ETERNUS vCenter Plug-in 2.2

User's Guide



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Preface

This manual explains an overview and usage of ETERNUS vCenter Plug-in.

Second Edition December 2013

Structure of this Manual

This manual is composed of the following 11 chapters and five appendices.

• Chapter 1 About ETERNUS vCenter Plug-in

This chapter provides an overview of ETERNUS vCenter Plug-in and also explains functions and operations for ETERNUS vCenter Plug-in.

- Chapter 2 Installation and Initial Setup
 This chapter describes installation and initial setup for ETERNUS vCenter Plug-in.
- Chapter 3 Displaying Storage Information
 This chapter describes displaying the information of the ETERNUS Disk storage system.
- Chapter 4 Displaying Adapter Information
 This chapter describes displaying the adapter information.
- Chapter 5 Displaying Performance Monitoring and Performance Information

This chapter describes displaying the performance monitoring and the performance information of the ETERNUS Disk storage system.

- Chapter 6 Refreshing Displayed Information
 This chapter describes refreshing displayed information.
- Chapter 7 Registering ETERNUS Disk Storage Systems
 This chapter explains how to register the information of the ETERNUS Disk storage system.
- Chapter 8 Adding and Deleting Datastore Volumes
 This chapter describes adding and deleting datastore volumes.
- Chapter 9 Changing Settings
 This chapter explains how to change various settings.

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Chapter 10 Uninstallation

This chapter explains how to uninstall ETERNUS vCenter Plug-in.

• Chapter 11 Required Information for Failure Investigation

This chapter describes the required information for failure investigation.

The following information is provided as appendices:

- Appendix A Frequent Inquiry Solutions
- Appendix B List of Displayed Items
- Appendix C Messages
- Appendix D JRE Use Conditions
- Appendix E About Open Source Software License

Naming Conventions

Abbreviations Used in This Manual

In this manual, "ETERNUS Disk storage system" refers to a storage system that is supported by ETERNUS vCenter Plug-in. For the supported storage systems, refer to the following website:

http://www.fujitsu.com/global/services/computing/storage/eternus/tools/evcp.html

Points to note when using the product.

In this manual, "ETERNUS Web GUI" refers to Web GUI.

Symbols and Expressions

The following symbols and expressions are used in this manual:

Caution



Functions and know how which can be useful when setting up or operating ETERNUS vCenter Plug-in.

Product Names

The following products are referred to as "Windows Server":

- Microsoft[®] Windows Server[®] 2008 R2 Standard
- Microsoft[®] Windows Server[®] 2008 R2 Enterprise
- Microsoft[®] Windows Server[®] 2008 R2 Datacenter
- Microsoft[®] Windows Server[®] 2012 Datacenter
- Microsoft[®] Windows Server[®] 2012 Standard
- Microsoft[®] Windows Server[®] 2012 Essentials
- Microsoft[®] Windows Server[®] 2012 Foundation

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Release Information

ETERNUS vCenter Plug-in Modification History

Version	Modification effect
1.0.1	None
1.1.0	Changed the tab name to [FUJITSU ETERNUS DX]
1.1.1	None
1.1.2	Changed the recommended value for the ETERNUS DX60 S2/DX80 S2/DX90 S2 to Round Robin as the Path Policy (Recommend) in the Best Practice Settings window
2.0.0	vSphere Client is not supported
	 Deleted the -i option and the -p option from the "evcpConfig" command
2.1.0	Changed the product name of the ETERNUS Disk storage system that is displayed for each function to the characters that are assigned to each device
2.2.0	 Changed the product names for ETERNUS Disk storage systems that are displayed in each wizard screen to the storage system names of ETERNUS Disk storage systems. Also changed the display item name to "Storage System Name".
	 Changed the message that is displayed when selecting an unregistered ETERNUS Disk stor- age system in the storage information display screen or the adapter information display screen from STXE1001 to STXE1019
	 Changed the message that is displayed when selecting an unsupported ETERNUS Disk stor- age system in the storage information display screen from STXE1002 to STXE1019
	 Changed the adapter information display screen to display the unsupported ETERNUS Disk storage system information only with the serial number in the "Storage Targets" window
	 Changed the system to display the STXE2012 message when a user attempts to specify a RAID group in which volumes other than Standard, WSV, SDV, or SDPV are registered to pre- vent the registration of the new resource
	 Changed the system to display the STXE2015 message when rescanning of an HBA fails while datastore volumes are being added

This section provides a history of modifications for ETERNUS vCenter Plug-in.

ETERNUS vCenter Plug-in Updates

The following table shows the updates for each ETERNUS vCenter Plug-in version:

Version	Modification details
1.0.0 (February 2012)	First version

Version	Modification details
1.0.1 (April 2012)	 Corrected version Corrected the display error when a license for the Advanced Copy or Thin Provisioning functions is not registered Corrected the display error when an unsupported disk is used as Raw Device Mapping
1.1.0 (June 2012)	 Added support for the function to display adapter information Added support for the function to display performance information Added support for the function to display best practice information Added support for the ETERNUS DX60 S2
1.1.1 (August 2012)	Corrected version Corrected the display error when the NFS datastore is used Corrected the display error when a Wide Striping Volume is used
2.0.0 (December 2012)	 Added support for VMware Web Client Added support for the new datastore volume function Added the -l option to the "evcpConfig" command
2.1.0 (July 2013)	 Added support for the new datastore volume function for clusters Added support for the new function to delete datastore volumes Added support for the function to display WSV/FTV information
2.2.0 (December 2013)	Added support for the ETERNUS DX S3 series

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Chapter 1 About ETERNUS vCenter Plug-in

1.1 Overview

ETERNUS vCenter Plug-in expands the user interface of VMware vSphere Web Client to provide various functions for Fujitsu ETERNUS Disk storage systems that can be used in combination with vCenter Server. Application of this product facilitates visualization of information on the storage systems and allows the VMware administrators to grasp physical and virtual mapping related to virtual machines, datastores and host systems, which enables integrated management of the infrastructure of virtual environment. Information that previously could only be viewed with ETERNUS Web GUI can now also be viewed from vSphere Web Client and volumes can be created with Web Client, improving the usability of VMware vSphere Web Client.

1.2 Functions

Information display function

The [FUJITSU ETERNUS DX] tab can be added under the management tab by selecting a VMware object from the inventory tree of vSphere Web Client. Selecting this tab enables the information of the ETERNUS Disk storage system to be displayed on vSphere Web Client.

vCenter 🔫	# mutti_dx440_0 A	ictions +				II.
Datastores	Getting Started Summ	many Monitor Manage Re	lated Objects			
👌 datastore1	Settings Alarm Defin	Itions Tags Permissions Fil	es Profiles Sche	duled Task	IS DX	
datastoret (1)	4 0 2		1			1.3
dx440_4	T C I					•
dx4401	 Underlying LUNs 					
E2000	Name	•	Identifier		Model	Rustime
evcp_lunpropro1	FUUITSU Fibre Chann	el Disk (naa.600000e00d10	naa.600000e00d10	300000010017c00020000	ETERNUS_DX400	smhba:
evoptest	FUJITSU Fibre Chann	el Disk (naa,600000e00010	naa.600000e00d10	00000010017c00420000	ETERNOS_DX480	vmnba:
mulitiHost	▼ ETERNUS Details					
I multi_dt/440_0	✓ Volume			System Information		1
	Name	vCp_vm2222222222	2005	Storage System Name	ponta	
	Status	 Available 		Model Name	ET4428A	
	LUN No.	2		Product	ETERNUS_DX480	
	Туре	Standard		Serial No.	4024137543	
	Capacity	30.00 GB		Firmware Version	V10L40-9270	
		Best Practice Settings		Status	 Normal 	
	Path Policy	Most Recently Used		Management URL	http://aiaiaiaiaiaia/	
	VAAI Features	Supported				
	* RAID Group : No.	8			RAID Group	
	No.	8			Free : 5	99 TB
	Name	evcp_r-a-i d				
	Status	🔿 Available		Used : 6.98 TB	Total : 12	98 TB
	Usage	Standard, SDV, SDPV		RAID Group Count		
	RAID Type	High Capacity (RAID5)	1	Volume Count		4
		Free:	32.80 GB	Thin F	Provisioning Pool	

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Adding and deleting datastore volumes

[ALL FUJITSU ETERNUS DX Actions] can be added to the menu list by selecting a VMware host object or a VMware cluster object from the inventory tree of vSphere Web Client and right clicking on it. To add volumes to the selected object, perform the wizard process that is started from this menu. These volumes can also be automatically converted into datastores.

LUN Provisioning Wizard						(8)
 1 Select mode 	Input					
 2 Select storage 	Specify a name, capac When creating multiple	ity and a volume type for n	ew volumes. e. the new volume are name	d automatically		
3 Select path 4 Input	Name			a addornae dang.		
5 Ready to Complete	Capacity	0		GB 💌		
6 Result	Start Host LUNs Type	Standard Th	n Provisioning O Snap Da	ta Volume		
	Select RAID Groups for	new volumes.				
	Encryption by CM	🖸 On 💿 Off				
	No. A Name	RAID Type	Number of Volumes	Total Capacity	Free Capacity	

A datastore volume can also be deleted from the selected object in a similar way as above.

asts		200	22-22					-
11.00	1 Select volume	Sele	ct volume					_
24.104	2 Ready to Complete	Seler	ct volumes. The line of a red character is the volum	ne recognized from two	or more	e hosts.		
24.458	3 Result		Datestore Name / Identifier	Storage System Name	No.	Name	•	0. 1700 F
			dx440_4					D
			naa.600000e00d1000000010017c00a70	ponta	167	evcp_sdv00		D INTERNET
			evcp_luniscsifc					1.5110011000
			naa.600000e00d1000000010017c03600	ponta	864	evcp_luniscsifc	=	
			evcp_sawate2					
		-	naa.600000e00d1000000010017c013e0	ponta	318	evcp_sawate2		
			multi_dx440_0					
			naa.600000e00d1000000010017c00020	ponta	2	vCp_vm222222222	2	0
			naa.600000e00d1000000010017c00420	ponta	66	vcp_vc50		
			saa.600000e00d100000010017c00040000	ponta	4	vCp_vm444444444	e .	
			naa.600000e00d100000010017c000b0000	ponta	11	evcpppppppppppv0		
			naa.600000e00d100000010017c00440000	ponta	68	vcp_vc52		
			11					
		Se	alect All					

1.3 Operation

Install ETERNUS vCenter Plug-in in a Windows Server with VMware Web Client Server installed.



Caution

When vCSA (vCenter Server Appliance) is used as the vCenter Server, ETERNUS vCenter Plug-in cannot be installed in a VMware Web Client Server that is bundled with vCSA. Install ETERNUS vCenter Plug-in in a Windows server that already has VMware Web Client Server installed.

1.4 Supported Environment

For the versions of storage systems, VMware vSphere, and vSphere Web Client supported by ETERNUS vCenter Plug-in, refer to the following website:

http://www.fujitsu.com/global/services/computing/storage/eternus/tools/evcp.html

1.5 Required Resources

1.5.1 Disk Capacity Required for Installation

No.	Details	Capacity	Folder
1	Program storage	118MB	Installation folder (*1)
±1 TI			

*1: The default installation folder is:

System Drive:\Program Files\ETERNUS vCenter Plug-in

1.5.2 Disk Capacity Required for Operation

No.	Details	Capacity	Folder
1	Trace log	125MB	Installation folder (*1)

*1: The default installation folder is: System Drive:\Program Files\ETERNUS vCenter Plug-in

1.6 Exclusive Software

Do not start the following software at the same time as ETERNUS vCenter Plug-in. If the following software is running, information about the ETERNUS Disk storage system may not be displayed in the [FUJITSU ETERNUS DX] tab.

- Web GUI for ETERNUS DX series
- Command Line Interface (CLI) for ETERNUS DX series

Caution

The following software can be used at the same time as ETERNUS vCenter Plug-in:

- ETERNUS SF Storage Cruiser
- ServerView Resource Coordinator VE

Note that a message about exclusive software that has a message number such as STXE1006 may be displayed while operating ETERNUS vCenter Plug-in. If this type of message is displayed, close the window of ETERNUS SF Storage Cruiser or ServerView Resource Coordinator VE and reperform the operation with ETERNUS vCenter Plug-in. The above software can be used again after the target operations with ETERNUS vCenter Plug-in are complete.

1.7 Notes

1.7.1 Network File System

ETERNUS vCenter Plug-in does not support a datastore that is configured with the network file system.

1.7.2 Firewall Settings

Set the following port numbers to bypass the firewall when setting up a firewall between the server in which ETERNUS vCenter Plug-in is installed and the ETERNUS Disk storage system.

No.	Destination	Port number/protocol	Communication direction
1	ETERNUS Disk storage system	1999/tcp	From the server in which ETERNUS vCenter Plug-in is installed to the ETERNUS Disk storage system
2	ETERNUS Disk storage system	1372/tcp	From the server in which ETERNUS vCenter Plug-in is installed to the ETERNUS Disk storage system
3	ETERNUS Disk storage system	22/tcp	From the server in which ETERNUS vCenter Plug-in is installed to the ETERNUS Disk storage system

1.7.3 SSH Settings for the ETERNUS Disk Storage System

Enable the SSH connection for the monitoring target ETERNUS Disk storage system. For details, refer to "ETERNUS Web GUI User's Guide".

1.7.4 Supported Processors

Itanium is not supported.

1.7.5 Displaying Performance Monitoring and Performance Information

- This function is not supported for the ETERNUS DX60 S2 Disk storage system.
- Firmware version V10L30-0000 or later for the ETERNUS Disk storage system is required to use this function with the ETERNUS DX S2 series.

1.7.6 IPv6

IPv6 cannot be used for vCenter Server and ETERNUS Disk storage systems that are managed by ETERNUS vCenter Plug-in.

1.7.7 Creating and Deleting Datastore Volumes

- This function is not supported for the ETERNUS DX60 S2 Disk storage system.
- Firmware version V10L40-0000 or later for the ETERNUS Disk storage system is required to use this function with the ETERNUS DX S2 series.
- Only Fibre Channel and iSCSI are supported for interfaces between servers and ETERNUS Disk storage systems.
- A user who is logged into Web Client must have the "Storage Partition" privilege to use this function. To obtain the "Storage Partition" privilege, click [Hosts], [Configuration], and then select the [Storage partition] checkbox.
- Only Fibre Channel interfaces are supported for hosts running vSphere4.1. iSCSI interfaces are not supported.
- This function is not supported for Flexible Tier Volumes (FTV) and Wide Striping Volumes (WSV).
- A datastore volume that is used in Virtual Machine cannot be deleted with this function.
- To use an iSCSI interface, "Network Port Binding" must be performed with vSphere Web Client. Refer to the vSphere Web Client help for a detailed procedure on performing this action.

Chapter 2 Installation and Initial Setup

The installation methods for ETERNUS vCenter Plug-in are described below:

- New installation Perform the procedures from <u>"2.1 New Installation" (page 17)</u> to <u>"2.2 Operation Required After New Installation" (page 20)</u>.
- Upgrade ETERNUS vCenter Plug-in Perform the procedure in <u>"2.3 Upgrading ETERNUS vCenter Plug-in" (page 20)</u>.

2.1 New Installation

Install ETERNUS vCenter Plug-in using the following procedure:

Caution

When the installation is complete, the VMware vSphere Web Client service automatically restarts.

Procedure

- 1 Extract the downloaded file.
- **2** Double-click the extracted ETERNUS vCenter Plug-in installer to start the wizard. Proceed with the installation according to the wizard.

3 Specify each parameter in the [Initialization] screen and click the [Register] button.

🙀 ETERNUS	vCenter Plug-in – InstallShield Wizard	×
Initializati	ion	
ETERNUS \ vCenter Se	Center Plug-in requires a valid IP address, username and password of the rver.	
IP Address		
User Name		
Password		
InstallShield —		
	Register Skip	

Caution

If the [Skip] button is clicked, the installation process completes without performing the initial setup. In this case, the initial setup must be performed manually after installation. For details, refer to "Appendix A Frequent Inquiry Solutions" (page 67).

In the [Initialization] screen, perform the initial setup (registering the vCenter Server to ETERNUS vCenter Plug-in).

Register the vCenter Server to ETERNUS vCenter Plug-in and log in to the Web Client Server that manages the vCenter Server. Then, the information of the ETERNUS Disk storage system can be displayed on vSphere Web Client.

Parameter	Details
IP Address	Enter the IP address of the vCenter Server that is to be registered to ETERNUS vCenter Plug-in. Do not enter a local loopback address.
User Name	Enter a valid account of the vCenter Server specified above.
Password	Enter the password for the account specified above.

4 When the installation process is complete, the [InstallShield Wizard Completed] screen appears. Click the [Finish] button to finish the installation.



Caution

If the initial setup fails, a Warning screen appears. In this case, the initial setup must be performed manually after installation. For details, refer to <u>"Appendix A Frequent Inquiry Solutions" (page 67)</u>.



End of procedure

2.2 Operation Required After New Installation

Perform the following operations after installing ETERNUS vCenter Plug-in.

Caution

When the installation is complete, the VMware vSphere Web Client service automatically restarts. After the VMware vSphere Web Client service is restarted, the [FUJITSU ETERNUS DX] tab of ETERNUS vCenter Plug-in might not appear.

If this tab is not displayed, wait a couple of minutes, and then log in again.

2.2.1 Registering ETERNUS Disk Storage Systems for Management

Before registering the information of the ETERNUS Disk storage system that is to be managed, the SSH connection of the target ETERNUS Disk storage system must be enabled in advance. For the detailed procedure, refer to "ETERNUS Web GUI User's Guide".

To display the information of the ETERNUS Disk storage system onto vSphere Web Client, the information of the target ETERNUS Disk storage system must be registered in ETERNUS vCenter Plug-in. For the registration procedure, refer to <u>"Chapter 7 Registering ETERNUS Disk Storage Systems" (page 41)</u>.

2.3 Upgrading ETERNUS vCenter Plug-in

This procedure explains how to upgrade ETERNUS vCenter Plug-in in an environment in which an old version of ETERNUS vCenter Plug-in is already installed and used. There is no need to change the environment settings again after upgrading ETERNUS vCenter Plug-in because the settings prior to upgrading are retained even after upgrading is complete.

Upgrading from version 1.x of ETERNUS vCenter Plug-in cannot be performed. If this is the case, install the latest version of ETERNUS vCenter Plug-in after uninstalling the old version.

Caution

The VMware vSphere Web Client service is automatically restarted after installation is complete.

Procedure

- 1 Extract the downloaded file.
- **2** Double-click the extracted ETERNUS vCenter Plug-in installer to start the wizard. Proceed with the installation according to the wizard.

3 When the installation process is complete, the [InstallShield Wizard Completed] screen appears. Click the [Finish] button to finish the installation.



Caution

If the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete, a Warning screen appears.

Warning	X
<u> </u>	Installation complete successfully, but update of the configuration file was not complete.
	OK T

In this case, changing the environment settings manually is required after upgrading of ETERNUS vCenter Plug-in is complete. For details, refer to <u>"Appendix A Frequent Inquiry Solutions" (page 67)</u>.

End of procedure

Chapter 3 Displaying Storage Information

This function is used to display various types of information for the ETERNUS Disk storage systems in the vSphere Web Client screen. To add the [FUJITSU ETERNUS DX] tab under the management tab, select a VMware object from the inventory tree of vSphere Web Client. To display the information of the ETERNUS Disk storage system, click the [FUJITSU ETERNUS DX] tab. The following three VMware objects are supported:

- Datastore
- Virtual Machine
- Host System

For details about the items displayed with this function, refer to <u>"Appendix B List of Displayed Items" (page</u> 70).

3.1 Displaying Datastore Information

To display the information corresponding to Datastore of the ETERNUS Disk storage systems, perform the following procedure:

Procedure

- From the vCenter home screen of vSphere Web Client, select [Inventory List] [Datastores].
- **2** From the datastore list in the left pane, select the datastore that is assigned to the ETERNUS Disk storage system, and then click the [FUJITSU ETERNUS DX] tab under the management tab.

vmware [,] vSphere We	eb Cl	ient 🕇 🖗 💛 I Administratori@MIH-KRH88ISMUIO - I Help - I 🔍 Search		•
vCenter	- 1	dx440_4 Actions +	16.7	-
🗐 Datastores	15	Getting Started Summary Monitor Manage Related Objects		
datastore1		Settings Alarm Definitions Tags Permissions Files Profiles Scheduled Tasks FUJITSU ETERNUS DX		
I dx440_4	>	+ Properties		

A list of the disks that configure the selected datastore is displayed in the [Underlying LUNs] window.

mware [,] vSphere Web	Client 🔒 🖉	U Administrator@WIN+KRH8916MIJIO •	Help - I Q Search		-
<vcenter th="" •<=""><th>dx440_4 Actions -</th><th></th><th></th><th>=*</th><th>-</th></vcenter>	dx440_4 Actions -			=*	-
Datastores	Getting Started Summary Monitor Manage R	elated Objects			
Ø datastore1 ☐ datastore1 (1)	Settings Alarm Definitions Tags Permissions F	iles Profiles Scheduled Tasks FUJITSU ETERM	NUS DX		
dx140_4					
EI dx440~~~1	 Underlying LUNs 				
E1 E2000	Name 🔺	Identifier	Model	Runtime N.	
evcp_lunpropro1	FUJITSU Fibre Channel Disk (naa.600000e00d10	naa,600000e00d1000000010017c00a70000	ETERNUS_DX400	vmhba3:0	
I evcptest					

3 From the [Underlying LUNs] window, select a disk to display the detailed information of the disk in the [ETERNUS Details] window.

enter 🔫 🗜	dx440_4 Actions	ž.				Z,	
Datastores 15	Getting Started Summ	nary Monitor Manage Related Ob	lects .				
latastore1 latastore1 (1)	Settings Alarm Definit	tions Tags Permissions Files Pro	files Sche	duled Tasks FUUITSU ETERNUS	3 DX	1	
b440_4 →	• Underhåns i Uble					-	
bd40~~~1	Same	• Identifier			Model	Runtime	
vcp junproprof	FUJITSU Fibre Channe	el Disk (naa.600000e00d10 naa.600	000e00d10	000000010017c00a70000	ETERNUS_DX400	vmhba:	
ncptest				19. 			
multi_dx440_0	* Volume		System Information				
	Name	evcp_sdv00		Storage System Name	ponta	ponta	
	Status	 Available 		Model Name	ET4428A		
	LUN No.	167		Product			
	Type	SDV		Serial No.	46011074135		
	Capacity	4.00 GB	Firmware Version	V10L40-9270			
		Best Practice Settings	Status	Normal			
	Path Policy	RoundRobin		Management URL	http://iiii.28.104.697		
	VAN Features	Supported		▼ Storage Condition			
	* RAID Group : No.I	8		RAID Group			
	No.	0	8		Free : 5	99 TB	
	Name	evcp_raid		Liond: 6 99 TB	Total : 17	00 TD	
	Status	Available		DND Onus Court	10001.12		
	Usage	Standard,SDV,SDPV		Naturna Count			
	RAID Type	High Capacity (RAID5)		This De	o deinning Daal	+	

Eight portlets are displayed in the [ETERNUS Details] window.

Volume

Displays LUN specific information such as the name and the size of the selected disk.

- System Information Displays all of the ETERNUS Disk storage system information in which the selected disk belongs.
- RAID Group / Thin Provisioning Pool Displays the information for the RAID group and the Thin Provisioning Pool in which the selected disk belongs.
- Storage Condition
 Displays the usages of the RAID group, the Thin Provisioning Pool, and the Snap Data Pool of the
 ETERNUS Disk storage system in which the selected disk belongs.
- Performance

Displays the performance information for the selected disk. To display the information, performance monitoring must be started via [Start/Stop Perfmon].

Adapter

Displays the information of the host bus adapter that recognizes the selected disk and the information of the ETERNUS Disk storage system port that is connected to the host bus adapter.

WSV RAID Groups
 Displays the information of the RAID group that configures the Wide Striping Volume (WSV) when a WSV is selected.

Flexible Tier Pool

Displays the Flexible Tier Pool information and also the Flexible Tier Sub Pool information when a Flexible Tier Volume (FTV) is selected.

End of procedure

3.2 Displaying Virtual Machine Information

To display the information corresponding to Virtual Machine of the ETERNUS Disk storage systems, perform the following procedure:

Procedure

- From the vCenter home screen of vSphere Web Client, select [Inventory Tree] [VMs and Templates].
- **2** From the virtual machine list in the left pane, select the virtual machine that is assigned to the ETERNUS Disk storage system, and then click the [FUJITSU ETERNUS DX] tab under the management tab.

vmware [,] vSphere Web Cl	ient 🕈 🖉 💛 Administrator@WIN4KRH8888MUIO + Help + 🔍 Search	•
vCenter • I	D wcp_test Actions -	т н
0 8 8 8	Getting Started Summary Monitor Manage Related Objects	Ē.
 WIN-M4C87UJU4U5.gt3.com Datacenter 	Settings Alarm Definitions Tags Permissions Profiles Scheduled Tasks FUJITSU ETERNUS DX Services	(2)
wcp_test	44 VM Hardware Bedit.	1 (0)
	VM Hardware > CPU 1 CPU(s), 199 MHz used	U

A list of the disks that are used as hard disks for the selected virtual machine is displayed in the [Virtual Disks] window.

vCenter 👻 🕱	By wcp_test Actions +			E	
	Getting Started Summary Mor	itor Manage R	elated Objects		
VVIN-M4C87UUU4U5.gt3.com	Settings Alarm Definitions Tag	s Permissions P	rofiles Scheduled Tasks F	UJITSU ETERNUS DX VServices	
🐴 vop_test	+ C 5				
D Vitware vCenter Server App	Virtual Disks				1
	Name	Capacity	Туре	FilePath	1
	100596321	30.00 GB	Datastore(datastore1)	[datastore1] vcp_testVcp_test vmdk	Т
	11-19-03-12	40.00 GB	Datastore(dx4401)	[dx4401] vcp_test/vcp_test.vmdk	
	1111110393	13.00 GB	RDM(physicalMode)	[datastore1] vcp_test/vcp_test_21.vmdk	Т
	11-1-15-03/24	10.00 GB	RDM(physicalMode)	[datastore1] vcp_test/vcp_test_22.vmdk	
	1000 State 5	4.00 GB	RDM(physicalMode)	[datastore1] vcp_testVcp_test_26.vmdk	
	11-99/396	2.00 GB	RDM(physicalMode)	[datastore1] vcp_test/vcp_test_27.vmdk	1

3 From the [Virtual Disks] window, select a hard disk to display the information of the disks that configure the hard disk in the [Underlying LUNs] window.

enter - I	wcp_test Actions *						<i>E</i> *	
	Getting Started Summary	Monito	Manage	Related Objects				
VIN-M4C87UJU4U5.gt3.com	Settings Alarm Definitions	Tags	Permissions	Profiles Scheduled Tasks	FUJITSU ETERNUS DX	vServices		
Store volume and the server of	+ C 🕏 • Virtual Disks							
	Name .		Capaci	ity Type	FilePath	FilePath		
	11-8:25(82)1		30.00 G	B Datastore(datastore1)	[datastore1] vo	[datastore1] vcp_test/vcp_test.vmdk		
	11-00/00/2		40.00 G	B Datastore(dx440~~~1)	[dx440~~~1] vo	[dx440~~~1] vcp_test/vcp_test.vmdk		
	17-2752323		13.00 G	B RDM(physicalMode)	[datastore1] vo	p_test/vcp_test_21.wmdk		
	11-1125-2222-4		10.00 G	B RDM(physicalMode)	[datastore1] vo	p_test/vcp_test_22.vmdk		
	11-076025		4.00 0	B RDM(physicalMode)	[datastore1] vo	[datastore1] vcp_test/vcp_test_26.vmdk		
	11-17:52.0.0 6		2.00 G	B RDM(physicalMode)	[datastore1] vo	p_test/vcp_test_27.vmdk		
	 Underlying LUNs 							
	Name			▲ Identifiar		Modal	Runtima N	
	FUJITSU Fibre Channel Disk	(naa.6)	000000e00d10.	naa 600000e00d100000	0010017c00840000	ETERNUS_DX400	vmhba3:	

4 From the [Underlying LUNs] window, select a disk to display the detailed information of the disk in the [ETERNUS Details] window.

Center 👻 🖡	Covcp_test Actions	Ψ.						1	
1 🖻 🛛 🙎	Getting Started Sumr	nary Monito	Manage R	elated Objects					
WIN-M4C97UUU4U5.gt3.com	Settings Alarm Defin	tions Tags	Permissions P	rofiles Scheduled T	asks FUUN	ISU ETERNUS D	vServices		
b VMware vCenter Server App	+ C 马	・ C 場 ・ Virtual Disks							
	Name		Capacity	Туре		FilsPath			
	VI-01542011		30.00 GB	Datastore(datastore	1)	[datastore1] v	cp_test/vcp_test.vmdk		
	///-#TF47272		40.00 GB	Datastore(dx440	-1)	[dx4401]	cp_test/vcp_test.vmdk		
	11-11-11-12/21		13.00 GB	RDM(physicalMode)	[datastore1] v	[datastore1] vcp_test/vcp_test_21.vmdk			
	11-111-0014		10.00 GB	RDM(physicalMode)	6	[datastore1] v	cp_testlvcp_test_22.vmdk		
	10-075025		4.00 GB	RDM(physicalMode)	Ē	[datastore1] v	cp_testVcp_test_26.vmdk		
	11-111-111-111-1		2.00 GB	RDM(physicalMode)	6	[datastore1] \	cp_test/vcp_test_27.vmdk		
	 Underlying LUNs 								
	Name			Identifier			Model	Rutter	
	FUJITSU Fibre Chann	el Disk (naa.6	00000e00d10	naa.600000e00d10	000000100	17c00840000	ETERNUS_DX400	vmhba	
	▼ ETERNUS Details								
	Volume System Information								
	Name	evcp_tpp			Storage System Name		ponta		
	Status	 Availa 	ible		Model Name Product		ET442SA		
	LUN No.	132		1			ETERNUS_DX400		
	Туре	TPV			Serial No.		4561.2001		
	Capacity	13.00 GB			Firmware	Version	V10L40-9270		
		Best Pract	tice Settings		Status		 Normal 		
	+ Path Policy	O Roun	idRobin	1	Managem	ent URL	http://98.278.108.877		
					- International Core interview of the set				

End of procedure

3.3 Displaying Host System Information

To display the information corresponding to Host System of the ETERNUS Disk storage systems, perform the following procedure:

Procedure

- **1** From the vCenter home screen of vSphere Web Client, select [Inventory List] [Hosts].
- **2** From the host list in the left pane, select the host system that uses the ETERNUS Disk storage system.
- **3** Click the [FUJITSU ETERNUS DX] tab under the management tab. The following three links are displayed under the [Storage View] menu: [Datastore], [Raw Device Mapping], and [Others]. Clicking each link changes the information that is displayed.

ltem	Details
Datastore	Displays a list of the disks used as Datastore in the host selected in the inventory tree.
Raw Device Mapping	Displays information of the disks used as Raw Device Mapping in the host selected in the inventory tree.
Others	Displays information of the disks not used as either Datastore or Raw Device Mapping in the host selected in the inventory tree.

The displayed contents vary depending on the selected link.

Datastore

Center 💌	I G HURLINGE AD Actions	*					E.				
Hosts	Getting Started Summary	Monitor Manage	Related Obj	ects							
A militaria 🔸	Settings Networking Sto	rage Alarm Definitio	ns Tags Per	missions FUJIT	SU ETERNUS DX						
		Assigned Disks	5	and the second s		and a second					
	Datastore	Name		Status	Ca	pacity Free	Typs				
	Raw Device Mapping	detectore1		Available	200 6	500B 71.490B	VIAL				
	Others	dx440 4		Available	3.7	750B 3180E	VME				
	Adusta	dx4481		Available	99.7	750B 58.800E	VME				
	Adapter	multi_dx440_0		Available	129.5	500B 88.550B	VMF				
	 Performance 	multi		Available	31.7	7508 27.800B	VMF				
		test		Available	29.7	75GB 28.81GB	VMF				
		222		Available	9.7	750B 8.890B	VMF				
		▼ Underlying LUNs									
		Name		Med							
		FUJITSU Fibre Cha	nnel Disk (naa.	600000e00d10	naa.600000e00d10	naa.800000e00d1000000010017c80020000					
		FUJITSU Fibre Channel Disk (naa.800000e00d10 naa.800000e00d1000000010017c00420000									
		* Volume				System Information					
		Name	vCp_vm2	2222222222		Storage System Name	1				
		Status	🔿 Avail	able		Model Name	1				
		LUN No.	2			Product	ĩ				
		Туре	Standard	Č.		Serial No.					
		Capacity	30.00 GE	1		Firmware Version					
			30.00 GB								

- (1) A list of datastores used by the selected host is displayed in the [Assigned Disks] window.
- (2) From the [Assigned Disks] window, select a datastore to display a list of disks that configure the selected datastore in the [Underlying LUNs] window.
- (3) From the [Underlying LUNs] window, select a disk to display the detailed information of the disk in the [ETERNUS Details] window.

■ Raw Device Mapping

vCenter 💌 🖡	Actions						E.	
Hosts	Getting Started Summan	Monitor Manage	Related Obj	ects				
(m.2)	Settings Networking St	Alarm Definitions	Tags Pe	FUJITSU ETERNUS DX			2	
		Nama		- Markhar	Model	Ruolima Nama	LUN	
	Datastore	FUITSU Fibre Channe	el Disk (n	naa.600000e00d10000000100	ETERNUS D.	vmhba3:C0:T	4	
	Raw Device Mapping	FUUITSU Fibre Channe	el Disk (n	naa.600000e00d10000000100	ETERNUS_D.	vmhba3:C0:T	9	
	Others	FWITSU Fibre Channe	el Disk (n	naa.600000e00d10000000100	ETERNUS_D.	vmhba3:CD:T	20	
	Adapter	FUUITSU Fibre Channe	el Disk (n	naa.600000e00d10000000100	ETERNUS_D.	vmhba3:C0:T	7	
	Performance	▼ ETERNUS Details						
		* Volume			System Information			
		Name	evcb_fbt	2	Storage Sy	stem Name	F-	
		Status O Available		Model Name		E		
		LUN No.	132		Product		E	
		Туре	TPV		Serial No.			
		Capacity	13.00 G	в	Firmware V	ersion	×.	
			Best Pra	ctice Settings	Status		•	
		 Path Policy 	 Rou 	ndRobin	Manageme	nt URL	1	
		VAAI Features		Supported		 Storage Condition 		
		Thin Provisioning Pool □			RAID Gr		AID Gr	
		No.		1				
		Name		Evcp_ACCC_TPP				
		Disk Type		Online		Used: 6,98 TB		
		DAID Tuno		Minister (DAID4)	RAID Group	Count		

- (1) A list of devices used as Raw Device Mapping in the selected host is displayed in the [Assigned Disks] window.
- (2) From the [Assigned Disks] window, select a disk to display the detailed information of the disk in the [ETERNUS Details] window.

■ Others

Center 💌	¥ RH28.408.80 Actions	*				E
Hosts	Getting Started Summary	Monitor Manag	Related Objects			
NUMBER OF STREET	>					
	Settings Networking Sto	age Alarm Definit	ions Tags Permissions FUIIT	U ETERNUS DX		
		+ C B				(±
	 Storage View 	 Assigned Dis 	ks			
	Datactore	Nama		Identifier		Mod
	Datastore	FUUITSU Fibre Ch	annel Disk (naa.600000e00d00	naa.600000e00d00	0000000000ad700020000	E20
	Raw Device Mapping	FUUITSU Fibre Ch	annel Disk (naa.600000e00d00	naa.600000e00d00	00000001102:00050000	ETE
	Others	FLUITSU Fibre Ch	annel Disk (naa.600000e00d00	naa.600000e00d00	00000001102:00060000	ETE
Adapter Performance	Adapter	FUUITSU Fibre Ch	annel Disk (naa.600000e00d00	naa.600000e00d00	naa.600000e00d0000000001102:00070000	
	Performance	FUUITSU Fibre Ch	annel Disk (naa.600000e00d10	naa.600000e00d100000010017c00440000		ETE
		FUUITSU Fibre Channel Disk (naa.600000e00d10 naa.600000e00d1			1000000010017c03430000 ET	
		FUUITSU Fibre Ch	annel Disk (naa.600000e00d10	naa.600000e00d10	00000010017c03440000	ETE
		FUUITSU Fibre Ch	annel Disk (naa.600000e00d10	naa.600000e00d10	00000010017c03470000	ETE
		FUUITSU Fibre Ch	nannel Disk (naa.600000e00d11	naa.600000e00d11	0000001104ec00480000	ETE
		FUUITSU Fibre Channel Disk (naa.600000e00d11 naa.600000			300e00d110000001104ec00490000 ET	
		FUUITSU Fibre Ch	hannel Disk (naa.600000e00d11	naa.600000e00d110000001104ec004a0000		ETE
		FUJITSU ISCSI Disk (naa.600000e00d00000000		naa.600000e00d000000001102a00010000		ETE
		FUITSU ISCSI Disk (nas.600000e00d00000000		naa.600000e00d000000001102a00020000		EIE
		FOULTSO ISCSLD	isk (naa.euuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuu	naa.buuuuueuuduu	00000001102800030000	EIE
		▼ ETERNUS Det	aits			
		* Volume			* System Information	
		Name	evcptest_2		Storage System Name	E.
		Status 🥥 Available			Model Name	
		LUN No.	LUN No. 836		Product	E
		Туре	TPV		Serial No.	
		Canacity	1024 00 MB		Circumon Manalan	

- (1) A list of devices not used as either Datastore or Raw Device Mapping in the selected host is displayed in the [Assigned Disks] window.
- (2) From the [Assigned Disks] window, select a disk to display the detailed information of the disk in the [ETERNUS Details] window.

End of procedure

3.4 Notes

- In each list displayed by clicking the [FUJITSU ETERNUS DX] tab, only the information of disks on the ETERNUS Disk storage system is displayed. Other disk information is not displayed.
- No information is displayed in the [ETERNUS Details] window when using an ETERNUS Disk storage system that is not supported by ETERNUS vCenter Plug-in or a supported ETERNUS Disk storage system that is not registered as a management storage system.
- For datastore information display, the following message appears when a datastore that is used by multiple host systems is selected and the [FUJITSU ETERNUS DX] tab is clicked. Use [Datastore] of the host system to display the information for the datastore that is used by multiple host systems.

```
STXE1017 NOTICE The datastore that is accessible from multiple hosts is not supported in this function. The information on this datastore can be confirmed with Host System.
```

Chapter 4 Displaying Adapter Information

This function is used to display adapter information for the host that is selected from the inventory tree, port information for the ETERNUS Disk storage system that is connected to the adapter, and information for recognized LUNs. Only Host System is supported for a VMware object.

For details about the items displayed with this function, refer to <u>"Appendix B List of Displayed Items" (page</u> 70).

To display adapter information, perform the following procedure:

Procedure

- **1** From the vCenter home screen of vSphere Web Client, select [Inventory List] [Hosts].
- **2** From the host list in the left pane, select the host system that uses the ETERNUS Disk storage system, and then click the [FUJITSU ETERNUS DX] tab under the management tab.
- **3** Click the [Adapter] link to display the list of host bus adapters that are used for the selected host system in the [Server Adapters] window.

<th></th> <th>Action</th> <th>s *</th> <th></th> <th>E.</th>		Action	s *		E.
Hosts	-	Getting Started Summa	ry Monitor Manage Related Objects		0
Carlo realized	1	Settings Networking S	torage Alarm Definitions Tags Permissions FUUITSU	ETERNUS DX	
A raile marchs	>		+ C 5		
		Storage View	Server Adapters		1
	l n		Davita.	Турн	xMMN E
		Auguer	ICH10 4 port SATA IDE Controller		
		 Performance 	🔯 vmhba0	Block SCSI	
			🕼 vmhba32	Block SCSI	*
			ICH10 2 port SATA IDE Controller		
			i wmhbat	Block SCSI	
			🕼 vmhba33	Block SCSI	
			MegaRAID SAS SKINNY Controller		
			🕼 vmhba2	Parallel SCSI	
			LPe1250 8Gb Fibre Channel Host Adapter		
			🐼 vmhba3	Fibre Channel	20:00:00:00:09:00:AC

4 Select an adapter in the [Server Adapters] window.

The port information for the ETERNUS Disk storage system that is recognized by the adapter is displayed in the [Storage Targets] window.

vCenter	- X G HLIR. KR.50 Act	ions *				
Hosts	Getting Started Sum	many Monitor Manage Re	stated Objects			
1828 19623	(A.M. 1997)				200	
1500 201001	> Settings Networking	Storage Alarm Definitions	Tags Permissions F00	IISUETERNUS	UX	
		+ C 4				
	Storage View	 Server Adapters 				
	Adaptor	Device			Туре	1474/11
	мартет	ICH10 4 port SATA IDE C	ontroller			
	Performance	🐼 vmhba0			Block SCSI	
		🚱 vmhba32			Block SCSI	
		ICH10 2 port SATA IDE C	ontroller			
		🚱 vmhba1			Block SCSI	
		🐼 vmhba33			Block SCSI	
		MegaRAID SAS SKINNY	Controller			
		🐼 vmhba2			Parallel SCSI	
		LPe1250 8Gb Fibre Char	anel Host Adapter			
		💽 vmhba3			Fibre Channel	20:00:00:00:09:D0:A0
		▼ Storage Targets				
		Series 🔺	Storage System Name	Model Name	Serial No.	Port
					431090007	(a.)
		ETERNUS_DX400 S2	ponta	ET4428A	1801508910	CM1CA0Port3
		ETERNUS DXL S2	koponta	ET092DC	ALFEDRAG	CM1CA0Port0

5 Select a port in the [Storage Targets] window.

The list of LUNs that are assigned to the port is displayed in the [Storage LUNs] window.



End of procedure

Chapter 5

Displaying Performance Monitoring and Performance Information

This function is used to monitor ETERNUS Disk storage system performance and display its information. After performance monitoring is started, refer to the performance information and stop the performance monitoring when monitoring is complete.

For details about the items displayed with this function, refer to <u>"Appendix B List of Displayed Items" (page 70)</u>.

Caution

- This function is not supported for the ETERNUS DX60 S2 Disk storage system.
- Firmware version V10L30-0000 or later for the ETERNUS Disk storage system is required to use this function with the ETERNUS DX S2 series.

5.1 Starting Performance Monitoring

This section explains how to start performance monitoring. The following example is for the case when Host System is selected from the inventory tree.

Procedure

- From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts].
- From the host list in the left pane, select the arbitrary host system, and then click the [FUJITSU ETERNUS DX] tab under the management tab. Select [Storage View] – [Datastore], and then click the "Start/Stop Perfmon" icon.

vCenter 💌 🗶	Actions Actions	7					Z.
Hosts 2	Getting Started Summan	Monitor Mana	ge Relate	d Objects			
1628.77438	Settings Networking St	orage Alarm Defin	iltions Tags	Permissions FUJITSU E	TERNUS DX		
	↔ → Storage View	+ CB • Assigned D	isks				
	Defension	Name		 Status 	Capacity	Free	Тури
	Datastole	E2000		Available	44.500B	13.700B	VMFS

The wizard is started and a list of the ETERNUS Disk storage systems that are registered by the ETERNUS Disk storage system registration function is displayed.

3 Select the radio button of the ETERNUS Disk storage system for which performance monitoring is started, select the performance monitoring interval from the pull-down menu, and then click the [Next] button.

The ETERNUS Disk storage system collects and measures the performance information at the interval that is selected.

Select storage	Select storage				
2 Ready to Complete	Select the ETERNUS disk stor	age system which o	ne changes the Perf	ormance Monitoring st	ate.
Result	Storage System Name	▲ Serial	IP Address	Monitoring State	Interval
	 koponta 	457 11054 10	2021254.95	Stopped	0 sec.
	O ponta	40710711	1021254.55	Active	30 sec.
	Specify the interval of the Perf	ormance Monitoring	in case of starting.		
	Specify the interval of the Perf	ormance Monitoring	in case of starting.		
	Specify the interval of the Perfu Interval : 30 - v sec.	ormance Monitoring	in case of starting.		
	Specify the interval of the Performance Interval : (30) ec.	ormance Monitoring	in case of starting.		
	Specify the interval of the Performance Interval : (30) +) sec.	ormance Monitoring	in case of starting.		

4 The following screen appears. Click the [Start] button to start performance monitoring.

Ready to Complete				
Settings for the ETERNUS disk storag	ance Monitoring			
IP Address	10.21104.05			
Storage System Name	koponta			
Current State	Stopped			
Interval	30 sec.			
Click "Start" to start the Performance	Monitoring.			
	Ready to Complete Settings for the ETERNUS disk storage IP Address Storage System Name Current State Interval	Ready to Complete Settings for the ETERNUS disk storage system to start the Performance IP Address Image System Name Storage System Name koponta Current State Stopped Interval 30 sec.	Ready to Complete Settings for the ETERNUS disk storage system to start the Performance Monitoring Image System Name koponta Storage System Name koponta Current State Stopped Interval 30 sec.	

5 The following screen appears after performance monitoring is started. Click the [Finish] button.

Start/Stop Performance Mor	hitoring Wizard					()	
1 Select storage	Result						
2 Ready to Complete	 The operation has such 	cessfully comple	ied.				
3 Result	Storage System Name	Serial	IP Address	Monitoring State	Interval		
	koponta	1011111111	10.28 (0.00)	Active	30 sec.		
	ponta	10110-0120-01	10.21.128.02	Active	30 sec.		
	Click "Continue" to repeat th	e wizard or Click	"Finish" to exit the wiz	tard.			

End of procedure

5.2 Displaying Performance Information

After performance monitoring is started, performance information can be displayed as a list or displayed individually.

5.2.1 Displaying the Performance Information of all the LUNs in a List

Performance information for all of the LUNs that are recognized by the selected host system can be displayed. Only Host System is supported for a VMware object. This section explains how to check the performance information.

Procedure

- **1** From the vCenter home screen of vSphere Web Client, select [Inventory List] [Hosts].
- **2** From the host list in the left pane, select the host system that uses the ETERNUS Disk storage system, and then click the [FUJITSU ETERNUS DX] tab under the management tab.

3 From the [Performance], click the [Host I/O] link or the [Advanced Copy I/O] link.

A list of the LUNs that are used in the ETERNUS Disk storage system by the selected host system and the LUN performance information are displayed. To refresh the performance information, click the [Host I/ O] link or the [Advanced Copy I/O] link again.

vCenter 🔫	I Reality Could Action	s *							<i>±</i> *
Hosts	Getting Started Summa	ry Monitor Manage	Rela	ited Objects					
10111111111	Settings Networking S	torage Alarm Definition	ns Ta	gs Permissions	FUJITSU E	TERNUS DX			
	+ + Storage View	 + C Performance (I 	lost I/C	0)					2
		Storage System Narra	No.	Name	Туре	Read IOPS	Write IDPS	Read Throughput	Write Through
	Adapter	koponta	74	evcp_lunnnn_	TPV	010PS	0 IOPS	0 MB/s	O ME
	✓ Performance	koponta	73	evcp_lunnnn_	TPV	010PS	0 IOPS	0 MB/s	O ME
	Host I/O	koponta	72	evoptest_3	Standard	010PS	0 IOPS	0 MB/s	O ME
	Advanced Come I/O	ponta	167	evcp_sdv00	SDV	010PS	0 IOPS	0 MB/s	0 ME
	madina di copy no	ponta	67	vcp_vc51	Standard	010PS	0 IOPS	0 MB/s	O ME
		ponta	4	vCp_vm4444	Standard	010PS	0 IOPS	0 MB/s	O ME
		ponta	765	EVCP_VOL1	Standard	010PS	0 IOPS	0 MB/s	O ME
		ponta	66	YCD VC50	Standard	0 IOPS	DIOPS	0 MB/s	O ME

End of procedure

5.2.2 Displaying the Performance Information of each LUN

Click the [Performance] portlet in the [ETERNUS Details] window to display I/O performance information for each LUN. To refresh the performance information, click the "Refresh" icon (blue arrow) on the header of the [Performance] portlet.

 Performance 	C 🗆
Host I/O	
Read IOPS	0 IOPS
Write IOPS	0 IOPS
Read Throughput	0 MB/s
Write Throughput	0 MB/s
Read Response Time	0 ms
Write Response Time	0 ms
Read Cache Hit Rate	0 %
Write Cache Hit Rate	0 %
Prefetch Cache Hit Rate	0 %
Advanced Copy I/	0
Read IOPS	0 IOPS
Write IOPS	0 IOPS
Read Throughput	0 MB/s
Write Throughput	0 MB/s
Read Cache Hit Rate	0 %
Write Cache Hit Rate	0 %
Prefetch Cache Hit Rate	0 %
The disk busy ratio is displayed on the [RAID Group] portlet or the [Thin Provisioning Pool] portlet in the [ETERNUS Details] window. To refresh the information, select any entries other than the target entry in a window above the [ETERNUS Details] window, and then select the target entry again on the [RAID Group] portlet or the [Thin Provisioning Pool] portlet in the [ETERNUS Details] window.

- RAID G	Froup : No	.8				
No.			8			
Name			evcp	_raid		
Status 🤮			🥥 Available			
Usage Standard,SDV,SDPV						
RAID Type			High	n Capacity (I	RAID5)	
Free : 33.80 GB					GB	
	Used	: 3.53 TB			Total : 3.56	тв
				sks		
Enclosu▲	Slot No.	Disk Type		Capacity	Speed	Busy Ratio
DE#10	4	Nearline		2.00 TB	7200 rpm	0 %
DE#10	5	Nearline	•	2.00 TB	7200 rpm	0 %
DE#10	6	Nearline		2.00 TB	7200 rpm	0 %

5.3 Stopping Performance Monitoring

This section explains how to stop performance monitoring. The following example is for the case when Host System is selected from the inventory tree.

Procedure

- **1** From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts].
- From the host list in the left pane, select the arbitrary host system, and then click the [FUJITSU ETERNUS DX] tab under the management tab. Select [Storage View] [Datastore], and then click "Start/Stop Perfmon" icon. The wizard is started and a list of the ETERNUS Disk storage systems that are registered by the ETERNUS Disk storage system registration function is displayed.

3 Select the radio button of the ETERNUS Disk storage system for which performance monitoring is to be stopped, and then click the [Next] button.

R	Start/Stop Performance Monitori	ing Wizard						(8)
-1	1 Select storage	Select storage						
	2 Ready to Complete	Select the ETERNUS disk sto	orag	e system which o	ne changes the Perf	ormance Monitoring st	late.	
	3 Result	Storage System Name		Serial	IP Address	Monitoring State	Interval	
		 koponta 		451105115	102120480	Active	30 sec.	
		o ponta		45110810	1002120407	Active	30 sec.	
		Specify the interval of the Per Interval : (30 +) sec.	forn	nance Monitoring	in case of starting.			
							Next Can	cel

4 The following screen appears. Click the [Stop] button to stop performance monitoring.

	onitoring Wizard		
1 Select storage	Ready to Complete		
2 Ready to Complete	Settings for the ETERNUS disk storage syste	m to stop the Performance	Monitoring
3 Result			
	IP Address	10.21.114.84	
	Storage System Name	koponta	
	Current State	Active	
	Click "Stop" to stop the Performance Monitor	na	

5 The following screen appears after performance monitoring is stopped. Click the [Finish] button.

1 Select storage	Result					
2 Ready to Complete	 The operation has a 	successfully complet	ted.			
3 Result	Storage System Name	▲ Serial	IP Address	Monitoring State	Interval	
	koponta	AD FOR X 2010	H128-106.081	Stopped	0 sec.	
	ponta	ACCULATION 1	10.28-03-07	Active	30 sec.	
	Click "Continue" to repea	at the wizard or Click	"Finish" to exit the wi	zard.		



Chapter 6 Refreshing Displayed Information

ETERNUS vCenter Plug-in retains the information of vSphere and the ETERNUS Disk storage systems to be managed as database. Selecting the [FUJITSU ETERNUS DX] tab displays information based on the database. Therefore, the contents displayed by selecting the [FUJITSU ETERNUS DX] tab may not be the latest information at the point. ETERNUS vCenter Plug-in communicates with vCenter Servers and the ETERNUS Disk storage systems at intervals of 30 minutes and keeps the database up-to-date. Note that displayed information can be refreshed when a volume datastore is created or deleted.

"Refresh" is the function to update the database manually. Using this function enables the latest information to be displayed when the [FUJITSU ETERNUS DX] tab is selected. Use the following procedure:

Procedure

- From the inventory tree in the left pane of vSphere Web Client, select any object from Datastore, Virtual Machine, or Host System, and then select the [FUJITSU ETERNUS DX] tab under the management tab.
- **2** Click the "Refresh" icon.

vm ware [,] vSphere W	/eb Cl	ent 🔒 🖉 🕐 I Administrator@WWW4RH886MUIQ + I Help + I 🔍 Search		•
< vCenter		dx440_4 Actions ~	=-	-
Datastores	9	Getting Started Summary Monitor Manage Related Objects		
datastore1 ctx440_4 ctx440_4 ctx440_mm1	>	Settings Alarm Definitions Tags Permissions Files Profiles Scheduled Tasks FUJTSU ETERNUS DX		(1)
E2000				U

The message "Now loading..." appears and the database is updated. This process may require a long period of time.

vCenter +	K dx440_4 Ac	tons +						36.*	
🖬 Datastores 📰	Getting Started	Burnmany Monitor	Manage F	Related Object	-				and the second
🔯 datastore1	Settings Alarm (Definitions Tags Per	missions	Files Profile	Scheduled Tasks	FUUTSU ETERNUS	DX		ľ
C dx440_4	- + C ₽								i d
E2000	- Underhring L	UNs							1
multi_dt/440_0	Hame			Identifies			Madel	Runtime N	8
	FUJITSU Fibre C	Now loading		100	00001000000100	17c00a70000	ETERNUS_DX400	vmhba39	

When the update process is complete, the latest information is displayed for the object selected from the inventory tree.

Chapter 7 Registering ETERNUS Disk Storage Systems

This function is used to register the information of the ETERNUS Disk storage systems to ETERNUS vCenter Plug-in as the management target. Registration allows the information of the ETERNUS Disk storage systems to be displayed in the [ETERNUS Details] window under the [FUJITSU ETERNUS DX] tab. Use the Storage Registration Wizard as an interface to register the information of the ETERNUS Disk storage systems.

7.1 Starting the Storage Registration Wizard

Procedure

- **1** From the inventory tree in the left pane of vSphere Web Client, select any object from Datastore, Virtual Machine, or Host System, and then click the [FUJITSU ETERNUS DX] tab under the management tab.
- **2** Click the "Storage Registration" icon to start the Storage Registration Wizard.

vmware [,] vSphere We	b Client 者 🥙 U I Administrator@MIN+KRH0866MUIO + I Help +	I Q Search	-
<vcenter -<="" th=""><th># dx440_4 Actions +</th><th><i>W</i>*</th><th>-</th></vcenter>	# dx440_4 Actions +	<i>W</i> *	-
Datastores	Getting Started Summary Monitor Manage Related Objects		Т
datastore1	Settings Atarm Definitions Tags Permissions Files Profiles Scheduled Tasks FUUTSU ETERNUS DX	J	
🔲 dx440_4	· >		
🗐 di(4401	 Underlying LUNs 		
E E2000	Name 🔺 Identifier Mo	del Runtime N.	
evcp_lunpropro1	FUJITSU Fibre Channel Disk (nas.600000e00d10 nas.600000e00d1000000010017c00a70000 ET	ERNUS_DX400 vmhba3:0	

7.2 Registering ETERNUS Disk Storage Systems

Procedure

1 Start the Storage Registration Wizard, select the [Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in.] radio button, and then click the [Next] button.

1 Select mode 2 Input 3 Result Storage System Name Serial IP Address koponta Image: Serial Image: Serial Select mode Mathematical Serial Select mode Select mode Select mode Select mode Select mode Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in.					
2 Input Select the mode. 3 Result Storage System Name • Serial IP Address koponta Image: Select the mode.	1 Select mode	Select mode			
3 Result Storage System Name Serial IP Address koponta Noral Noral Noral Image: Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in. Image: Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.	2 Input	Select the mode.			
koponta NOTELEN Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in. Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.	3 Result	Storage System Name	▲ Serial	IP Address	
Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in. Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.		koponta	AVVILUATE	1021114-88	
Add the ETERNUS disk storage system to the control of the ETERNUS vCenter Plug-in. Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.					
Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.					
O Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.		Add the ETERNUS (disk storage system t) the control of the ETERNUS vC	Center Plug-in.
		Add the ETERNUS of	disk storage system ti	the control of the ETERNUS vC	Senter Plug-in.
		Add the ETERNUS (Delete the ETERNUS)	disk storage system t JS disk storage syster	the control of the ETERNUS vC	Center Plug-in. US vCenter Plug-in.
		Add the ETERNUS (Delete the ETERNUS)	disk storage system t JS disk storage syster	o the control of the ETERNUS vC n from the control of the ETERN	Center Plug-in. US vCenter Plug-in.

2 Enter the IP address, user account, and password of the ETERNUS Disk storage system to be newly registered, and click the [Add] button.

	u			(
1 Select mode	Input			
2 Input	Enter the credential inform	ation of the ETERNU	S disk storage system.	
3 Result	Storage System Name	Serial	IP Address	
	koponta	AUTOLISH	10311214.00	
	IP Address : 102 168 20	2]	
	IP Address : 192.168.20	2		
	IP Address : 192.168.20 User Name : vcenter_add	2 nin		

When registration is complete successfully, the ETERNUS Disk storage system is added to the list.

3 Click the [Finish] button to finish the wizard.

	12410			
1 Select mode	Result			
2 input	 The operation has 	successfully complete	d	
3 Result	Storage System Name	▲ Serial	IP Address	
	koponta	1011103410	85.23.104.68	
	ponta	48110310	#4.24.104.8F	
	Click "Continue" to repr	eat the wizard or Click 'F	inish" to exit the wizard.	
	Click "Continue" to repr	eat the wizard or Click "F	inish" to exit the wizard.	

Click the "Refresh" icon to update the displayed contents to the latest status.
 For details about Refresh, refer to <u>"Chapter 6 Refreshing Displayed Information" (page 40)</u>.

End of procedure

7.3 Unregistering ETERNUS Disk Storage Systems

Procedure

1 Start the Storage Registration Wizard, select the [Delete the ETERNUS disk storage system from the control of the ETERNUS vCenter Plug-in.] radio button, and then click the [Next] button.

1 Select mode	Select mode			
2 Input	Select the mode.			
3 Result	Storage System Name	Serial	IP Address	
	koponta	4218133438	10/21/24/20	
	ponta	40210201	10(21)(3467	
	O Add the ETERNUS dia	sk storage system to th	e control of the ETERNUS vCe	inter Plug-in.
	 Add the ETERNUS dis Delete the ETERNUS 	sk storage system to th disk storage system fr	e control of the ETERNUS vCe	inter Plug-in. S vCenter Plug-in.
	 Add the ETERNUS dis Delete the ETERNUS 	sk storage system to t disk storage system fi	e control of the ETERNUS vCe om the control of the ETERNU	enter Plug-in. S vCenter Plug-in.

2 Select the checkbox for the ETERNUS Disk storage system to be deleted and click the [Delete] button.

Selection of multiple ETERNUS Disk storage systems is available.

+ 5	Storage Registration Wizard		(8)
-	1 Select mode	Input	
-	2 Input	Check the ETERNUS disk storage system which one wishes to delete.	
	3 Result	Storage System Name 🔺 Serial IP Address	
		koponta antiposta seut traint	
		ponta -Boot Name Na La Takabr	
		GICK Delete to delete the selected ETERNUS disk storage system.	
		Back	Delete Cancel

When unregistration is complete successfully, the target ETERNUS Disk storage systems are deleted from the list.

3 Click the [Finish] button to finish the wizard.

1 Select mode	Besult			
1 Select mode	Result			
2 Input	The operation has :	successfully complete	1.	
3 Result	Storage System Name	▲ Serial	IP Address	
	koponta	8011833680	10.21334.80	
	Click "Continue" to repe	at the wizard or Click "F	inish" to exit the wizard.	
	Click "Continue" to repe	at the wizard or Click "F	inish" to exit the wizard.	
	Click "Continue" to repe	at the wizard or Click "F	inish" to exit the wizard.	

Chapter 8

Adding and Deleting Datastore Volumes

This function is used to add volumes to a host or a cluster. Created volumes can automatically be converted into datastores.

This function is also used to delete created datastore volumes.

To create or delete a volume, a RAID group or a Thin Provisioning Pool from which the volume is to be created or deleted must be registered in advance.

Note that the supported VMware objects are Host System and Cluster.

Caution

- This function is not supported for the ETERNUS DX60 S2 Disk storage system.
- Firmware version V10L40-0000 or later for the ETERNUS Disk storage system is required to use this function with the ETERNUS DX S2 series.
- Only Fibre Channel and iSCSI are supported for interfaces between servers and ETERNUS Disk storage systems.
- A user who is logged into Web Client must have the "Storage Partition" privilege to use this function. To obtain the "Storage Partition" privilege, click [Hosts], [Configuration], and then select the [Storage partition] checkbox.
- Only Fibre Channel interfaces are supported for hosts running vSphere4.1. iSCSI interfaces are not supported.
- This function is not supported for Flexible Tier Volumes (FTV) and Wide Striping Volumes (WSV).
- A datastore volume that is used in Virtual Machine cannot be deleted with this function.
- To use an iSCSI interface, "Network Port Binding" must be performed with vSphere Web Client. Refer to the vSphere Web Client help for a detailed procedure on performing this action.

8.1 Registering Resources

Procedure

- **1** From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts] or [Clusters], and then right-click on the host or the cluster to display the menu bar.
- 2 From the menu bar, select [All FUJITSU ETERNUS DX Actions] [Resource Registration], and then start the Resource Registration Wizard.



3 Select the [Add the ETERNUS disk storage system resource.] radio button, and then click the [Next] button.

1 Select mode	Select mode				
2 Input	Select the mode.				
3 Result	Storage System Name	Serial No.	IP Address	Resource Name	Resource Type
	koponta	4011/08/10	3031134683	EVCP-R G	RAID Group
	• Add the ETERNUS di	sk storage system	resource.		

4 Enter all of the following items, and then click the [Add] button.

- The IP address of the ETERNUS Disk storage system in which the resource is registered
- The resource type (RAID Group or Thin Provisioning Pool) that is to be registered
- The name of the resource that is to be registered

	Input					
Input	Enter the resource infor	mation of the ETE	RNUS disk storage s	system.		
Result	Storage System Name	Serial No.	IP Address	Resource Name	Resource Type	
	koponta	4910240	1012133488	EVCP-R G	RAID Group	
	IP Address : 192.168.1	10.10		1		
	Type : RAID G Name : evcp_raid	Group 🔘 Thin Pro	visioning Pool			

Only resources with "evcp" as the first four letters of the name can be registered. Note that these letters are not case-sensitive.

When registration is successfully completed, the resource is added to the list.

5 Click the [Finish] button to finish the wizard.

2 Input 3 Result	✓ The operation has su Storage System Name	cressfully comple			<
3 Result	Storage System Name	occosting compre	ted.		
		Serial No.	IP Address	Resource Name	Resource Type
	koponta	4511105410	TELEVIS	EVCP-R G	RAID Group
	ponta	4504108010	1021154.54	evcp_raid	RAID Group
	Click "Continue" to repeat	the wizard or Click	"Finish" to exit the	wizard.	Finish

When a RAID group is deleted in ETERNUS Web GUI after a resource is registered by using this procedure, clear the registered resource by the Resource Registration Wizard.

8.2 Creating Volume Datastores

Procedure

- From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts] or [Clusters], and then right-click on the host or the cluster to display the menu bar.
- **2** From the menu bar, select [All FUJITSU ETERNUS DX Actions] [LUN Provisioning], and then start the LUN Provisioning wizard.



3 Select the radio button for one of the following modes, and then click the [Next] button.

Create datastore

LUNs are automatically changed to datastores after LUNS are created in the ETERNUS Disk storage system and these LUNs are recognized as volumes by the selected host.

Create LUN

LUNs are recognized as volumes by the selected host when LUNs are created in the ETERNUS Disk storage system.

8	LUN Provisioning Wizard		
-	1 Select mode	Select mode	
	2 Select storage 3 Select path 4 Input 5 Ready to Complete 6 Result	Specify the mode for creating volumes. Create datastore Create LUN on the ETE RNUS disk storage system and convert it into the datastore automatically. Create LUN Create LUN Create LUN on the ETERNUS disk storage system and activate it on the vSphere. You can use it for Raw Device Mapping.	
		Next	ncel

4 Select the radio button of the ETERNUS Disk storage system in which the volume is to be created, and then click the [Next] button.

1	UN Provisioning Wizard					
	1 Select mode	Select storage				
	2 Select storage	Select a ETERNUS disk st	torage	system for new vo	olumes.	
	3 Select path	Storage System Name		Serial	IP Address	
	4 Input	 koponta 		407103430	10.217.14.86	
	F. Dandu to Comolate	ponta		4010010	1831134.87	
	5 Ready to Complete					
	6 Result					

5 The path information between the selected host and the ETERNUS Disk storage system is displayed. If [Clusters] is selected to start the wizard, the path information between all of the hosts that belong to the cluster and the ETERNUS Disk storage system is displayed. Select the path that is to be used to create a volume, and then click the [Next] button.

1 Select mode	Sele	ct path									
2 Select storage 3 Select path	ge Selec New		Select routes between ETERNUS disk storage system and the host. New volumes are created on selected routes.								
4 Input	-	Route	LUN Group No.	Port ID	Port Type	Host	НВА	Device			
		route 1	18								
5 Ready to Complete				CM0CA0Port2	FC-CA	1001134486	LPe1250 8Gb Fib	vmhba3			
6 Result				CM1CA0Port3	FC-CA	1001131488	LPe1250 8Gb Fib	vmhba3			
		route 2	9								
				CM0CA0Port2	FC-CA	1001123488	LPe1250 8Gb Fib	vmhba4			
				CM1CA0Port3	FC-CA	1001113488	LPe1250 8Gb Fib	vmhba4			
		route 3	a								
				CM1CA2Port1	ISCSI-CA	1007113488	ISCSI Software A	vmhba34			

6 Perform all of the following actions, and then click the [Next] button.

- Enter the name, the size, and the type of volume that is to be created
- Enter the number for the first volume (unused numbers after the specified first volume number are allocated in order for created volumes)
- Select On/Off for [Encryption by CM] (only if available)
- Select the RAID group and the Thin Provisioning Pool from which the volume is to be created
- Enter the number of volumes that are to be created

1 Select mode	Input					
2 Select storage 3 Select path	Specify a When cr	a name, capaci reating multiple	ty and a volume type for new volu volumes at the same time, the r	umes. new volume are name	d automatically.	
4 Input	Name					
5 Ready to Complete	Capacit	tr	0	*	GB 👻	
6 Result	Start Ho	ost LUNs	0			
Result	Туре		 Standard	isioning 🔘 Snap Dal	a Volume	
	Select R	AID Groups for	new volumes.			
	Encrypt	tion by CM	🔾 On 💽 Off			
	No. 🔺	Name	RAID Type	Number of Volumes	Total Capacity	Free Capacity
	8	evcp_raid	High Capacity (RAID5)	0	3.56 TB	180.23 GB

Caution

- An entered volume name is also used for both the volume name and the datastore name that are managed by the ETERNUS Disk storage system.
- If multiple volumes are created by a single operation, the entered name and the suffix "x" (the serial number starting from x: 0) are automatically assigned to each volume.
 - Example
 The entered volume name: StandardVolume (14 letters) → The created volume names:
 StandardVolume0, StandardVolume1, etc.
- If the total number of characters including the suffix "x" for the volume name exceeds 16, the excess letters are omitted and "~x" is assigned at the end of the name.
 - Example
 The entered volume name: Standard_Volume0 (16 letters) → The created volume names:
 Standard_Volum~1, etc.
- From 1 to 16 alphanumeric characters, symbols, and spaces can be entered in the Name field. Note that the following symbols cannot be used:
 - Comma (,)
 - Question mark (?)
 - If "Create datastore" is selected in <u>Step 3</u>, the following symbols cannot be used:
 - Slash (/)
 - Backslash (\)
 - Percent (%)
 - A space that is used as the first or the last character
- If a decimal number is entered in the Capacity field, this number is automatically rounded to the nearest whole number.
- For details on other field requirements, refer to the ETERNUS Web GUI manual or help.
- 7 The entered information is displayed. After making sure that the entered information is correct, select whether to refresh the displayed information automatically after registration is complete, and then click the [Add] button.

LUN Provisioning Wizar	t						
1 Select mode	Ready to	o Complete					
2 Select storage	Rescan	options					
3 Select path	🗹 Resca	in the devices in	ETERNUS vCente	er Plug-in			
4 Input	Review th	ie disk layout an	d click Add to add	storage.			
5 Ready to Complete	storage	,					
6 Result	Storage	System Name			ponta		
	Serial			4031	17011		
	IP Addre	55		10.21	834.87		
	path						
	Route	LUN Group No.	Port ID	Port Type	Host	HBA	Device
	route 1	18					
			CM0CA0Port2	FC-CA	10.21734.00	LPe1250 8Gb Fib	vmhba3
		- 1 1	CM1CA0Pon3	FC-CA	1021134.00	LPe1250 8G0 Fib	vmnba3
	LUN de	tall					
	mode		Create dat	astore			
						Back Ad	d Cancel

If the registration completes normally, the information of the created volume is displayed.

Caution

If the [Cancel] button or the [X] button is clicked during the process of creating volume datastores after clicking the [Add] button, the wizard finishes but the volume datastores continue to be created.

8 Click the [Finish] button to finish the wizard.

1 Select mode	Result							
2 Select storage	LUN Size		3.00 GB					
3 Select path	LUN Type		Standard					
4 Input	LUN Name		RAID Group/1	PP No.	Create LUN	Datasto	e	Error Code
5 Ready to Complete	evcptestte	estz	8		~	~		-
	Mapping	Port ID	Part Type	Host	НВА		Device	Error Code
	Mapping	Port ID CM0CA0Port2	Port Type FC-CA	Host TRUTT I 64 (M	HBA LPe1250	8Gb Fib	Device vmhba3	Error Code

8.3 Deleting Volume Datastores

Procedure

- From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts] or [Clusters], and then right-click on the host or the cluster to display the menu bar.
- **2** From the menu bar, select [All FUJITSU ETERNUS DX Actions] [LUN Deleting], and then start the LUN Deleting wizard.



A list of the datastore volumes that are recognized by the selected host is displayed. If [Clusters] is selected to start the wizard, a list of the datastore volumes that are recognized by all of the hosts that belong to the cluster is displayed.

Letters in red indicate the datastore volumes that are recognized by multiple hosts. Letters in gray indicate any datastore volumes that cannot be deleted.

3 Select the datastore volume that is to be deleted from the deletable datastore volumes, and then click the [Next] button.

If the [Select All] checkbox is selected, all of the deletable datastore volumes are selected.

2 Ready to Complete Select volumes. The line of a red character is the volume recognized from two or more ho 3 Result Datastore Name / Identifier	me cp_sdv00	
Result Datastore Name / Identifier Storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name No. No. Image: Storage System Name / Identifier action of the storage System Name <t< th=""><th>cp_sdv00</th></t<>	cp_sdv00	
• x440_4 naa.600000e00d1000000010017c00a70 ponta • • • • • •	cp_sdv00	
naa.600000e00d1000000010017c00a70 ponta 167 ev vcp_luniscsifc	cp_sdv00	
dvcp_luniscsifc		
naa.600000e00d100000010017c03600 ponta 864 ev	cp_luniscsifc	
vcp_sawate2		
naa.600000e00d100000010017c013e0 ponta 318 ev	cp_sawate2	
vcptestds		
naa.600000e00d100000010017c014c0 ponta 332 ev	evcptestds	
nutti_dx440_0		
naa.600000e00d100000010017c00020 ponta 2 vC	p_vm2222222222	
naa.600000e00d100000010017c00420 ponta 66 vo	_vc50	
	p_vm4444444444	

4 The entered information is displayed. After making sure that the entered information is correct, select whether to refresh the displayed information automatically after registration is complete, and then click the [Delete] button.

	UN Deleting Wizard					(8)
-	1 Select volume	Ready to Complete				
~	2 Ready to Complete	Rescan options				
-	3 Result	Rescan the devices in ETERNUS vCenter Plu	ig-in			
		Confirm deleted LUNs and click Delete to delete	LUN.			
		Datastore Name / Identifier	Storage System Name	No.	Name	Туре
		evcptestds				
		naa.600000e00d100000010017c014c0	ponta	332	evcptestds	Star
		naa.600000e00d100000010017c01300000	ponta	304	evcppppppppppp-1	Star
				_		
					Back Delete	Cancel

When the deletion completes normally, the information of the deleted datastore volumes is displayed.

Caution

If the [Cancel] button or the [X] button is clicked during the process of deleting volume datastores after clicking the [Delete] button, the wizard finishes but the volume datastores continue to be deleted.

5 Click the [Finish] button to finish the wizard.

1 Select volume	Result					
2 Ready to Complete						
3 Result	Datastore Name / Identifier	Storage System Name	No.	Name	Result	Error Code
	evcptestds				-	-
	naa.600000e00d10000001	ponta	332	evcptestds	~	-
	naa.600000e00d1000000100	ponta	304	evcpppppppp	~	2
	4			1		

8.4 Unregistering Resources

Procedure

- From the vCenter Home screen of vSphere Web Client, select [Inventory List] [Hosts] or [Clusters], and then right-click on the host or the cluster to display the menu bar.
- 2 From the menu bar, select [All FUJITSU ETERNUS DX Actions] [Resource Registration], and then start the Resource Registration Wizard.



3 Select the [Delete the ETERNUS disk storage system resource.] radio button, and then click the [Next] button.

Select mode	Select mode				
Input	Select the mode.				
3 Result	Storage System Name	Serial No.	IP Address	Resource Name	Resource Type
	koponta	4011103630	3011114.88	EVCP-R G	RAID Group
	ponta	4607109010	TELLINE	evcp_raid	RAID Group
	O Add the ETERNUS di	isk storage system	resource.	_	
	Add the ETERNUS di Delete the ETERNUS	isk storage system 8 disk storage syste	resource.	7	
	Add the ETERNUS di Delete the ETERNUS	isk storage system 8 disk storage syste	resource. m resource.		

4 Select the checkbox of the resource that is to be deleted, and then click the [Delete] button. Multiple resources can be selected.

6	Resource Registration Wizard								(<u>x</u>)
~	1 Select mode	Input							
~	2 Input	Cheo	ck the ETERNUS disk s	tora	ge system resour	rce which one wist	hes to delete.		
	3 Result		Storage System Name		Serial No.	IP Address	Resource Name	Resource Type	
		П	koponta		4210.0004.0	TELEVISION	EVCP-R G	RAID Group	
			ponta		402137563	10011104.01	evcp_raid	RAID Group	
		Clic	k "Delete" to delete the	sele	icted ETERNUS d	lisk storage syster	n resource. Back	Delete	Cancel

When the cancellation of the registration is complete, the resource is deleted from the list.

5 Click the [Finish] button to finish the wizard.

1 Select mode	Result					
2 Input	✓ The operation has	successfully compl	eted.			
3 Result	Storage System Name	A Serial No.	IP Address	Resource Name	Resource Type	
	koponta	42101234-00	10,12,194,85	EVCP-R G	RAID Group	
	Click "Continue" to repe	at the wizard or Clic	k "Finish" to exit the	wizard.		



8.5 Points to Note

This section describes points to note when adding datastore volumes in an environment in which volumes are shared in a cluster configuration.

For more details about the host groups, the port groups, and the LUN groups that are used in this section, refer to "ETERNUS Web GUI User's Guide".

8.5.1 When LUN Groups are Shared

For a configuration in which multiple hosts share the same LUN group as shown below, refer to <u>"8.2 Creating Volume Datastores" (page 50)</u> and create a volume or a datastore by selecting which LUN group needs to be added.

If only one of the hosts is selected, the volumes are automatically recognized by the other host.

- Host 1 Host group: HG 1 Port group: PG 1 LUN group: LG 1
- Host 2
 Host Group: HG 2
 Port group: PG 2
 LUN group: LG 1

8.5.2 When Different LUN Groups are Used

This section provides information about a configuration in which multiple hosts each use different LUN groups and when some volumes are shared between these LUN groups as shown below.

```
• Host 1
Host group: HG 1
Port group: PG 1
LUN group: LG 1 \rightarrow (LUN 1, 2, 3, 6)
```

• Host 2 Host group: HG 2 Port group: PG 2 LUN group: LG 2 \rightarrow (LUN 1, 2, 3, 4, 5)

When adding a new local volume

Refer to <u>"8.2 Creating Volume Datastores</u>" (page 50), and then create a volume or a datastore by selecting which LUN group needs to be added.

When adding a new volume that is to be shared

Refer to <u>"8.2 Creating Volume Datastores</u>" (page 50), and then select [Clusters] to start the wizard. Select all of the LUN groups that need to be added and create a volume or a datastore.

Chapter 9 Changing Settings

This chapter describes the operations required for changing various settings after installing ETERNUS vCenter Plug-in. The procedures are explained for the following two cases:

- Changing settings for the ETERNUS Disk storage systems
- Changing settings for Windows Server where vCenter is installed

9.1 Changing Settings for ETERNUS Disk Storage Systems

To change the IP address, account, or password for an ETERNUS Disk storage system that is registered with the Storage Registration Wizard, the ETERNUS Disk storage system must be registered again. Perform the following procedure:

Procedure

- **1** Start the Storage Registration Wizard, and unregister the ETERNUS Disk storage system.
- **2** Register the ETERNUS Disk storage system with the changed information.
- **3** Click the "Refresh" icon to update the database information.

9.2 Changing Settings for Windows Server Where vCenter is Installed

To change the IP address, account, or password for the vCenter Server that is registered to ETERNUS vCenter Plug-in, the "evcpConfig" command must be executed to update the configuration information of ETERNUS vCenter Plug-in.

Perform the following procedure:

Procedure

Execute the "evcpConfig -x" command. For the argument, specify the IP address of the vCenter Server before changed. Enter the information of the vCenter Server after changed in interactive mode.

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -x 192.168.10.1
Welcome to the setup wizard for vCenter registration.
Please enter a NEW IP address of vCenter Server : 192.168.10.11
Please enter a NEW valid account of vCenter Server : administrator
Please enter a NEW password for the account : ***********
Updated successfully.
C:\Program Files\ETERNUS vCenter Plug-in\bin>
```

2 Click the "Refresh" icon to update the database information.

9.3 evcpConfig Command

The "evcpConfig" command is used for environment setting for ETERNUS vCenter Plug-in. This command is used only when the server and/or storage settings are changed after ETERNUS vCenter Plug-in is installed and not in other situation.

The command is mainly used in the conditions as mentioned below.

- The initial setup during installation was skipped or failed.
- The account and/or network settings for each server were changed during operation.

Caution

Execute the command with the built-in administrator privileges. A user belonging to the Administrator group must execute the command with the administrator privileges.

Command format

```
evcpConfig -a
evcpConfig -d vCenter-IP-address
evcpConfig -x vCenter-IP-address
evcpConfig -1
```

Option details

Option	Description
-a	Registers the vCenter Server to ETERNUS vCenter Plug-in. With this option, the command runs in interactive mode. Enter the IP address, account, and password of the vCenter Server to be registered.
-d	Deletes the vCenter Server from ETERNUS vCenter Plug-in. Specify the IP address of the vCenter Server to be deleted.
-x	Updates the information of the registered vCenter Server. If this option is executed by specifying the IP address of the vCenter Server to be updated, the command runs in interactive mode. Enter the IP address, account, and password of the vCenter Server after updated.
-I	Displays the information about the registered vCenter Server.

Example

🕨 -a option

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -a
Welcome to the setup wizard for vCenter registration.
Please enter a IP address of vCenter Server : 192.168.0.10
Please enter a valid account of vCenter Server : administrator
Please enter a password for the account : *********
Registration completed successfully.
C:\Program Files\ETERNUS vCenter Plug-in\bin>
```

-d option

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -d 192.168.0.10
Unregistration completed successfully.
C:\Program Files\ETERNUS vCenter Plug-in\bin>
```

🔵 -x option

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -x 192.168.0.10
Welcome to the setup wizard for vCenter registration.
Please enter a NEW IP address of vCenter Server : 192.168.0.20
Please enter a NEW valid account of vCenter Server : administrator
Please enter a NEW password for the account : ***********
Updated successfully.
```

C:\Program Files\ETERNUS vCenter Plug-in\bin>

-l option

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -l
```

IP address=(192.168.10.10) Account=(administrator)

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>
```

Chapter 10 Uninstallation

To uninstall ETERNUS vCenter Plug-in, perform the following procedure. If the [User Account Control] screen appears during the uninstallation process, select [Allow] to continue the process.

Caution

When uninstallation is complete, the VMware vSphere Web Client service automatically restarts.

Procedure

- **1** From the Control Panel, select [Uninstall a program] and then [ETERNUS vCenter Plug-in], and click the [Uninstall] button to execute uninstallation.
- **2** Manually delete log files and other data that remain in the installation folder if necessary.

Chapter 11

Required Information for Failure Investigation

Prepare the following files when an error occurs, and contact a Fujitsu engineer. • Files are stored in the following folders. Installation folder\log Installation folder\log Note Default installation folder is as follows: System drive:\Program Files\ETERNUS vCenter Plug-in

Appendix A Frequent Inquiry Solutions

Solutions for frequent inquiries are provided in this appendix. Follow the solutions provided for each case.

A.1 The Initial Setup During Installation Failed or was Skipped

Perform the following procedure to configure the initial setup:

Procedure

1 Execute the "evcpConfig -a" command. Enter the information of the vCenter Server in interactive mode.

This operation must be performed for all the vCenter Servers to be managed.

```
C:\Program Files\ETERNUS vCenter Plug-in\bin>evcpConfig -a
Welcome to the setup wizard for vCenter registration.
Please enter a IP address of vCenter Server : 192.168.0.10
Please enter a valid account of vCenter Server : administrator
Please enter a password for the account : *********
Registration completed successfully.
C:\Program Files\ETERNUS vCenter Plug-in\bin>
```

2 Perform the operations required after installation by referring to <u>"2.2 Operation Required</u> After New Installation" (page 20).

A.2 The Environment Settings are not Retained Normally After Upgrading ETERNUS vCenter Plug-in

Perform the following procedure to check an ETERNUS Disk storage system or a resource in which the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete, and then register it again.

Procedure

- Start the Storage Registration Wizard or the Resource Registration Wizard to check the ETERNUS Disk storage system or the resource in which the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete.
 - "-" is displayed as the "Storage System Name" of an ETERNUS Disk storage system in which the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete when the Storage Registration Wizard is started.

+ :	Storage Registration Wizard				(x)
~	1 Select mode	Select mode			
	2 Input	Select the mode.			
	3 Result	Storage System Name	Serial	IP Address	
		-	REPTING	TELEVISION	
		koponta	ALL COMP.	THE PARTY OF THE P	
		 Add the ETERNUS dia Delete the ETERNUS 	sk storage system to th disk storage system f	e control of the ETERNUS vCer	nter Plug-in.
					Next Cancel

• "-" is displayed as the "Storage System Name" of a resource in which the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete when the Resource Registration Wizard is started.

	zard					
1 Select mode	Select mode					
2 Input	Select the mode.					
3 Result	Storage System Name	A Serial No.	IP Address	Resource Name	Resource Type	
		403137943	10.11.104.07	evcp_raid	RAID Group	
	koponta	4010 120400	10.01.104.00	EVCP-R G	RAID Group	
	 Add the ETERNUS 	disk storage system	resource.			
	Add the ETERNUS Delete the ETERNUS	disk storage system JS disk storage syste	resource. m resource.			

- **2** Delete the ETERNUS Disk storage system or the resource in which the environment settings prior to upgrading of ETERNUS vCenter Plug-in are not retained normally after upgrading is complete, and then register it again. For details, refer to the following sections.
 - "7.2 Registering ETERNUS Disk Storage Systems"
 - "7.3 Unregistering ETERNUS Disk Storage Systems"
 - <u>"8.1 Registering Resources"</u>
 - <u>"8.4 Unregistering Resources"</u>

Appendix B List of Displayed Items

B.1 Underlying LUNs

Display Item	Description
Name	Disk name
Identifier	Identifier
Model	Product ID of the ETERNUS Disk storage system
Runtime Name	Runtime name
LUN	LUN (LUN on the host)
Paths	The number of paths between the server and the ETERNUS Disk storage system
Status	Path status. If there are multiple paths, the status of each path is separated by a comma and displayed.
Policy	Multipath I/O policy

B.2 Virtual Disks

Display Item	Description
Name	Name of virtual disk
Capacity	Size of virtual disk (TB/GB/MB)
Туре	Type of virtual disk
File Path	Path to the vmdk file. If Raw Device Mapping is used for connection, the path to the datastore mapping file is displayed.

B.3 Assigned Disks (Datastore)

Display Item	Description
Name	Datastore name
Status	Datastore status
Capacity	Datastore size (TB/GB/MB)
Free	Free space size in datastore (TB/GB/MB)
Туре	Type of file system

B.4 Assigned Disks (Raw Device Mapping)

Display Item	Description
Name	Disk name
Identifier	Identifier
Model	Product ID of the ETERNUS Disk storage system
Runtime Name	Runtime name
LUN	LUN (LUN on the host)
Paths	The number of paths between the server and the ETERNUS Disk storage system
Status	Path status. If there are multiple paths, the status of each path is separated by a comma and displayed.
Policy	Multipath I/O policy
Assigned Guest	Assigned guest OS name and device name
File Path	Path to the datastore mapping file
Mode	Raw Device Mapping mode

B.5 Assigned Disks (Others)

Display Item	Description
Name	Disk name
Identifier	Identifier
Model	Product ID of the ETERNUS Disk storage system
Runtime Name	Runtime name
LUN	LUN (LUN on the host)
Paths	The number of paths between the server and the ETERNUS Disk storage system
Status	Path status. If there are multiple paths, the status of each path is separated by a comma and displayed.
Policy	Multipath I/O policy

B.6 ETERNUS Details

Volume

Display Item	Description
Name	Volume name
Status	Volume health status
	Available
	Broken
	Data Lost
	Exposed
	Partially Exposed
	Copyback
	Redundant Copy
	Not Available
	Not Supported
	Readying
	Rebuild
	Recalculate
	Spare in Use
	Portable
	Not Ready
	Partially Exposed Rebuild
	Exposed Rebuild
	• Unknown
LUN No.	Volume No. (decimal)
Туре	Volume type
	For Open volumes
	- Standard
	- FIV
	- SDV - SDPV
	- WSV
	For Mainframe volumes
	- F6427
	For MVV volumes
	- MVV
	 For any other volume types not listed above
	- Unknown
Capacity	Volume size (TB/GB/MB)
Path Policy (Actually)	Current path policy
	 If "RoundRobin" (recommended setting) is not specified, "x" is displayed.
Display Item	Description
------------------------------	--
Path Policy (Recommend)	Recommended path policy
VAAI Features (Actually)	Current VAAI feature status
	 For vSphere 5, "Supported" is displayed when any of the VAAI features are operational. This value is the same as the value for [Hardware Acceleration] that is displayed for vSphere Client.
VAAI Features (Recommend)	Recommended VAAI features status

RAID Group

Property	Description
No.	RAID group No.
Name	RAID group name
Status	RAID group health status
	Available
	• Exposed
	• Broken
	Not Available
	Not Supported
	Partially Exposed
	Present
	Copyback
	Redundant Copy
	Rebuild
	Recalculate
	Protected Disabled
	Verify in Progress
	Dynamic Reconfiguration
	Portable
	Spare in Use
	Failed Usable
	• Formatting
	Partially Exposed Rebuild
	Exposed Rebuild
	No Disk Path
	• Unknown

Property	Description
Usage	RAID group usage. If the RAID group is used in multiple ways, each different usage is separated by a comma and displayed.
	• RDB
	Standard
	• SDV
	• SDPV
	• TPV
	• FTV
	Mainframe
	• MVV
	Temporary
	• TPP
	• FTRP
	• Unknown
	• WSV
RAID Type	RAID type
	• Striping (RAID0)
	Mirroring (RAID1)
	 High Performance (RAID1+0)
	 High Capacity (RAID5)
	 Reliability (RAID5+0)
	 High Reliability (RAID6)
	Unknown
Bar chart	Used: Total used capacity (TB/GB/MB) Free: Total free capacity (TB/GB/MB) Total: Total capacity (TB/GB/MB)

Disks

Property	Description
Enclosure	Enclosure No.
Slot No.	Slot No.
Disk Type	Disk type
	Online
	Nearline
	• SED
	• SSD
	• Unknown
Capacity	Capacity (TB/GB)
Speed	Disk speed (rpm)
Busy Ratio	Disk usage rate (%)

Thin Provisioning Pool

Property	Description
No.	Thin Provisioning Pool (TPP) No.
Name	TPP name
Disk Type	Type of disks that configure the TPP
	• Online
	Nearline
	• SSD
	• SED
	• Unknown
RAID Type	Type of RAID groups that configure the TPP
	• Striping (RAID0)
	Mirroring (RAID1)
	High Performance (RAID1+0)
	High Capacity (RAID5)
	High Reliability (RAID6)
	• Unknown
Status	TPP health status
	• Available
	• Exposed
	Partially Readying
	Readying
	Maintenance
	• Broken
	Data Lost
	• Blockade
	Unknown
Used Status	Used status of TPP
	 Normal The used capacity of the TPP is less than the attention alarm notification threshold
	Attention
	The used capacity of the TPP is less than the warning alarm notification threshold and is equal to or greater than the attention alarm notification threshold
	 Warning The used capacity of the TPP is equal to or greater than the warning alarm notification threshold
	 Unknown The used capacity of the TPP cannot be obtained
Encryption	Encryption status of TPP
	• CM
	The TPP is encrypted by CM
	SED The TPP is encrypted by SED
	 – (hyphen) The TPP is not encrypted
	• Unknown
	The encryption status of the TPP cannot be obtained

Property	Description
Warning	Warning threshold to monitor used capacity of TPP (%)
Attention	Attention threshold to monitor used capacity of TPP (%)
Bar chart	Used: Total used capacity of TPP (TB/GB/MB) Free: Total free capacity of TPP (TB/GB/MB) Total: Total capacity of TPP (TB/GB/MB)

WSV RAID Groups

RAID Group

All of the RAID groups that configure the WSV are displayed. The displayed information for each RAID group is same as <u>"RAID Group" (page 73)</u>.

Flexible Tier Pool

Property	Description
No.	Flexible Tier Pool (FTRP) No.
Name	FTRP name
Status	FTRP health status
	Available
	Exposed
	Partially Readying
	Readying
	Maintenance
	Broken
	Data Lost
	Blockade
	Unknown
Used Status	Used status of FTRP
	• Normal
	The used capacity of the FTRP is less than the attention alarm notification threshold
	 Attention The used capacity of the FTRP is less than the warning alarm notification threshold
	and is equal to or greater than the attention alarm notification threshold
	• Warning
	The used capacity of the FTRP is equal to or greater than the warning alarm notification threshold
	Unknown The used capacity of the FTRP cannot be obtained

Property	Description
Encryption	Encryption status of FTRP
	• CM
	The FTRP is encrypted by CM
	• SED
	The FTRP is encrypted by SED
	• – (hyphen)
	The FTRP is not encrypted
	• Unknown
	The encryption status of the FTRP cannot be obtained
Warning	Warning threshold to monitor used capacity of FTRP (%)
Attention	Attention threshold to monitor used capacity of FTRP (%)
Bar chart	Used
	Total used capacity of FTRP (TB/GB/MB)
	Free
	Total free capacity of FTRP (TB/GB/MB)
	Total
	Total capacity of FTRP (TB/GB/MB)

Flexible Tier Sub Pool

Property	Description
No.	Flexible Tier Sub Pool (FTSP) No.
Name	FTSP name
Status	FTSP health status
	Available
	• Exposed
	Partially Readying
	 Readying
	Maintenance
	Broken
	Data Lost
	Blockade
	• Unknown
Disk Type	Type of disks that configure the FTSP
	Online
	Nearline
	• SSD
	• SED
	• Unknown
RAID Type	Type of RAID groups that configure the FTSP
	 Striping (RAID0)
	 Mirroring (RAID1)
	 High Performance (RAID1+0)
	 High Capacity (RAID5)
	 High Reliability (RAID6)
	• Unknown

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Property	Description
RAID Group No.	No. of RAID groups that configure the FTSP RAID group numbers are displayed with a comma at the end of each number if multiple RAID groups exist.
Bar chart	 Used Total used capacity of FTSP (TB/GB/MB)
	 Free Total free capacity of FTSP (TB/GB/MB)
	 Total Total capacity of FTSP (TB/GB/MB)

System Information

Property	Description
Storage System Name	Name of the ETERNUS Disk storage system
Model Name	Model name of the ETERNUS Disk storage system
Product	Product name of the ETERNUS Disk storage system
Serial No.	Serial No. of the ETERNUS Disk storage system
Firmware Version	Firmware version of running controller
Status	Health status of the total storage system
	Offline
	Normal
	• Warning
	Maintenance
	Not Ready
	Error
Management URL	Link to ETERNUS Web GUI

Storage Condition

Property	Description
RAID Group	Used: Total used capacity of the RAID group (TB/GB/MB) Free: Total free capacity of the RAID group (TB/GB/MB) Total: Total capacity of the RAID group (TB/GB/MB)
	 The total used capacity is the total capacity of the area that is used for the volumes of all the RAID groups. Note that RAID groups that configure TPPs and RAID groups that are registered as REC Disk Buffers are not included.
	 The total free capacity is the total unused capacity of all the RAID groups. Note that RAID groups that configure TPPs and RAID groups that are registered as REC Disk Buffers are not included.
	 The total capacity is the total of all the RAID groups registered in the storage system. Note that RAID groups that configure TPPs or RAID groups that are registered as REC Disk Buffers are not included.
RAID Group Count	The number of RAID groups registered in the storage system This includes the number of RAID groups that configure the TPP and the number of RAID groups that are registered as REC Disk Buffers.

Property	Description
Volume Count	The number of volumes registered in the storage system Volumes of "Standard" or "WSV" volume type are applicable.
Thin Provisioning Pool	Used: Total used physical capacity of the TPP (TB/GB/MB) Free: Total free physical capacity of the TPP (TB/GB/MB) Total: Total physical capacity of the TPP (TB/GB/MB)
	 The total used physical capacity is the total of the physical capacity that is allocated to the volumes for all the TPPs.
	 The total free physical capacity is the total of the physical capacity for areas that are not allocated to volumes for all the TPPs.
	 The total physical capacity is the total physical capacity of all the TPPs registered in the storage system.
Thin Provisioning Pool Count	The number of TPPs registered in the storage system
Volume Count	The number of volumes registered in the storage system Volumes of "TPV" volume type are applicable.
Snap Data Pool	Used: Total used capacity for the SDP (TB/GB/MB) Free: Total free capacity for the SDP (TB/GB/MB) Total: Total capacity for the SDP (TB/GB/MB)
	 The total used capacity is the total of the capacity that is allocated to all the SDP volumes.
	 The total free capacity is the total unallocated capacity of the volumes for all of the SDPs.
	 The total capacity is the total of all the SDPs registered in the storage system.
Snap Data Pool Count	The number of SDPs registered in the storage system

Adapter

Property	Description
HBA	Host bus adapter name. The host name is displayed in the first brackets [].
Device	Logical device name for host bus adapter
Storage System Name	Name of the ETERNUS Disk storage system
Port	Port location information for the ETERNUS Disk storage system (displayed only for Fibre Channel and iSCSI interfaces) Format: CM#xCA#yPort#z x: CM number y: CA number z: Port number
WWN/IP Address	WWN or iSCSI IP address for the ETERNUS Disk storage system port (displayed only for Fibre Channel and iSCSI interfaces)

Performance

The performance information of the ETERNUS Disk storage system is displayed. When unsupported firmware is used for the ETERNUS Disk storage system, or when information cannot be retrieved successfully from the ETERNUS Disk storage system, "-" is displayed.

Host I/O

Property	Description
Read IOPS	The number of Read per second
Write IOPS	The number of Write per second
Read Throughput	Transmission amount of Read data per second (MB/s)
Write Throughput	Transmission amount of Write data per second (MB/s)
Read Response Time	Average response time (Read) per millisecond (ms)
Write Response Time	Average response time (Write) per millisecond (ms)
Read Cache Hit Rate	Cache hit rate (Read) (%)
Write Cache Hit Rate	Cache hit rate (Write) (%)
Prefetch Cache Hit Rate	Cache hit rate (Prefetch) (%)

Advanced Copy I/O

Property	Description
Read IOPS	The number of Read per second
Write IOPS	The number of Write per second
Read Throughput	Transmission amount of Read data per second (MB/s)
Write Throughput	Transmission amount of Write data per second (MB/s)
Read Cache Hit Rate	Cache hit rate (Read) (%)
Write Cache Hit Rate	Cache hit rate (Write) (%)
Prefetch Cache Hit Rate	Cache hit rate (Prefetch) (%)

B.7 Adapter (Server Adapters)

Property	Description
Device	Host bus adapter name and logical device name
Туре	Host bus adapter type
WWN	WWN or iSCSI name for the ETERNUS Disk storage system port (displayed only for Fibre Channel and iSCSI interfaces)

B.8 Adapter (Storage Targets)

Property	Description
Series	Product name of the ETERNUS Disk storage system
Storage System Name	Name of the ETERNUS Disk storage system
Model Name	Model name of the ETERNUS Disk storage system
Serial No.	Serial No. of the ETERNUS Disk storage system
Port	Port location information for the ETERNUS Disk storage system (displayed only for Fibre Channel and iSCSI interfaces) Format: CM#xCA#yPort#z x: CM number y: CA number z: Port number

B.9 Adapter (Storage LUNs)

Property	Description
No.	Volume number
Name	Volume name
Status	Volume status
Туре	Volume type
Capacity	Volume capacity (MB/GB/TB)
RAID Group/TPP/FTRP No.	The RAID group number, the TPP number, or the FTRP number to which a volume belongs. RAID group numbers are displayed with a comma at the end of each number if multiple RAID groups exist. If the type is "WSV", the RAID group number to which the representative volume (*1) belongs is displayed.
Encryption	Volume encryption status
Forbid Advanced Copy	Protection setting status for a volume

*1: A volume for WSV, which is created by concatenating multiple RAID groups with striping, that belongs to the RAID group that is first in the concatenation order.

B.10 Performance

Performance (Host I/O)

Property	Description
Storage System Name	Name of the ETERNUS Disk storage system
No.	Volume number
Name	Volume name
Туре	Volume type
Read IOPS	The number of Read per second
Write IOPS	The number of Write per second
Read Throughput	Transmission amount of Read data per second (MB/s)
Write Throughput	Transmission amount of Write data per second (MB/s)
Read Response Time	Average response time (Read) per millisecond (ms)
Write Response Time	Average response time (Write) per millisecond (ms)
Read Cache Hit Rate	Cache hit rate (Read) (%)
Write Cache Hit Rate	Cache hit rate (Write) (%)
Prefetch Cache Hit Rate	Cache hit rate (Prefetch) (%)

Performance (Advanced Copy I/O)

Property	Description
Storage System Name	Name of the ETERNUS Disk storage system
No.	Volume number
Name	Volume name
Туре	Volume type
Read IOPS	The number of Read per second
Write IOPS	The number of Write per second
Read Throughput	Transmission amount of Read data per second (MB/s)
Write Throughput	Transmission amount of Write data per second (MB/s)
Read Cache Hit Rate	Cache hit rate (Read) (%)
Write Cache Hit Rate	Cache hit rate (Write) (%)
Prefetch Cache Hit Rate	Cache hit rate (Prefetch) (%)

Appendix C Messages

C.1 Information Display Function

Message

STXE1000 NOTICE Please click "Refresh" button to display information of the object specified at inventory tree if the specified object consists of the volume that is supported by the ETERNUS vCenter Plug-in.

[Cause]

The object selected in the inventory tree is not registered in the database of ETERNUS vCenter Plug-in.

[Solution]

Execute Refresh. For details, refer to "Chapter 6 Refreshing Displayed Information" (page 40).

Message

STXE1001 NOTICE This ETERNUS Disk Storage System is not registered. Register by Registration.

[Cause]

The selected ETERNUS Disk storage system is not registered in ETERNUS vCenter Plug-in.

[Solution]

Start GUI for storage system registration and register the storage system. For details, refer to <u>"7.2</u> Registering ETERNUS Disk Storage Systems" (page 42).

Message

STXE1002 NOTICE ETERNUS vCenter Plug-in does not support this kind of ETERNUS disk storage system.

[Cause]

The selected ETERNUS Disk storage systems is not supported by ETERNUS vCenter Plug-in.

[Solution]

Unnecessary.

STXE1003 NOTICE ETERNUS vCenter Plug-in does not support this type of volume.

[Cause]

The selected volume is not supported by ETERNUS vCenter Plug-in.

[Solution]

Unnecessary.

Message

STXE1005 ERROR Detail information was not able to be acquired from ETERNUS disk storage system normally because of invalid credentials.

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function normally because the account or password of the ETERNUS Disk storage system is invalid. The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Unregister the ETERNUS Disk storage system from GUI for storage system registration and then re-register it. For details, refer to "9.1 Changing Settings for ETERNUS Disk Storage Systems" (page 61).



```
STXE1006 ERROR Detail information was not able to be acquired from ETERNUS disk
storage system normally because another user is using exclusive software of the
ETERNUS vCenter Plug-in. Please click "Refresh" button after checking no one is
using exclusive software.
```

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system normally because another user was using exclusive software of ETERNUS vCenter Plug-in. For details, refer to <u>"1.6 Exclusive Software"</u> (page 14).

[Solution]

Stop exclusive software of ETERNUS vCenter Plug-in, and then execute Refresh.

STXE1007 ERROR Detail information was not able to be acquired from ETERNUS disk storage system normally because a login account specified by the registration tool does not have a software role. Please login the ETERNUS Web GUI and give a software role to a user account using by the ETERNUS vCenter Plug-in, and click "Refresh" button.

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function normally because the account of the ETERNUS Disk storage system does not have the Software role. The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Grant the Software role to a configured account using ETERNUS Web GUI. Then execute Refresh.

Message

```
STXE1008 ERROR Detail information was not able to be acquired from ETERNUS disk storage system normally because of a transport error." Please click "Refresh" button after fixing network issues.
```

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system normally because of a network error between the server where ETERNUS vCenter Plug-in is installed and the ETERNUS Disk storage system.

[Solution]

Check for any problems in network connection. Solve the problem and then execute Refresh.

Message

```
STXE1009 ERROR Detail information was not able to be acquired from ETERNUS disk storage system normally because of an internal error.
```

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system normally because of a detected internal error.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

STXE1010 ERROR Detail information was not able to be acquired from a vSphere server normally because of invalid credentials.

[Cause]

Information was not able to be acquired from the vSphere Server normally because of invalid account or password of the vCenter Server where ETERNUS vCenter Plug-in is installed. The account or password of the vCenter Server might have been changed after installation of ETERNUS vCenter Plug-in.

[Solution]

Refer to "9.2 Changing Settings for Windows Server Where vCenter is Installed" (page 62).

Message

STXE1011 ERROR Detail information was not able to be acquired from a vSphere server normally because of a transport error or invalid credentials.

[Cause]

Information was not able to be acquired from the vSphere Server normally because of a network error between the server where ETERNUS vCenter Plug-in is installed and the vCenter Server, or because of an invalid account information of the vCenter Server.

[Solution]

Check for any problems in network connection. If no problem is found, check for any errors in the account information. For details, refer to <u>"9.2 Changing Settings for Windows Server Where vCenter is Installed"</u> (page 62). Solve the problem and then execute Refresh.

Message

```
STXE1012 ERROR Detail information was not able to be acquired from a vSphere server normally because of an internal error.
```

[Cause]

Information was not able to be acquired from the vSphere Server normally because of a detected internal error.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

```
STXE1013 ERROR Detail information was not able to be acquired from a vSphere server normally because of wrong configuration files.
```

[Cause]

The configuration file of ETERNUS vCenter Plug-in is invalid.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

Message

```
STXE1014 NOTICE There is no supported ETERNUS Disk Storage system device on the selected vmware object.
```

[Cause]

No disks for the ETERNUS Disk storage system exist for the selected resource.

[Solution]

Unnecessary.

Message

STXE1015 NOTICE The license is currently not registered.

[Cause]

A license for the Advanced Copy functions or the Thin Provisioning function is not registered.

[Solution]

Use ETERNUS Web GUI to register a license.

Message

STXE1016 NOTICE This ETERNUS Disk Storage System does not support this resource.

[Cause]

The resource is not supported.

[Solution] Unnecessary.

```
STXE1017 NOTICE The datastore that is accessible from multiple hosts is not supported in this function. The information on this datastore can be confirmed with Host System.
```

[Cause]

The information about the datastore that is used by multiple hosts cannot be displayed.

[Solution]

Select the host that uses the target datastore from the inventory tree, click the [FUJITSU ETERNUS DX] tab, and use [Datastore] to display the information.

Message

```
STXE1018 ERROR ETERNUS vCenter Plug-in does not support this type of volume. Or, detail information was not able to be acquired from ETERNUS disk storage system.
```

[Cause]

The selected volume is not supported by ETERNUS vCenter Plug-in or information was not able to be acquired from the ETERNUS Disk storage system.

[Solution]

Check if the selected volume is supported by ETERNUS vCenter Plug-in. When the selected volume is not supported, no action is necessary. When the selected volume is supported, execute Refresh.

Message

STXE1019 NOTICE This ETERNUS Disk Storage System is not registered, or is not supported by ETERNUS vCenter Plug-in. Register by Registration.

[Cause]

The selected ETERNUS Disk storage system is not registered in ETERNUS vCenter Plug-in or the selected ETERNUS Disk storage system is not supported by ETERNUS vCenter Plug-in.

[Solution]

Start GUI for storage system registration and register the storage system. For details, refer to <u>"7.2</u> <u>Registering ETERNUS Disk Storage Systems" (page 42)</u>.

C.2 Registering Storage Systems

Message

STXE2001 ERROR Input information has already been registered.

[Cause]

The specified ETERNUS Disk storage system is already registered in ETERNUS vCenter Plug-in.

[Solution]

Unnecessary.

Message

STXE2002 ERROR Registration failed because of invalid credentials.

[Cause]

The specified ETERNUS Disk storage system has an invalid account or password.

[Solution]

Specify a valid account and password.

Message

```
STXE2003 ERROR Registration failed because specified user account does not have a software role.
Please retry after giving a software role to a user account by using ETERNUS Web GUI.
```

[Cause]

The specified ETERNUS Disk storage system account does not have the Software role.

[Solution]

Specify a user account with the Software role.

Message

STXE2004 ERROR Registration failed because of a transport error. Please retry after fixing network issues.

[Cause]

The specified ETERNUS Disk storage system was not able to be connected. The network or the SSH connection setting of the ETERNUS Disk storage system has an error.

[Solution]

Check the network connection or check the SSH connection setting of the ETERNUS Disk storage system for any problems. Solve the problem, and then perform registration again.

STXE2005 ERROR Registration failed because of an internal error.

[Cause]

An internal error was detected.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

Message

STXE2006 ERROR The error occurred because of wrong configuration files.

[Cause]

The configuration file of ETERNUS vCenter Plug-in is invalid.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

Message

 $\ensuremath{\mathsf{STXE2007}}$ ERROR The operation failed because of invalid credential of ETERNUS disk storage system.

[Cause]

The operation failed for the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function because the account or password of the ETERNUS Disk storage system is invalid. The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Unregister the ETERNUS Disk storage system from GUI for storage system registration and then re-register it. For details, refer to <u>"9.1 Changing Settings for ETERNUS Disk Storage Systems" (page 61)</u>.

STXE2008 ERROR The operation failed because a login account specified by the registration tool does not have a software role. Please login the ETERNUS Web GUI and give a software role to a user account using by the ETERNUS vCenter Plug-in.

[Cause]

The operation failed for the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function because the account of the ETERNUS Disk storage system does not have the Software role.

The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Grant the Software role to a configured account using ETERNUS Web GUI.

Message

STXE2009 ERROR The operation failed because of a transport error. Please retry after fixing network issues.

[Cause]

The specified ETERNUS Disk storage system was not able to be connected. The network or the SSH connection setting of the ETERNUS Disk storage system has an error.

[Solution]

Check the network connection or check the SSH connection setting of the ETERNUS Disk storage system for any problems. Solve the problem, and then perform the operation again.

Message

STXE2010 ERROR The operation failed because of an internal error.

[Cause]

An internal error was detected.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

Message

```
STXE2011 ERROR The operation failed because another user was using exclusive software of the ETERNUS vCenter Plug-in.
```

[Cause]

The operation failed because another user was using exclusive software of ETERNUS vCenter Plug-in. For details on exclusive software, refer to "1.6 Exclusive Software" (page 14).

[Solution]

Stop the exclusive software of ETERNUS vCenter Plug-in, and perform the operation again.

STXE2012 ERROR The resource does not exist in this ETERNUS Disk Storage System.

[Cause]

One of the following resources is specified when adding a resource with the Resource Registration Wizard.

- A resource that does not exist in the ETERNUS Disk storage system
- A RAID group without registered Standard volumes, WSVs, SDVs, or SDPVs

[Solution]

Check the following conditions and then try again.

- The resource that is to be registered exists in the ETERNUS Disk storage system
- Only a RAID group with registered Standard volumes, WSVs, SDPs, or SDPVs is selected

Message

STXE2013 ERROR ETERNUS vCenter Plug-in does not support this resource.

[Cause]

A resource that ETERNUS vCenter Plug-in does not support was specified when adding a resource in the Resource Registration Wizard or the resource that was selected in the LUN Provisioning wizard does not exist.

[Solution]

Make sure a resource that ETERNUS vCenter Plug-in supports or a resource that exists is specified.

C.3 evcpConfig Command

Message

[ERROR] This command requires administrative rights.

[Cause]

The command is executed by an account without the execution privileges.

[Solution]

Execute the command with the built-in administrator privileges. A user belonging to the Administrator group must execute the command with the administrator privileges.

Message

[ERROR] ETERNUS vCenter Plug-in has not installed correctly.

[Cause]

ETERNUS vCenter Plug-in is not properly installed.

[Solution]

Uninstall ETERNUS vCenter Plug-in and then install it again.

Message

[ERROR] Invalid Argument.

[Cause]

The command argument is invalid.

[Solution]

Specify a correct argument.

Message

[NOTICE] evcpConfig command is already running.

[Cause]

This command is running in another process. Multiple instances of this command cannot be started.

[Solution]

After the command in another process is complete, execute it again.

```
[ERROR] Failed to create JAVA VM.
[ERROR] Failed to Find Class.
[ERROR] Failed Get Method.
[ERROR] Failed to get computer name.
```

[Cause]

An internal error was detected.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare the required information, and contact a Fujitsu engineer.

Message

[ERROR] Invalid login account or password.

[Cause]

The entered vCenter Server account or password is incorrect.

[Solution]

Enter a valid account and password.

Message

[ERROR] Invalid IP address(transport error).

[Cause]

A connection to the vCenter Server of the specified IP address could not be established.

[Solution]

Specify a valid IP address for the vCenter Server. If the specified IP address is valid, check for any problems that may exist in the network connection. Fix any problems, and then try again.

Message

```
[ERROR] Plug-in Registration failed.
[ERROR] Plug-in Unregistration failed.
```

[Cause]

Registration of the vCenter Server in ETERNUS vCenter Plug-in or deletion of the vCenter Server from ETERNUS vCenter Plug-in failed.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare any required information for troubleshooting, and then contact a Fujitsu engineer.

C.4 Adding and Deleting Datastore Volumes

If datastore volumes are added or deleted, messages that are described in <u>"C.1 Information Display Function"</u> (page 83) and <u>"C.2 Registering Storage Systems" (page 89)</u> may be displayed as well as the messages that are described in this section.

1027

[Cause]

Invalid characters were specified for the volume name.

[Solution]

Make sure the volume name is specified correctly, and then try again.

2012

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function normally because the account or password of the ETERNUS Disk storage system is invalid. The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Unregister the ETERNUS Disk storage system from GUI for storage system registration and then re-register it.

2013

[Cause]

Information was not able to be acquired from the ETERNUS Disk storage system that was registered to ETERNUS vCenter Plug-in by using the storage system registration function normally because the account of the ETERNUS Disk storage system does not have the Software privilege. The account information might have been changed after registered to ETERNUS vCenter Plug-in with the storage system registration function.

[Solution]

Unregister the ETERNUS Disk storage system from GUI for storage system registration and then re-register it.

4015

[Cause]

The exclusive software of ETERNUS vCenter Plug-in is being used by another user.

[Solution]

Stop the exclusive software of ETERNUS vCenter Plug-in that is running, and then try again.

[Cause]

The specified RAID group is not registered in the ETERNUS Disk storage system.

[Solution]

Specify a RAID group that is registered in the ETERNUS Disk storage system, and then try again.

4028

[Cause]

The operation cannot be performed because the specified RAID group is for work.

[Solution]

Specify a RAID group in the ETERNUS Disk storage system that is not being used for work, and then try again.

4042

[Cause]

The specified volume is not registered in the ETERNUS Disk storage system.

[Solution]

Specify a volume that is already registered in the ETERNUS Disk storage system, and then try again.

4045

[Cause]

The specified volume name is already registered in the ETERNUS Disk storage system.

[Solution]

Enter a volume name that is not registered in the ETERNUS Disk storage system, and then try again.

4065

[Cause]

The maximum number of host affinities that can be created for one port has been exceeded.

[Solution]

Delete the host affinities that exceed the maximum, make sure the maximum number of host affinities that can be created for one port is not exceeded, and then try again.

4067

[Cause]

The maximum number of volumes that can be created for the RAID group has been exceeded.

[Solution]

Delete the volumes that exceed the maximum, make sure the maximum number of volumes that can be created for one RAID group is not exceeded, and then try again.

[Cause]

The specified RAID group is in error status.

[Solution]

When the status for the specified RAID group changes to normal, and then try again.

4070

[Cause]

The maximum number of volumes that can be created in a single ETERNUS Disk storage system has been exceeded.

[Solution]

Delete the volumes that exceed the maximum, make sure the maximum number of volumes that can be created for one ETERNUS Disk storage system is not exceeded, and then try again.

4071

[Cause]

The specified RAID group is undergoing LDE.

[Solution]

Wait for LDE to complete, and then try again.



[Cause]

The specified volume is undergoing an Advanced Copy.

[Solution]

Wait for the Advanced Copy process to compete, and then try again.

4089

[Cause]

The specified volume is undergoing RAID migration.

[Solution]

Stop RAID migration that is running, and then try again.

4099

[Cause]

The specified RAID group is blocked.

[Solution]

When the RAID group status changes to normal, and then try again.

[Cause]

The maximum volume capacity that can be created for an ETERNUS Disk storage system has been exceeded.

[Solution]

Delete the capacity that exceeds the maximum, make sure the maximum volume capacity that can be created for one ETERNUS Disk storage system is not exceeded, and then try again.

4121

[Cause]

The functions for the ETERNUS Disk storage system are disabled.

[Solution]

If an Advanced Copy license is not registered, register it.

If an Advanced Copy license is already registered, refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare any required information for troubleshooting, and then contact a Fujitsu engineer.

5002

[Cause]

An internal error was detected.

[Solution]

Possible causes are as follows:

- The ETERNUS Disk storage system is in error status
- One or more parts in the ETERNUS Disk storage system failed
- The network environment is not correctly set
- The LAN connection is not correctly set
- The maximum number of installable disks has been exceeded

Check and correct any of the possible causes that are listed above, wait for a while, and then try again. If the problem persists, refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare any required information for troubleshooting, and then contact a Fujitsu engineer.

7004

[Cause]

Communication between the server in which ETERNUS vCenter Plug-in is installed and the ETERNUS Disk storage system failed.

[Solution]

Check for any problems in the network connection. Fix any problems, and then try again.

[Cause]

The size of the specified volume is not valid.

[Solution]

Specify a volume size that is in the valid size range, and then try again. For more details about the valid size range of a volume, refer to "ETERNUS Web GUI User's Guide".

8071

[Cause]

Deletion of the LUN group mapping information failed.

[Solution]

If exclusive software of ETERNUS vCenter Plug-in is running, stop the exclusive software and then try again. If exclusive software of ETERNUS vCenter Plug-in is not running, refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare any required information for troubleshooting, and then contact a Fujitsu engineer.

8080

[Cause]

The available resources are insufficient.

[Solution]

Check the capacity of the RAID group or the Thin Provisioning Pool. If the capacity is sufficient, fix any other possible problems such as the maximum number of affinity groups that can be registered being exceeded.

8101

[Cause]

The memory is insufficient.

[Solution]

Obtain a sufficient amount of memory, and then try again.

8110

[Cause]

The specified Thin Provisioning Pool or LUN group is not registered in the ETERNUS Disk storage system.

[Solution]

Specify a Thin Provisioning Pool or LUN group that is registered in the ETERNUS Disk storage system, and then try again.

8151

[Cause]

Startup or shutdown of the ETERNUS Disk storage system is currently being performed.

[Solution]

Wait for the startup or shutdown process of the ETERNUS Disk storage system to complete, and then try again.

[Cause]

The RAID group to which the specified volume belongs is undergoing LDE.

[Solution]

Wait for LDE to complete, and then try again.

D010

[Cause]

Encryption was specified for a RAID group that is configured with SEDs.

[Solution]

Specify encryption for a RAID group that is not configured with SEDs.

E007

[Cause]

The specified volume is undergoing an Advanced Copy (Offloaded Data Transfer Copy).

[Solution]

Wait for the Advanced Copy process to complete, and then try again.

STXE2014

[Cause]

The created volume was not recognized by a host even after an extended period of time. The process finished without creating a datastore.

[Solution]

Check if the created volume is recognized by vSphere Web Client. If the created volume is recognized, convert it to a datastore manually. If the created volume is not recognized, scan the host HBA again, and check if the created volume is recognized.

STXE2015

[Cause]

Rescanning of HBAs for the host failed.

[Solution]

Rescan the HBAs of the target host from vSphere Web Client. After scanning is complete, make sure that the added datastore volume exists in vSphere Web Client and that the deleted datastore volume does not exist.

For error numbers other than the above

[Cause]

An error was detected.

[Solution]

Refer to <u>"Chapter 11 Required Information for Failure Investigation" (page 66)</u> to prepare any required information for troubleshooting, and then contact a Fujitsu engineer.

Appendix D JRE Use Conditions

Before using ETERNUS vCenter Plug-in, you must agree to the following articles regarding the handling of the Java Runtime Environment (JRE) that is packaged together with this software. If you do not agree to these articles, you cannot use ETERNUS vCenter Plug-in.

(1) Observe the JRE use conditions that are described in the license text file. The license text is stored under the following directory or file:

Program folder\ETERNUS-MICC\jre\(*version of JRE*)\LICENSE Program folder\ETERNUS-MICC\jre\(*version of JRE*)\THIRDPARTYLICENSEREADME.txt

- (2) The JRE that is packaged together with ETERNUS vCenter Plug-in cannot be used for any purposes other than the operation of this software.
- (3) Fujitsu shall not be liable for loss or damage caused by using JRE under conditions other than (1) and (2) above.

Appendix E

About Open Source Software License

This product uses the following open source software:

- Ganymed SSH-2 for Java The license that is applied to this software is stored in the following file: Program folder\ETERNUS-MICC\jars\LICENSE.txt
- VMware vSphere Web Service SDK The license that is applied to this software is stored in the following file: Program folder\evcpService\open_source_licenses.txt

ETERNUS vCenter Plug-in 2.2 User's Guide

P3AM-7442-02ENZ0

Date of issuance: December 2013 Issuance responsibility: FUJITSU LIMITED

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