page.

   If installing to a directory other than the default directory, click **Browse** and change the install destination. After designating all of the directories, click **Next**.

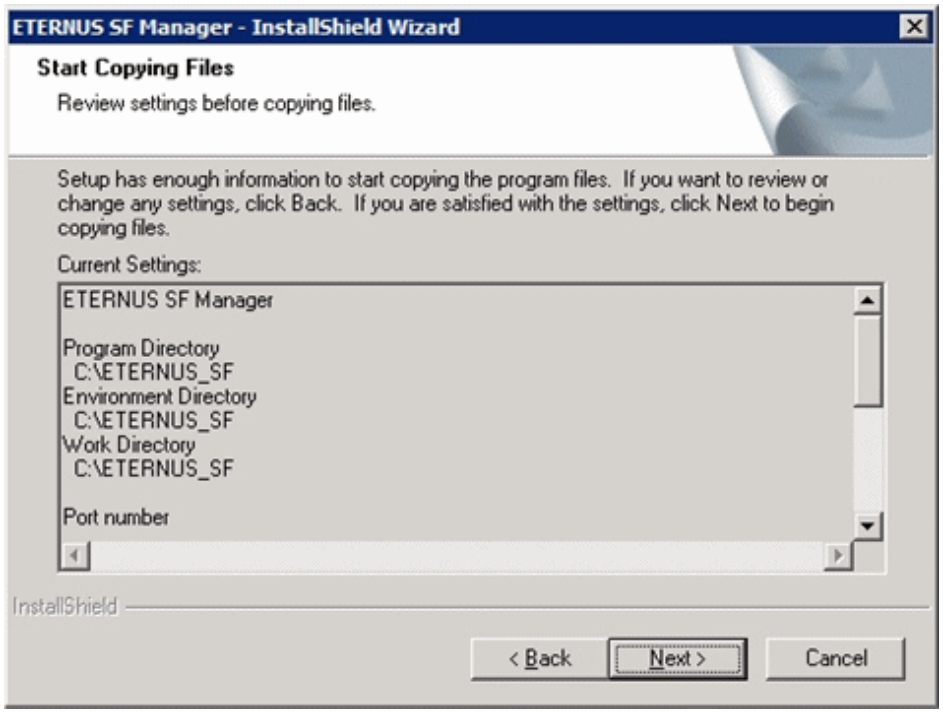


Point

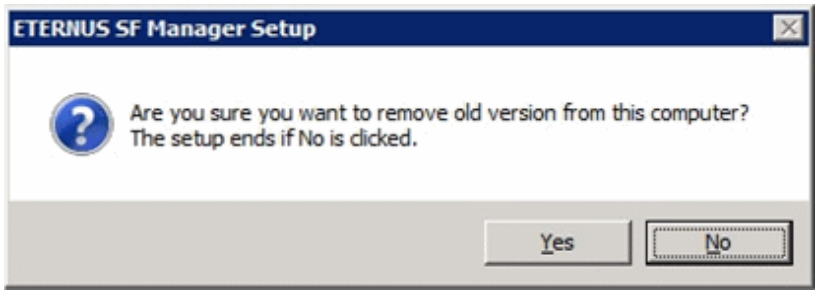
- Spaces and the characters " | : * ? / . < > , % & ^ = ! ; # ' @ ( ) + are not supported for directory names.
- The number of characters in a directory name must be between 4 and 70.

10. Check the settings information in the **Start Copying Files** page.

    If the settings are correct, click **Next**.
    To change a setting, click **Back**.



11. The following dialog box will be displayed. To proceed with the uninstallation, click **Yes**.

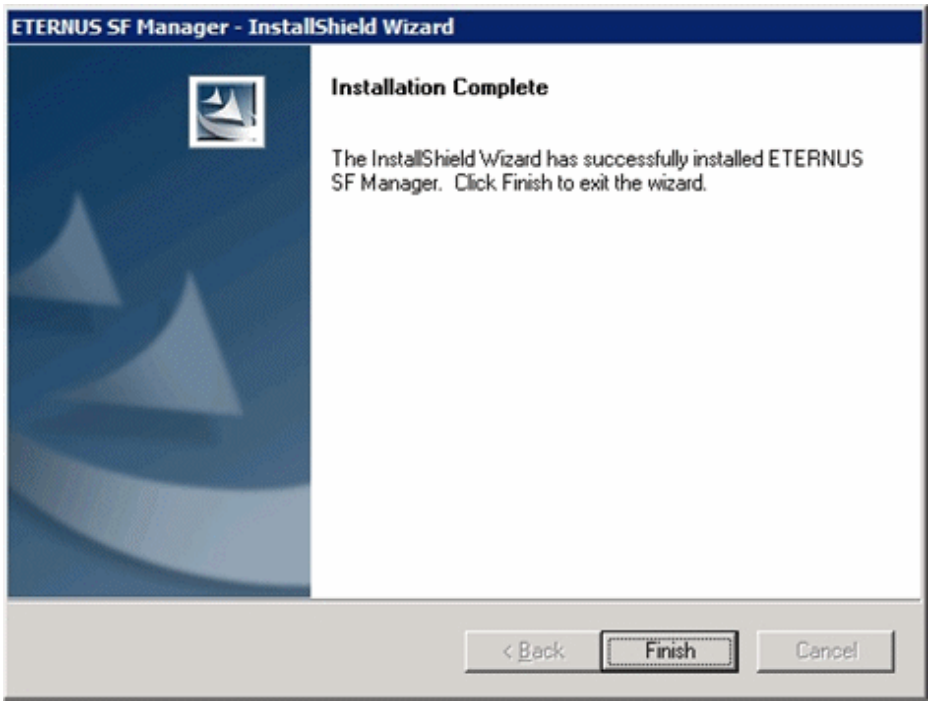


12. When the uninstallation is completed, the copying of the files for the new version will be started.

    During this process, the file copy completion status will be displayed in the **Setup Status** page.

13. When the copying process is completed, the system configuration will be updated. Wait for the configuration update process to complete.

14. The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.6 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 14.x and 15.x (for Solaris,Linux)

There are two methods of performing the upgrade, as follows.
Note that if step 1 through step 3 have already been performed, it is unnecessary to perform these again.

Point

There is no need to modify the install parameter file for AdvancedCopy Manager Copy Control Module.

Refer to "B.3 Install Parameter File (for AdvancedCopy Manager Copy Control Module)" for information on the install parameter file.

1. Login to the server on which to perform the tasks. Perform operations after logging in with root (superuser).
2. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.
3. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

4. Change the directory on the DVD-ROM where the installation shell script is stored.
   Example:

```
# cd /mnt/dvd/Manager_unix
```

5. Specify the install parameter file and execute the following installation shell script.

   Although the install parameter file exists in the same directory as the installation shell script, it must be specified by using the full path name.

   Example:

```
# ./esfinstall.sh -s /mnt/dvd/Manager_unix/install_parameter_ccm.txt
```

6. The license agreement information will be displayed. Display example is mentioned below.
   If the conditions are agreeable, enter "y".

```
+-------------------------------------------------------------+
|                       ETERNUS SF V16.1                      |
|                                                             |
| All Rights Reserved, Copyright (C) FUJITSU LIMITED 2013-2014 |
+-------------------------------------------------------------+


License Agreement

Subject to the acceptance of the terms and conditions contained in this License Agreement
("Agreement"), Fujitsu Limited ("Fujitsu") grants to customers the license to use the obje
ct product as permitted hereunder.

This Agreement certifies the license to the ETERNUS SF Storage Cruiser / AdvancedCopy Mana
ger / Express ("Object Product") as permitted hereunder and your acceptance of the terms a
nd conditions hereof.


1. INSTALLATION
You are allowed to install and use manager module and agent module of the Object Product o
n any computer connected to the Storage Device directly or through network and you are als
o allowed to install and use client module of the Object Product on any computer.

2. ARCHIVAL COPY
You may make one (1) archival copy of the Object Product.

3. EMBEDDING
If the Object Product is expected to be used as embedded in another program, you may embed
the Object Product, in whole or in part, in such other program, in accordance with the pr
ocedure described in the applicable documentation.

4. NO ASSIGNMENT
You may not rent, lease, sublicense, assign, transfer or create lien against the Object Pr
oduct.

5. MODIFICATION
You may not modify or, except to the extent expressly permitted by applicable law, reverse
engineer (including, without limitation, decompile and disassemble) the Object Product, a
nd you may not permit others to do so.

6. LIMITED WARRANTY
(a) You acknowledge that Fujitsu cannot guarantee that your use of the Object Product will
be uninterrupted, that the Object Product will be error free or that all Product errors w
ill be corrected. However, if within ninety (90) days following your acquisition of the Ob
ject Product you notify the reseller from which you have acquired the Object Product of ph
ysical defects of the media containing the Object Product, Fujitsu will, at its sole discr
etion, correct the non-conformance or provide you with information necessary to correct th
e non-conformance, or replace the defective media with a new media. Only if you inform suc
h reseller of your problem with the Object Product during the above mentioned warranty per
iod and provide satisfactory evidence of the date you acquired the Object Product will Fuj
itsu be obligated to honor this warranty.
```

```
(b) THIS IS A LIMITED WARRANTY AND IT IS THE ONLY WARRANTY MADE BY FUJITSU. FUJITSU MAKES
NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTY OF MER
CHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF THIRD PARTIES' RIGHTS
. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO LIMITATION MAY N
OT APPLY TO YOU. NO FUJITSU RESELLER, AGENT, EMPLOYEE IS AUTHORIZED TO MAKE ANY MODIFICATI
ONS, EXTENSIONS, OR ADDITIONS TO THIS WARRANTY. IF ANY MODIFICATIONS ARE MADE TO THE OBJEC
T PRODUCT BY YOU DURING THE WARRANTY PERIOD, IF THE MEDIA IS SUBJECTED TO ACCIDENT, ABUSE,
OR IMPROPER USE, OR IF YOU VIOLATE THE TERMS AND CONDITIONS HEREOF, THEN THIS WARRANTY SH
ALL IMMEDIATELY BE TERMINATED.

(c) LIMITATION OF LIABILITY. UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, TORT, CONTR
ACT, OR OTHERWISE, SHALL FUJITSU BE LIABLE TO YOU OR ANY OTHER PERSON FOR ANY INDIRECT, SP
ECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING, WITHOUT LIMITATIO
N, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, OR LOSS OF DATA, OR FOR ANY DAMAGES IN EXC
ESS OF THE LIST PRICE TO THE PRODUCT, EVEN IF FUJITSU SHALL HAVE BEEN INFORMED OF THE POSS
IBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY. THIS LIMITATION OF LIABILITY
SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONNEL INJURY TO THE EXTENT APPLICABLE LAW P
ROHIBITS SUCH LIMITATION. FURTHERMORE, SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LI
MITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS LIMITATION AND EXCLUSION MAY NOT
APPLY TO YOU.

(d) The above states the entire liability of Fujitsu in connection with the use, performan
ce or non-performance of the Object Product.

(e) Even if a part of the Object Product has been developed by a third party, the warranty
and remedy for that part of the Object Product are limited to those provided for in this
Section, and the third party developer shall have no liability in connection with the use,
performance or non-conformance of the Object Product.

7. MISCELLANEOUS
(a) The terms and conditions hereof represent the complete agreement concerning this licen
se between the parties and supersede all prior or contemporaneous oral and written communi
cations between them. In the event that any additional terms or conditions are provided in
 the accompanied documentation, you must also comply with such terms and conditions.

(b) You agree to comply with all applicable export laws and regulations.

(c) Use, duplication or disclosure of the Object Product by the U.S. Government is subject
to restrictions set forth in subparagraph (a) through (b) of the Commercial Computer-Rest
ricted Rights clause at FAR 52.227 - 19 when applicable, or in subparagraphs (c)(1) and (2
) of the Rights in Technical Data and Computer Software clause at DFAR 252.227 - 7013, and
in similar clauses in the NASA FAR Supplement. Contractor/manufacturer is Fujitsu Limited
, 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki-shi, Kanagawa-ken 211-8588, Japan.


Do you accept the terms of the above License Agreement? (default: n) [y,n]:
```

7. A confirmation message will be displayed containing the installation information. To continue, enter "y". To cancel, enter "q". Press **Enter** to proceed.

```
Setting of installation parameter file.

    Installation_function:       ETERNUS SF AdvancedCopy Manager CCM

Do you want to continue the installation? [y,q]:
```

8. A confirmation message will be displayed before uninstalling the previous version. To uninstall the previous version and proceed with the new installation, enter "y". To cancel the installation, enter "q". Press **Enter**.

```
An old version is installed in this system.
Do you want to remove old version from this system? [y,q]:
```

Point

For confirmation of uninstallation of the previous version, enter "y" to continue the uninstallation. If the uninstallation is cancelled, the upgrade process will be interrupted. When re-executing the installation after restart of the computer, the installation will be treated as new one.

9. If the upgrade completes successfully, the following message is displayed.

```
INFO: ETERNUS SF was installed successfully.
```

10. Change to a directory other than the DVD-ROM.
    Example:

```
# cd
```

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.7 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Windows)

The procedures for installing the version update are explained below.

For the version update, there is an installation method where required information is entered interactively and a method where no questions are asked (silent version update installation).

When implementing the interactive method, refer to "C.7.1 Performing the upgrade" and when implementing the silent method, refer to "C.7.2 Procedures for the Silent Version Update Installation".

C.7.1 Performing the upgrade

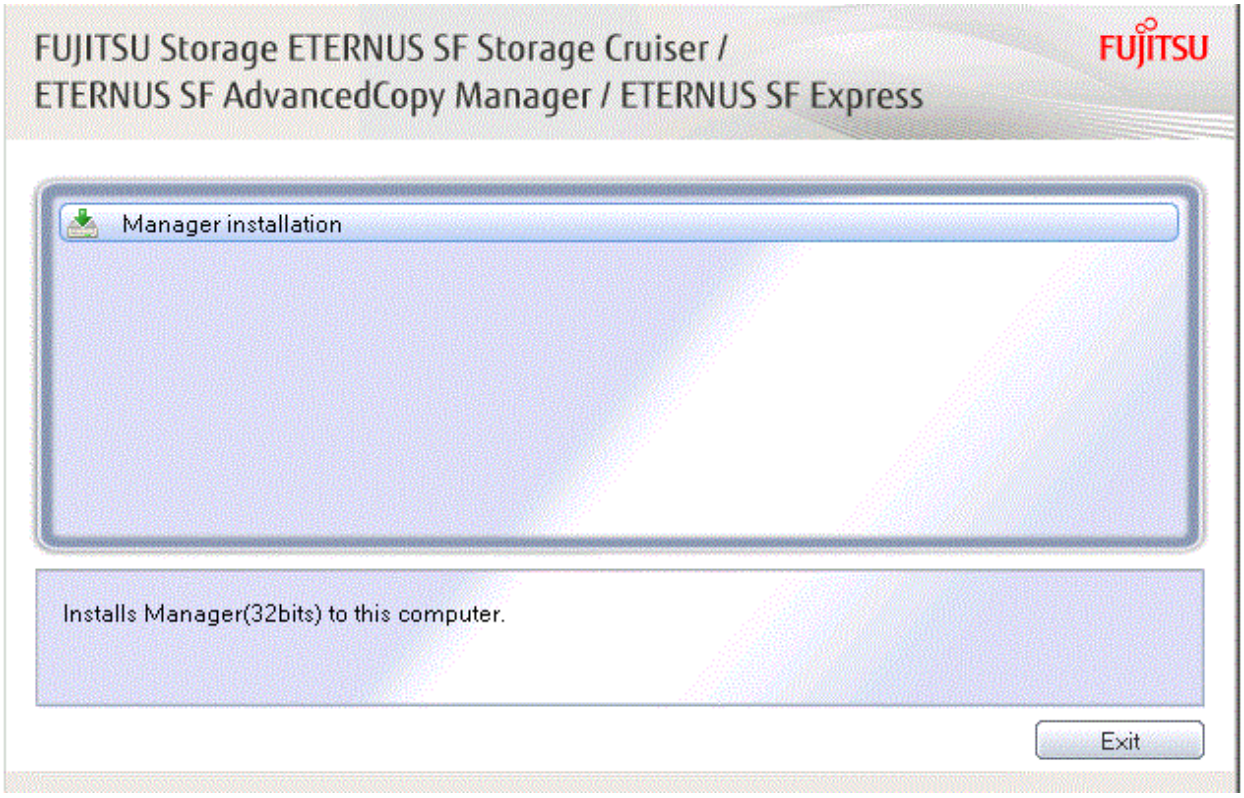
The procedure of the upgrade installation of AdvancedCopy Manager Copy Control Module is as

follows:

1. Insert the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" for this version into the DVD-ROM drive.

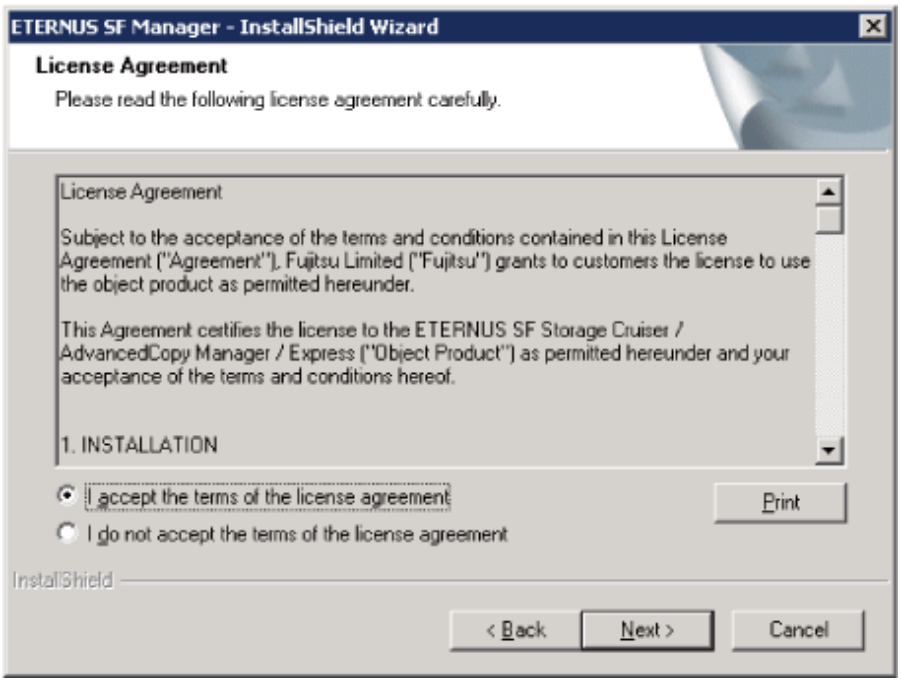
   Refer to "DVD-ROM contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

2. The following window will be displayed. Click **Manager installation**.
   To cancel the upgrade at this point, click **Exit**.

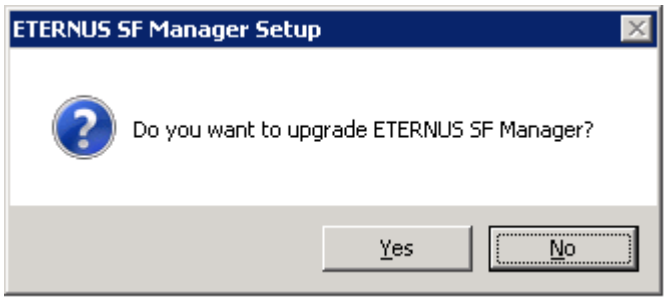


3. Read the terms and conditions of the **License Agreement** page.

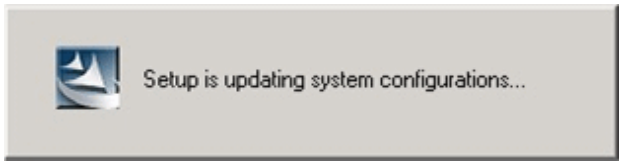
   If the conditions are agreeable, select [I accept the terms of the license agreement] and then click **Next**.



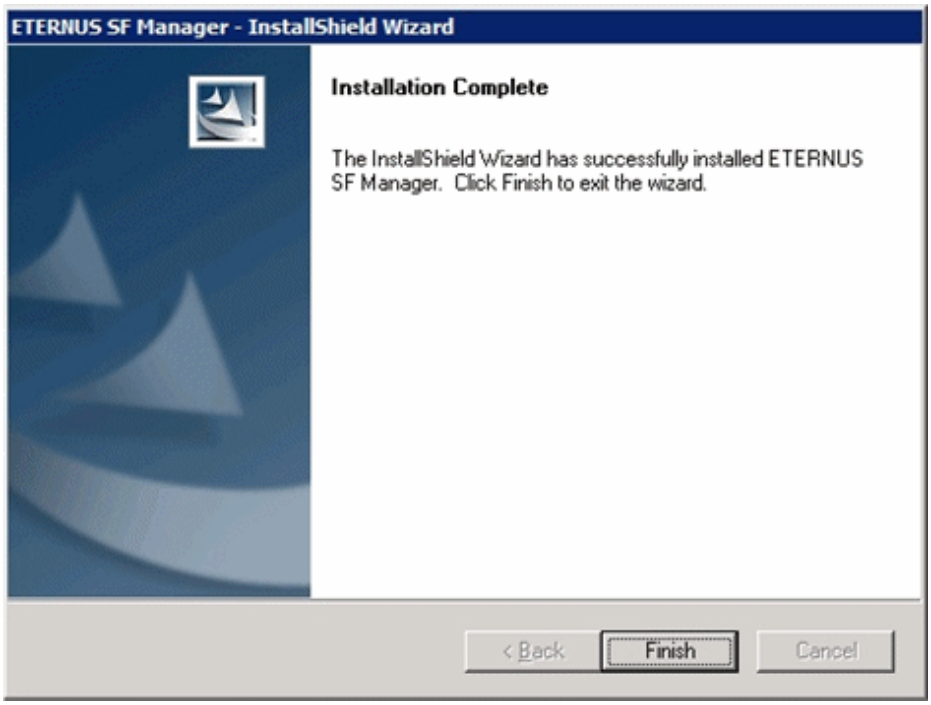
4. The following screen will be displayed.Click **Yes**.
   In order to abort the installation of the version update, click **No**.



5. The system configuration will be updated. Wait for the configuration update process to complete.



6. The following installation wizard page will be displayed. The upgrade process is completed. Click **Finish**.



7. Eject the DVD-ROM.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.7.2 Procedures for the Silent Version Update Installation

The procedures for the silent version update installation of AdvancedCopy Manager Copy Control Module are as follows:

1. Install the DVD-ROM "ETERNUS SF SC/ACM/Express Mediapack for Windows (Manager Program) (1/2)" of this version into the DVD-ROM drive. If the Installer screen is displayed by autorun, exit the installer.
2. Start the command prompt.

3. Execute the following silent installation command.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
<dvdromDrive>:\Manager_windows\esfsilentinstall_ccm.bat -eula agreed [-l <installLogFile>]
```

Point

- The -eula option is specified to agree to licensing. Only when "agreed" is specified for option parameter is installation enabled. The -eula option must be specified before other options.
- If nothing is specified for *installLogFile*, an install log file named "esfsilentinstall.log" is created in the working directory specified by the environment variable TEMP.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
- If the paths to the install log file contain any spaces, they should be surrounded by double quote characters.
- The characters " | : * ? / . < > , % & ^ ; ! are not supported for path name for install log file.

Note

- If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.
- During a version update, it will not be possible to specify an install parameter file for the command.In the case that a file has been specified, the command will end in an error.

4. On completion of installation, a command prompt is displayed.
   Remove the DVD-ROM media used for installation out of the device.

Confirming the Results of the Silent Version Update Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (ETERNUS SF Manager, AdvancedCopy Manager CCM)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.8 Procedures for Installing a Version Update of the AdvancedCopy Manager Copy Control Module 16.x (for Solaris,Linux)

The procedures for installing the version update are explained below.

For the version update, there is an installation method where required information is entered interactively and a method where no questions are asked (silent version update installation).

When implementing the interactive method, refer to "C.8.1 Performing the upgrade" and when implementing the silent method, refer to "C.8.2 Procedures for the Silent Version Update Installation".

C.8.1 Performing the upgrade

The procedures for installing the version update of the Solaris / Linux Edition AdvancedCopy Manager Copy Control Module are explained below.

The upgrade is performed as follows:

1. Insert the DVD-ROM "ETERNUS SF SC/ACM Mediapack for Solaris (Manager Program) (2/2)" or "ETERNUS SF SC/ACM/Express Mediapack for Linux 64bit (Manager Program) (2/2)" for this version into the DVD-ROM drive.

   Refer to "DVD-ROM contents" in the *ETERNUS SF Installation and Setup Guide* for this version for information on the DVD-ROM structure and detailed contents.

2. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount /mnt/dvd
```

3. Change the directory on the DVD-ROM where the installation shell script is stored.
   Example:

```
# cd /mnt/dvd/Manager_unix
```

4. Execute the shell script.
   Execute the following installation shell script.

```
# ./esfinstall.sh
```

5. The license agreement information will be displayed. Display example is mentioned below.
   If the conditions are agreeable, enter "y".

```
Notes
Thank you for purchasing media which contains Fujitsu software program (hereafter referred
to as "Media"). Fujitsu provides the Media to you subject to agreement to "Conditions of
Use" below.
This document will not be reissued and please keep it in a secure place.
Conditions of Use
1. Using programs
In order to use the software program contained in the Media (hereafter referred to as "Sof
tware"), in addition to the Media itself, you shall purchase a license which grants you a
right to use the Software.
2. Backup
(1) You may duplicate a Media for backup purpose.
(2) When you duplicate the Media for backup purpose in accordance with Section 2. (1), you
must copy the copyright notice that appears on the original Media on the duplication ther
eof.
(3) The duplication of the Media shall be treated as the Media under this Condition of Use
.
3. Transfer to a third party

You may not transfer, loan, sublicense the Media to third parties, or provide it as collat
eral to a third party.
4. Warranty range
Fujitsu warrants that the Media will be free from defects in materials and manufacture und
er normal use for a period of 90 days from the date of delivery to you. Your sole and excl
usive remedy and the entire liability of Fujitsu under this Condition of Use will be, at F
ujitsu's option,replacement of the Media or refund of the money paid by you for the Media.
Do you accept the terms of the above License Agreement? (default: n) [y,n]:
```

6. A confirmation message will be displayed containing the installation information. To continue, enter "y". To cancel, enter "q". Press Enter to proceed.

```
Do you want to upgrade? [y,q]:
```

7. If the upgrade completes successfully, the following message is displayed.

```
INFO: ETERNUS SF was installed successfully.
```

8. Change to a directory other than the DVD-ROM.
   Example:

```
# cd
```

9. Unmount the DVD-ROM.
   Example:

```
# umount /mnt/dvd
```

10. Remove the DVD-ROM used for the installation of the version update from the device.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.

C.8.2 Procedures for the Silent Version Update Installation

The procedures for the silent version update installation of the Solaris / Linux Edition AdvancedCopy Manager Copy Control Module are as listed below.

1. Insert the "ETERNUS SF SC / ACM Media Pack (Solaris Edition) Manager Program (2/2)" or "ETERNUS SF SC / ACM / Express Media Pack (Linux 64bit Edition) Manager Program (2/2)" DVD-ROM of this version level into the DVD-ROM drive.
   Refer to "Configuration of the DVD-ROM" of the *ETERNUS SF Installation and Setup Guide* for the configuration and the stored contents of the DVD-ROM.

2. Mount the DVD-ROM (if automount is not enabled).
   Example:

```
# mount  /mnt/dvd
```

3. Execute the following silent installation command.
   For *installLogFile*, specify the file in which to output installation log with an absolute path. It is optional to specify for *installLogFile*.

```
# <dvdromMountPoint>/Manager_unix/esfsilentinstall_ccm.sh -eula agreed [-l <installLogFile>]
```

Point

- The -eula option is specified to agree to licensing. Only when "agreed" is specified for option parameter is installation enabled. The -eula option must be specified before other options.
- If nothing is specified for *installLogFile*, an install log file named "esfsilentinstall.log" is created in the /var/tmp directory.
- If there is any file of the same name as the specified install log file, it is overwritten.
- It is required to specify an existing directory with write permission for the directory in which to store the install log file. If it has no write permission, no error message is output in the command prompt or screen and the process terminates with error.
- If the paths to the install log file contain any spaces, they should be surrounded by double quote characters.
- The characters " ! $ are not supported for path name for install log file.

Note

- - If an invalid option is specified, its corresponding error message is output in the install log file and the process exits. No error message is output in the command prompt or screen.
- - Do not execute multiplexly the command for silent installation. If it is multiplexly executed, the command executed after that will terminate abnormally. At this time, an install log file is not created.

4. On completion of installation, a command prompt is displayed.
5. Remove the DVD-ROM media used for installation out of the device.
   Example:

```
# umount  /mnt/dvd
```

6. Eject the DVD-ROM.

Confirming the Results of the Silent Version Update Installation

Check the return value from the silent installation command. If necessary, check the install log file. However, if the return value from the silent installation command is 3 or 9, an install log file is not created. For details, refer to "Return values for silent installation (ETERNUS SF Manager, AdvancedCopy Manager CCM)" in the *ETERNUS SF Installation and Setup Guide*.

The installation result can be viewed in the install log file, too.
Open the install log file to see "ResultCode" in the **ResponseResult** section. In "ResultCode" is written the return value from the silent installation command.

The upgrade is complete above.

Return to the section where this item was referenced to continue tasks.