

Fujitsu ETERNUS Storage Systems Monitoring Pack Software Release Guide

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FUJITSU LIMITED

Preface

Purpose of this manual

This manual describes Fujitsu ETERNUS Storage Systems Monitoring Pack, a management pack to monitor Fujitsu ETERNUS storage systems using Microsoft System Center 2012 Operations Manager and Microsoft System Center 2012 Virtual Machine Manager.

Reader of this manual

This manual is intended for system administrators who monitor Fujitsu ETERNUS storage systems using Microsoft System Center 2012 Operations Manager and Microsoft System Center 2012 Virtual Machine Manager.

Organization of this manual

This manual consists of chapter 1 through appendix B and contains the following information.

[Overview](#)

The overview of the functions of this product is described.

[Setting up and Deleting](#)

How to install and set up this product is described.

[Operation](#)

The operation procedure to use this product is described.

[Messages](#)

The messages output in using this product and troubleshooting when any trouble occurs are described.

[Configuration File](#)

The configuration file to use this product is described.

Notes on notation

- Microsoft(R) Windows Server(R) 2003, Standard Edition, Microsoft(R) Windows Server(R) 2003, and Enterprise Edition are abbreviated as "Windows Server 2003".
- Microsoft(R) Windows Server(R) 2003 R2, Standard Edition, Microsoft(R) Windows Server(R) 2003 R2 and Enterprise Edition are abbreviated as "Windows Server 2003 R2".
- Microsoft(R) Windows Server(R) 2008 Standard, Microsoft(R) Windows Server(R) 2008 Enterprise and Microsoft(R) Windows Server(R) 2008 Datacenter are abbreviated as "Windows Server 2008".
- Microsoft(R) Windows Server(R) 2008 R2 Standard, Microsoft(R) Windows Server(R) 2008 R2 Enterprise and Microsoft(R) Windows Server(R) 2008 R2 Datacenter are abbreviated as "Windows Server 2008 R2".
- Microsoft(R) Windows Server(R) 2012 Standard and Microsoft(R) Windows Server(R) 2012 Datacenter are abbreviated as "Windows Server 2012".
- ETERNUS SF Storage Cruiser is abbreviated as "ESC" or "Storage Cruiser".

- Microsoft(R) System Center 2012 Operations Manager is abbreviated as "SCOM".
- VMware(R) vCenter Server is abbreviated as "vCenter Server" or "vCenter".
- Java Runtime Environment is abbreviated as "JRE".
- Microsoft(R) System Center 2012 Virtual Machine Manager is abbreviated as "SCVMM".
- ETERNUS SF Express / ETERNUS SF Storage Cruiser / ETERNUS SF AdvancedCopy Manager Installation and Setup Guide are abbreviated as "ETERNUS SF Installation and Setup Guide".

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Chapter 1 Overview

This chapter describes the overview of Fujitsu ETERNUS Storage Systems Monitoring Pack and ETERNUS Information Provider.

ETERNUS Information Provider must be installed in the previous version of ETERNUS SF Storage Cruiser V15.X.

In the version of ETERNUS SF Storage Cruiser V16.0 or later, the installation of ETERNUS Information Provider is not required because the function of ETERNUS Information Provider is included in the ETERNUS SF Storage Cruiser.

1.1 Fujitsu ETERNUS Storage Systems Monitoring Pack

Fujitsu ETERNUS Storage Systems Monitoring Pack is a management pack that is imported into Microsoft(R) System Center Operations Manager 2007 R2 (hereinafter referred to as SCOM), making it possible to monitor ETERNUS disk arrays.

The operations management server for ETERNUS SF Storage Cruiser (hereinafter referred to as ESC) being monitored by SCOM, the following can be monitored:

- Event monitoring of ETERNUS disk arrays managed by ESC Manager for Windows
- Life-or-death monitoring of ESC Manager services for Windows

Also, Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO is a Management Pack that monitors the ETERNUS Disk storage system on SCOM and SCVMM to enable utilization of the PRO (Performance and Resource Optimization) features.

For more information on the PRO features, refer to the SCOM and SCVMM manuals.

Note: ESC is software sold separately by Fujitsu.

The ETERNUS Information Provider is not required for ETERNUS SF Storage Cruiser V16.0 or later. Use Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0 for ETERNUS SF Storage Cruiser V16.0 or later.

Use Fujitsu ETERNUS Storage Systems Monitoring Pack V15.1 for ETERNUS SF Storage Cruiser V15.X or earlier.

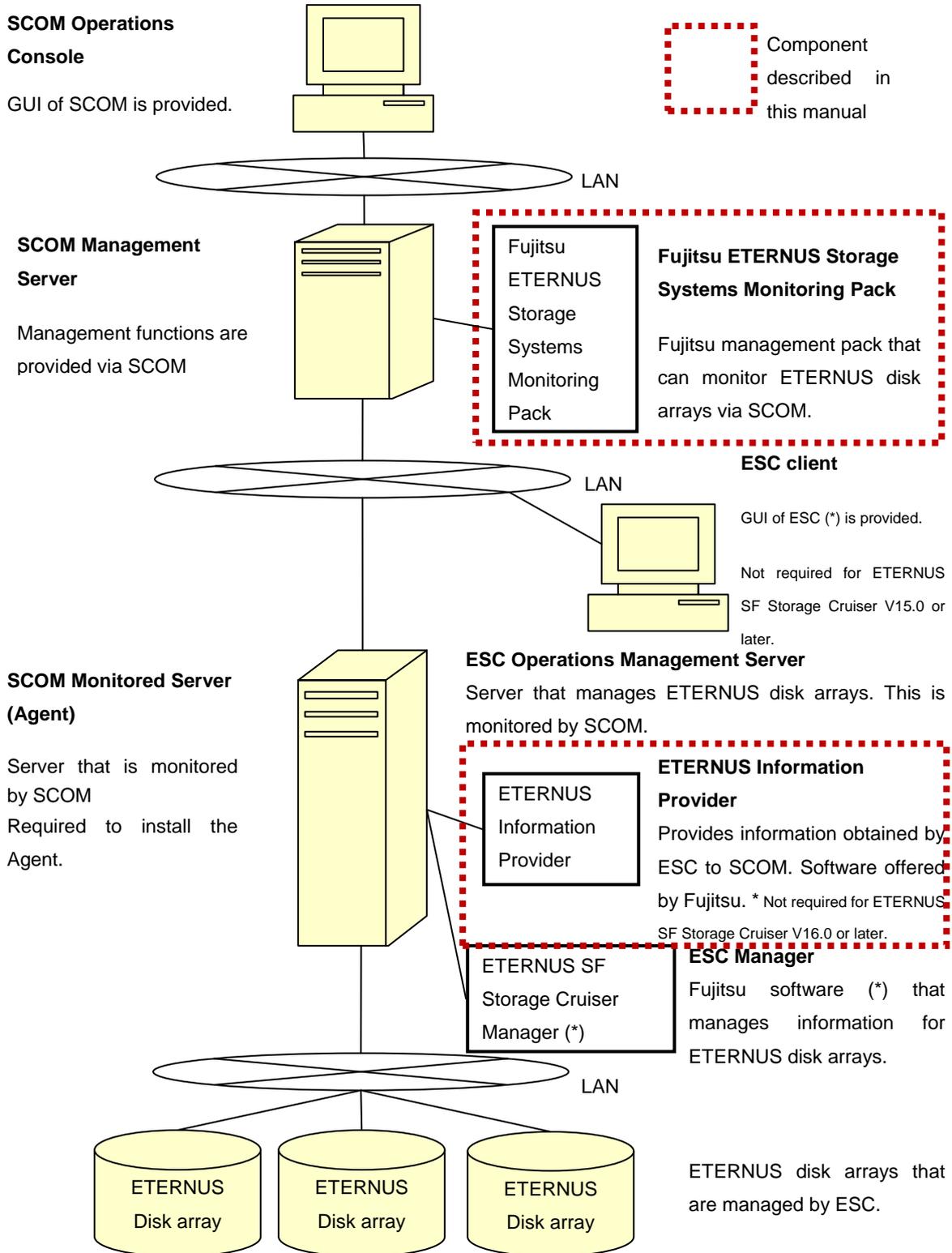
When you update ETERNUS SF Storage Cruiser V16.0 or later, you should set up Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0.

1.1.1 System Configuration

FUJITSU ETERNUS Storage Systems Monitoring Pack and Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO obtain the information on ETERNUS disk arrays using ESC (sold separately) to monitor them.

The following is a configuration example of monitoring ETERNUS Disk storage systems using Fujitsu ETERNUS Storage Systems Monitoring Pack and Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO.

Fig. 1.1.1 System configuration example



*:ETERNUS SF Storage Cruiser Standard Edition license is required to be purchased.

1.1.2 Required Environment

This chapter describes the requirements needed to use Fujitsu ETERNUS Storage Systems Monitoring Pack.

1.1.2.1 Hardware Requirements

The following hardware devices are required to use Fujitsu ETERNUS Storage Systems Monitoring Pack.

1) Requirements for SCOM management server

Please refer to the document for SCOM for details.

2) Requirements for SCOM monitored server

An ESC operations management server is handled as SCOM monitored server.

- Please refer to the document for SCOM for details of a SCOM agent server.
- Please refer to "[1.2.2.1 Hardware Requirements](#)" for details of an ESC operations management server.

1.1.2.2 Software Requirements

The software requirements to use Fujitsu ETERNUS Storage Systems Monitoring Pack are as follows.

1) Requirements for SCOM management server

Please refer to the document for SCOM for details.

2) Requirements for SCOM monitored server

An ESC operations management server is handled as SCOM monitored server.

- Please refer to the document for SCOM for details of a SCOM agent server.
- Please refer to "[1.2.2.2 Software Requirements](#)" for details of an ESC operations management server.

1.2 ETERNUS Information Provider

This is a description of ETERNUS Information Provider.

ETERNUS Information Provider is software that provides the device information for Fujitsu ETERNUS storage systems on the request of Management Pack.

ETERNUS Information Provider must be installed in the previous version of V15.X of ETERNUS SF Storage Cruiser.

In the version of ETERNUS SF Storage Cruiser V16.0 or later, the installation of ETERNUS Information Provider is not required, because the function of ETERNUS Information Provider is included in the ETERNUS SF Storage Cruiser.

1.2.1 System Configuration

Please refer to "[1.1.1 System Configuration](#)" for a system configuration example.

1.2.2 Required Environment for ETERNUS Information Provider

The following are descriptions of the requirements needed to use ETERNUS Information Provider.

1.2.2.1 Hardware Requirements

To use this software, the following hardware devices are required.

| Supported server | Requirement |
|------------------------------|---------------------------|
| Operations management server | 1G byte or more of memory |

| Storage system | Remark |
|--|--------|
| ETERNUS2000 model 50/100/200 (*2) ETERNUS4000 series (*2) ETERNUS8000 series (*2) ETERNUS DX series | (*1) |

(*1): Excluding SAS model

(*2): Unsupported for ETERNUS SF Storage Cruiser V16.0 or later.

1.2.2.2 Software Requirements

Basic software

Check if this software is installed in any of the following system environments.

| Operating system | Remark |
|--|--------|
| Microsoft(R) Windows Server(R) 2003 (x86/x64) | (*1) |
| Microsoft(R) Windows Server(R) 2003 R2 (x86/x64) | (*1) |

| | |
|---|--|
| Microsoft(R) Windows Server(R) 2008 (x86 (*1) /x64) | |
| Microsoft(R) Windows Server(R) 2008 R2 | |
| Microsoft(R) Windows Server(R) 2012 | |

(*1): Unsupported for ETERNUS SF Storage Cruiser V16.0 or later.

Required software

To use this software, the following software is required.

| Product name | Version No. | Remark |
|---|---|--------------|
| ETERNUS SF Storage Cruiser | 14.2, 14.2A, 15.0B, 15.1, 15.2, 15.2A, 15.3, 15.3A, <u>16.0</u> | (*1)(*2)(*3) |
| Java Runtime Environment (32 bit version) | Version 6 Update 6 or later | (*2)(*4) |

*1) The most updated urgent patch should be applied.

*2) They should be installed on the Management Server that has ETERNUS Information Provider installed.

*3) ETERNUS SF Storage Cruiser Standard Edition license is required to be purchased.

*4) Not required if combined with Storage Cruiser V15.0B or later. If combined with Storage Cruiser V14.2 or V14.2A, obtain what the JRE vendor provides separately.

Note

- Exclusive software is the same as that for Storage Cruiser.

See

For more information on the exclusive software for Storage Cruiser V14.2 and V14.2A, refer to the "ETERNUS SF Storage Cruiser V14.2 Installation and Setup Guide".

For more information on the exclusive software for Storage Cruiser V15.0B or later, refer to the "ETERNUS SF Installation and Setup Guide".

Chapter 2 Setting Up and Deleting

This chapter describes the procedure to set up and delete Fujitsu ETERNUS Storage Systems Monitoring Pack and ETERNUS Information Provider.

2.1 Setting Up and Deleting Fujitsu ETERNUS Storage Systems Monitoring Pack

This chapter describes the procedure to set up and delete Fujitsu ETERNUS Storage Systems Monitoring Pack.

2.1.1 Setting Up

Set up Fujitsu ETERNUS Storage Systems Monitoring Pack into SCOM.

- [Preparation](#)
- [Installation Procedure](#)

2.1.1.1 Preparation

Store the file of Fujitsu ETERNUS Storage Monitoring Pack (Fujitsu.Storage.Systems.ETERNUS.mp) in any working directory that can be referred from SCOM Operations Console.

In this manual, the file stored location is described as follows.

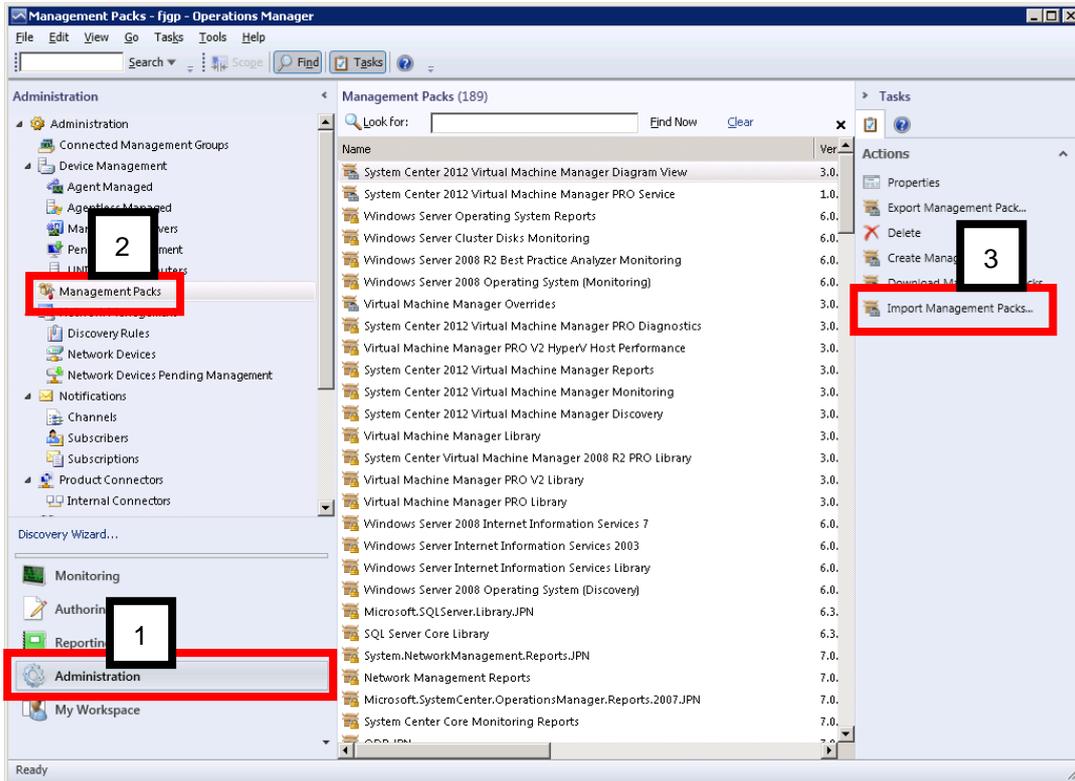
| |
|--|
| C:\temp\Fujitsu.Storage.Systems.ETERNUS.mp |
|--|

NOTE :

- The ETERNUS Information Provider is not required for ETERNUS SF Storage Cruiser V16.0 or later.
- Use Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0 for ETERNUS SF Storage Cruiser V16.0 or later.
- Use Fujitsu ETERNUS Storage Systems Monitoring Pack V15.1 for ETERNUS SF Storage Cruiser V15.X or earlier.
- When you update ETERNUS SF Storage Cruiser V16.0 or later, you should set up Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0. You need to delete Fujitsu ETERNUS Storage Systems Monitoring Pack V15.1 first, therefore set up Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0.

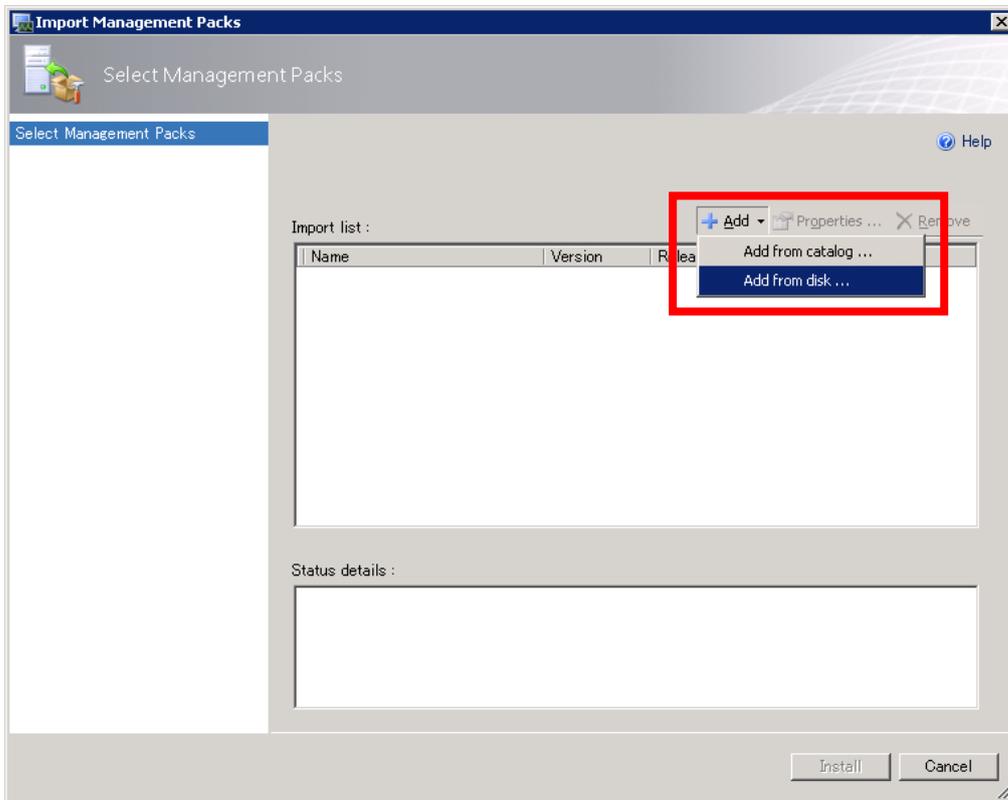
2.1.1.2 Installation Procedure

1. Start the Operations Console.
 - 1) Start the SCOM Operations Console to display the **Administration** view.
 - 2) Select "Management Packs" on the Navigation pane.
 - 3) Click "Import Management Packs" on the **Actions** pane to open its dialog box.

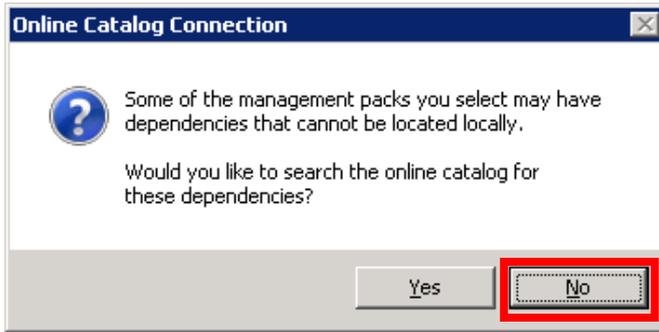


2. Select Management Packs.

Select [Add]-[Add from disk] in the menu on the "Import Management Packs" dialog box.

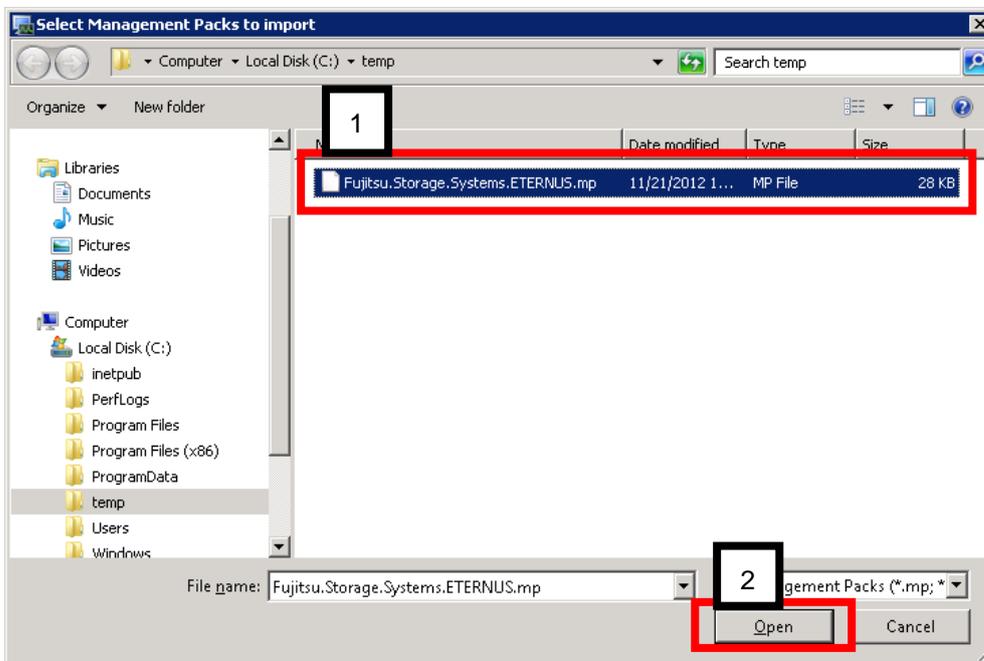


However, when the following dialog box is displayed, select "No".

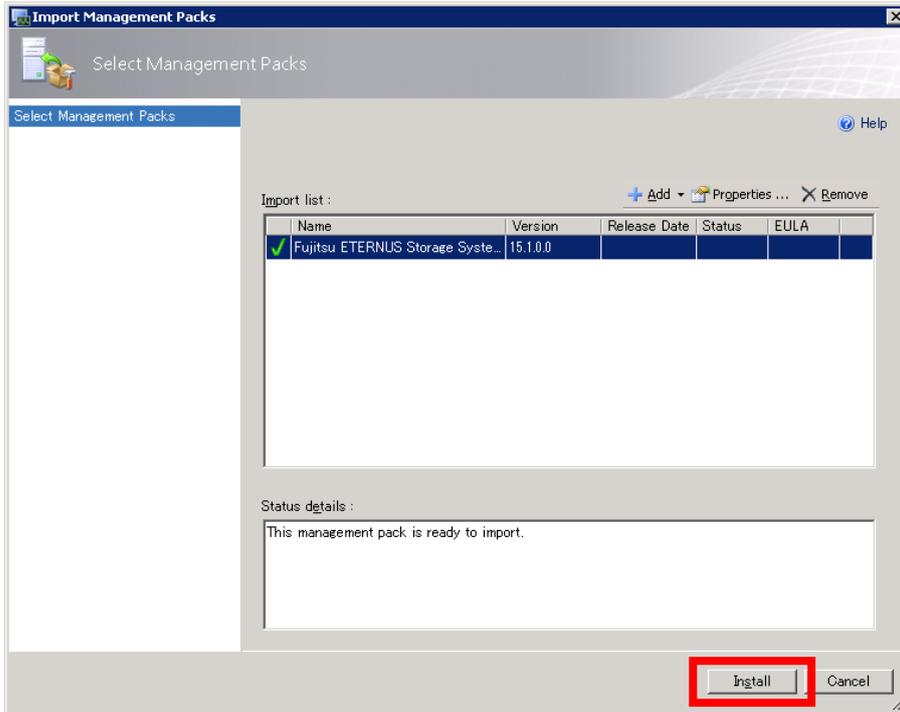


The "Select Management Packs to import" dialog box is opened.

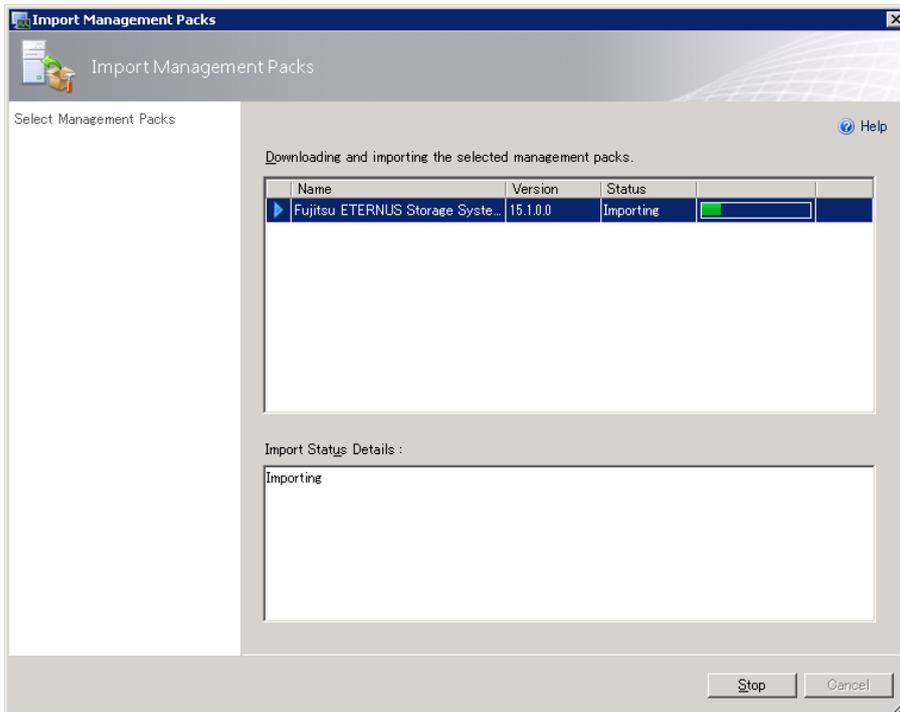
- 1) Select the file of Fujitsu ETERNUS Storage Systems Monitoring Pack (Fujitsu.Storage.Systems.ETERNUS.mp).
- 2) Click "Open".



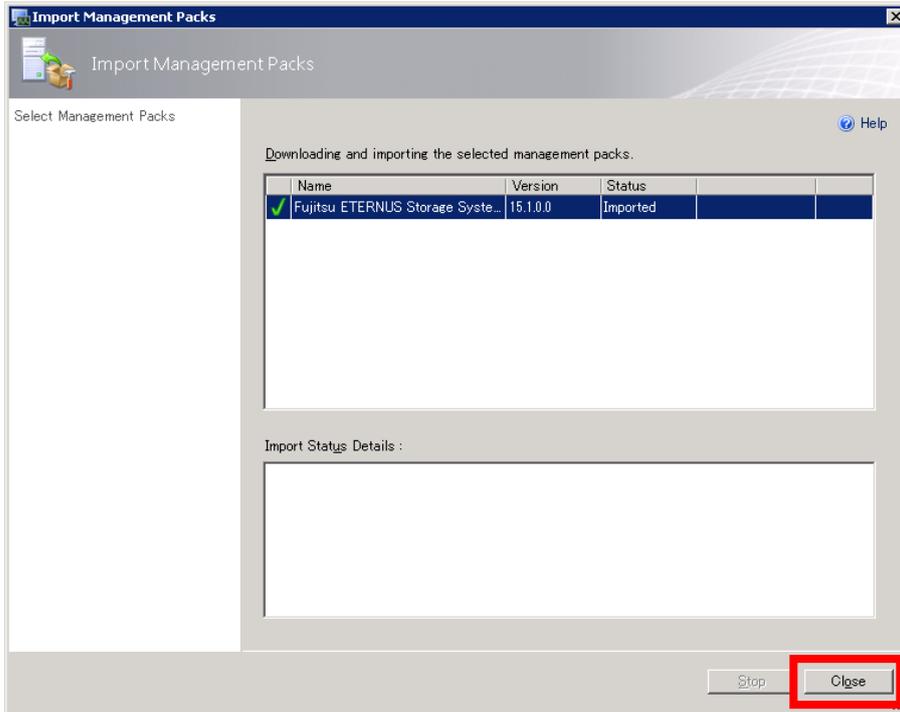
3. Execute import.
When the following dialog box is displayed, click "Install".



It starts to import Management Pack. Wait a few moments for it to be completed.

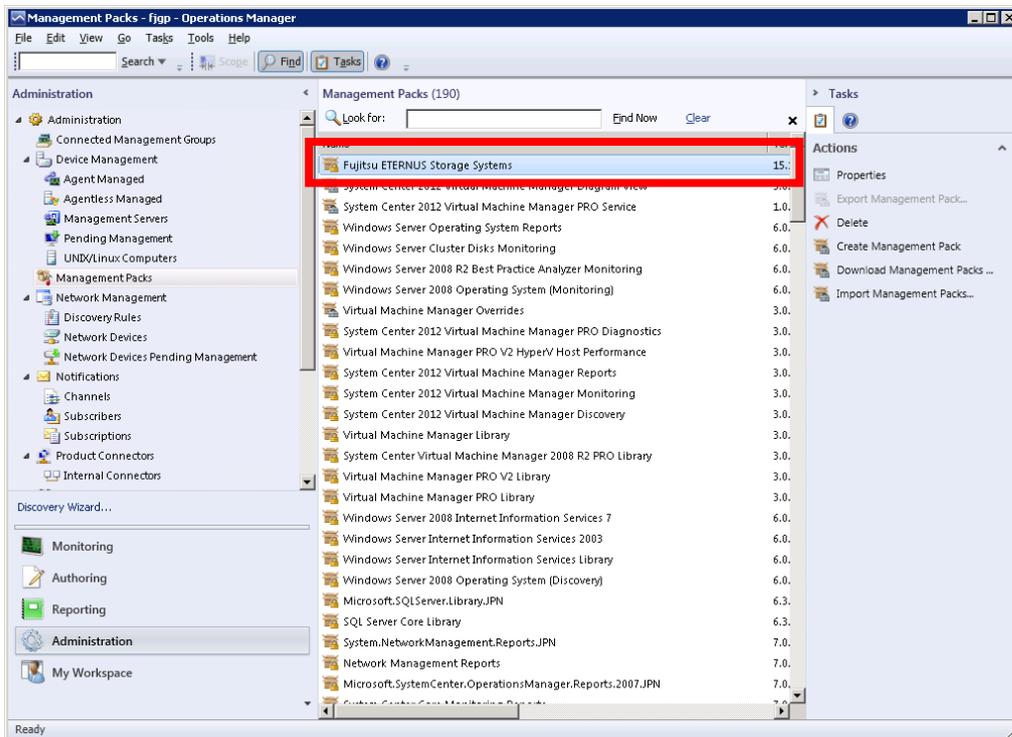


On completion of import, the following dialog box is displayed. Confirm that the state is "Imported" and then click "Close".



4. Confirm import.

Confirm that Fujitsu ETERNUS Storage Systems is displayed in the list of Management Packs on the **Administration** view.



Note

-
-
- After import has been completed, the file of Management Pack (Fujitsu.Storage.Systems.ETERNUS.mp) will no longer be necessary. Deleting it does not impose any problem.
 - After the "Import Management Packs" dialog box has been closed, it may take some time before Fujitsu ETERNUS Storage Systems is displayed in the list on the **Administration** view. Select [View]-[Refresh] in the menu to confirm it.
-
-

2.1.2 Delete

Delete FUJITSU ETERNUS Storage Monitoring Pack.

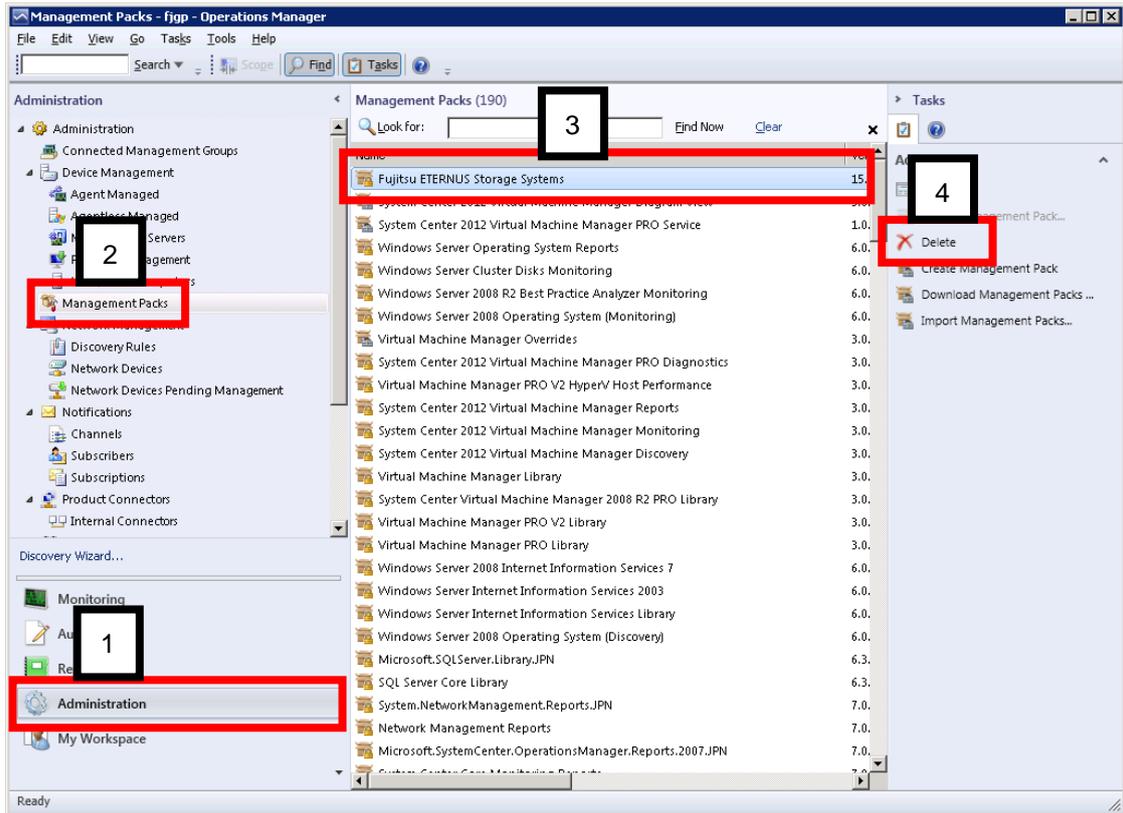
- [Preparation](#)
- [Delete Procedure](#)

2.1.2.1 Preparation

When setting up the PRO features Management Packs, you need to delete the PRO features Management Packs first. Perform "2.2.2 Deletion".

2.1.2.2 Delete Procedure

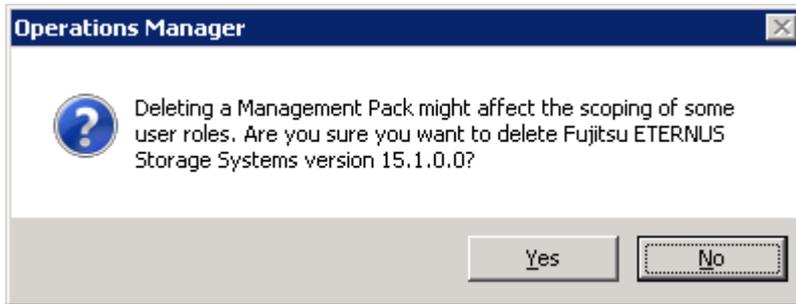
1. Start the Operations Console.
 - 1) Start the Operations Console of SCOM to display the **Administration** view.
 - 2) Select [Management Packs] on the Navigation pane.
 - 3) Select "Fujitsu ETERNUS Storage Systems" from the list of Management Packs.
 - 4) Click "Delete" on the **Actions** pane.



2. Execute Delete.

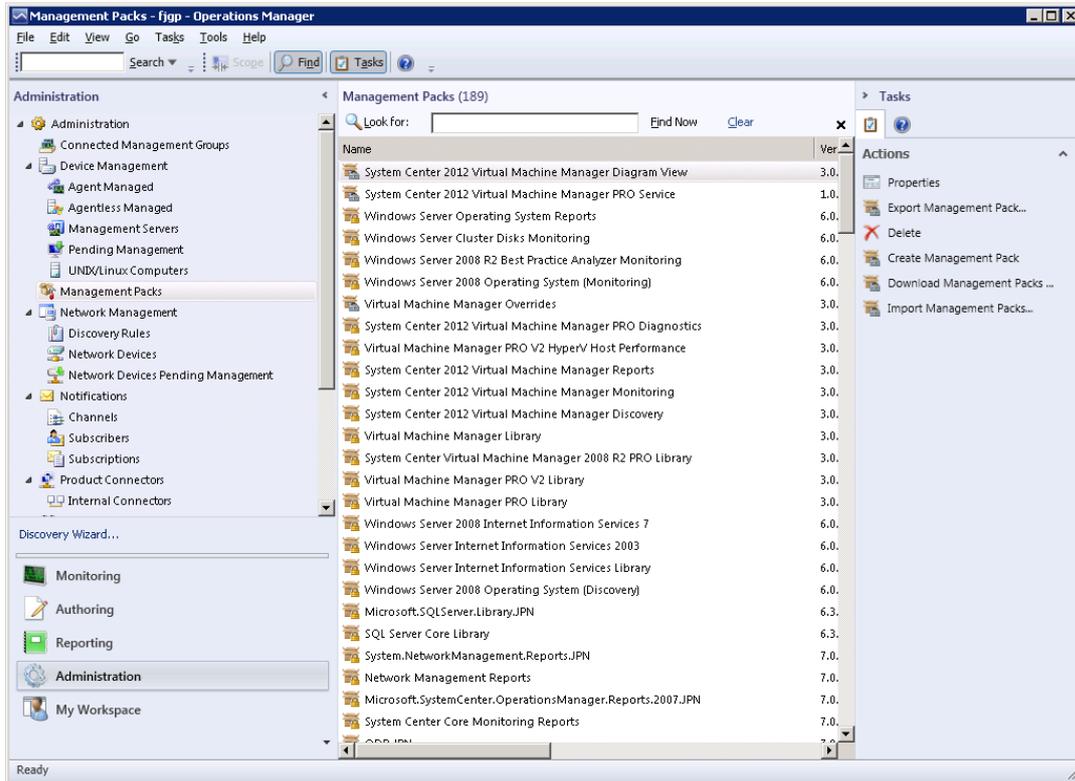
The following dialog box is displayed.

When "Yes" is selected, Delete is executed, and for "No", Delete is canceled.



3. Confirm Delete.

Confirm from the list of Management Packs that Fujitsu ETERNUS Storage Systems is deleted.



Note

- After the Delete operation has been done, it may take some time before "Fujitsu ETERNUS Storage Systems" disappears from the list on the **Administration** view. Select [View]-[Refresh] in the menu to confirm it.

2.2 Setting Up and Deleting Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO

This section explains the procedures to set up and delete Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO.

2.2.1 Setting Up

Set up Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO in SCOM.

- [Preparation](#)
- [Installation Procedure](#)

2.2.1.1 Preparation

Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO file setup procedure needs to be completed first. Perform "2.1.1 Setting Up".

Store the Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO file (Fujitsu.Storage.Systems.ETERNUS.PRO.mp) in any working directory that can be referred from the Operations Console.

In this manual, the file is assumed to be stored in the following directory:

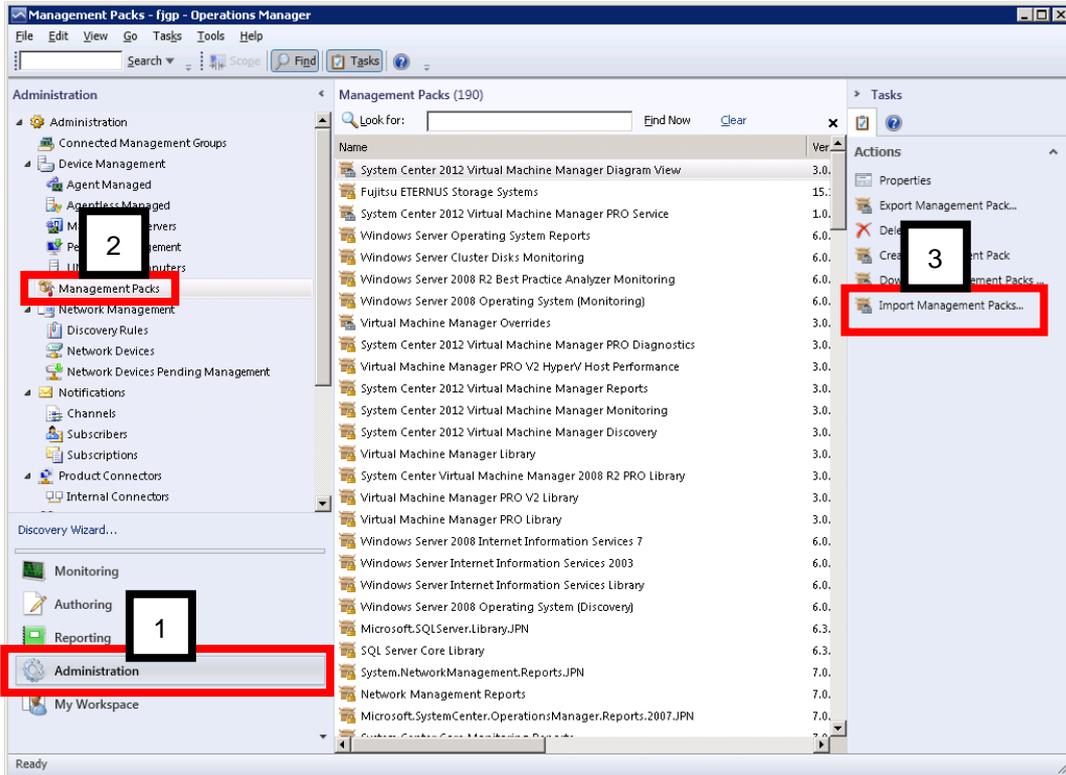
| |
|--|
| C:\temp\Fujitsu.Storage.Systems.ETERNUS.PRO.mp |
|--|

NOTE:

- Use Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0 for PRO for ETERNUS SF Storage Cruiser V16.0 or later
- .Use Fujitsu ETERNUS Storage Systems Monitoring Pack V15.1 for PRO for ETERNUS SF Storage Cruiser V15.X or earlier
- When you update ETERNUS SF Storage Cruiser V16.0 or later, you should set up Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0 for PRO. You need to delete Fujitsu ETERNUS Storage Systems Monitoring Pack V15.1 for PRO first, therefore set up Fujitsu ETERNUS Storage Systems Monitoring Pack V16.0 for PRO.

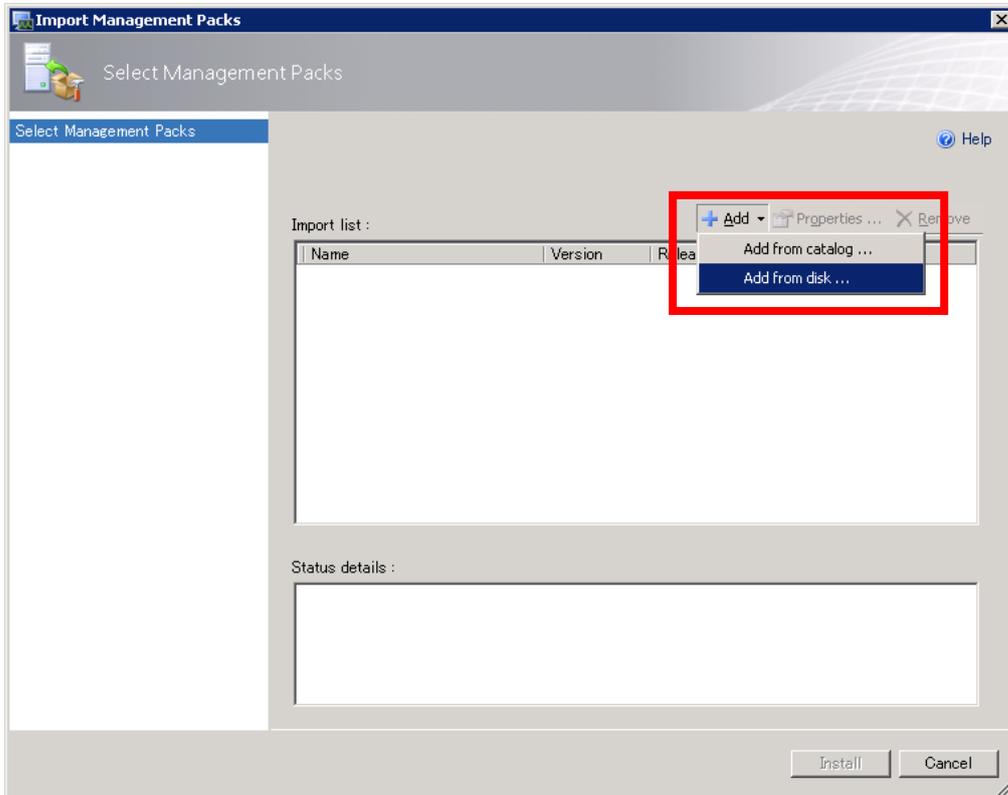
2.2.1.2 Installation Procedure

1. Starting the Operations Console.
 - 1) Start the SCOM Operations Console to display the **Administration** view.
 - 2) Select **Management Packs** on the **Navigation** pane.
 - 3) Click **Import Management Packs** on the **Actions** pane to open its dialog box.

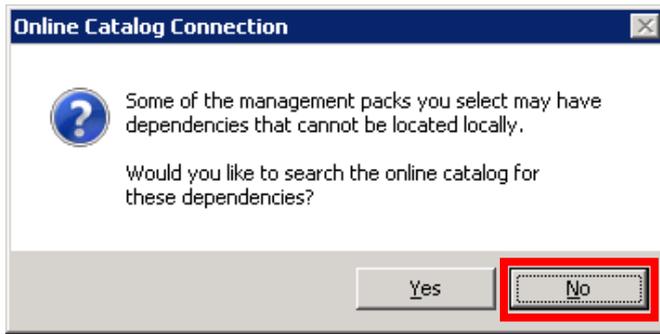


2. Selecting Management Packs.

Select **Add > Add from disk** from the menu in the **Import Management Packs** dialog box.

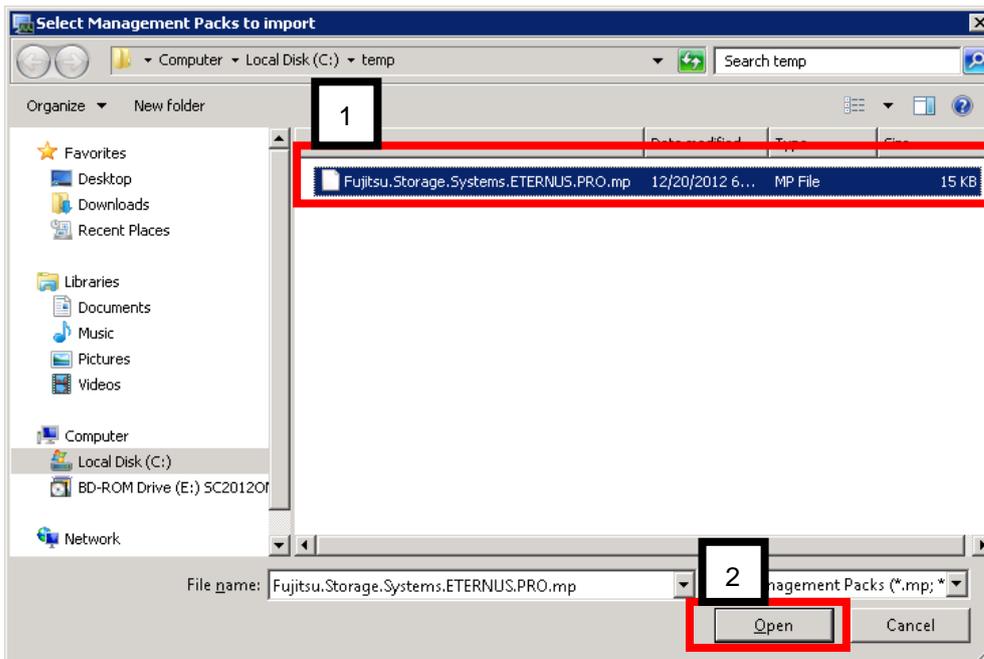


However, when the following dialog box is displayed, click **No**.



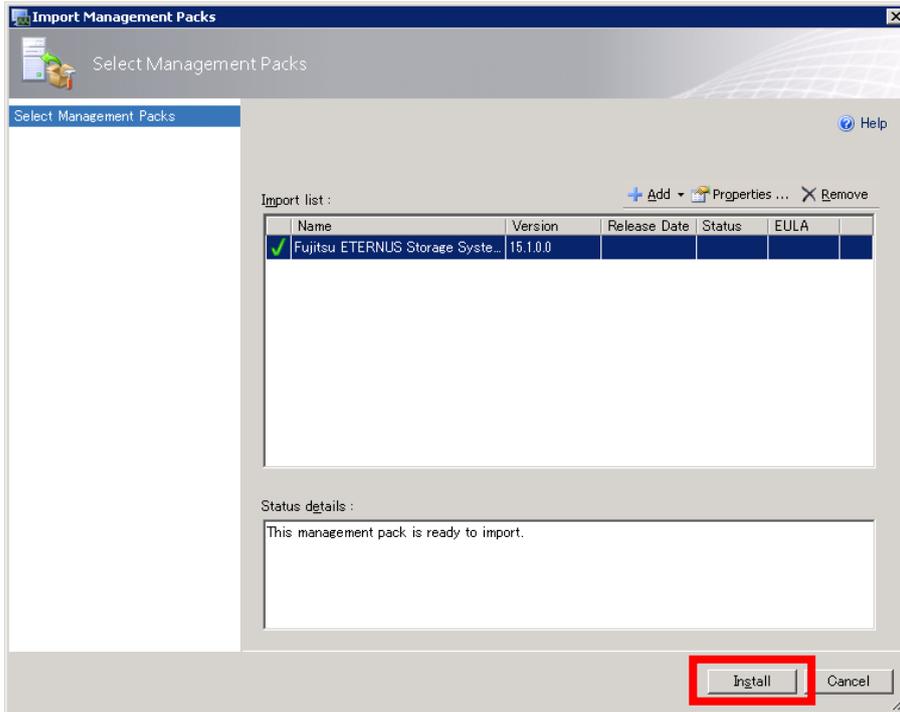
The **Select Management Packs to import** dialog box opens.

- 1) Select the Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO file (Fujitsu.Storage.Systems.ETERNUS.PRO.mp).
- 2) Click **Open**.

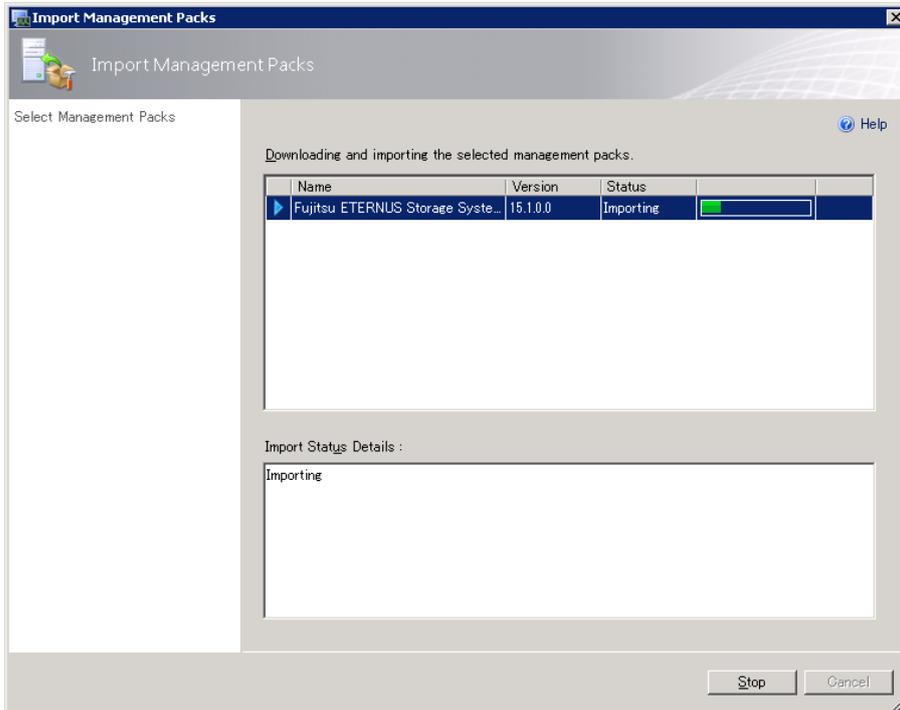


3. Importing.

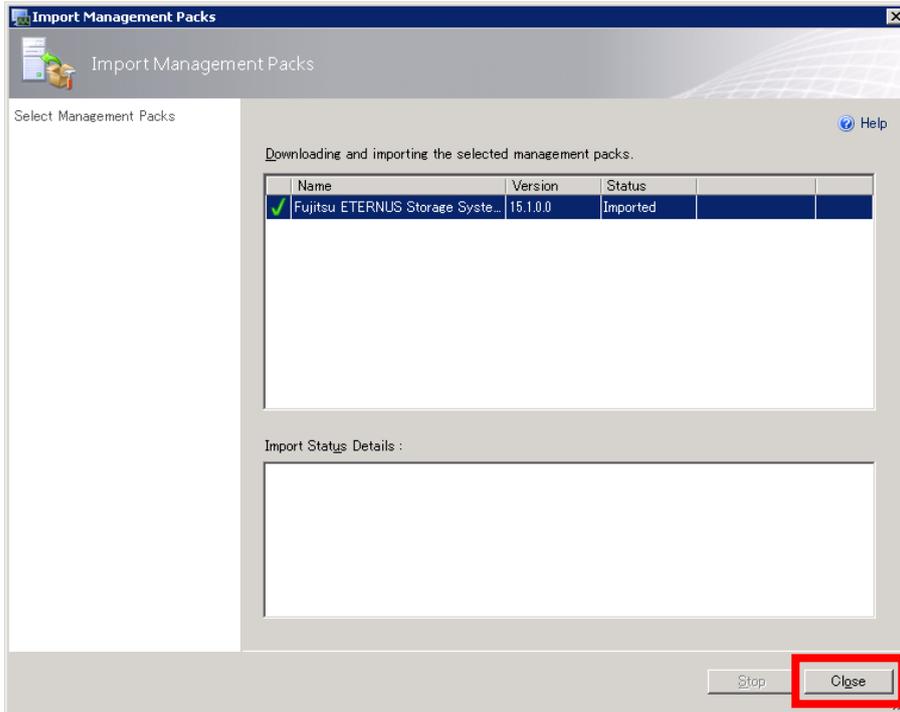
When the following dialog box is displayed, click **Install**.



It starts to import the Management Pack. Wait a few moments for it to be completed.

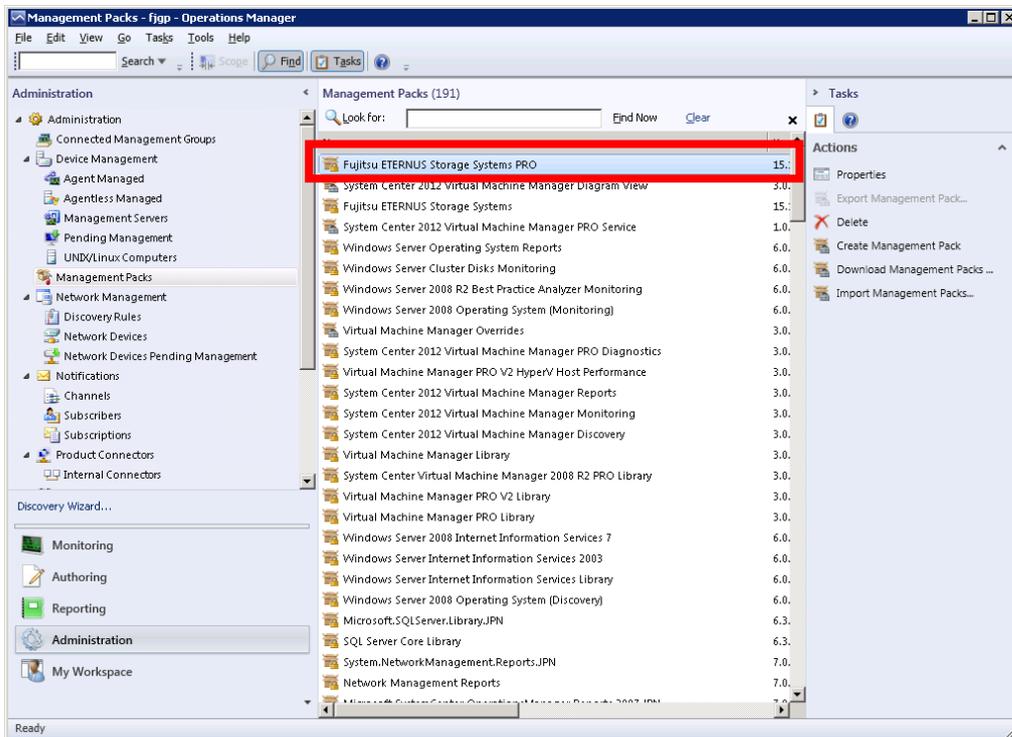


On completion of import, the following dialog box is displayed. Confirm that the state is "Imported" and then click **Close**.



4. Confirming import.

Confirm that "Fujitsu ETERNUS Storage Systems PRO" is displayed in the list of Management Packs on the **Administration** view.



Note

-
-
- After import has been completed, the Management Pack file (Fujitsu.Storage.Systems.ETERNUS.PRO.mp) will no longer be required. Deleting it does not impose any problem.
 - After the **Import Management Packs** dialog box has been closed, it may take some time before "Fujitsu ETERNUS Storage Systems PRO" is displayed in the list on the **Administration** view. Select **View > Refresh** from the menu to confirm it.
-
-

2.2.2 Deletion

Delete Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO.

- [Preparation](#)
- [Deletion Procedure](#)

2.2.2.1 Preparation

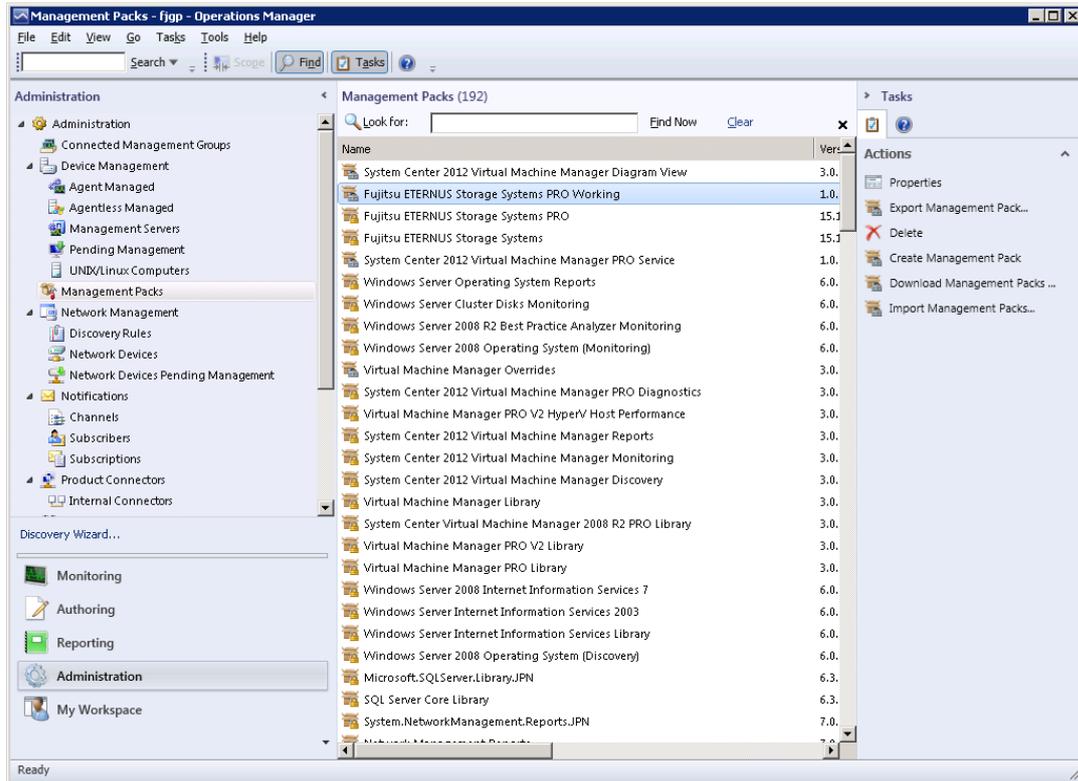
No particular preparation is necessary for deletion.

2.2.2.2 Deletion Procedure

Delete both the Working Management Pack and PRO features Management Pack. The Working Management Pack file is automatically created in "3.2.1 Detecting Monitored Servers". If this Management Pack does not exist, skip the procedures in "Deleting the Working Management Pack" below:

Deleting the Working Management Pack

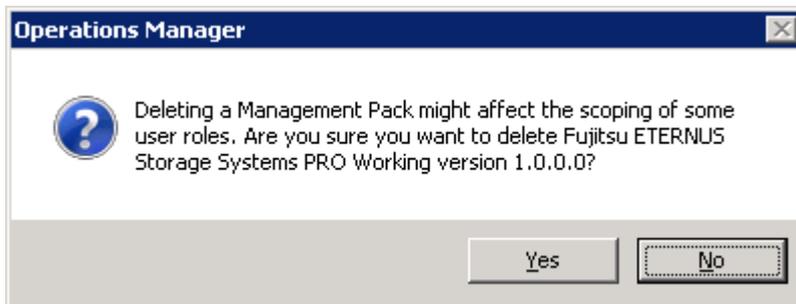
1. Starting the Operations Console.
 - 1) Start the Operations Console of SCOM to display the **Administration** view.
 - 2) Select Management Packs on the **Navigation** pane.
 - 3) Select "Fujitsu ETERNUS Storage Systems PRO Working" from the list of Management Packs.
 - 4) Click **Delete** on the **Actions** pane.



2. Executing deletion.

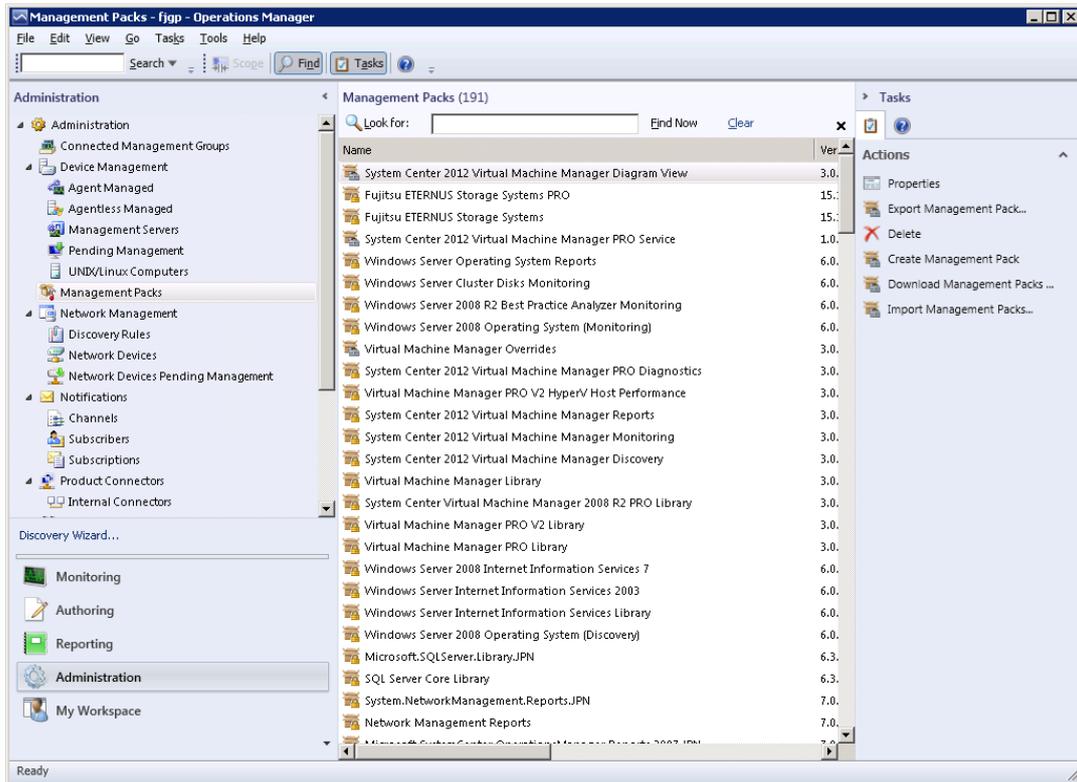
The following dialog box is displayed.

Click **Yes** to proceed or **No** to cancel.



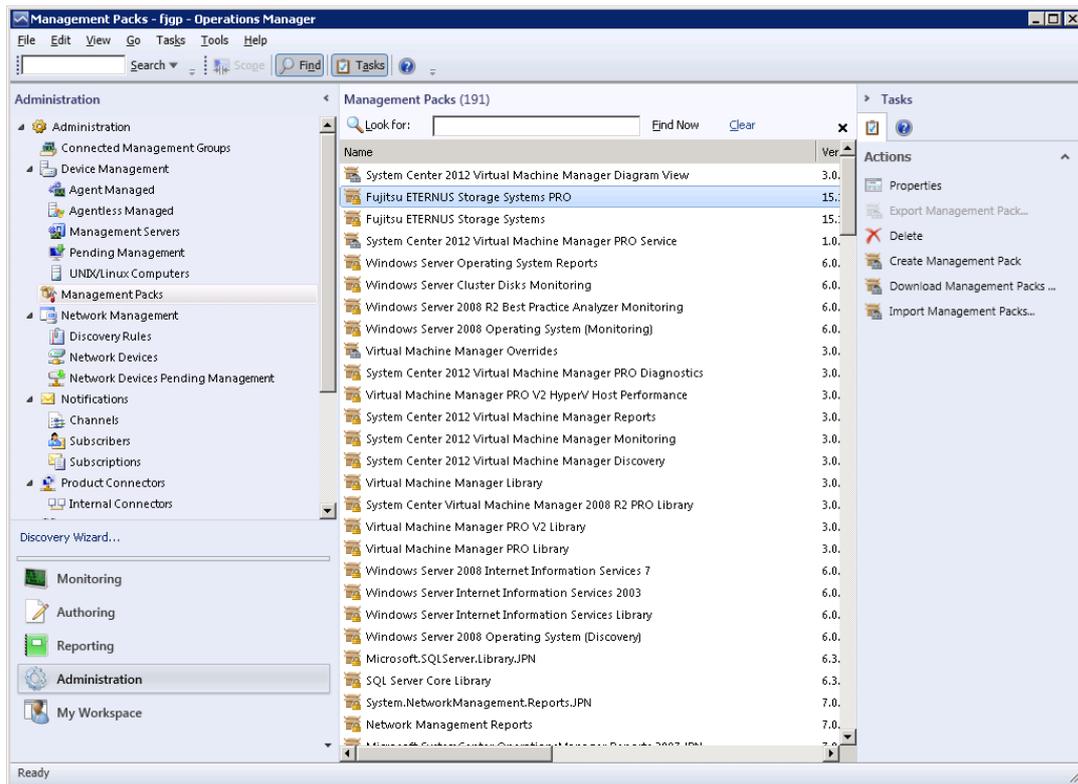
3. Confirming deletion.

Confirm that "Fujitsu ETERNUS Storage Systems PRO Working" is deleted from the list of Management Packs



Deleting the PRO features Management Pack

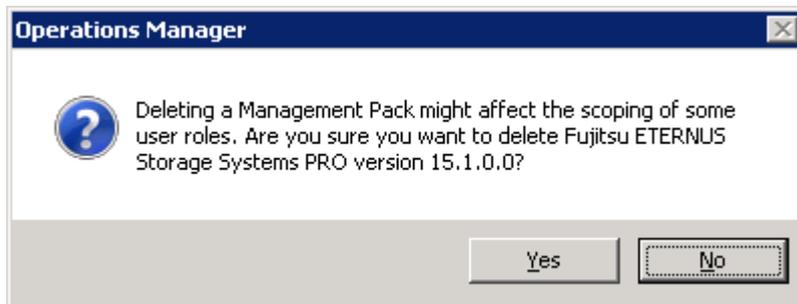
1. Starting the Operations Console.
 - 1) Start the Operations Console of SCOM to display the **Administration** view.
 - 2) Select **Management Packs** on the **Navigation** pane.
 - 3) Select "Fujitsu ETERNUS Storage Systems PRO" from the list of Management Packs.
 - 4) Click **Delete** on the **Actions** pane.



2. Executing deletion.

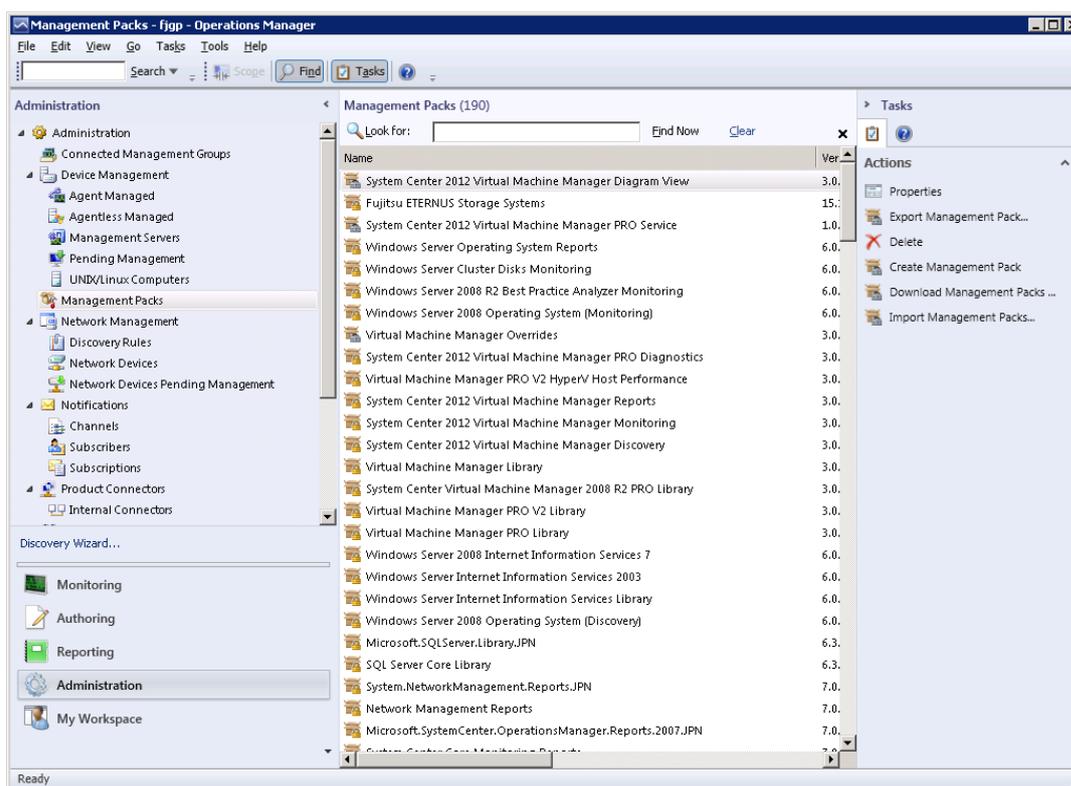
The following dialog box is displayed.

Click **Yes** to proceed or **No** to cancel.



3. Confirming deletion.

Confirm that "Fujitsu ETERNUS Storage Systems PRO" is deleted from the list of Management Packs.



2.3 Setup for ETERNUS SF Storage Cruiser V15.X or earlier.

This chapter describes how to set up or uninstall ETERNUS Information Provider.

2.3.1 Setup and uninstallation of ETERNUS Information Provider

-

2.3.1.1 Setup

ETERNUS Information Provider is set up to the ESC operations management server.

- [Preparation](#)
- [Installation](#)

2.3.1.1.1 Preparation

Please confirm the required software shown in "[1.2.2.2 Software Requirements](#)" is installed.

2.3.1.1.2 Installation

The following are descriptions of the procedure to install ETERNUS Information Provider.

2.3.1.2.1 Installation Procedure

1. Run the installer (setup.exe).

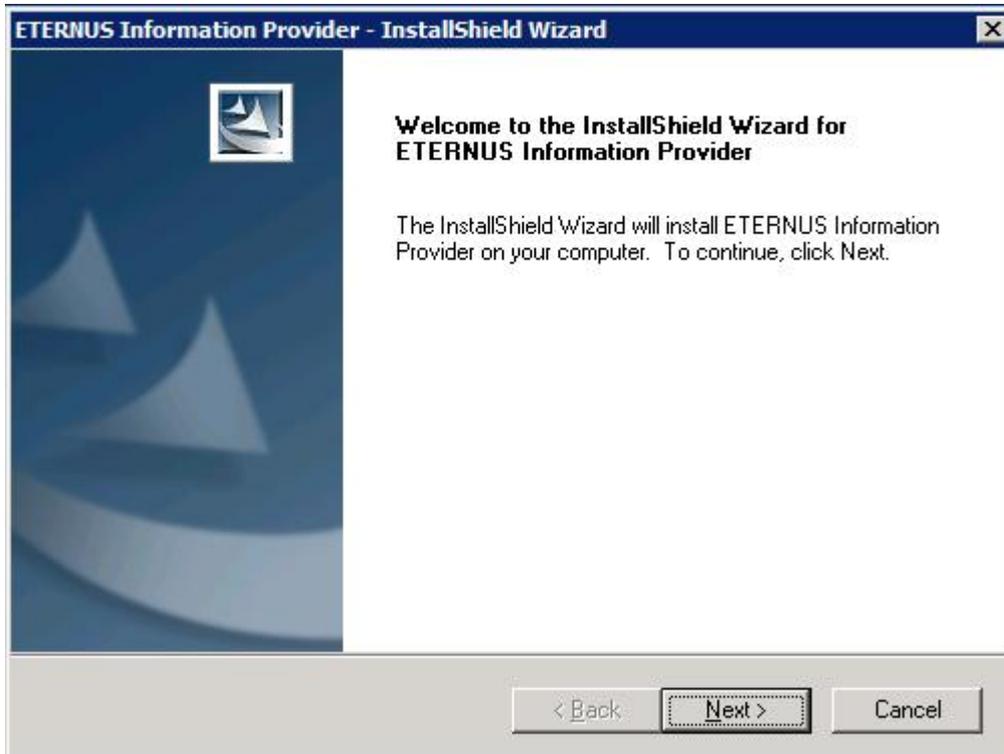
See

Download the installer from Fujitsu homepage.

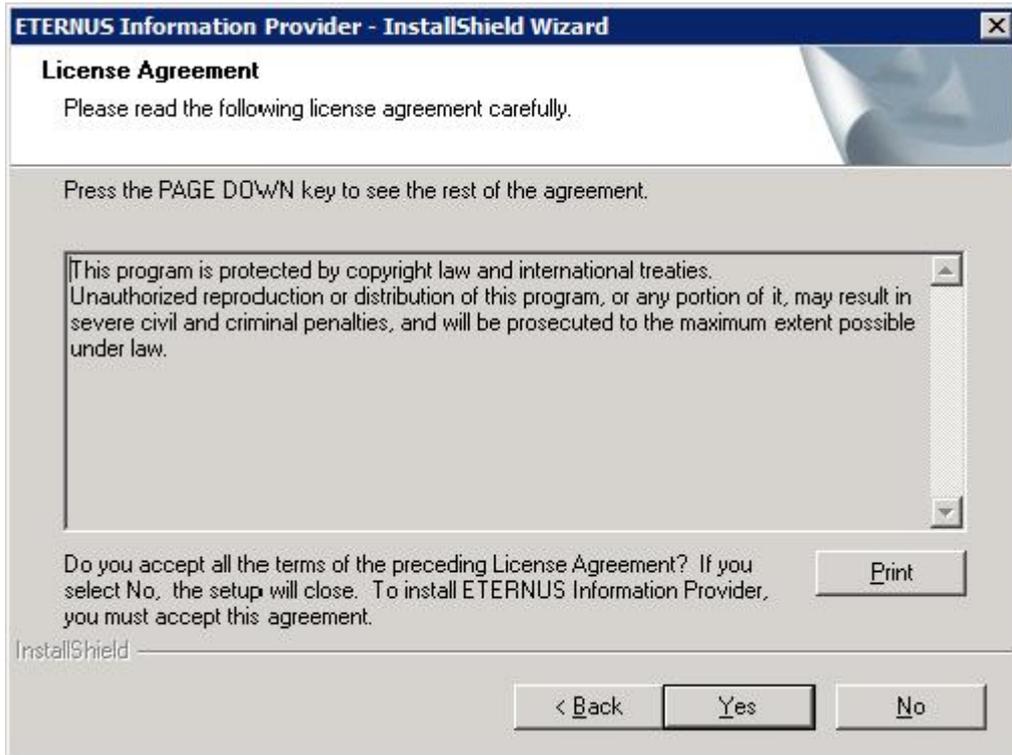
Fujitsu homepage

<http://www.fujitsu.com/global/services/computing/storage/eternus/tools/>

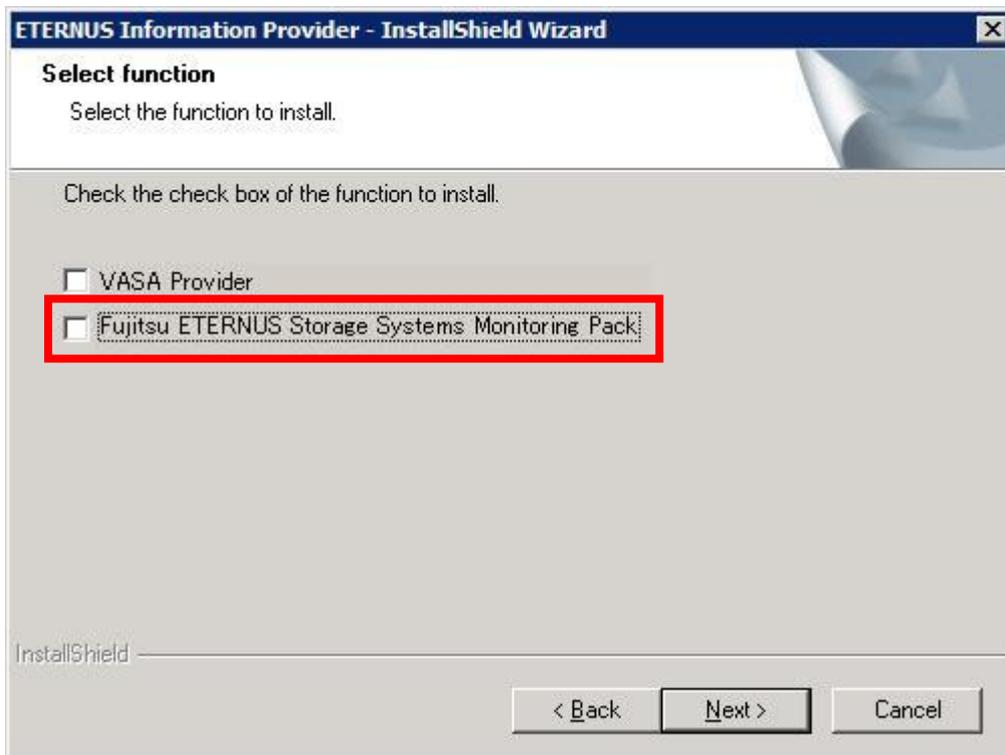
The installer is started and the [Welcome to the InstallShield Wizard for ETERNUS Information Provider] screen is displayed.



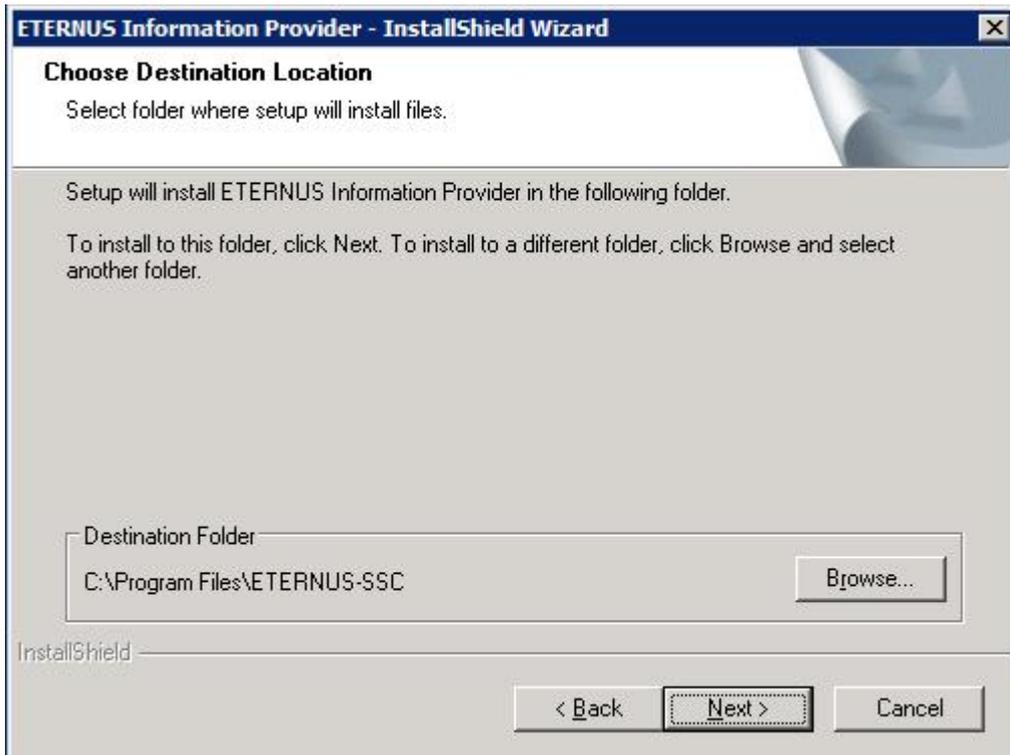
2. Check the contents and click the [Next] button.
3. Sign up for license agreement on the [License Agreement] screen. Check the displayed contents and if there is no problem, click the [Yes] button.



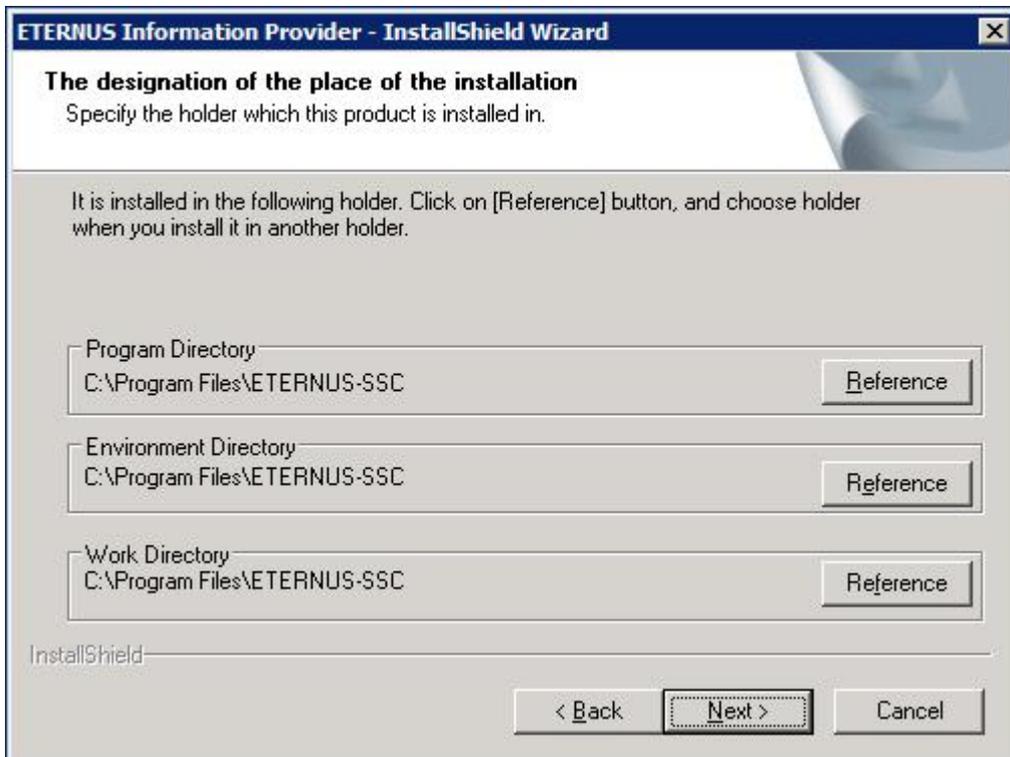
4. Specify the function you want to install. Make a check on "Fujitsu ETERNUS Storage Systems Monitoring Pack" to enable the function compatible with Management Pack.



5. Specify the install destination on the [Choose Destination Location] screen. If you do not change the install destination folder, click the [Next] button. If you change, click the [Browse] button.



6. Click the [Reference] button on the [The destination of the place of the installation] screen to change the install destination folder.



7. In the case of combination of Storage Cruiser V14.2 or V14.2A, specify the folder in which JRE is installed on the [Choose Folder] screen to click the [OK] button.

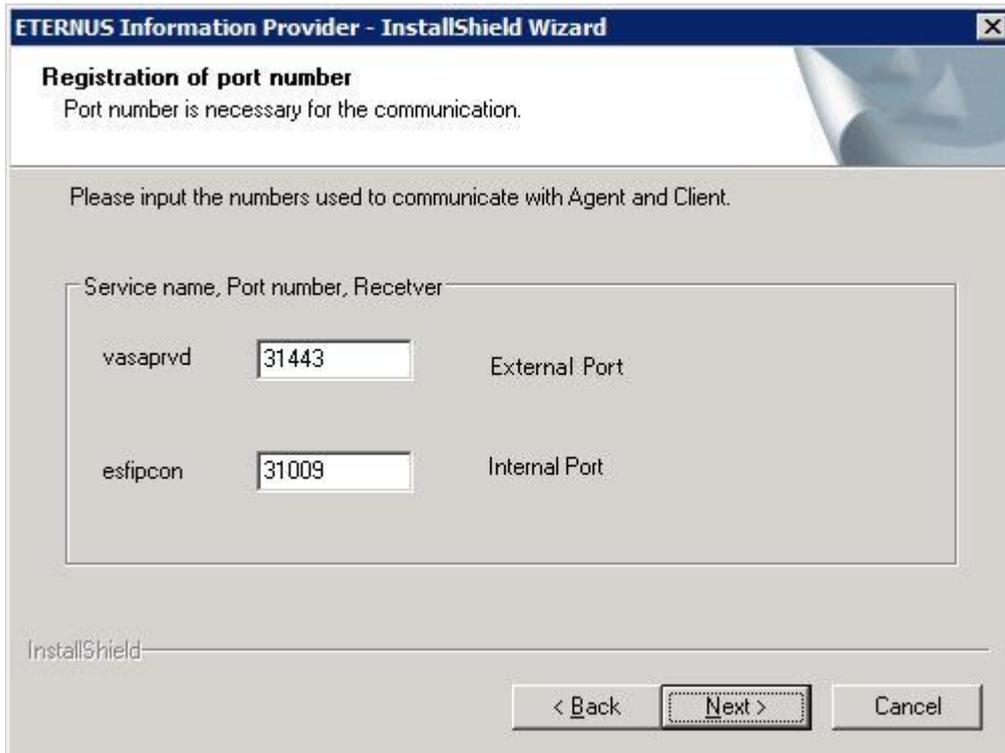
In the case of combination of Storage Cruiser V15.0B or later, this dialog does not exist.

Example

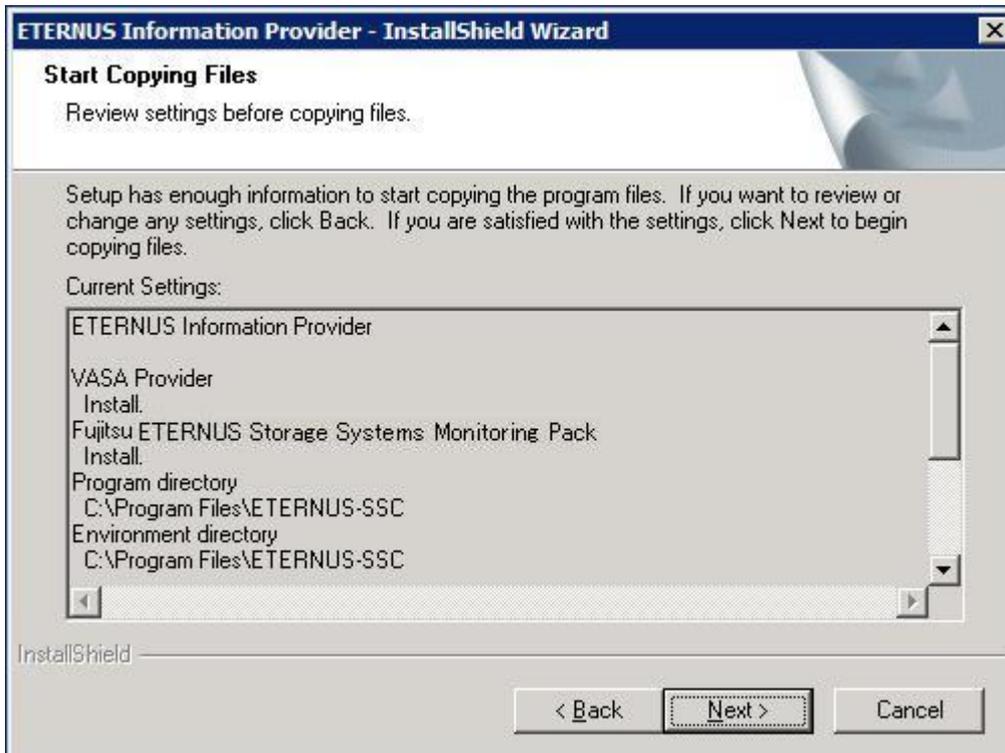
C:\Program Files\Java\jre6



8. Enter the port number used for the VASA Provider function. If default port number is already being used for other purposes, specify an available port number.
Since this is not used for the function compatible with this Management Pack, click the Next button.



9. Confirm the settings on the File Copy Start screen.



10. On completion of file copy processing, restart the operations management server and the installation is finished. To finish the installation process, click the Finish button. ETERNUS Information Provider Service starts automatically after restarting the server.



2.3.1.3 Uninstalling

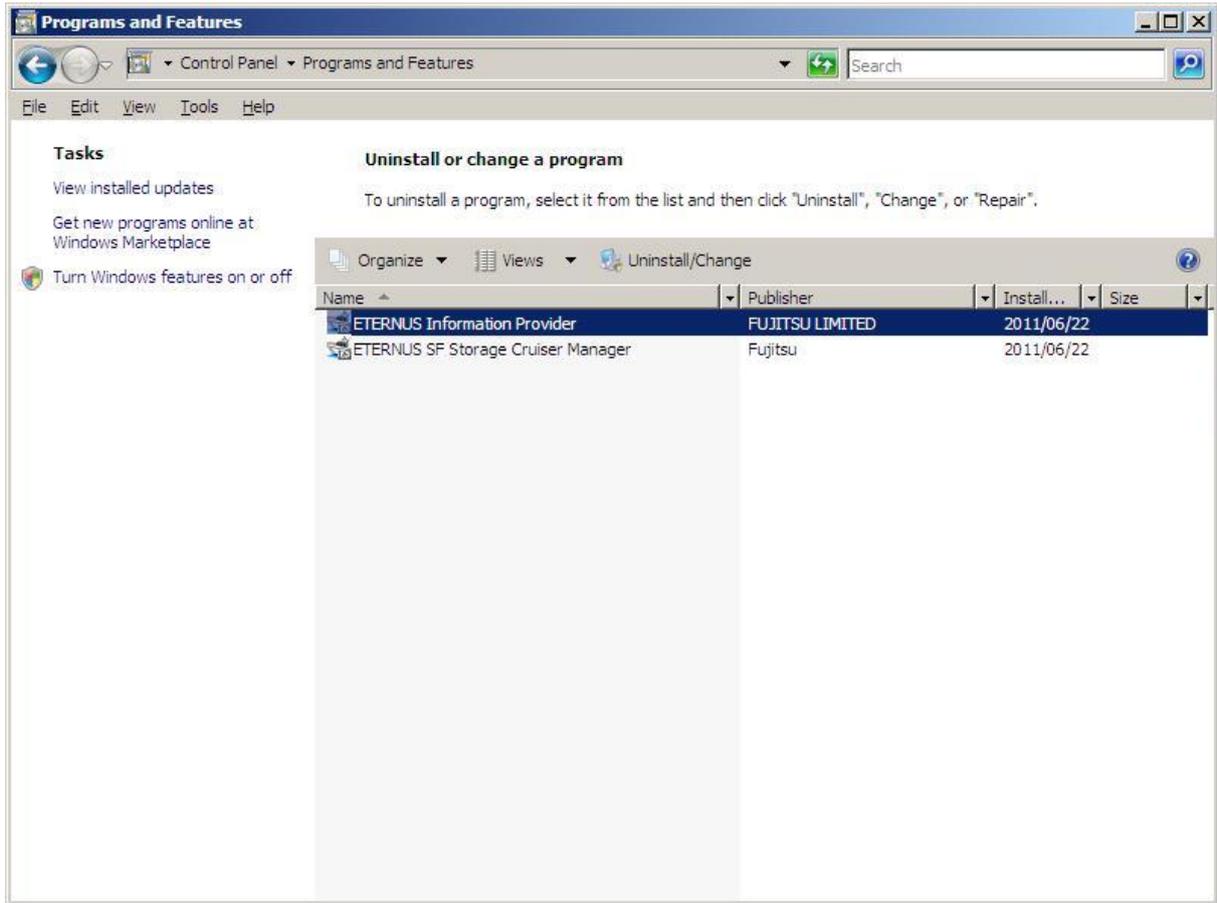
The following are descriptions of the procedure to uninstall ETERNUS Information Provider from the operations management server.

- [Uninstallation Procedure](#)

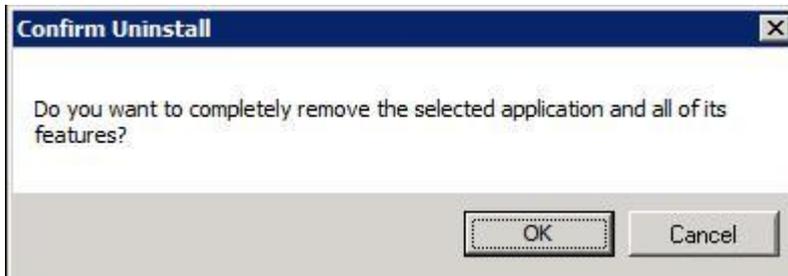
2.3.1.3.1 Uninstallation Procedure

The following is the procedure to uninstall ETERNUS Information Provider.

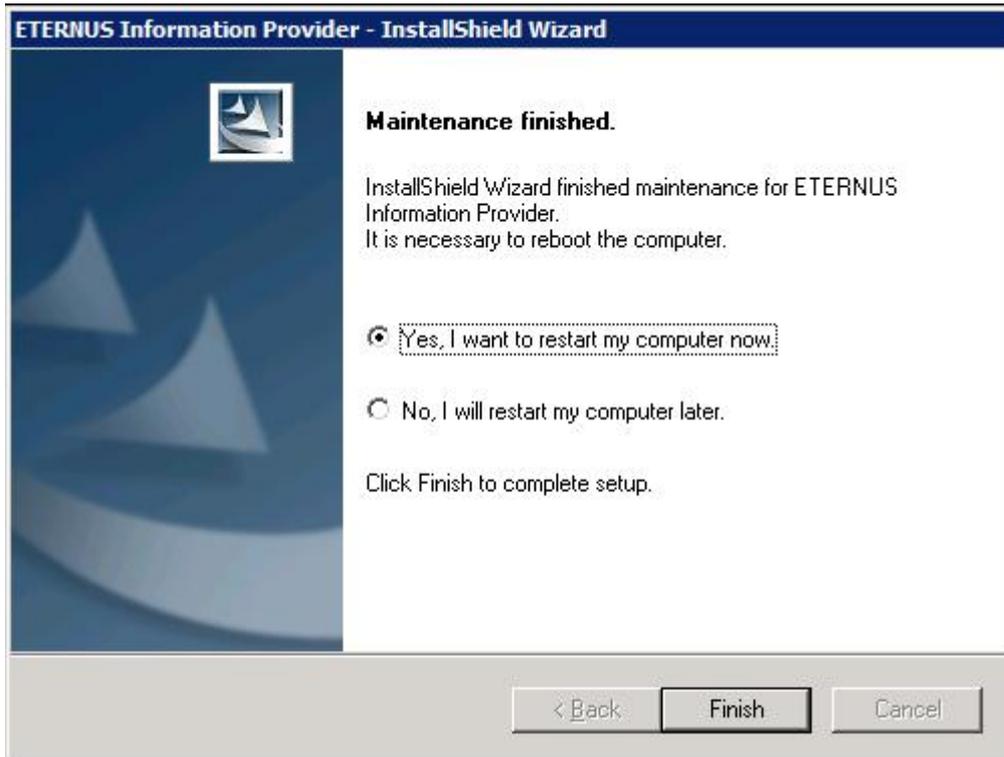
1. Open the Add/Delete Programs screen from the control panel to select ETERNUS Information Provider and then click the Change/Delete button.



1. The following Confirmation screen is displayed. Click the OK button.



2. The following Confirmation screen is displayed. Click the Finish button to finish the uninstallation process.



2.3.2 Starting and Stopping the Service

The ETERNUS Information Provider is not required for ETERNUS SF Storage Cruiser V16.0 or later.

2.3.2.1 Starting the Service

Restart the server or start the ETERNUS Information Provider service from the Service screen in Administration Tools.

2.3.2.2 Stopping the Service

Stop the ETERNUS Information Provider service from the Service screen in Administration Tools.

2.4 Setup for ETERNUS SF Storage Cruiser V16.0 or later.

This chapter describes how to set up or uninstall ETERNUS Information Provider.

2.4.1 Setup for ETERNUS SF Manager

For ETERNUS SF V16.0 or later, you need to create and set the Properties file of Fujitsu ETERNUS Storage Systems Monitoring Pack.

Please set the following settings to the ETERNUS SF Manager.

1) Create and set the Properties file.

By referring to "[B.2 Properties file](#)", please create a Properties file.

Please set ON for the values of the Properties file.

2) Reflect Properties file to the ETERNUS SF Manager.

Click [SYSTEM] -> [System Settings] -> [Update in the configuration file] on the GUI operation screen of ETERNUS SF, and then reflect configuration file to the ESF Manager.

Chapter 3 Operation

This chapter explains the use of Fujitsu ETERNUS Storage Systems Monitoring Pack and ETERNUS Information Provider.

3.1 Using Fujitsu ETERNUS Storage Systems Monitoring Pack

This chapter describes how to monitor ETERNUS disk arrays using Fujitsu ETERNUS Storage Systems Monitoring Pack.

- [Discover Monitored Server](#)
- [Screen Structure](#)

3.1.1 Discover Monitored Server

Fujitsu ETERNUS Storage Systems Monitoring Pack monitors the events of ETERNUS disk arrays by the ESC operations management server being monitored by SCOM.

If a server to be monitored has already been discovered on SCOM, it is automatically monitored by importing Fujitsu ETERNUS Storage Systems Monitoring Pack.

The server not yet discovered, it needs to be newly discovered as a server to be monitored by SCOM Agent. For more information on the discovery procedure, refer to the document for SCOM.

Note

-
-
- It may take some time to discover the server.
 - In this Management Pack, a part of file of ETERNUS Information Provider is observed and SCOM Agent acquires the right of access. Therefore, after ETERNUS Information Provider of the monitored server is uninstalled, a part of file might not be deleted. In this case, please wait until server information is deleted from State View after uninstallation. Afterwards, please erase the file if necessary. Please refer to "[3.1.2.2 State View](#)" for State View.
 - The ETERNUS Information Provider is not required for ETERNUS SF Storage Cruiser V16.0 or later.
-
-

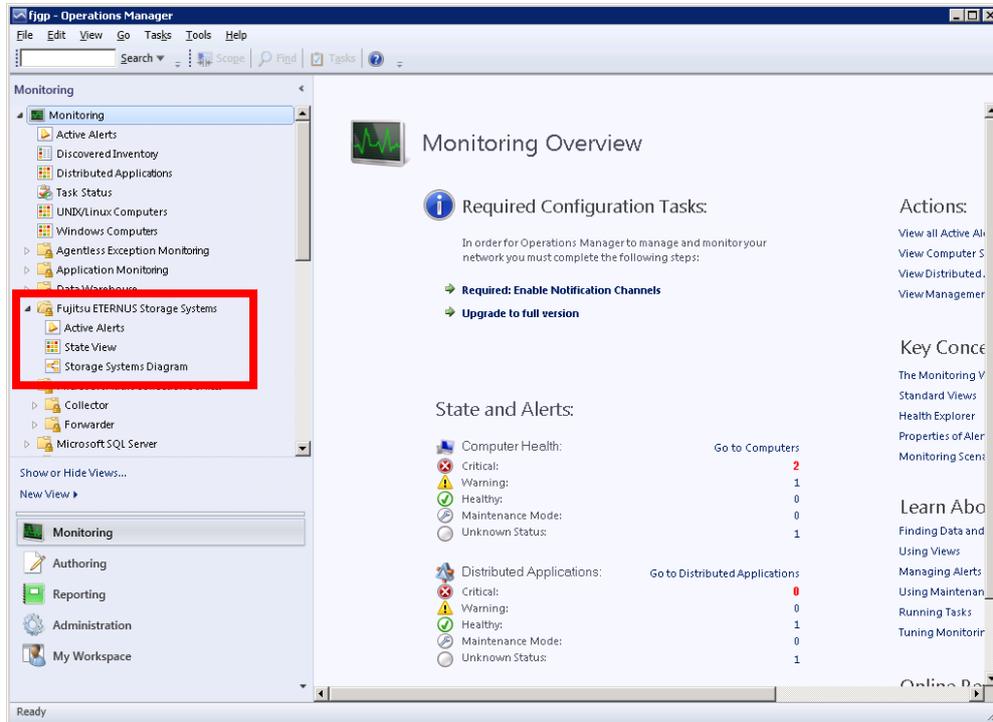
3.1.2 Screen Structure

The following are descriptions of the screen structure when Fujitsu ETERNUS Storage Systems Monitoring Pack is imported.

3.1.2.1 Monitoring View

The integrated information on ETERNUS disk arrays is displayed on the **Monitoring** view.

When this Management Pack is installed, the information to be added to the **Monitoring** view is described.



The following folder is added to the tree on the **Navigation** pane.

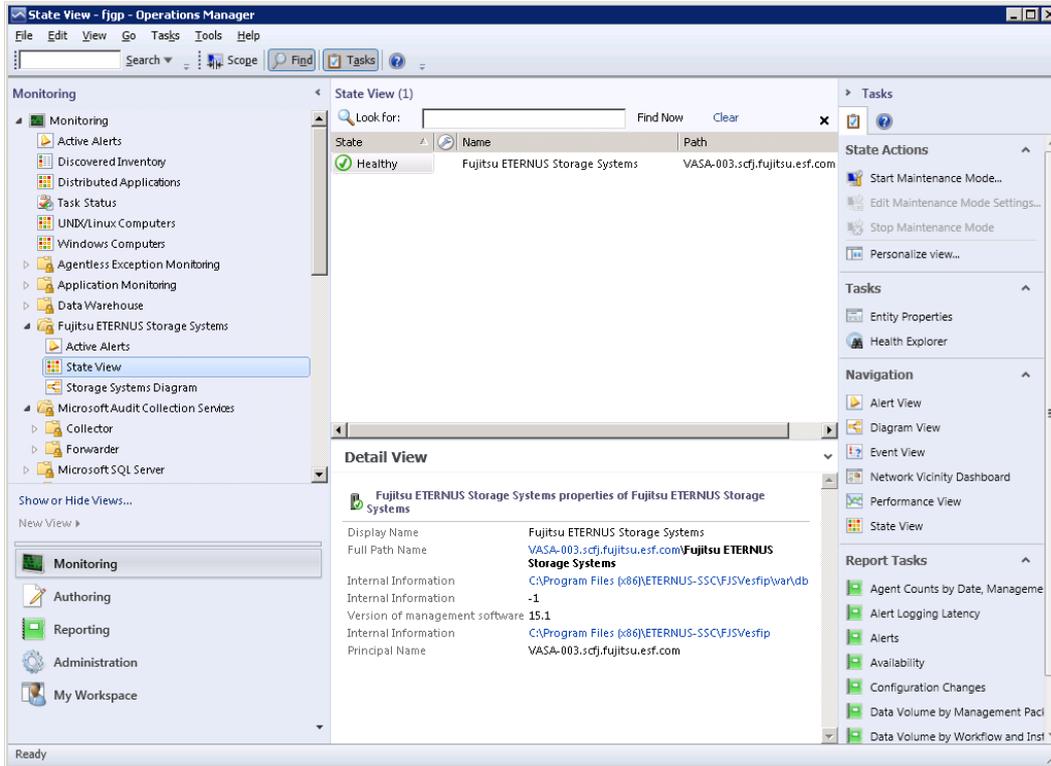
- Fujitsu ETERNUS Storage Systems

The following fields are added under the folder.

- Active Alerts
Active Alerts are displayed. For more information, see the "[3.1.2.4 Active Alerts](#)" section.
- Storage Systems Diagram
Storage Systems Diagram is displayed. For more information, see the "[3.1.2.3 Storage Systems Diagram](#)" section.
- State View
State View is displayed. For more information, see the "[3.1.2.2 State View](#)" section.

3.1.2.2 State View

If you select [Fujitsu ETERNUS Storage Systems]-[State View] on the **Navigation** pane of the **Monitoring** view, the integrated information on ETERNUS disk arrays is displayed in list.



The following is set as the information specific to this Management Pack.

| Item | Content | Remark |
|-----------------------------|--|---|
| State | Information that integrates the following state information: <ul style="list-style-type: none"> Information on the operating state of services required on the monitored server Information on the event trap state of ETERNUS disk arrays | If the state is not "Healthy", see the "3.1.2.4 Active Alerts" section to take actions as required. |
| Name | "Fujitsu ETERNUS Storage Systems" | |
| Management software version | Version information for ESC Manager | |

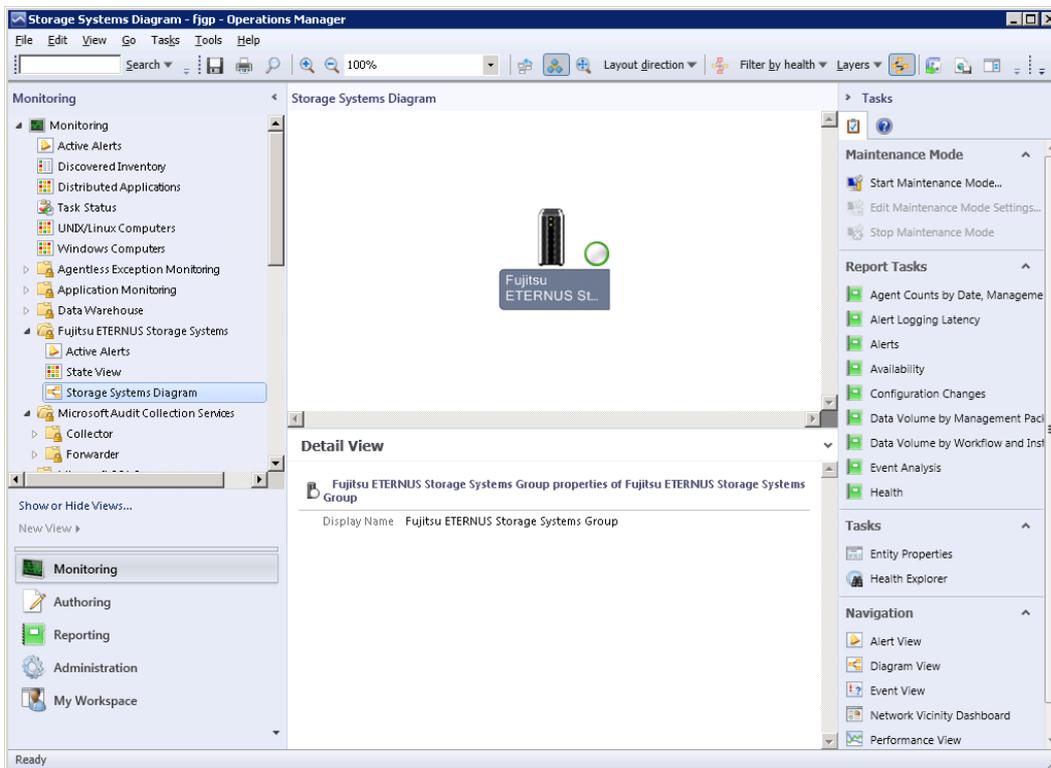
Note

- This Management Pack handles the information for the discovered server to be monitored as integrated information for ETERNUS disk arrays.
- In this Management Pack are not defined the fields to be viewed and their display order. As required, select "Personalize view". For more information on "Personalize view", refer to the document for SCOM.

3.1.2.3 Storage Systems Diagram

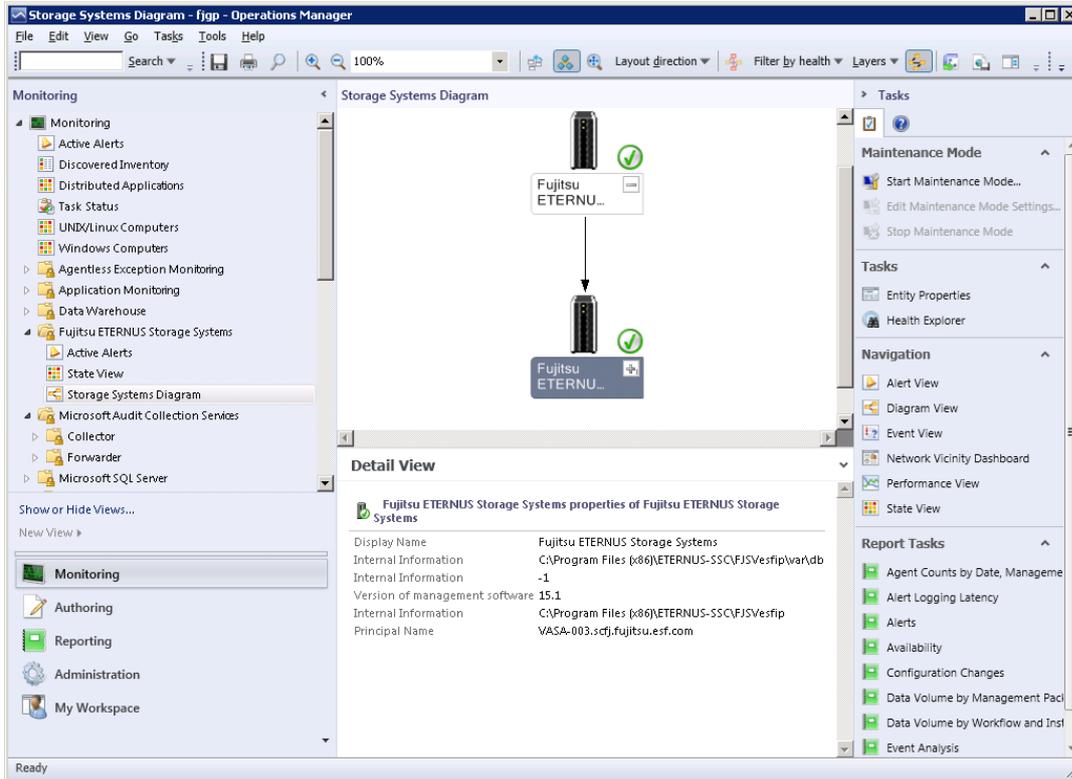
If you select [Fujitsu ETERNUS Storage Systems]-[Storage Systems Diagram] on the **Navigation** pane of the **Monitoring** view, the integrated information on ETERNUS disk arrays is displayed as an icon.

After the Management Pack has been imported, only the "Fujitsu ETERNUS Storage Systems Group" icon is displayed before the monitored server is discovered.

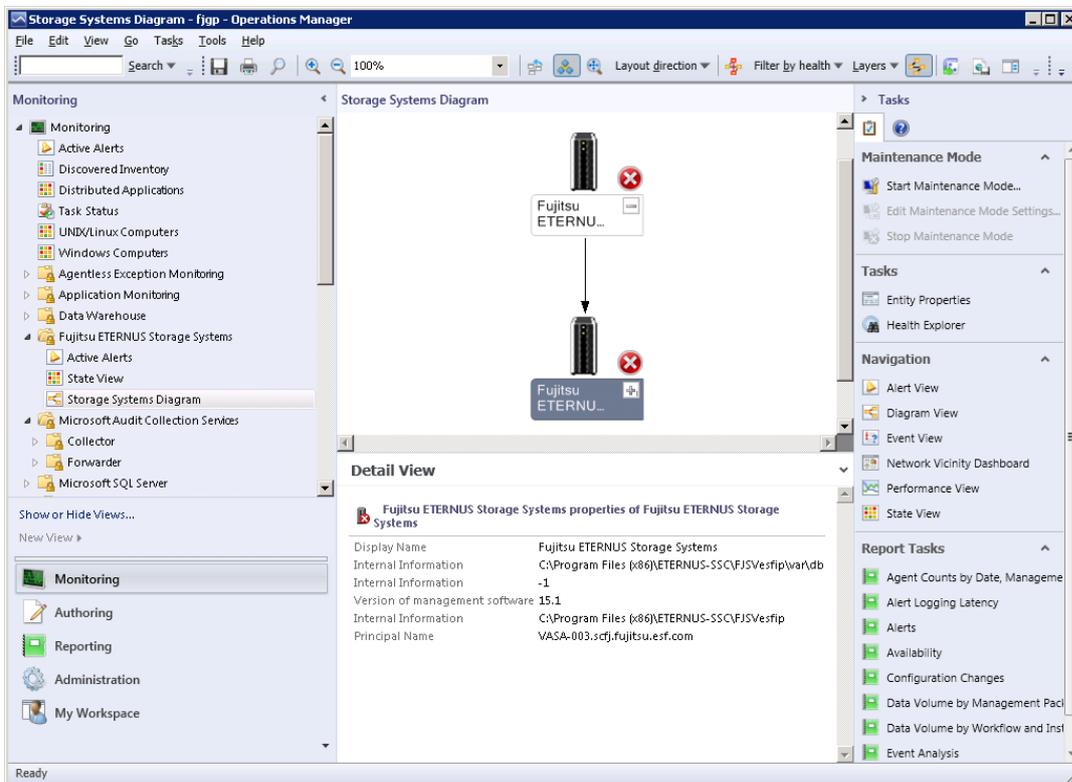


If the monitored server is discovered, the "Fujitsu ETERNUS Storage Systems" icon signifying the integrated information on ETERNUS disk arrays is displayed under "Fujitsu ETERNUS Storage Systems Group".

For the state of the "Fujitsu ETERNUS Storage Systems" icon, refer to the ["3.1.2.2 State View"](#) section.



If any error occurs in the integrated information on ETERNUS disk arrays, it is reflected in the "Fujitsu ETERNUS Storage Systems" icon and the state of "Fujitsu ETERNUS Storage Systems Group" icon.



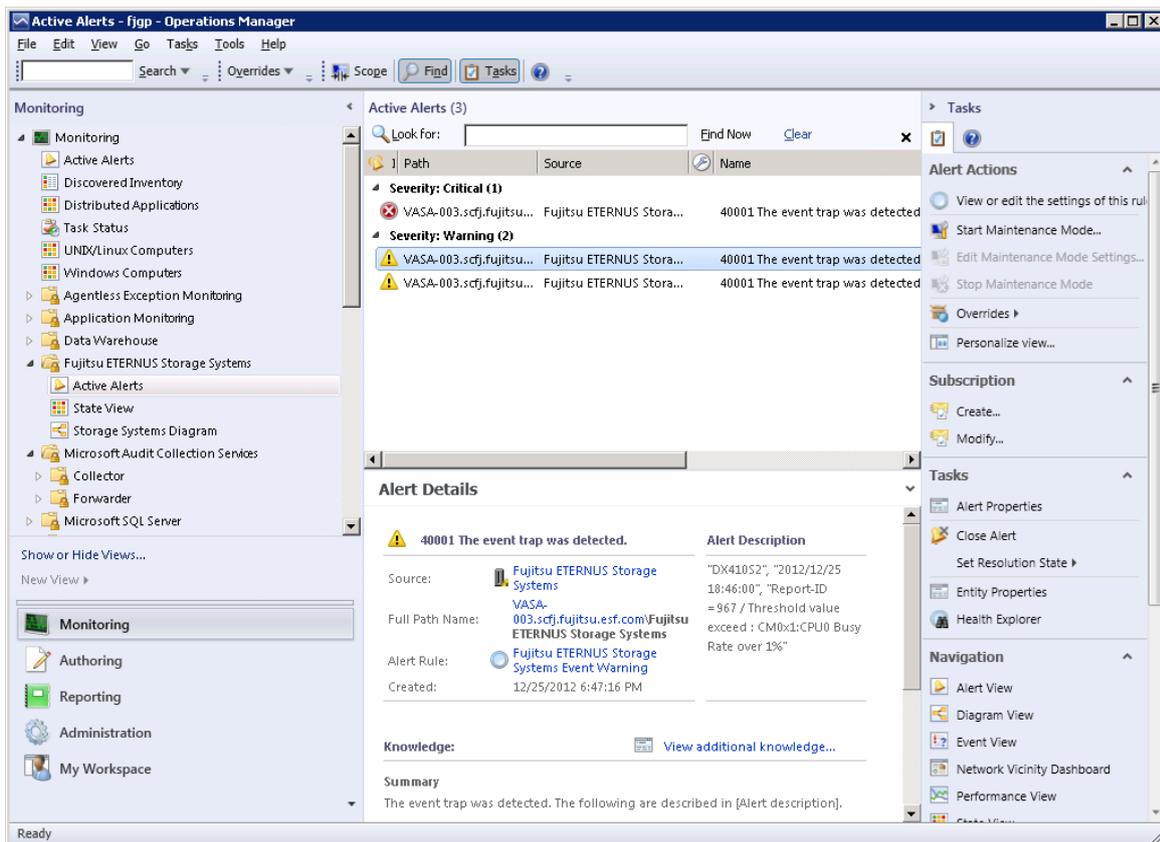
Note

- This Management Pack handles the information on the discovered server to be monitored as integrated information on ETERNUS disk arrays.
- When two or more servers are detected, two or more "Fujitsu ETERNUS Storage Systems" icons are displayed. In this case, you can distinguish the server by referring to [Detail View]-[Principal Name].

3.1.2.4 Active Alerts

If you select [Fujitsu ETERNUS Storage Systems]-[Active Alerts] on the **Navigation** pane of the **Monitoring** view, a discovered alert is displayed.

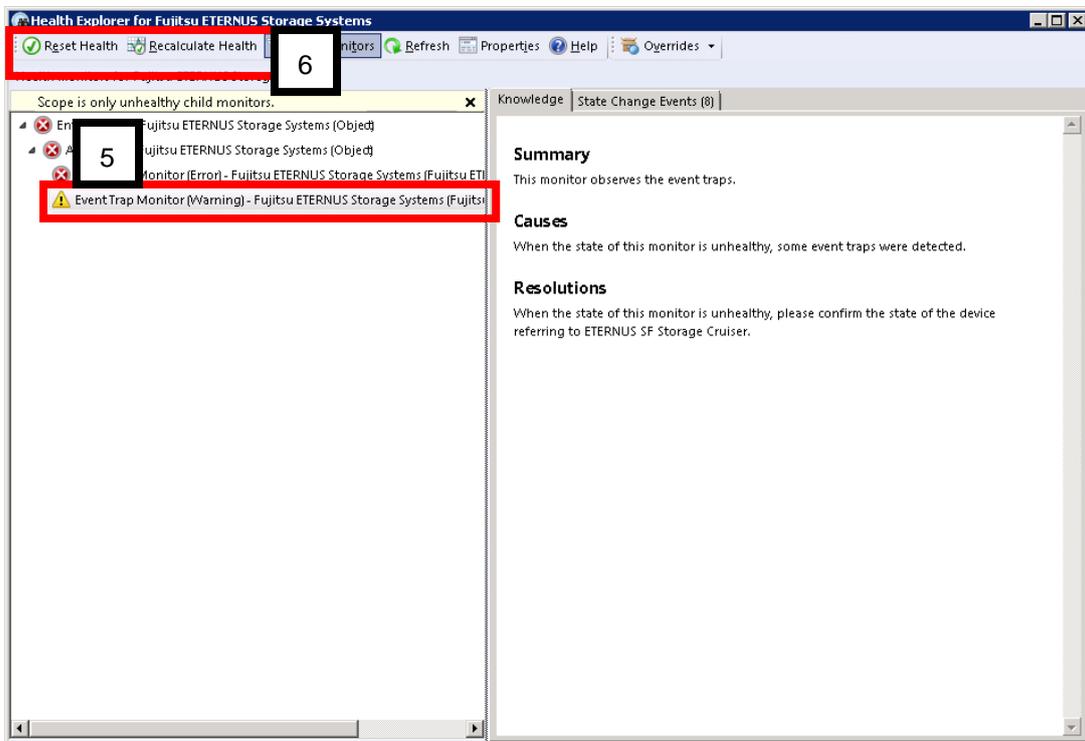
For more information on alerts discovered by this Management Pack, refer to the "[A.1 Messages Output by ETERNUS Storage Systems Monitoring Pack](#)" section.



For the discovered alert, confirm the contents of "Alert Description" and "Knowledge" to respond to it. After responding, select [Tasks pane]-[Close Alert] to close the alert as required.

However, depending on the alert type, even though the alert is closed, the integrated state does not turn to "Healthy" automatically. In this case, it is required to take the following procedure to manually set the state information to "Healthy".

- 1) After responding to the discovered alert, close all the alerts.
- 2) Select [Fujitsu ETERNUS Storage Systems]-[State View] on the **Navigation** pane of the **Monitoring** view.
- 3) Select a row on which error is shown from the list of integrated information on ETERNUS disk arrays.
- 4) Open [Tasks Pane]-[Health Explorer].
- 5) Select a field to which you want to set "Healthy" from "Health Monitor for Fujitsu ETERNUS Storage Systems".
- 6) Select [Reset Health] or [Recalculate Health] in the menu.
- 7) Close Health Explorer.



Note

- This Management Pack displays only the alerts where the resolution state is "0" in the default state. As for the other fields to be viewed and their display order, they are not defined in this Management Pack. As required, select "Personalize View". For more information on "Personalize View", refer to the document for SCOM.

3.2 Using Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO

This chapter explains how to monitor ETERNUS storage arrays using Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO.

- [Detecting Monitored Servers](#)
- [Screen Structure](#)

3.2.1 Detecting Monitored Servers

Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO detects servers that have been previously detected in "3.1.1 Detecting Monitored Servers", and also detects the servers whose SCVMM server names are registered.

Register the SCVMM server names using the following procedure:

- 1) Start the command prompt on the monitored server.
- 2) Execute the following command to move the location:
 - * For Eternus SF Storage Cruiser V15.X or earlier

```
> cd <Information Provider program directory>\bin
```

* For <Information Provider program directory>, specify the Program Directory set in "2.3.1.2.1 Installation Procedure".

* For Eternus SF Storage Cruiser V16.0 or later

* Download the following command(defreginfo.exe) from Fujitsu homepage in advance.

Fujitsu homepage

<http://www.fujitsu.com/global/services/computing/storage/eternus/tools/>

```
> cd <downloaded directory>
```

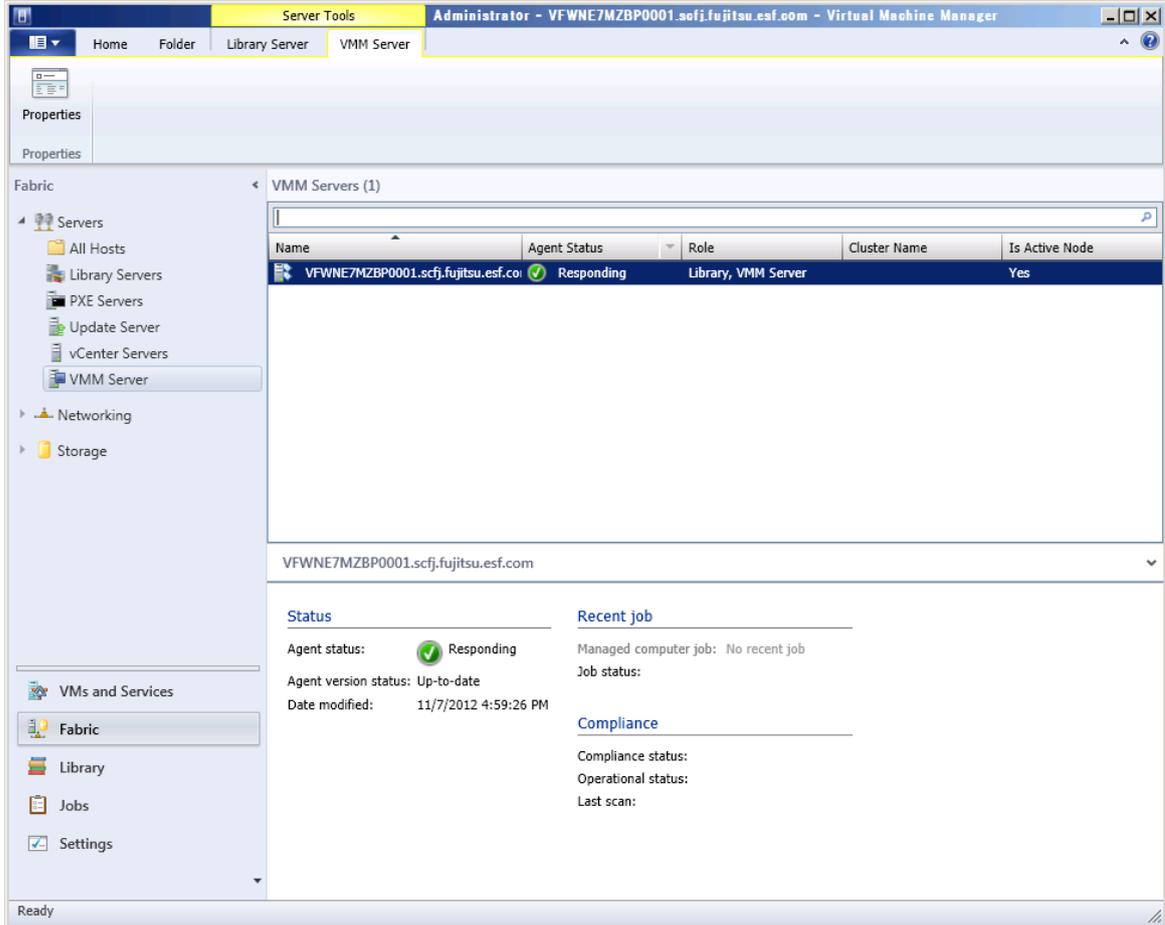
- 3) Execute the following command to register SCVMM server names:
Refer to "C.1 SCVMM server name registration command" for details.

```
> defreginfo.exe -a -F <SCVMM server name>
```

Also, the Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO monitor needs to be enabled by using the following procedures. By enabling the monitor, each feature in "3.2.2.2 PRO State", "3.2.2.3 PRO Alerts", and "3.2.2.4 PRO Tips" will be enabled.

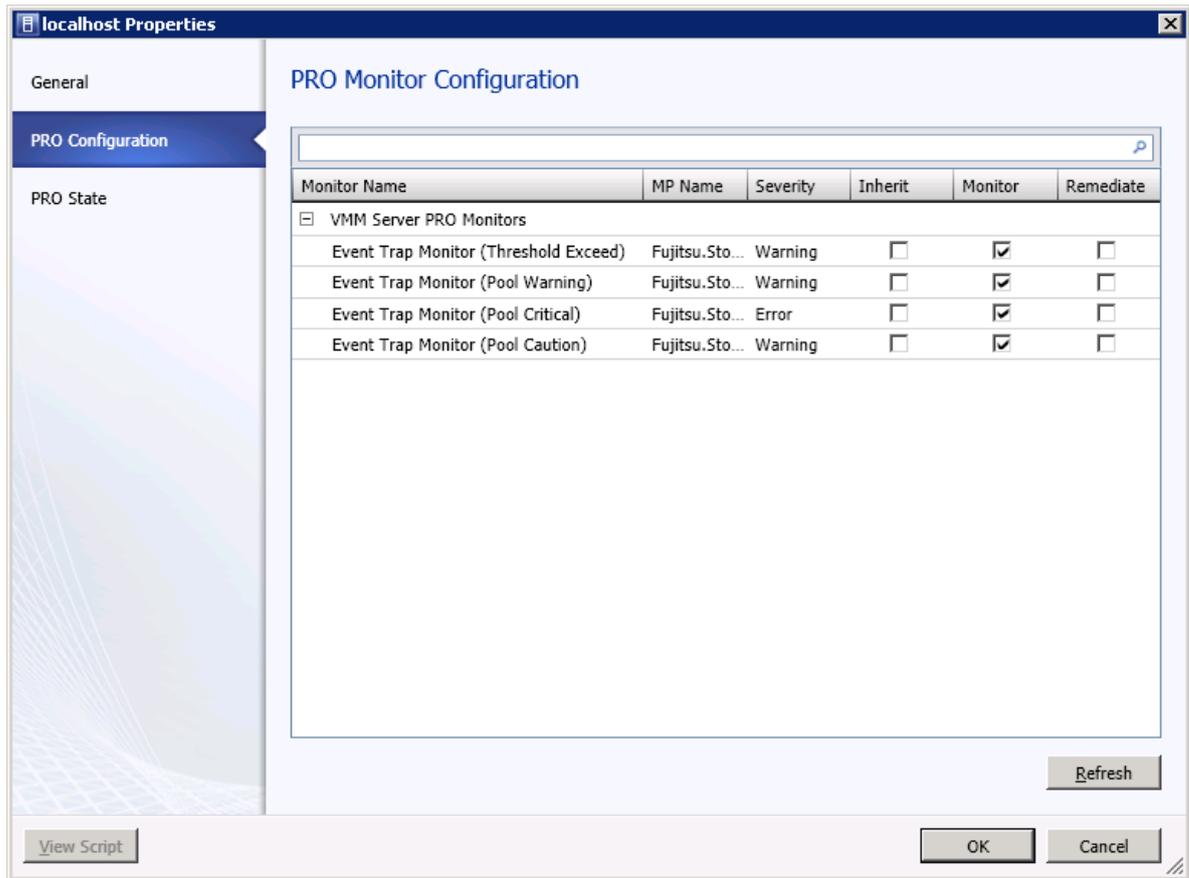
1. Starting the SCVMM Console.
 - 1) Start the SCVMM Console to display the **Fabric** view.

- 2) Select **VMM Server** on the **Navigation** pane.
- 3) From the list of VMM servers, select a target VMM server name.
- 4) Execute **Properties** from the ribbon, and open the **Properties** dialog box.



2. **Properties** dialog box.

- 1) In the (**SCVMM name**) **Properties** dialog box, select **PRO Configuration**.
- 2) Select all **Monitor** check boxes displayed in **PRO Monitor Configuration**.
- 3) Click **OK**.



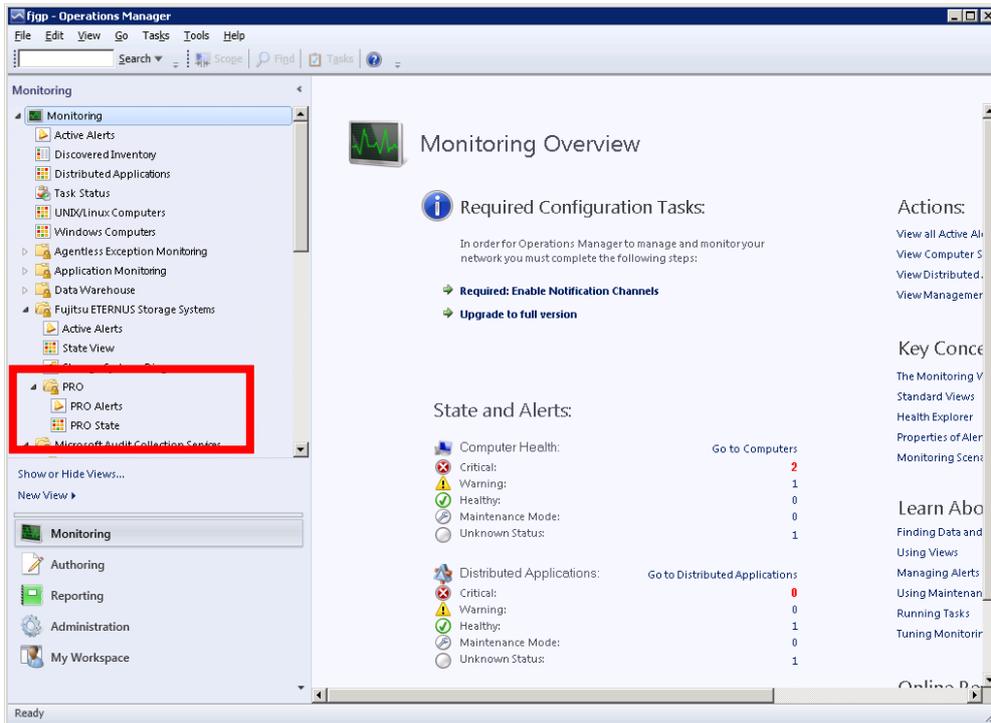
3.2.2 Screen Structure

This section explains the window configuration when Fujitsu ETERNUS Storage Systems Monitoring Pack for PRO is imported.

3.2.2.1 Monitoring View

Integrated information on the ETERNUS disk storage system is displayed on the **Monitoring** view.

This section explains the information to be added to the **Monitoring** view when this Management Pack is imported.



Add the following folders under the Fujitsu ETERNUS Storage Systems folders added to the Navigation pane tree in "3.1.2.1 Monitoring View".

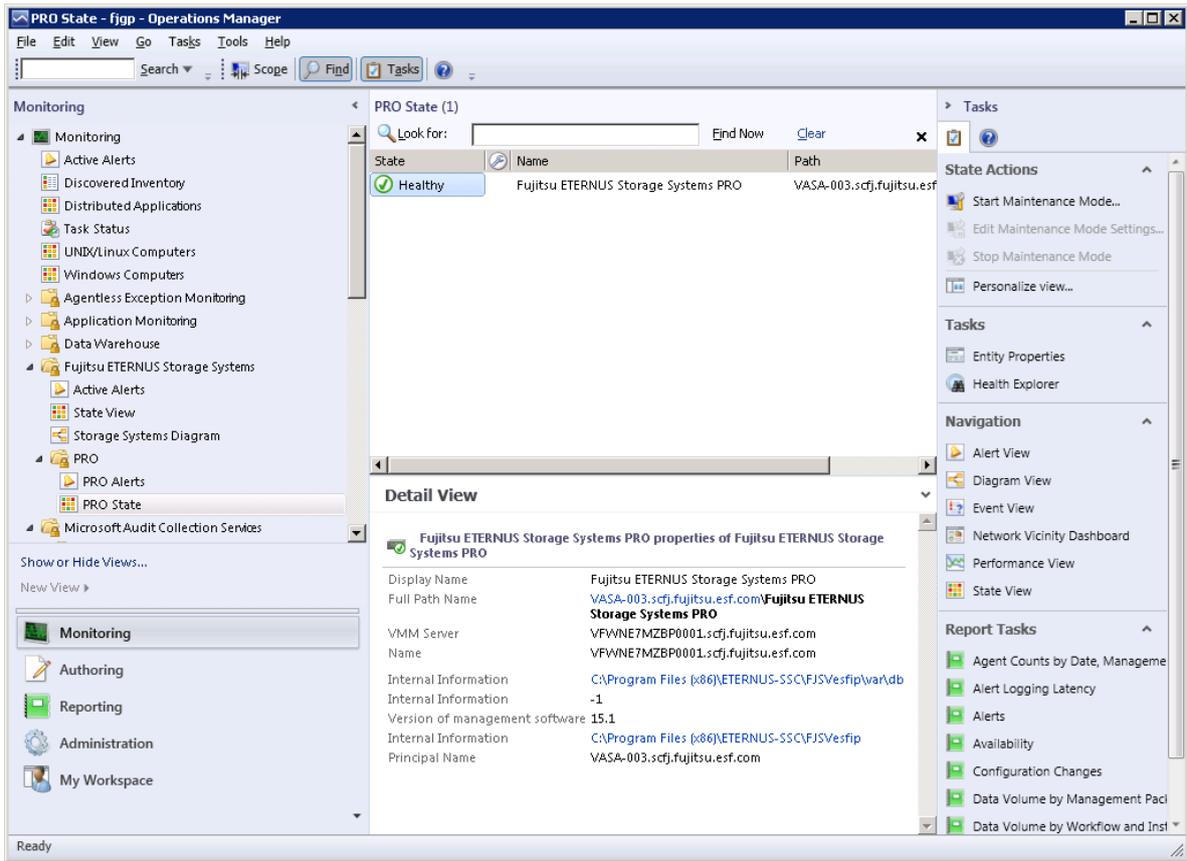
- PRO

Add the following fields under the folder.

- PRO Alerts
Displays active alerts related to PRO. Refer to "3.2.2.3 PRO Alerts" for details.
- PRO State
Displays states related to PRO. Refer to "3.2.2.2 PRO State" for details.

3.2.2.2 PRO State

Displays a list of state information related to ETERNUS Disk storage system PRO if **Fujitsu ETERNUS Storage Systems > PRO > PRO State** is selected on the **Navigation** pane of the **Monitoring** view.



The following is set as the information specific to this Management Pack.

| Item | Description | Remarks |
|-----------------------------|--|--|
| State | State information below: <ul style="list-style-type: none"> Information on the event trap state of ETERNUS Disk storage system performance. | If the state is not "Healthy", refer to "3.2.2.3 PRO Alerts", and take action as required. |
| Name | "Fujitsu ETERNUS Storage Systems PRO". | |
| Management software version | Version information for ESC Manager. | |

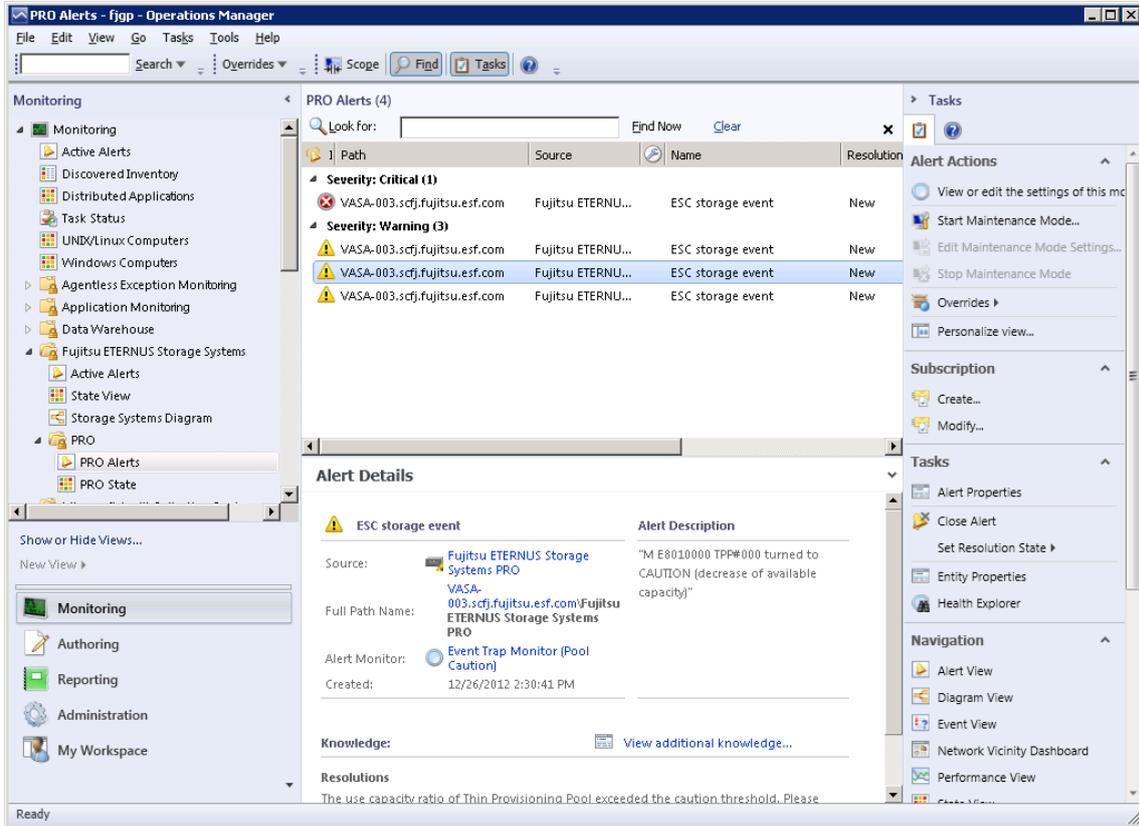
Note

- This Management Pack handles the performance information for the detected server to be monitored as state information for ETERNUS disk storage systems.
- In this Management Pack, the fields to be viewed and their display order are not defined. Select "Personalize view" as required. For more information on "Personalize view", refer to the SCOM manual.

3.2.2.3 PRO Alerts

If you select **Fujitsu ETERNUS Storage Systems > PRO > PRO Alerts** on the **Navigation** pane of the **Monitoring** view, a detected alert is displayed.

Refer to "A.1 Messages Output by Fujitsu ETERNUS Storage Systems Monitoring Pack" for details on the alerts detected by this Management Pack.



Detected alerts are also displayed on the SCVMM Console as the PRO Tips. Refer to "3.2.2.4 PRO Tips" for details and actions for the alerts.

Note

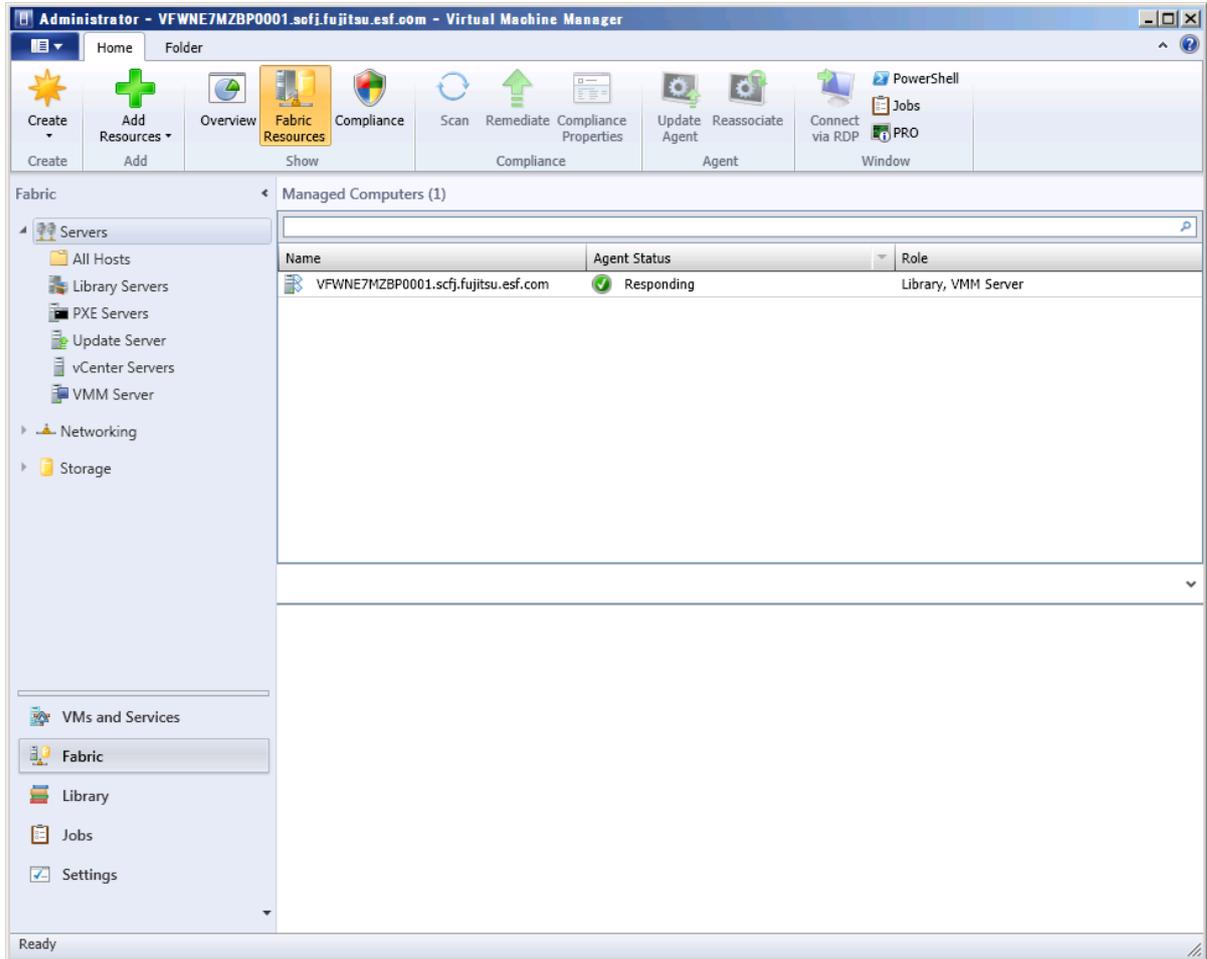
- This Management Pack displays only the alerts where the resolution state is "0" in the default state. As for the other fields to be viewed and their display order, they are not defined in this Management Pack. Select "Personalize view" as required. For more information on "Personalize view", refer to the SCOM manual.

3.2.2.4 PRO Tips

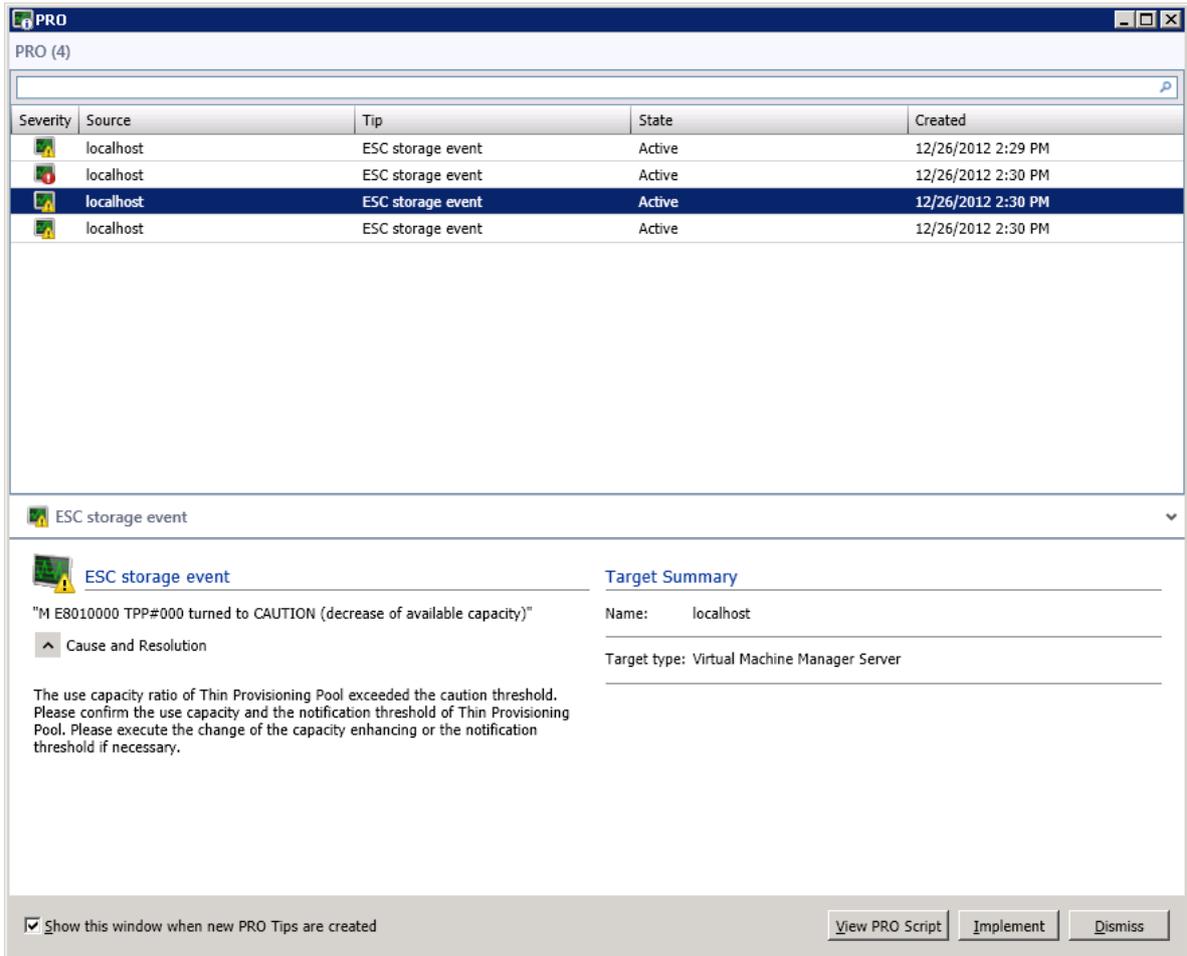
The alerts detected by PRO Alerts are displayed on the SCVMM Console as PRO Tips.

PRO Tips can be displayed as a list using the procedure below:

- 1) Start the SCVMM Console to display the **Fabric Resources** view.
- 2) Select **Servers** on the **Navigation** pane.
- 3) Execute **PRO** from the ribbon to open the **PRO Tips** window.



A list of the PRO tips detected is displayed in the **PRO Tips** window.

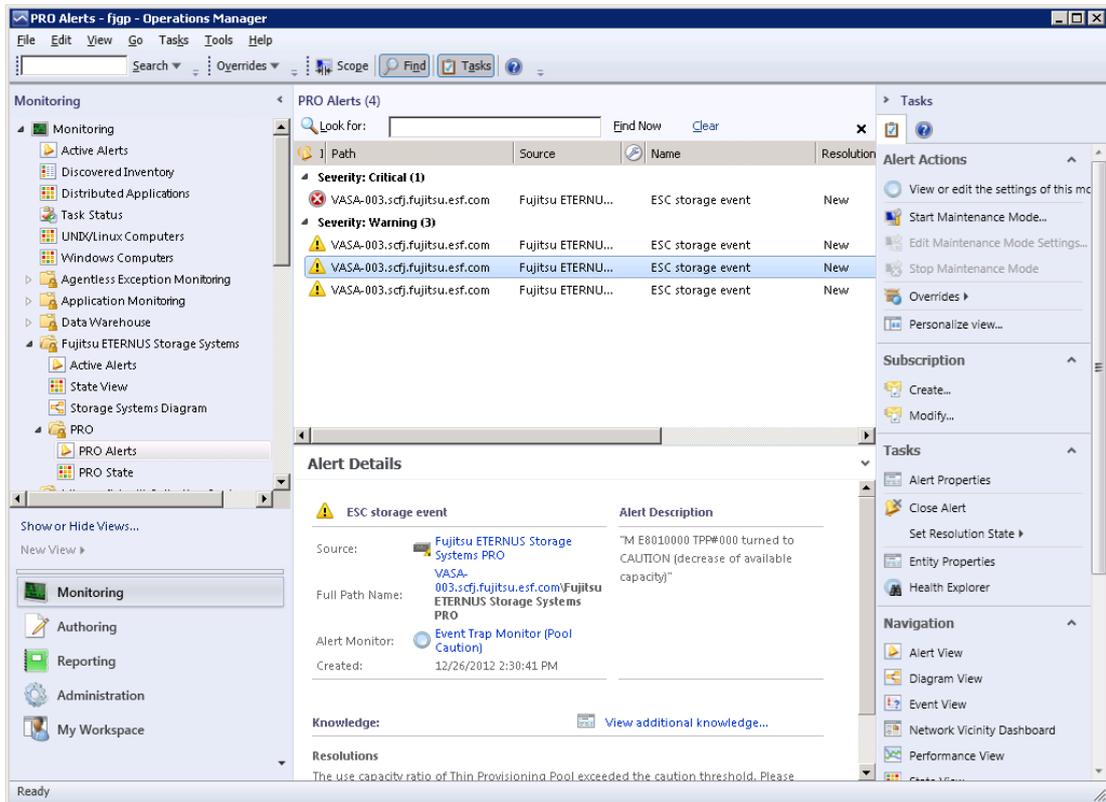


For the PRO tips detected, check the information outlined in "Cause and Resolution" and take action accordingly.

After actions have been taken, execute **Implement** and close PRO tips. The addressed alerts displayed in "3.2.2.3 PRO Alerts" are also closed.

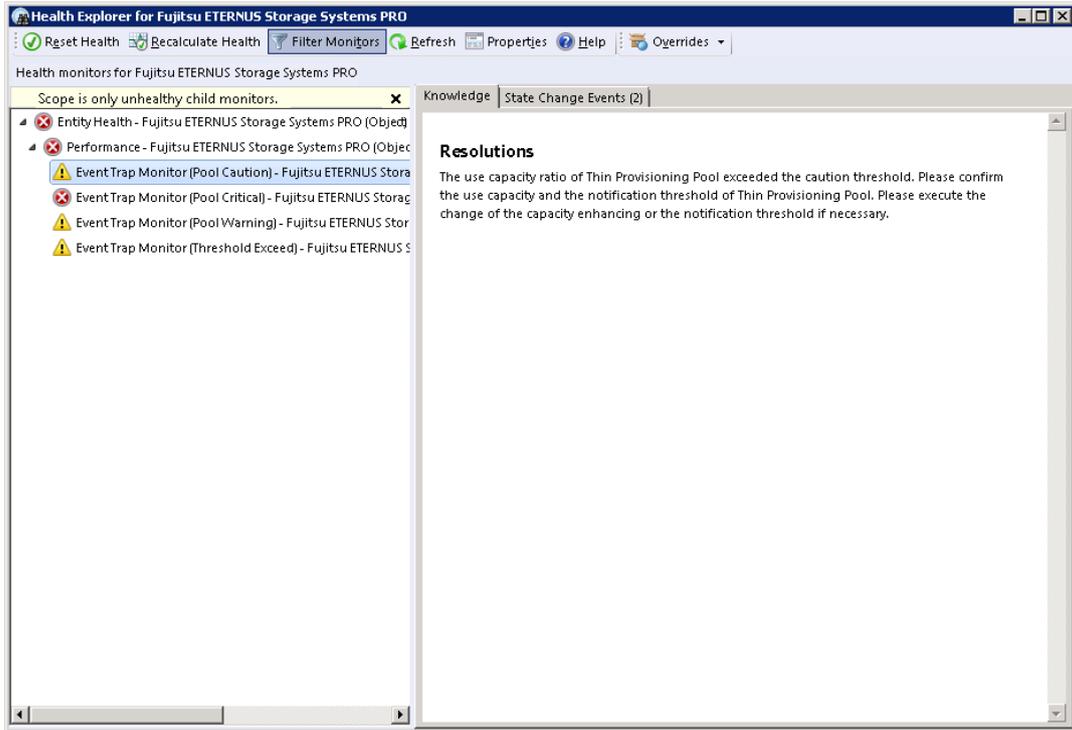
If **Dismiss** is executed, the PRO tips can be closed but the addressed alerts displayed in "3.2.2.3 PRO Alerts" are not closed. If this is the case, action needs to be taken using the following procedure:

1. Close the alert.
 - 1) Start the SCOM Operation Console, and select **Fujitsu ETERNUS Storage Systems > PRO > PRO Alerts** on the **Navigation** pane of the **Monitoring** view.
 - 2) From the list of PRO Alerts, select an alert to close.
 - 3) Execute **Tasks > Close Alert** and close the alert.



However, even though the alert is closed, the integrated state does not turn to "Healthy" automatically. In this case, you need to perform the following procedure to manually set the state information to "Healthy".

2. Setting the state information to "Healthy".
 - 1) Select **Fujitsu ETERNUS Storage Systems > PRO > PRO State** on the **Navigation** pane of the **Monitoring** view.
 - 2) Select a row on which an error is shown from the list of state information on the ETERNUS Disk storage system.
 - 3) Open **Tasks > Health Explorer**.
 - 4) On the **Health Monitor for Fujitsu ETERNUS Storage Systems PRO**, select the field that you want to set to "Healthy".
 - 5) Execute either **Reset Health** or **Recalculate Health** from the menu.
 - 6) Close the Health Explorer.



3.3 Maintenance of Information

This chapter describes maintenance of Information.

3.3.1 Collecting Maintenance Information for ETERNUS SF Storage Cruiser

If any trouble occurs or you make inquiries, provide a Fujitsu engineer (SE) with the following information and data.

- Phenomenon
- Occurrence time
- Repeatability
- Maintenance data for Storage Cruiser

Collect the analysis data for Management Server (Windows).

See

In the case of Storage Cruiser V14.2 or V14.2A, for analysis data for Management Server (Windows), refer to "Appendix D Troubleshooting" in the "ETERNUS SF Storage Cruiser V14.2 User's Guide".

In the case of Storage Cruiser V15.0B or later, for analysis data for Management Server (Windows), refer to "Appendix B Troubleshooting" in the "ETERNUS SF Storage Cruiser Operation Guide".

3.3.2 Collecting Maintenance Information for ETERNUS Information Provider

If any trouble occurs or you make inquiries, provide a Fujitsu engineer (SE) with the following information and data. In ETERNUS SF Storage Cruiser V16.0 or later, the collection of this information is not required because the ETERNUS Information Provider is not used.

- Phenomenon
- Occurrence time
- Repeatability
- Maintenance data for ETERNUS Information Provider

Collect the following data.

- <Environment Directory>\FJSVesfip\etc
- <Work Directory>\FJSVesfip\var
- <Program Directory>\FJSVesfip\tomcat\conf
- <Program Directory>\FJSVesfip\tomcat\logs

Appendix A Messages

This chapter describes the messages of Fujitsu ETERNUS Storage Systems Monitoring Pack and ETERNUS Information Provider.

A.1 Messages Output by ETERNUS Storage Systems Monitoring Pack

The following are descriptions of the messages displayed with alerts in this Management Pack. Messages are displayed as "Name" of alerts.

A.1.1 Message for Service State

11001

Necessary service is not running.

Meaning of the message

The service required to monitor ETERNUS disk arrays is not running on the monitored server.

Content of [Alert Description]

Service name that is not running

System process

The state of the monitored server is taken as "Critical".

Actions by system administrator

Confirm whether the service shown in [Alert Description] is running on the monitored server. If it is stopped, start it.

Supplementary information

- This alert is automatically closed when the problem is resolved. In addition, the "Critical" state of the monitored server accompanied with this alert is automatically canceled.

A.1.2 Event Trap Message

40001

The event trap was detected.

Meaning of the message

The event trap was detected.

Content of [Alert Description]

"%1", "%2", "%3"

%1: Device name from which the event trap is generated.

%2: Time and date when the event trap was detected by ESC Manager.

%3: Event trap message gained from the device.

System process

The state of the monitored server is changed according to the trap type.

Actions by system administrator

See ESC Client to check the state of the device that generated the event trap.

Supplementary information

- The event trap of the storage device supported by ETERNUS Information Provider is detected. Please refer to "[1.2.2.1 Hardware Requirements](#)" for the storage device to be detected.
- If a comma is contained in any event trap message, the message is delimited by comma and may be partially displayed in [Alert Description]. If you want to check the full text of the message, see [Alert Context]-[Field 7] and more in the Alert Properties section and the partial text delimited by comma is displayed.
- The detection object is the event trap (Fault level is Warning or Error) generated by storage device that ESC Manager manages. Please refer to ETERNUS SF Storage Cruiser Event Guide for details.
- Close this alert manually after resolving the problem. For how to close alerts, see the "[3.1.2.4 Active Alerts](#)" section.
- For the procedure to turn the state back to "Healthy" after having resolved the alert cause, refer to the "[3.1.2.4 Active Alerts](#)" section.
- If more than 50 event traps are generated at the same time, alerts are generated for up to the latest 50 traps. The other traps before 50 are ignored.

A.1.3 Messages Regarding PRO

ESC storage event

Meaning of the message

An ESC storage event has been detected.

Content of [Alert Description]

"%1"

%1: Event trap message obtained from the device.

System process

The state of the monitored server is changed according to the trap type.

Actions by system administrator

See ESC Client to check the state of the device that generated the event trap.

Supplementary information

- The event trap of the storage device supported by ETERNUS Information Provider is detected. Refer to "[1.2.2.1 Hardware Requirements](#)" for information on the storage device to be detected.
- If a comma is contained in any event trap message, the message is delimited by comma and may be partially displayed in **Alert Description**. If you want to check the full text of the message, see **Alert Context > Field 7** and more in the **Alert Properties** section, and the partial text delimited by the comma is displayed.
- The detection object is the event trap relating to the threshold information generated by the storage device that ESC Manager manages. Please refer to the "ETERNUS SF Storage Cruiser Event Guide" for details.
- Close this alert manually after resolving the problem. Refer to "[3.2.2.4 PRO Tips](#)" for information on how to close alerts.
- If more than 50 event traps are generated simultaneously, alerts are generated for up to the latest 50 traps. The other traps after 50 are ignored.

A.2 Messages Output by ETERNUS Information Provider

This chapter describes the messages output by ETERNUS Information Provider.

A.2.1 Event Log

The following are descriptions of the event logs output by ETERNUS Information Provider. The type and source of events are "Application" log and "fjsvesfip".

Description of message

esfip10001

Provider is started.

Meaning of the message

ETERNUS Information Provider has started.

Level

Information

System process

None

Actions by system administrator

Unnecessary

esfip11001

Provider is not started. (Service initialization failed.)

Meaning of the message

Starting the ETERNUS Information Provider service failed.

Level

Error

System process

The processing is aborted.

Action by system administrator

Collect analysis material and contact any Fujitsu engineer (SE).

esfip20001

Provider is normally stopped.

Meaning of the message

The ETERNUS Information Provider service has stopped.

Level

Information

System process

None

Action by system administrator

None

esfip00001

Failed to get storage information. (%s1).

Meaning of the message

Obtaining storage information failed.

Level

Error

Meaning of the parameter

%s1: Message that notifies of failure in obtaining storage information. For more information, see the table below.

System process

None

Action by system administrator

See the table below.

Detailed parameters for esfip00001

| | |
|--------------------------------|--|
| Detailed message | Failed to decrypt user information. |
| Cause | An internal processing error has occurred. |
| Action by system administrator | If the message is repeatedly displayed, collect analysis material and contact any Fujitsu engineer (SE). |

| | |
|------------------|--------------------|
| Detailed message | Command not found. |
|------------------|--------------------|

| | |
|--------------------------------|--|
| Cause | ESC is not installed or an unsupported version. |
| Action by system administrator | If ESC is not installed, install it. If ESC is installed, check if it is a compatible version. |

| | |
|--------------------------------|--|
| Detailed message | Command abnormally ended. |
| Cause | It failed in the information acquisition from the storage device. |
| Action by system administrator | <p>Please confirm the following.</p> <ul style="list-style-type: none"> ● Whether other users are logging in the storage device. ● Whether the storage device is supported with this software. ● Whether the state of the storage device and the network environment are normal. <p>Otherwise, there is a possibility that the storage device is locked by other operations. Please log out when you use ETERNUSmgr. When you are changing the state of the storage device by using ESC (access path setting, access path inheritance, and applying the device configuration by using Storage Volume Configuration Navigator, etc), please restart ETERNUS Information Provider service after completing work.</p> <p>If this message is output repeatedly after doing the above-mentioned treatment, collect the data required for troubleshooting, then contact your Fujitsu systems engineer (SE).</p> |

| | |
|--------------------------------|-----------------------------------|
| Detailed message | Unable to connect to the manager. |
| Cause | ESC is not running. |
| Action by system administrator | Start ESC. |

| | |
|--------------------------------|--|
| Detailed message | Internal error. |
| Cause | An internal error has occurred. |
| Action by system administrator | If the message is repeatedly displayed, collect analysis material and contact any Fujitsu engineer (SE). |

| | |
|--------------------------------|---|
| Detailed message | EffectiveFunction has invalid value. |
| Cause | The value of the "EffectiveFunction" field in the configuration file is invalid. |
| Action by system administrator | Set a correct value in the "EffectiveFunction" field in the configuration file to restart the ETERNUS Information Provider service. |

| | |
|--------------------------------|---|
| Detailed message | EffectiveCapability has invalid value. |
| Cause | The value of the "EffectiveCapability" field in the configuration file is invalid. |
| Action by system administrator | Set a correct value in the "EffectiveCapability" field in the configuration file to restart the ETERNUS Information Provider service. |

Appendix B Configuration File

This chapter describes the configuration file.

B.1 Configuration File for ETERNUS Information Provider

This chapter describes the configuration file for ETERNUS Information Provider.

The directory path and file name of the folder that contains a configuration file are as follows.

| | |
|----------------|--|
| Directory path | <Environment Directory>\FJSVesfip\etc\conf |
| File name | InformationProvider.conf |

The file is in the text file format where each line has the format of "item name=value".

B.1.1 Fields Set in the Configuration File

The fields to be set in the configuration file and their values are described in the following table. When changing the content in the configuration file, take the following procedure.

1. Stop the ETERNUS Information Provider service.
2. Update the content of the configuration file.
3. Restart the ETERNUS Information Provider service.

| Field | Value type | Description of value | Remark |
|-------------------|------------|---|--------|
| EffectiveFunction | String | When enabling the function compatible with Management Pack, specify "SCOM_MngPack". If Fujitsu ETERNUS Storage Systems Monitoring Pack is enabled by the installer, SCOM_MngPack" is specified in the default state. | |

[Note] For other setting fields than the above mentioned, they are internal parameters. Therefore, do not change the values.

B.2 Properties File

This chapter describes the Properties file for Fujitsu ETERNUS Storage Systems Monitoring Pack that is setting to the ETERNUS SF Manager.

The directory path and file name of the folder that contains a Properties file are as follows.

| | |
|----------------|---|
| Directory path | <Environment Directory>\ESC\Manager\etc\opt\FJSVssmgr\current\properties |
| File name | deviceevent_mspack.properties |

The file is in the text file format where each line has the format of "item name=value".

B.2.1 Fields Set in the Properties File

The fields to be set in the properties file and their values are described in the following table. When changing the content in the properties file, take the following procedure.

1. Update the content of the properties file.
2. Display the GUI screen of ETERNUS SF.
3. Click [System] -> [System Settings] -> [Update in the configuration file]

| Field | Description of value | Remark |
|--|--|--------|
| com.fujitsu.storagesoft.opt.deviceevent.mspack | ON: when you want to monitor OFF: otherwise Default value is OFF | |

e.x

com.fujitsu.storagesoft.opt.deviceevent.mspack=ON

Appendix C Command References

C.1 SCVMM Server Name Registration Command (defreginfo)

Name

defreginfo

Format

defreginfo -a -F FQDN

defreginfo -d

defreginfo -l

Meaning of the message

Adds, changes, deletes, and displays the SCVMM server FQDN.

Operand

-F

Specifies the SCVMM server FQDN.

-a

Adds the SCVMM server FQDN. If the specified FQDN already exists, it will be changed.

Displays the SCVMM server FQDN after it was added and changed.

[Display format]

Registered value: FQDN

-d

Deletes the SCVMM server FQDN. If no FQDN has been registered, an error will occur.

-l

Displays the SCVMM server FQDN.

[Display format]

Registered value: FQDN

* If no FQDN has been registered, the FQDN will be an empty character.

Note

- Execute this command as a user with Administrator privileges.

C.2 Messages Output by the Command

This chapter describes the messages displayed in the Command Prompt window when the defreginfo command is executed.

reginfo1001

parameter error

Meaning of the message

There is an error with the parameter.

Type

Error

Treatment

Specify a correct parameter, and execute the command again.

reginfo1002

registry creation error

%s1

Meaning of the message

The registry creation failed.

Meaning of parameters

%s1: Error details are displayed.

Type

Error

Treatment

Take actions according to the error details, and then execute the command again.

If this message is output repeatedly, collect the investigation data, and then contact a Fujitsu system engineer.

reginfo1003

registry deletion error

%s1

Meaning of the message

The registry deletion failed.

Meaning of parameters

%s1: Error details are displayed.

Type

Error

Treatment

Take actions according to the error details, and then execute the command again.

If this message is output repeatedly, collect the investigation data, and then contact a Fujitsu system engineer.
