# ETERNUS
## VSS Hardware Provider 2.1

## User's Guide

FUJITSU

This page is intentionally left blank.

# Preface

This manual provides an overview of ETERNUS VSS Hardware Provider and explains how to use it.

## Intended Audience

This manual is intended for users who want an overview of the ETERNUS VSS Hardware Provider and who use ETERNUS VSS Hardware Provider for target disk pool operation.
For users who want to use the ETERNUS VSS Hardware Provider for copy set operation, refer to the related manuals.

## The Structure of this Manual

This manual consists of the following 10 chapters.

● Chapter 1   ETERNUS VSS Hardware Provider

● Chapter 2   Workflow

● Chapter 3   Preparation

● Chapter 4   Environment Creation

● Chapter 5   Operation

● Chapter 6   Operation Change

● Chapter 7   Operation End

● Chapter 8   Commands

● Chapter 9   Messages

● Chapter 10   Troubleshooting

# Related Manual

The following manual contains related material:

- ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide

# Additional Information

## Abbreviations

In this manual, the storage system supported by this product is referred to as "ETERNUS Disk storage system". For details of the supported storage system, refer to the following web-site:

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

In this manual, Web GUI and ETERNUSmgr are collectively referred to as "ETERNUS Web GUI".

## Typographical Conventions

The following convention is used in this manual.

**Caution**  A product-usage caution that must be followed.

P3AM-4582-03ENZ0

## Naming Conventions

The following names are used for Microsoft® Windows Server®.

| Product Names | Referred to in this manual as | |
|---|---|---|
| • Microsoft® Windows Server® 2008 Enterprise (x86) Service Pack 2<br>• Microsoft® Windows Server® 2008 Standard (x86) Service Pack 2 | Windows Server 2008 x86 | Windows Server<br>or<br>Windows Server 2008 |
| • Microsoft® Windows Server® 2008 Enterprise (x64) Service Pack 2<br>• Microsoft® Windows Server® 2008 Standard (x64) Service Pack 2 | Windows Server 2008 x64 | |
| • Microsoft® Windows Server® 2008 R2 Enterprise<br>• Microsoft® Windows Server® 2008 R2 Standard<br>• Microsoft® Windows Server® 2008 R2 Datacenter | Windows Server 2008 R2 | |
| • Microsoft® Windows Server® 2012 Standard<br>• Microsoft® Windows Server® 2012 Datacenter | Windows Server 2012 | Windows Server<br>or<br>Windows Server 2012 |

## Notes when deleting the server graphic shell on Windows Server 2012

An environment in which a server graphic shell is deleted can be configured for Windows Server 2012. Note that in this environment, GUI operations cannot be performed.
For more details about operations in a Windows Server 2012 environment  in which a server graphic shell is deleted, refer to the described operations in "For a Server Core environment".

# Acknowledgments

- Microsoft, Microsoft Windows, Windows Server, SQL Server, and Hyper-V are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Symantec, Symantec logo, NetBackup, and Backup Exec are either registered trademarks or trademarks of Symantec Corp. in the U.S. and its affiliated companies.
- The ARCserve and CA logo are either registered trademarks or trademarks of CA, Inc. in the United States and/or other countries.
- EMC and Networker are either registered trademarks or trademarks of EMC Corporation in the United States.
- BakBone and NetVault are the registered trademarks of BakBone Software, Inc., in the United States and/or in other countries.
- Oracle and Java are registered trademarks of Oracle and/or its affiliates.
- The company names, product names and service names mentioned in this manual are registered trademarks or trademarks of their respective companies.

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

# ETERNUS VSS Hardware Provider Modification History

This section provides a history of modifications for ETERNUS VSS Hardware Provider.

| Version | Modification effect |
|---|---|
| 1.2.0 | • Added the following items as displayed contents for the Backup Status Query command (stxvquery):<br>- transfer (transfer mode)<br>- recovery (Recovery mode)<br>• Added the following items as displayed contents for the OLU Number Display command (stxvgetolu):<br>- VOL (disk type)<br>- Maxgen (maximum number of generations of SDV)<br>• Changed the following event log message:<br>[1.1.0]<br>STXV0594 ERROR The VSSHP version of the source server does not match the VSSHP version of the backup server.<br>[1.2.0]<br>STXV0594 ERROR The VSSHP version of the production server does not match the VSSHP version of the backup server.<br>• Changed the following command message:<br>[1.1.0]<br>STXV0237 ERROR Line["line number"] When the target disk is connected to the source server, the copy set file cannot be created in format 2.<br>[1.2.0]<br>STXV0237 ERROR Line["line number"] When the target disk is connected to the production server, the copy set file cannot be created in format 2. |
| 1.3.0 | • Changed the following event log message:<br>[1.2.0 or earlier]<br>STXV2101 ERROR The INI file does not exist.<br>[1.3.0]<br>STXV2101 ERROR The VSSHP environment file does not exist. |

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

| Version | Modification effect |
|---|---|
| 1.4.0 | • Changed the package structure as follows:<br>　[For Windows Server 2003 x86 and Windows Server 2008 x86]<br>　　Download file: vsshp_1_4_32bit.exe<br>　　Stored file: setup.exe<br>　　Software information (Japanese, English)<br>　　User's Guide (Japanese, English)<br>　　Copy Set Operation Technical Guide (Japanese, English)<br>　　Update Volume Measurement Command package (For Windows Server 2003, For Windows Server 2008)<br>　[For Windows Server 2003 x64 and Windows Server 2008 x64]<br>　　Download file: vsshp_1_4_64bit.exe<br>　　Stored file: setup.exe<br>　　Software information (Japanese, English)<br>　　User's Guide (Japanese, English)<br>　　Copy Set Operation Technical Guide (Japanese, English)<br>　　Update Volume Measurement Command package (For Windows Server 2003, For Windows Server 2008)<br><br>• Changed the units of "update" for the Update Volume Measurement command (stxvtestcopy)<br>　[1.3.0 or earlier]<br>　　Number of blocks<br>　[1.4.0]<br>　　MB |
| 1.5.0 | None |
| 2.0.0 | • Changed the package structure as follows:<br>　[For Windows Server 2003 x86 and Windows Server 2008 x86]<br>　　Download file: vsshp_2_0_32bit.exe<br>　　Stored file: setup.exe<br>　　User's Guide (Japanese, English)<br>　　Copy Set Operation Technical Guide (Japanese, English)<br>　　Update Volume Measurement Command package (For Windows Server 2003, For Windows Server 2008)<br>　[For Windows Server 2003 x64 and Windows Server 2008 x64]<br>　　Download file: vsshp_2_0_64bit.exe<br>　　Stored file: setup.exe<br>　　User's Guide (Japanese, English)<br>　　Copy Set Operation Technical Guide (Japanese, English)<br>　　Update Volume Measurement Command package (For Windows Server 2003, For Windows Server 2008) |
| 2.0.1 | None |

| Version | Modification effect |
|---|---|
| 2.0.2 | • Changed the package structure as follows:<br>[For Windows Server 2003 x86 and Windows Server 2008 x86]<br>    Download file: vsshp_2_0_2_32bit.zip<br>    Stored file: setup.exe<br>    User's Guide (Japanese, English)<br>    Copy Set Operation Technical Guide (Japanese, English)<br>    Update Volume Measurement Command Package (For Windows Server 2003, For Windows Server 2008)<br>[For Windows Server 2003 x64 and Windows Server 2008 x64]<br>    Download file: vsshp_2_0_2_64bit.zip<br>    Stored file: setup.exe<br>    User's Guide (Japanese, English)<br>    Copy Set Operation Technical Guide (Japanese, English)<br>    Update Volume Measurement Command Package (For Windows Server 2003, For Windows Server 2008)<br>• Changed the following event log message and type:<br>[2.0.1 or earlier]<br>    Type: Warning<br>    Messages: STXV0517 WARNING Management file cannot be found.<br>[2.0.2]<br>    Type: Information<br>    Messages: STXV0517 INFO Management file cannot be found. |
| 2.1.0 | • Ended support for Windows Server 2003 x86 and Windows Server 2003 x64.<br>• Deleted the following event log messages:<br>STXV0519 ERROR Access error in VSSHP environment file. Internal code<br>STXV2101 ERROR The VSSHP environment file does not exist. |

# ETERNUS VSS Hardware Provider Updates

The following table shows the updates for each ETERNUS VSS Hardware Provider version:

| Version | Modification details |
|---|---|
| 1.1.0<br>(September 2008) | First version |
| 1.2.0<br>(December 2008) | • Converted to COM application<br>• Added support for the following requesters:<br>    - Symantec Backup Exec for Windows Servers<br>    - ETERNUS SF AdvancedCopy Manager 13.4 (for Windows Server 2008 (x64))<br>• Added support for the Communication Environment Check command (stxvchkcommu)<br>• Added the following event messages:<br>STXV0504, STXV0505<br>• Added the following command messages:<br>STXV0325, STXV0326, STXV0327, STXV0330, STXV0416, STXV0417, STXV0801, STXV0802 |

| Version | Modification details |
|---|---|
| 1.3.0<br>(July 2009) | • Added support for the ETERNUS DX60/DX80<br>• Added support for the following requester:<br>  - BakBone NetVault Backup 8.2<br>• Added support for upgrade installations<br>• Added support for Target disk pool management operation function<br>• Added support for the mount point specification of disks<br>• Added support for the Communication Environment Setup command (stxvsetcommu)<br>• Added support for the Target Disk Pool Registration/Deletion command (stxvtargetdiskpool)<br>• Added the following event log messages:<br>STXV0514, STXV0515, STXV0516, STXV0517, STXV0518, STXV0519, STXV0595, STXV0596<br>• Added the following command messages:<br>STXV0251, STXV0418, STXV0419, STXV0714, STXV0803, STXV0804, STXV0805, STXV0806, STXV0902 |
| 1.3.1<br>(October 2009) | Corrected version |
| 1.4.0<br>(March 2010) | • Added support for the ETERNUS DX90<br>• Added support for the ETERNUS DX400 series<br>• Added support for the ETERNUS DX8000 series<br>• Added support for Microsoft® Windows Server® 2008 R2<br>• Added support for the Error Information Acquisition function<br>• Added support for the combination with Web GUI startup menu |
| 1.5.0<br>(June 2010) | • Added support for Server Core<br>• Added support for the Hyper-V virtual machine backup<br>• Added support for the Hyper-V Environment Setup command (stxvhyperv)<br>• Added the following command messages:<br>STXV3001, STXV3002, STXV3003, STXV3004, STXV3005, STXV3006, STXV3007, STXV3008, STXV3009, STXV3010, STXV3011 |
| 2.0.0<br>(April 2011) | • Added support for Microsoft® Windows Server® 2008 R2 Datacenter<br>• Added support for multiple copy in the Target disk pool management operation function<br>• Added "-t" option for Backup Control command (stxvcopy)<br>• Added support for the Shadow Copy Destination Recovery command (stxvrecoverydisk)<br>• Added the following command messages:<br>STXV3012, STXV3013, STXV3014, STXV3017, STXV3018, STXV3019 |
| 2.0.1<br>(July 2011) | Corrected version<br>• Added support for the ETERNUS DX80 S2/DX90 S2<br>• Added support for the ETERNUS DX400 S2 series |

| Version | Modification details |
|---|---|
| 2.0.2<br>(March 2012) | • Added support for simultaneous backup in multiple production servers<br>• Added the following event log messages:<br>STXV0570, STXV0571, STXV0572, STXV0573, STXV0574, STXV0575<br>• Added support for command execution by using an account belonging to an Administrators group, which is uniquely created by a user in Windows Server 2008<br>• Fixed bugs |
| 2.1.0<br>(November 2012) | • Added support for Microsoft Windows Server 2012<br>• Ended support for Windows Server 2003 x86 and Windows Server 2003 x64<br>• Added the following event log messages:<br>STXV0520, STXV0576, STXV0577, STXV0578, STXV0579, STXV0580, STXV0581, STXV0582, STXV0583, STXV0585 |

# Table of Contents

# Chapter 1

## ETERNUS VSS Hardware Provider

## 1.1    Overview

ETERNUS VSS Hardware Provider (hereinafter referred to as "VSSHP") is a program that is compatible with the Microsoft Volume Shadow Copy Service (hereinafter referred to as "VSS") interface, and that creates shadow copies of volumes in an ETERNUS Disk storage system.

Using VSSHP with VSS-compatible backup software or a server application enables you to backup data with VSS without stopping work.

When backup is started by the backup software, VSSHP instantly creates a Shadow Copy of source data using the ETERNUS Disk storage system Advanced Copy function. The source data is not affected since the backup software performs backup of the Shadow Copy destination.
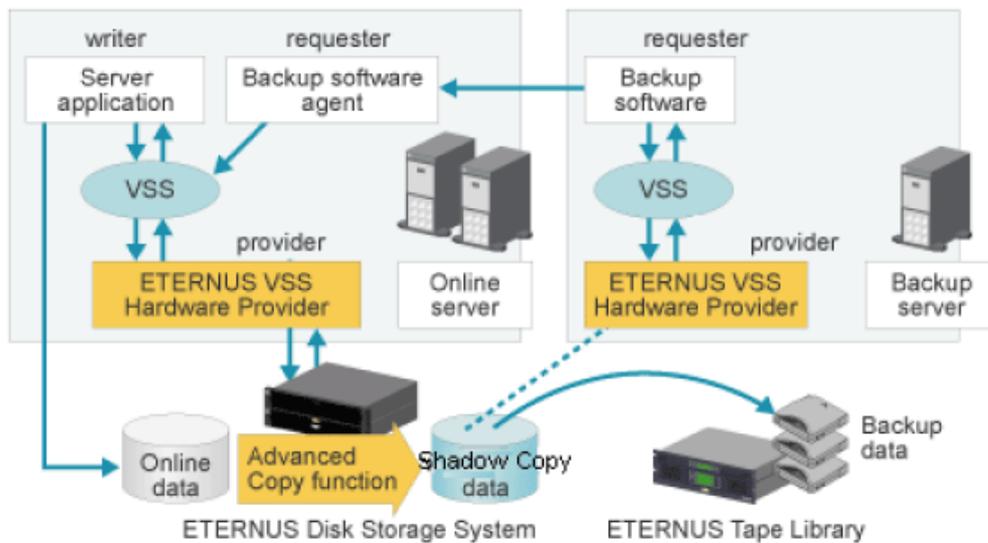


| Classification | Description |
|---|---|
| Requester | Backup software that controls creation, operation, and deletion of a snapshot through VSS.<br>Backup software examples:<br>    ETERNUS SF AdvancedCopy Manager,<br>    Microsoft System Center Data Protection Manager,<br>    Symantec Backup Exec, Symantec NetBackup,<br>    Quest NetVault Backup, CA ARCserve Backup, NetWorker, etc. |
| Writer | Server application, which is a data management application that supports VSS. Writer controls data consistency maintenance for data backup.<br>Server application examples:<br>    System writer (NTFS file system),<br>    Microsoft Exchange Server SQL server,<br>    Hyper-V VSS Writer, Oracle Database, etc. |

| Classification | Description |
|---|---|
| Provider | Component that reads and writes data to a disk and creates a snapshot (software provider provided by OS, hardware provider provided by storage system vendor). <br> VSSHP is a hardware provider that is provided by Fujitsu. |
| Coordinator (OS) | Basic service that properly controls requester, writer, and provider process. |

For VSSHP supported storage systems, copy types, OSes, requester, and writer, refer to the following web page.

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

# 1.2    Functions

■ Cooperation with Advanced Copy functions

VSSHP uses the Advanced Copy functions of the ETERNUS Disk storage system to create a Shadow Copy. The Advanced Copy functions allow the ETERNUS Disk storage system to carry out high-speed data copying operations on its own, with no need for server CPU intervention. The logical copy of a source volume to a replication volume is very quickly completed within the ETERNUS Disk storage system. The replication volume is accessible as soon as the logical copy completes. The replicated volume is a point-in-time copy of the source volume, allowing backup to tape while the source volume is being updated.

■ Management methods and operation modes for Shadow Copy destination volumes with VSSHP

The following two operation types for VSSHP are supported. Which method is used depends on how the volumes for the Shadow Copy destination are managed.

- Target disk pool operation
  The user does not specify the Shadow Copy destination explicitly.
- Copy set operation
  The user specifies the Shadow Copy destination explicitly.

Both of these modes cannot be used at the same time.

■ Target disk pool operation

Although VSSHP creates a Shadow Copy of a source data, a user does not need to specify the volume that is to be a Shadow Copy destination. VSSHP manages Shadow Copy destination volumes that are registered in a target disk pool. This management function for Shadow Copy destination volumes is called the "Target disk pool management function". An operation mode that uses this function is called a "Target disk pool operation".

Create a Shadow Copy destination volume and register the volume in the target disk pool management function in advance. When backup is started by a requester, VSSHP automatically selects an appropriate volume from the registered volumes in the target disk pool, and creates a Shadow Copy of the source disk in the volume. After backup has completed, data in the Shadow Copy destination volume become invalid, and the volume is reused as a Shadow Copy destination at next backup.

When installing VSSHP, use ETERNUS Web GUI to register a volume in the target disk pool management function. Register the same number of source data volumes that will be backed up simultaneously. A volume can be added or deleted in the target disk pool management function even after installation of VSSHP has completed.

The copy types that VSSHP uses for the target disk pool operation are "QuickOPC" and "SnapOPC+".

## ■ Copy set operation

When a Shadow Copy of the source data is created by VSSHP in cooperation with ETERNUS SF AdvancedCopy Manager, the user needs to specify the volume for the Shadow Copy destination explicitly. VSSHP manages the Shadow Copy destination volume with the copy set information. This operation mode for a Shadow Copy destination volume that uses the copy set information is called a "Copy set operation".
The copy set information registration command is used to register a volume to the copy set information. Refer to "ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide" as well as this manual for more details about copy set operation.

**Caution**

- A target disk pool operation and a copy set operation cannot be performed at the same time.
- Do not register the copy set information when a target disk pool operation is being performed. For details on operation modes and management files, refer to "1.3.3 Volume Management Methods and Management Files" (page 23).

# 1.3 Operational Procedure

## 1.3.1 Server Configuration

VSSHP supports the following server configurations. These configurations depend on the requester to be used. Check which configuration is supported by the requester and decide the server configuration.

- Configuration using one Windows server that works as both a production server and a backup server (hereafter referred to as "Local Copy Configuration")

- Configuration using different Windows servers for the production server and backup server (hereafter referred to as "Transportable Copy Configuration")

To back up a virtual machine on a host OS in which Hyper-V is installed, refer to "1.3.1.3 Local Copy Configuration (when Backing Up a Hyper-V Virtual Machine)" (page 20) or "1.3.1.4 Transportable Copy Configuration (when Backing Up a Hyper-V Virtual Machine)" (page 21).

For all other cases, refer to "1.3.1.1 Local Copy Configuration" (page 17) or "1.3.1.2 Transportable Copy Configuration" (page 18).

---

**Caution**

For Hyper-V settings, only virtual machines on the host OS are targeted for backing up.

---

### 1.3.1.1 Local Copy Configuration

- Used as both the production server and backup server.

- A requester and writer that support VSS are installed in the same server.
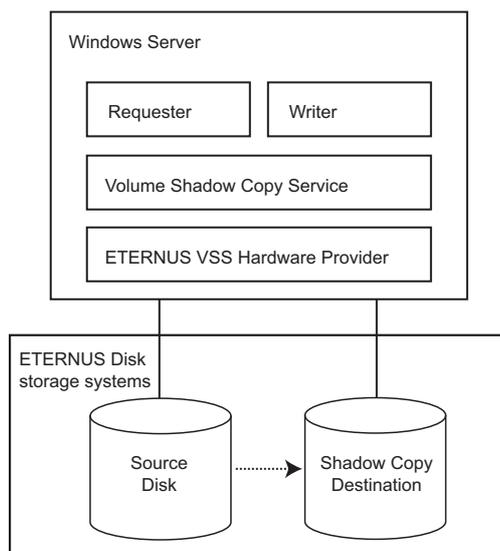
ETERNUS VSS Hardware Provider 2.1 User's Guide

Copyright 2012 FUJITSU LIMITED                                    P3AM-4582-03ENZ0

■ **Cluster configuration**

A disk that is registered as a cluster resource cannot be used for a Shadow Copy destination disk. A Shadow Copy destination disk must be provided for an active production server and a standby production server.
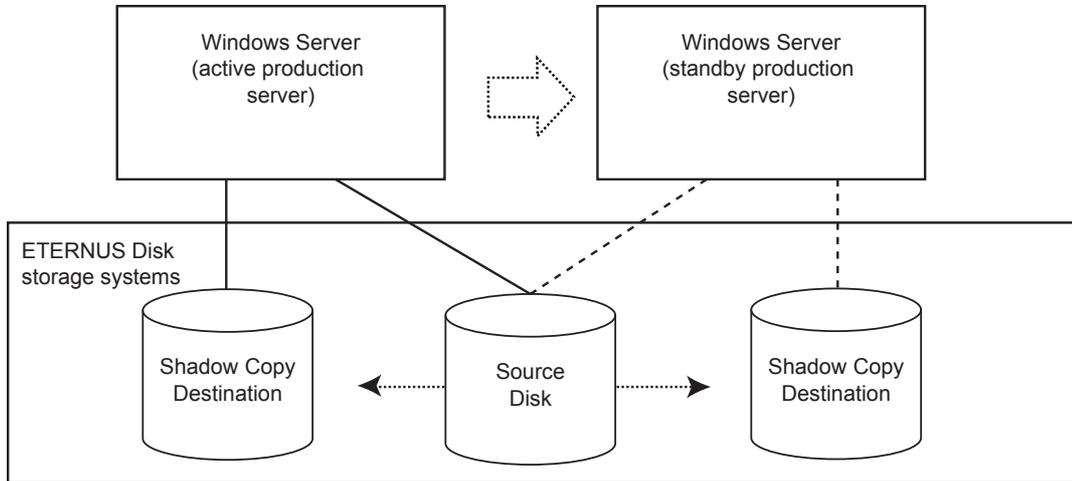


## 1.3.1.2 Transportable Copy Configuration

- The Windows OS of the production server and the backup server is the same version and level.
- Compatible versions of VSSHP are installed in both the production server and backup server. For details about compatibility, refer to "1.4 Supported Environment" (page 24).
- A requester that supports VSS is installed in both the production server and backup server.
- A writer that supports VSS is installed in the production server.
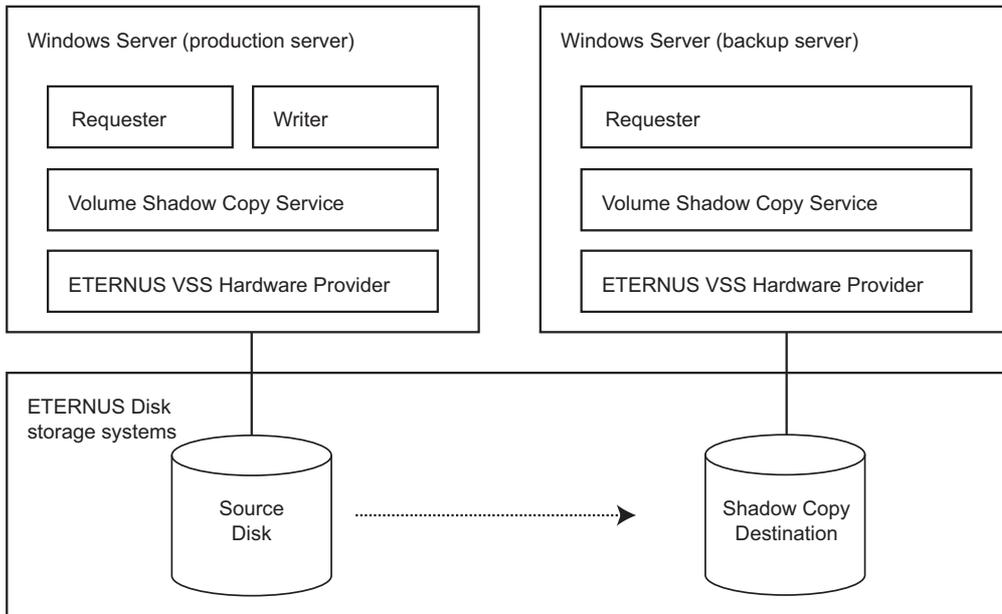
■ Cluster configuration

- Cluster configuration is not supported by the backup server.
- To operate the production server for cluster configuration, perform the following environment settings.
    - The production servers must have the same version and level of the Windows Server OS.
    - Install the same version and same level of VSSHP in each production server.
    - Install the requester that supports VSS in each production server.
    - Install the writer that supports VSS in each production server.

The following shows examples of both a single active production server, single standby production server case (1:1), and for a multiple active production server, single standby production server case (n:1).

- Example of 1:1 case



- Example of n:1 case
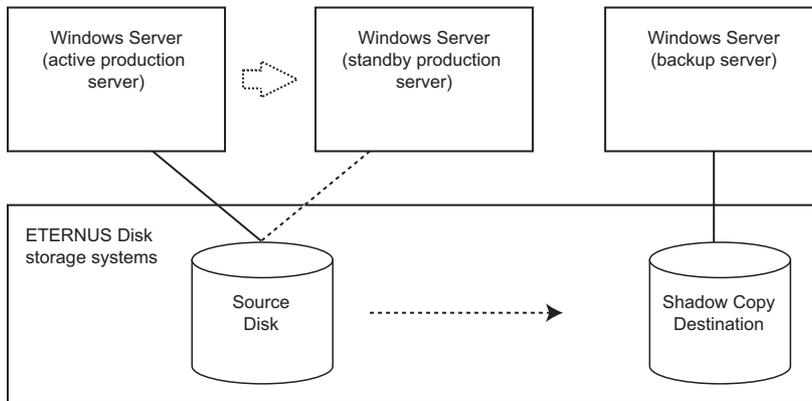
ETERNUS VSS Hardware Provider 2.1 User's Guide
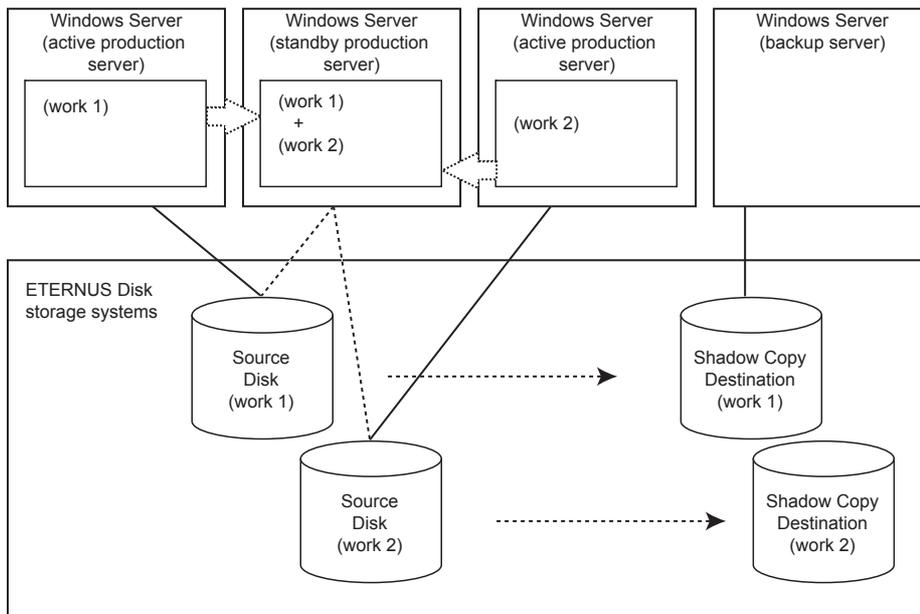
### 1.3.1.3    Local Copy Configuration (when Backing Up a Hyper-V Virtual Machine)

- Used as both the production server and backup server
- A requester that supports VSS using Hyper-V is installed in the host OS.
- VSSHP is installed in the host OS.
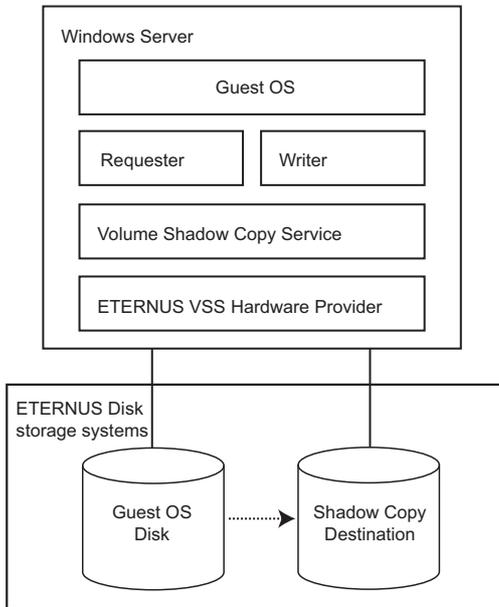


■ Cluster configuration

A disk that is registered as a cluster resource cannot be used for a Shadow Copy destination disk. A Shadow Copy destination disk must be provided for an active production server and a standby production server.
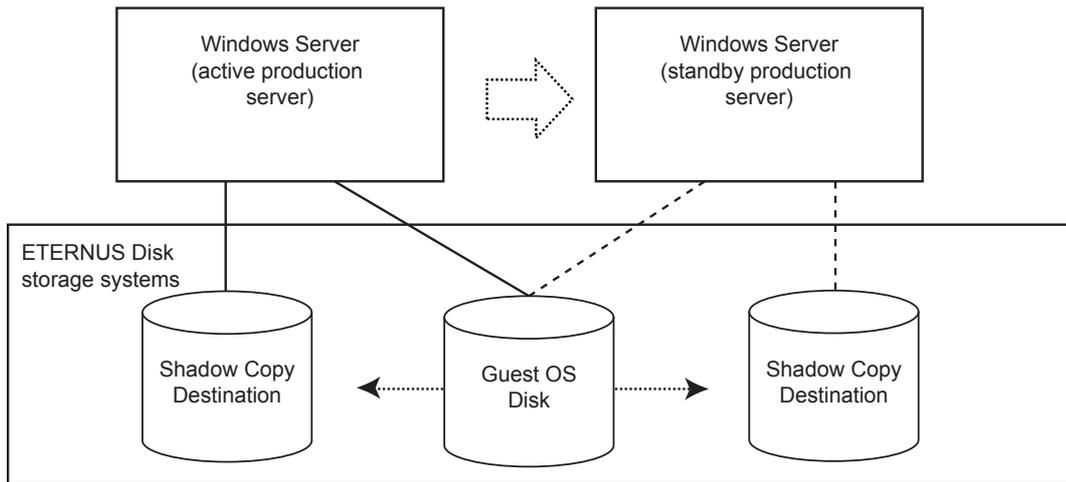
### 1.3.1.4 Transportable Copy Configuration (when Backing Up a Hyper-V Virtual Machine)

- The Windows OS of the production server and the backup server is the same version and level.
- Compatible versions of VSSHP are installed in the backup server and in the host OS of the production server.
  For details about compatibility, refer to "1.4 Supported Environment" (page 24).
- A requester that supports VSS using Hyper-V is installed in the backup server and in the host OS of the production server.
- The Shadow Copy destination is connected to the backup server and to the host OS of the production server.
- VSSHP Hyper-V settings are performed on the host OS of the production server.
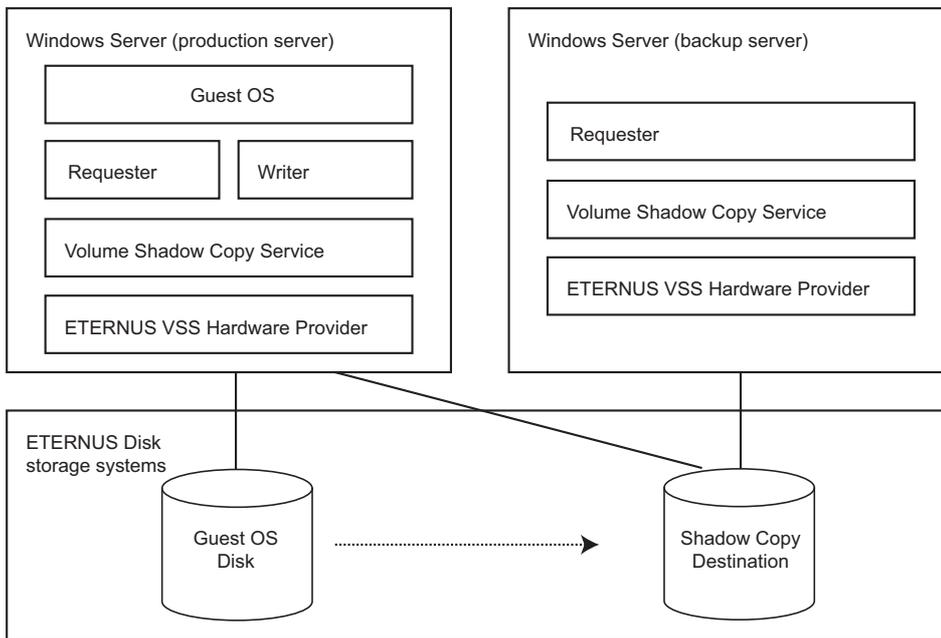


■ Cluster configuration

- Cluster configuration is not supported by the backup server.
- To operate the production server for cluster configuration, perform the following environment settings.
  - The Windows Server OS of the production server and the backup server is the same version and level.
  - Install the same version and same level of VSSHP in the host OS of each production server.
  - Install a requester that supports VSS using Hyper-V in the host OS of each production server.
  - The Shadow Copy destination is connected to the backup server and to the host OS of the production server.
  - VSSHP Hyper-V settings are performed on the host OS of each production server.

ETERNUS VSS Hardware Provider 2.1 User's Guide

The following shows examples of both a single active production server, single standby production server case (1:1), and for a multiple active production server, single standby production server case (n:1).
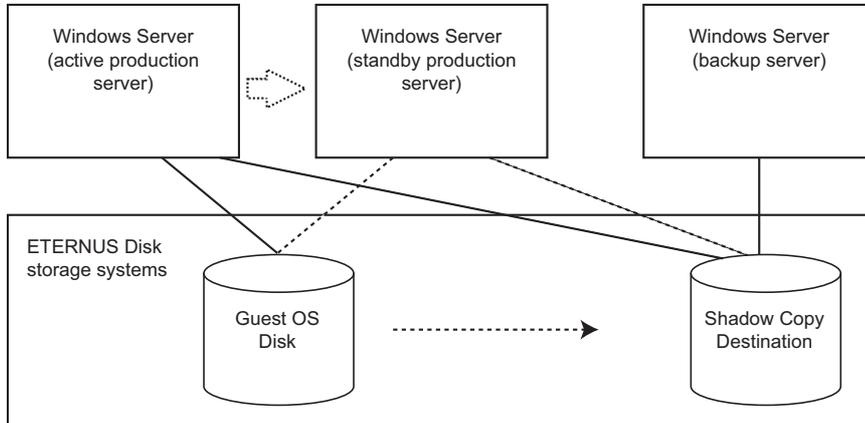
- Example of 1:1 case



- Example of n:1 case
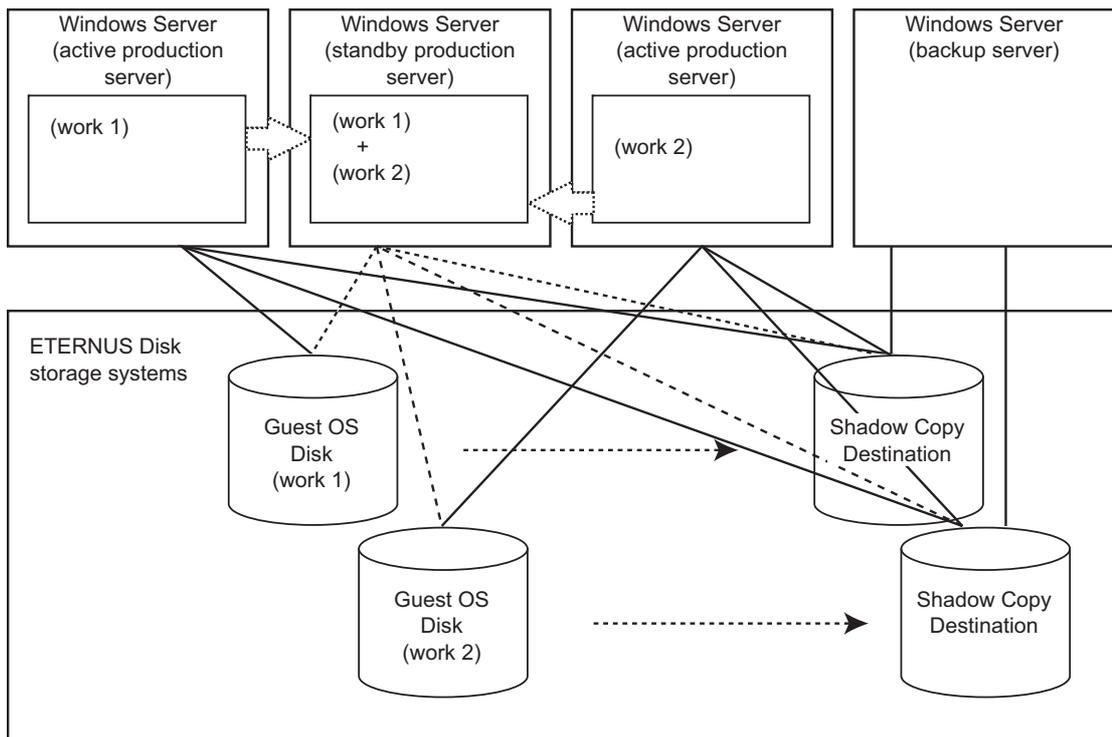
**Caution**

- When VSSHP is installed in a host OS that controls the Hyper-V setting, VSSHP supports backup processes. In this case, only a guest OS disk on the host OS is used as the target for backup processes.
- Backup processes for Local Copy Configuration and Transportable Copy Configuration are not supported when VSSHP is installed in a guest OS that uses the Hyper-V setting.

## 1.3.2    Disk Conditions

The following conditions apply for source disks to be used for backup.

- MBR and GPT can be used for the partition format.
- A dynamic disk cannot be used. When it is used, operation is not guaranteed.

## 1.3.3    Volume Management Methods and Management Files

One of the following management files is created according to the management method for the Shadow Copy destination volume.

- Target disk pool management file
  "installation folder"\etc\vss\bkdskpl.mng

- Copy set management file
  "installation folder"\etc\vss\copyset.cnv

Unnecessary management files may exist due to a reason such as when the management method or the server configuration is changed.
To delete unnecessary management files that may cause malfunction, refer to the following table and delete any of these files if they exist.

|  | Local configuration | Transportable configuration | |
|---|---|---|---|
|  |  | Production server | Backup server |
| Target disk pool operation | T | — | T |
| Copy set operation | C | C | — |

T: Target disk pool management file
C: Copy set management file
 —: No management files are created

# 1.4 Supported Environment

For VSSHP supported storage systems, copy types, OSes, requester, and writer, refer to the following web page.

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

For the Server Core installation option of the OS, Windows Server 2008 R2 or later is supported.

## 1.4.1 Possible VSSHP Version Combinations for Production Servers and Backup Servers

For Transportable Copy Configuration, the possible combinations (compatibility information) of VSSHP versions that can be used for production servers and backup servers are shown in the following table.

| VSSHP version of the backup server | VSSHP version of the production server | | | |
|---|---|---|---|---|
| | 2.0.0 | 2.0.1 | 2.0.2 | 2.1.0 |
| 2.0.0 | Yes | Yes | No | No |
| 2.0.1 | Yes | Yes | No | No |
| 2.0.2 | No | No | Yes | No |
| 2.1.0 | No | No | No | Yes |

Yes: compatible
No: incompatible

For VSSHP 1 or earlier, use the same version and level for production servers and backup servers.

## 1.4.2 Possible Combination of VSSHP Shadow Copy Disk Management Methods, Server Configurations, and Typical Requestors

The following table shows the VSSHP Shadow Copy disk management methods, the server configurations, and the typical requestor (backup software) combinations. For more details about supported combinations, refer to the following website:

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

| | Target disk pool operation | Copy set operation |
|---|---|---|
| Local Configuration | Microsoft System Center Data Protection Manager, Symantec Backup Exec, Symantec NetBackup, Quest NetVault Backup, CA ARCserve Backup, NetWorker (*1) | - |
| Transportable configuration | | ETERNUS SF AdvancedCopy Manager |

*1: Check the latest specifications of the backup software for the support information of Local Copy Configuration and Transportable Copy Configuration.

ETERNUS VSS Hardware Provider 2.1 User's Guide

## 1.4.3      Notes on Using VSSHP on Windows Server 2012

### 1.4.3.1      Combined Use of VSSHP and Offloaded Data Transfer (ODX)

Using an Advanced Copy that uses VSSHP with Offloaded Data Transfer (ODX) is not available. When an ETERNUS DX Disk storage system model that supports the Offloaded Data Transfer function is used by a Windows Server 2012 server, Offloaded Data Transfer (ODX) may start an ODX session in the ETERNUS DX Disk storage system. An ODX session that is started by the Offloaded Data Transfer (ODX) cannot be used at the same time as an Advanced Copy session that uses VSSHP. Disable the Offloaded Data Transfer (ODX) by using one of the following methods:

- Disable Offloaded Data Transfer (ODX) on Windows Server 2012.
  This operation is only valid for servers on which this operation is performed. For details on how to disable Offloaded Data Transfer (ODX), refer to the procedure that is provided by Microsoft:

    http://technet.microsoft.com/en-us/library/jj200627.aspx

- Stop the Offloaded Data Transfer function on the ETERNUS DX Disk storage system.
  This operation is valid for all the servers that use the ETERNUS DX Disk storage system. For details on how to stop the Offloaded Data Transfer function, refer to the ETERNUS DX Disk storage system manuals.

### 1.4.3.2      Use of Virtual Disks with the Storage Pool Function

Virtual disks that are created by using the Storage Pool function cannot be used by VSSHP as the copy source or copy destination.

# 1.5    Required Resources

This section describes the resources required for backup operation using VSSHP.

## 1.5.1    Required Disk Capacity for Installation

| No. | Remarks | Capacity | Folder |
|---|---|---|---|
| 1 | Stores programs. | 10MB | Installation folder (*1) |

*1:    The default installation folder is as follows:
        System drive:\Program Files\ETERNUS VSS Hardware Provider

## 1.5.2    Required Disk Capacity for Operation

| No. | Remarks | Capacity | Folder |
|---|---|---|---|
| 1 | Trace log | 100MB | Installation folder (*1) |
| 2 | The target disk pool management file in which information for Shadow Copy destination is registered. (*2) | $(0.1 + (0.2 \times a))/1024$ MB | Installation folder (*1) |

a: The number of Shadow Copy destinations

*1:    The default installation folder is as follows:
        System drive:\Program Files\ETERNUS VSS Hardware Provider

*2:    Required for the backup server

ETERNUS VSS Hardware Provider 2.1 User's Guide

# Chapter 2
## Workflow

Perform preparation, install VSSHP, and setup the environment according to the following workflow.
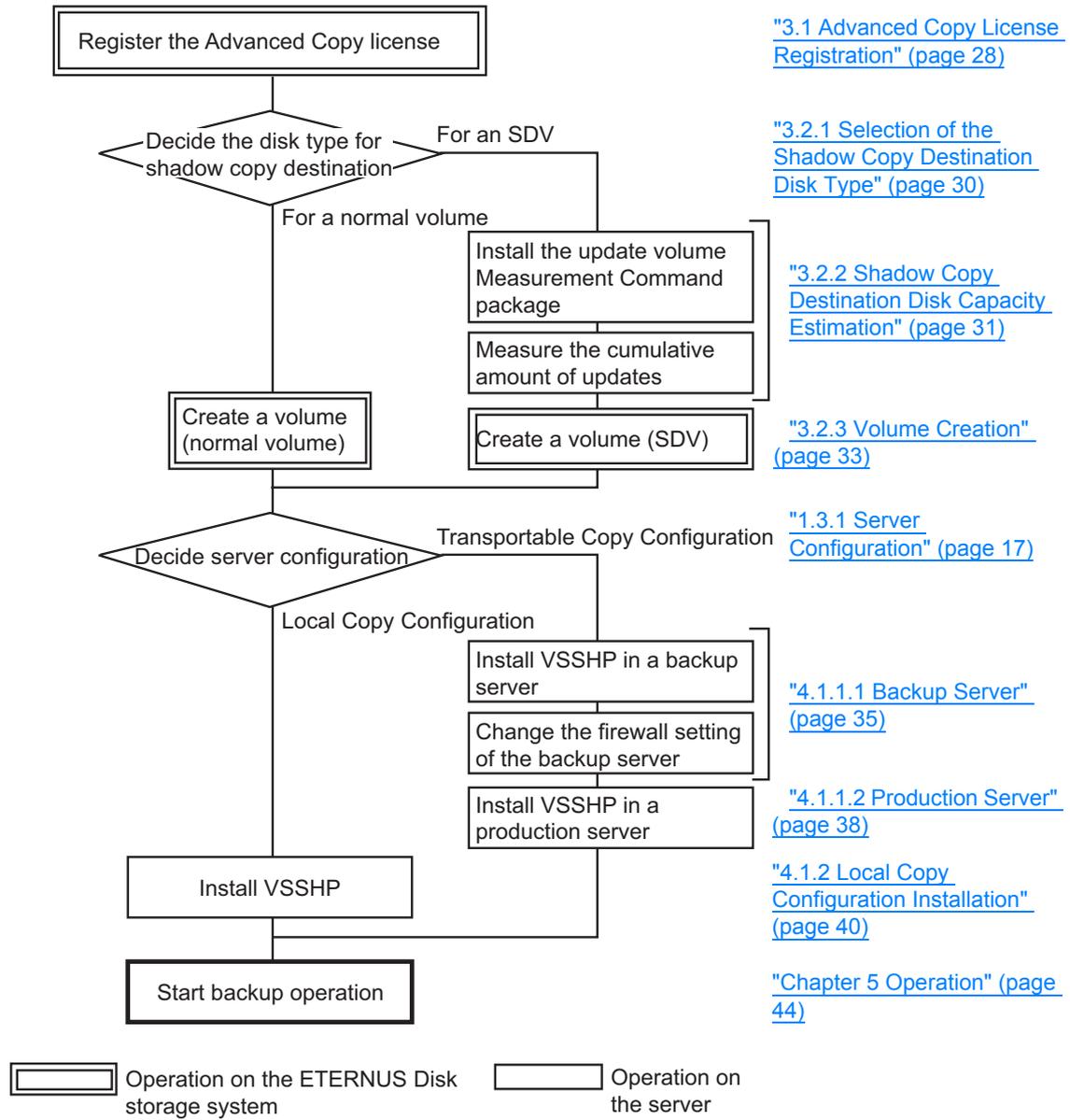
| Flowchart | Reference |
|---|---|
| Register the Advanced Copy license | "3.1 Advanced Copy License Registration" (page 28) |
| Decide the disk type for shadow copy destination — For an SDV / For a normal volume | "3.2.1 Selection of the Shadow Copy Destination Disk Type" (page 30) |
| Install the update volume Measurement Command package / Measure the cumulative amount of updates | "3.2.2 Shadow Copy Destination Disk Capacity Estimation" (page 31) |
| Create a volume (normal volume) / Create a volume (SDV) | "3.2.3 Volume Creation" (page 33) |
| Decide server configuration — Transportable Copy Configuration / Local Copy Configuration | "1.3.1 Server Configuration" (page 17) |
| Install VSSHP in a backup server / Change the firewall setting of the backup server | "4.1.1.1 Backup Server" (page 35) |
| Install VSSHP in a production server | "4.1.1.2 Production Server" (page 38) |
| Install VSSHP | "4.1.2 Local Copy Configuration Installation" (page 40) |
| Start backup operation | "Chapter 5 Operation" (page 44) |

Legend:
- Operation on the ETERNUS Disk storage system
- Operation on the server

# Chapter 3

## Preparation

## 3.1    Advanced Copy License Registration

To use VSSHP, register an Advanced Copy license for the ETERNUS Disk storage system, and then specify settings for the Advanced Copy function such as the copy table size . Use ETERNUS Web GUI to register the Advanced Copy license and specify the settings for the Advanced Copy function. For more details on Advanced Copy license registration and Advanced Copy settings, refer to the user guide of the ETERNUS Disk storage system model.

Note that registration of the Advanced Copy license is not required for some models. Make sure to check whether license registration is necessary before registering a license.

## 3.2    Shadow Copy Destination Disk Creation

When the requester starts backup, VSSHP automatically selects a disk that has the same capacity as the source disk from the Shadow Copy destination disks registered in the backup disk pool management function to create a Shadow Copy of the source data. Therefore, a Shadow Copy destination disk must be created in advance.

**Caution**

VSSHP does not select a disk that has a different capacity from the source disk. For example, if the capacity of the Shadow Copy destination disk is larger than the capacity of the source disk, VSSHP will not select this disk.

The following examples show source disks to be backed up and Shadow Copy destinations to be registered in the backup disk pool management function.

Example 1

When two source disks (2GB) are backed up with one backup job, two 2GB volumes are created as Shadow Copy destinations and these volumes are registered in the backup disk pool management function.

ETERNUS VSS Hardware Provider 2.1 User's Guide
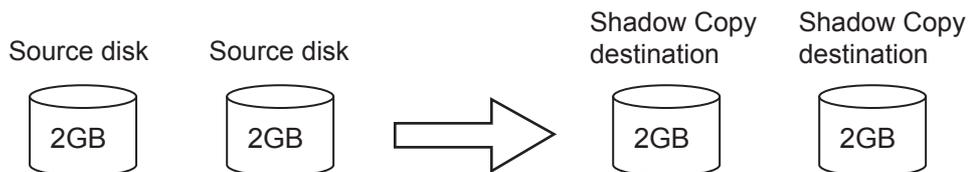
### Example 2

When source disks A (2GB) and B (4GB) are backed up in the first backup, and source disks C (2GB) and D (2GB) are backed up in the second backup, Shadow Copy destination volumes A (2GB), B (4GB), and C (2GB) are created as Shadow Copy destinations and these volumes are registered in the backup disk pool management function.

In the first backup, Shadow Copy destinations A and B are automatically selected and used as Shadow Copy destinations. In the second backup, Shadow Copy destinations A and C are automatically selected and used as Shadow Copy destinations.

First backup

| Source disk A | Source disk B |
|---|---|
| 2GB | 4GB |

Second backup

| Source disk C | Source disk D |
|---|---|
| 2GB | 2GB |

Shadow Copy destination A — 2GB

Shadow Copy destination B — 4GB

Shadow Copy destination C — 2GB
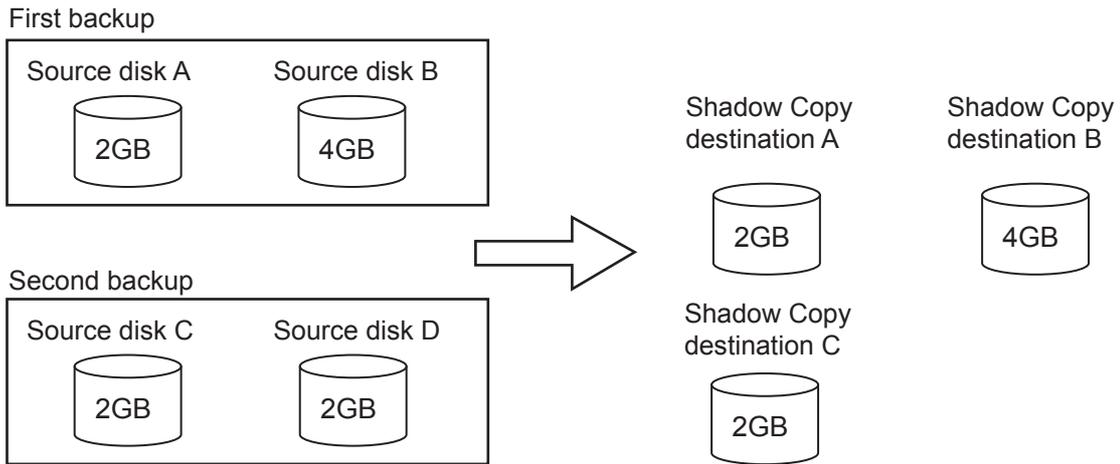
### Example 3

Create the same number of Shadow Copy destination disks as the Shadow Copy sessions that are executed concurrently and register these disks in the backup disk pool management function.
For example, when there are two partitions in a LUN and the shadow copies for these partitions are executed separately, two Shadow Copy destination disks are required.

Source Disk
6GB

Partition 1

Partition 2

Shadow Copy destination 1 — 6GB

Shadow Copy destination 2 — 6GB

ETERNUS VSS Hardware Provider 2.1 User's Guide
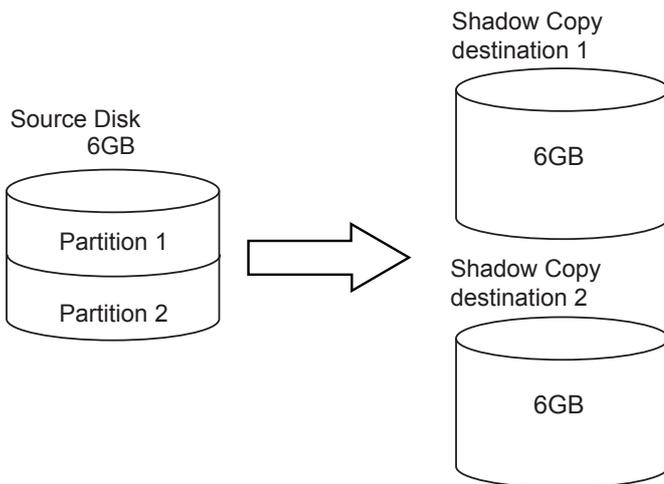
### Example 4

Create the same number of Shadow Copy destination disks as the Shadow Copy sessions that are executed concurrently and register these disks in the backup disk pool management function.
For example, when the backup of multiple VMs in a Hyper-V Cluster Shared Volume (CSV) is executed concurrently, the same number of Shadow Copy destination disks as VMs is required.
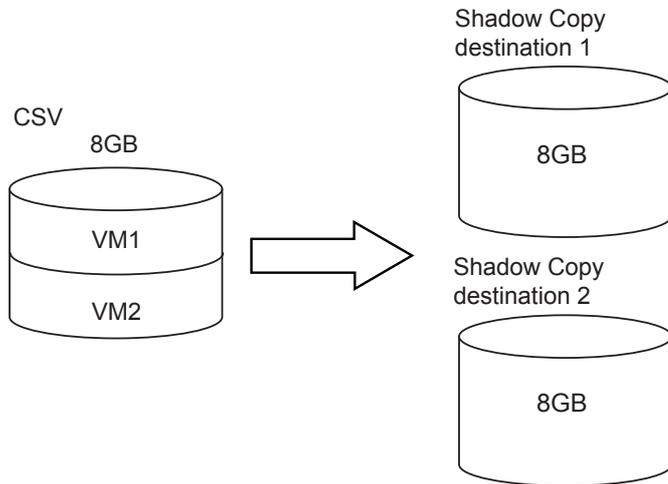


The following sections explain the types of disks to be used for Shadow Copy destinations that are supported by VSSHP, and the procedure for estimating disk capacity.

## 3.2.1    Selection of the Shadow Copy Destination Disk Type

Either a normal volume or an SDV may be used as the Shadow Copy destination. The following table shows the respective features of a "normal volume" and an "SDV". Choose a disk type according to your requirements.

| | Normal volume | SDV |
|---|---|---|
| Copy type | QuickOPC | SnapOPC+ |
| Features | • Suitable for backup of big databases and file servers with a large amount of updates.<br>• A Shadow Copy destination must have the same capacity as a source disk.<br>• Backup can be performed regardless of the amount of updates. | • Suitable for backup of databases and file servers with only a small amount of updates.<br>• Can operate with a capacity of the Shadow Copy destination that is lower than that of the source disk.<br>• When the amount of updates exceeds the SDV capacity, access to the Shadow Copy destination is lost. The required SDV capacity should be measured in advance. |

**Caution**

For QuickOPC, a copy session starts for each copy as the first initial copy even if the copy source is same. This is why a full copy is performed for each copy session with QuickOPC.

## 3.2.2    Shadow Copy Destination Disk Capacity Estimation

The disk capacity of the Shadow Copy destination volume to be created varies depending on the selected disk type.

- For a normal volume
  The Shadow Copy destination disk capacity must be the same as that of the source disk.

- For a Snap Data Volume (SDV)
  The Shadow Copy destination SDV disk capacity may be lower than that of the source disk.
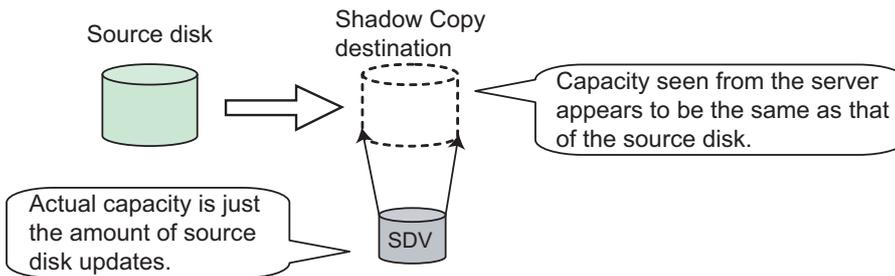


SDV disk capacity is calculated by the amount of the source disk updates for the period when the requester is using the Shadow Copy destination (*1).

> *1:    For example, the period is the time from when the requester starts backup to when backup to a tape device finishes.

Measure the amount of the source disk updates using the "Update Volume Measurement Command (stxvtestcopy)". Measure the expected amount of updates using the following procedure and decide the disk capacity.
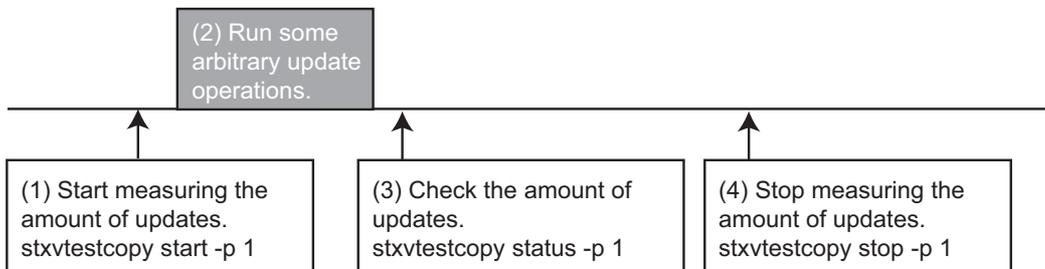


### Procedure

**1**    Extract the file downloaded in .

**2**    Extract the "Update Volume Measurement Command".

- For Windows Server 2008/Windows Server 2012
  Double-click the extracted package of the "Update Volume Measurement Command" (setup_testcopy_2008.exe).

- For a Server Core environment
  Use the "Update Volume Measurement Command" after installing VSSHP. Do not use the "Update Volume Measurement Command" package.

**3**  Measure the amount of updates using the extracted "Update Volume Measurement Command".

Example) With the "Update Volume Measurement Command" extracted in C:\temp

(1) Start measuring the amount of updates for the target source disk. (start option)

```
C:\temp>stxvtestcopy start -p 1
stxvtestcopy successfully completed.
```

(2) Measure the typical amount of source disk updates.

To discover the typical amount of source disk updates, run some arbitrary update operations. For example, to estimate the required capacity for backing up a whole day of updates, execute a typical days worth of update operations.

(3) After the arbitrary update operations have completed, check the amount of source disk updates. (status option)

```
C:\temp>stxvtestcopy status -p 1
source-disk  update
1            2
stxvtestcopy successfully completed.
```

(4) After checking the amount of updates, stop measuring the amount of updates. (stop option)

```
C:\temp>stxvtestcopy stop -p 1
stxvtestcopy successfully completed.
```

(5) Estimate a SDV capacity.

According to the measured amount of updates, estimate the SDV physical capacity.
Example) Based on the result in (3), SDV physical capacity = 2MB.

**4**  Because the command executed here is for pre-operation use in determining required capacities, delete the "Update Volume Measurement Command" package and extracted files after determining the required capacity.

**End of procedure**

For the details about the "Update Volume Measurement Command", refer to .

### 3.2.3    Volume Creation

Use ETERNUS Web GUI to create a volume in the ETERNUS Disk storage system according to the disk type of the Shadow Copy destination. After volume creation, check that the created LUN can be recognized by the backup server.

**Caution**

When creating a SDV, note the following. For details, refer to the user guide for ETERNUS Web GUI.
- The logical capacity must be the same as that of the source disk.
- Specify the physical capacity that is calculated in "3.2.2 Shadow Copy Destination Disk Capacity Estimation" (page 31).
- When a "Snap Data Pool (SDP)" is created, even if the capacity of an SDV is insufficient, capacity is automatically added to this SDV from the SDP. This enables the user to deal with any unexpected increases in the work load.

# Chapter 4

## Environment Creation

VSSHP supports the following installation methods.

- "4.1 New Installation" (page 34)
- "4.2 Upgrade Installation" (page 43)

When the "User Account Control" screen appears while performing installation, select [Accept] to continue the process.

**Caution**

This chapter describes the installation methods to enable target disk pool operation. For the installation methods to enable copy set operation, refer to "Chapter 4 Environment Creation" in "ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide" as well as this chapter.

## 4.1    New Installation

Two types of VSSHP packages are provided. Refer to the following table to determine which package corresponds to the OS being used, and then download and install this package.

| Supported OS | Download file name |
|---|---|
| Windows Server 2008 x86 | vsshp_2_1_0_32bit.zip |
| Windows Server 2008 x64 | vsshp_2_1_0_64bit.zip |
| Windows Server 2008 R2 | |
| Windows Server 2012 | |

**Caution**

Do not install VSSHP in a LUN used for backup operation such as a source disk and a Shadow Copy destination disk.

## 4.1.1 Transportable Copy Configuration Installation

Install VSSHP and configure settings for the backup server first, then for the production server.

### 4.1.1.1 Backup Server

Perform installation according the following procedure.

---

### Procedure

**1**  Extract the file downloaded in "4.1 New Installation" (page 34).

**2**  Double-click the VSSHP package (setup.exe) that was extracted to start the wizard.
Proceed with the installation according to the wizard.

For an Administrators group account that is uniquely created by a user, click "Run as administrator" in the menu that is displayed by right-clicking the mouse on the VSSHP package (setup.exe).
For a Server Core environment, use the command prompt to execute setup.exe.

**3**  After installation, continue to set the environment. The following window appears.



**4**  Select "Backup server (Transportable copy)" and click the [OK] button.

The communication service (ETERNUS VSS Hardware Provider Communication Server service) setting is performed.
The service name is registered as "stxvcommunication".

When the [Skip] button is clicked, installation completes without the environment being set. Set a Shadow Copy destination and communication environment after the installation.
Refer to "Chapter 6 Operation Change" (page 45) for details.

The following window appears. Check the port number, select the IP version (IPv4 or IPv6), and click the [OK] button.

**5**  The following window to register a Shadow Copy destination in the target disk pool management file appears.

If multiple mount points or drive letters are allocated to one disk, one of them is displayed.



Select the disk that is to be a Shadow Copy destination from [Disk list] (multiple selections can be made), and click the [--->] button and then [OK] button to register the disks in [Target disk list] and [Used target disk list] in the target disk pool management file.

If the ETERNUS Disk storage system setup has not completed yet, click the [CANCEL] button.

After the ETERNUS Disk storage system setup has completed, execute the Target Disk Pool Registration/Deletion function to register a Shadow Copy destination.

- For a Server Core environment
  The window to register a Shadow Copy destination in the target disk pool management file does not appear when the installation is complete.
  After installation is complete, register a Shadow Copy destination in the target disk pool management file using the "Target Disk Pool Registration/Deletion Command".
  For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

**Caution**

For a copy set operation, do not register a Shadow Copy destination. Click the [Cancel] button.

**6**  Click the [Finish] button on the "InstallShield Wizard Completed" screen to finish the installation.

**End of procedure**

### 4.1.1.2 Production Server

Perform installation according the following procedure.

### Procedure

**1** Extract the file downloaded in "4.1 New Installation" (page 34).

**2** Double-click the VSSHP package (setup.exe) that was extracted to start the wizard.
Proceed with the installation according to the wizard.

For an Administrators group account that is uniquely created by a user, click "Run as administrator" in the menu that is displayed by right-clicking the mouse on the VSSHP package (setup.exe).
For a Server Core environment, use the command prompt to execute setup.exe.

**3**  After installation, continue to set the environment. The following window appears.



**4**  Select "Production server (Transportable copy)" and click the [OK] button.

Set the IP address of the backup server in the communication management file.

When the [Skip] button is clicked, the installation completes without the environment being set. Set a Shadow Copy destination and communication environment after the installation. Refer to "6.2 When Changing the Communication Environment" (page 48) for details.

The following window appears. Specify the IP version (IPv4 or IPv6) of the backup server, enter the appropriate IP address, and click the [OK] button.
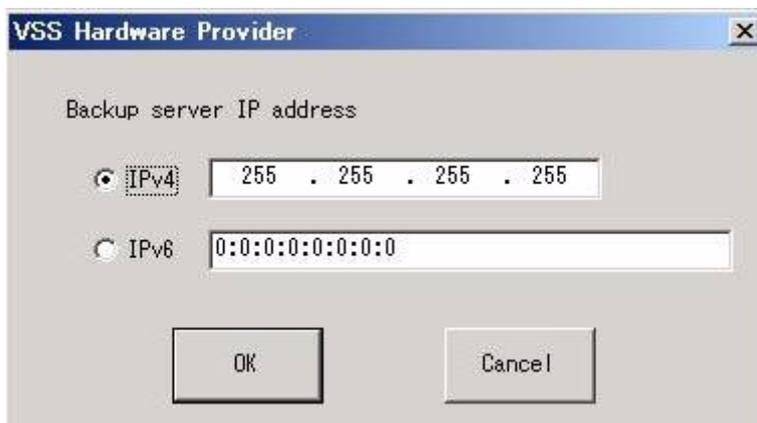


**5**  Click the [Finish] button on the "InstallShield Wizard Completed" screen to finish the installation.

**End of procedure**

P3AM-4582-03ENZ0

■ For a Hyper-V host OS

After installation, execute the following procedures.

### Procedure

**1**  Use the "Hyper-V Environment Setup Command" to set up a VSSHP Hyper-V environment.
For details, refer to "8.10 Hyper-V Environment Setup Command (stxvhyperv)" (page 71).

**2**  Connect the Hyper-V host OS to the Shadow Copy destination. Set the Shadow Copy destination to offline.

**End of procedure**

## 4.1.2    Local Copy Configuration Installation

Perform installation according the following procedure.

### Procedure

**1**  Extract the file downloaded in "4.1 New Installation" (page 34).

**2**  Double-click the VSSHP package (setup.exe) that was extracted to start the wizard.
Proceed with the installation according to the wizard.

For an Administrators group account that is uniquely created by a user, click "Run as administrator" in the menu that is displayed by right-clicking the mouse on the VSSHP package (setup.exe).
For a Server Core environment, use the command prompt to execute setup.exe.

**3** After installation, continue to set the environment. The following window appears.



**4** Select "Stand-alone (Local copy)" and click the [OK] button.

When the [Skip] button is clicked, installation completes without the environment being set. Set a Shadow Copy destination after the installation.
Refer to "6.1 When Changing the Shadow Copy Destination" (page 45) for details.

**5** The following window to register a Shadow Copy destination in the target disk pool management file appears.

If multiple mount points or drive letters are allocated to one disk, one of them is displayed.



Select the disk that is to be a Shadow Copy destination from [Disk list] (multiple selections can be made), and click the [--->] button and then [OK] button to register the disks in [Target disk list] and [Used target disk list] in the target disk pool management file.

If the ETERNUS Disk storage system setup has not completed yet, click the [CANCEL] button.

After the ETERNUS Disk storage system setup has completed, execute the "Target Disk Pool Registration/Deletion Command" to register a Shadow Copy destination.

- For a Server Core environment
  The window to register a Shadow Copy destination in the target disk pool management file does not appear when the installation is complete.
  After installation is complete, register a Shadow Copy destination in the target disk pool management file using the "Target Disk Pool Registration/Deletion Command".
  For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

---

**Caution**

For a copy set operation, do not register a Shadow Copy destination. Click the [Cancel] button.

---

**6** Click the [Finish] button on the "InstallShield Wizard Completed" screen to finish the installation.

**End of procedure**

ETERNUS VSS Hardware Provider 2.1 User's Guide

## 4.2    Upgrade Installation

Perform installation according the following procedure.
The environment before upgrade is used. Therefore, setting the environment is not required.

### Procedure

**1**    Extract the file downloaded in "4.1 New Installation" (page 34).

**2**    Double-click the VSSHP package (setup.exe) that was extracted to start the wizard.
Proceed with the installation according to the wizard.

For an Administrators group account that is uniquely created by a user, click "Run as administrator" in the menu that is displayed by right-clicking the mouse on the VSSHP package (setup.exe).
For a Server Core environment, use the command prompt to execute setup.exe.



**3**    Click the [Finish] button on the "InstallShield Wizard Completed" screen to finish the installation.

**End of procedure**

**Caution**

VSSHP1.1.0 does not support Upgrade Installation.
After uninstalling VSSHP1.1.0, install this product.

# Chapter 5

## Operation

This chapter explains backup operation procedures using VSSHP.

## 5.1 Backup

Perform via a requester.

Setting a requester to cooperate with VSS enables backup.

> **Caution**
>
> - Do not use a Shadow Copy destination during backup. Remove the drive letter and mount point (unmount) to prevent accidental use of the Shadow Copy.
> - Even if a requester is aborted, Advanced Copy may start. In this case, backup will fail. Remove the cause of the error according to the coping strategy from the requester, and try the backup again.

## 5.2 Restoration

Perform via a requester.
Perform restoration operations using the restore function of a requester.

# Chapter 6

# Operation Change

Each function must be executed by users who belong to the Administrators group.

## 6.1　When Changing the Shadow Copy Destination

Change the Shadow Copy destination using the Target Disk Pool Registration/Deletion function.

### ■ Displaying the Target Disk Pool Registration/Deletion window

Start the Target Disk Pool Registration/Deletion function according to the following procedures.
When the function starts, the Target Disk Pool Registration/Deletion window is displayed.

#### ● Local copy configuration

- For Windows Server 2008
  Click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion].

  For a Server Core environment, execute the "Target Disk Pool Registration/Deletion Command".
  For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

- For Windows Server 2012
  Click the [Start] icon – [Target Disk Pool Registration•Deletion]

  For a Server Core environment, execute the "Target Disk Pool Registration/Deletion Command".
  Fore details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

● Transportable copy configuration

- For Windows Server 2008
  Click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion] in the backup server.

  For a Server Core environment, execute the "Target Disk Pool Registration/Deletion Command".
  For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

- For Windows Server 2012
  Click the [Start] icon – [Target Disk Pool Registration•Deletion] in the backup server.

  For a Server Core environment, execute the "Target Disk Pool Registration/Deletion Command".
  For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

■ Changing the Shadow Copy Destination

Change the Shadow Copy destination in the Target Disk Pool Registration/Deletion window according to the following procedure.
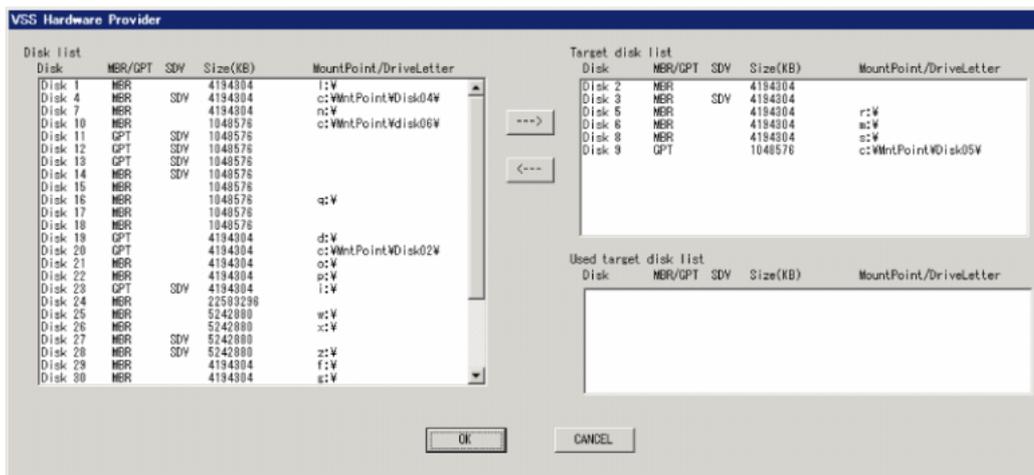


● Adding a Shadow Copy destination

**Procedure**

**1**  Select a disk that is to be a Shadow Copy destination from [Disk list] (multiple selections can be made), and click the [--->] button.
The disk is moved to [Target disk list].

**2**  Click the [OK] button.
The disks in [Target disk list] and [Used target disk list] are registered in the target disk pool management file.

**End of procedure**

● Deleting a Shadow Copy destination

## Procedure

**1**   Select a disk that is not to be a Shadow Copy destination from [Target disk list] (multiple
       selections can be made), and click the [<---] button.
       The disk is moved to [Disk list].

**2**   Click the [OK] button.
       The disks in [Target disk list] and [Used target disk list] are registered in the target disk pool
       management file.
       This deletes the disks selected in [Target disk list] that are not to be used as Shadow Copy
       destinations from the target disk pool management file.

**End of procedure**

**Caution**

- Only the information on the disks that are currently connected to the backup server is displayed in
  the Target Disk Pool Registration/Deletion window.
  Even if a disk is already registered in [Target Disk], if the disk is not currently connected to the
  backup server, the disk does not appear in the Target Disk Pool Registration/Deletion window. If
  the [OK] button is clicked in this status, the disk is excluded from the target disk pool
  management.
  If multiple mount points or drive letters are allocated to one disk, one of them is displayed.
- If the target disk pool management information is changed during a backup operation using
  VSSHP, the target disk pool management information may be corrupted.
  Do not change the Shadow Copy destination during a backup operation.
- When the following information is displayed in the Target Disk Pool Registration/Deletion window,
  a backup operation using the disk may be in progress.
    - Error message STXV0902 is displayed after a physical disk number in [Disk list]
    - Disks without physical disk numbers are displayed in the [Used target disk list]
  Click the [CANCEL] button to close the window, check that a backup operation from requester is
  not in progress, and try again.

## 6.2 When Changing the Communication Environment

When changing the following communication environment settings, change the communication service (ETERNUS VSS Hardware Provider Communication Server service) operation.

- The IP address of the backup server
- The port number of the backup server

Change the settigs for a backup server first, then a production server as follows.

### ■ Backup server

● Changing the communication environment setting

- For Windows Server 2008
  To start the "Communication Environment Setup command", click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Communication Environment Setup].

  - For a Server Core environment
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

- For Windows Server 2012
  To start the "Communication Environment Setup command", click the [Start] icon – [Communication Environment Setup].

  - For a Server Core environment
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

● Changing the firewall settings

Remove the changed port number from the firewall targets.

● Restarting the ETERNUS VSS Hardware Provider Communication Server service

When a port number was changed, restart the ETERNUS VSS Hardware Provider Communication Server service.
Restart it using one of the following procedures.

  - Reboot the backup server
  - Restart the ETERNUS VSS Hardware Provider Communication Server service in the [Service] window of the backup server.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ Production server

● Changing the communication environment setting

• For Windows Server 2008
 To start the Communication Environment Setup function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Communication Environment Setup].

   - For a Server Core environment
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

• For Windows Server 2012
 To start the Communication Environment Setup function, click the [Start] icon – [Communication Environment Setup].

   - For a Server Core environment
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

# Chapter 7

## Operation End

## 7.1 Copy Session Stop

Check the Advanced Copy operation status using the "Backup status query command".
For details, refer to .
When a copy session is displayed, specify the -f option (stops all copy sessions including a suspended copy session by error) in the "Batch Stop Command" to stop all backups.
For details, refer to .

## 7.2 VSSHP Uninstallation

When the "User Account Control" screen appears while performing uninstallation, select [Accept] to continue the process.

■ For Windows Server 2008/Windows Server 2012

### Procedure

**1** Select [ETERNUS VSS Hardware Provider] from [Programs and Features], and click the [Uninstall] button to execute the uninstallation.
For a Server Core environment, use the following command in the command prompt for the uninstallation process.

```
wmic product where name="ETERNUS VSS Hardware Provider" call uninstall
```

**2** Log files, etc. are left in the installation folder. Make sure to delete them manually.

**End of procedure**

When the following services are running, a window to confirm stopping the service is displayed. Click the [OK] button to continue the uninstallation.
VSSHP stops and deletes the service at uninstallation.

- ETERNUS VSS Hardware Provider service
- ETERNUS VSS Hardware Provider Communication Server service

## 7.2.1　Operations After Uninstalling

Perform the following after uninstalling.

■　Change the firewall settings (Only the backup server)

Set the port number that was used for the firewall target again.
For the procedure for changing the settings of the firewall, refer to the help for each firewall.

# Chapter 8

## Commands

This chapter explains how to use each command.

| Command name | Function | Production server | Backup server |
|---|---|---|---|
| Provider Registration/Deletion Command (stxvprovider) | Registers or deletes VSSHP in VSS | usable | usable |
| Update Volume Measurement Command (stxvtestcopy) | For SnapOPC+ operation, measures the cumulative amount of source disk updates | usable | unusable |
| Backup Control Command (stxvcopy) | Stops a copy session of the specified source disk | usable | unusable |
| Batch Stop Command (stxvstopall) | Stops a copy session of the shadow copy destination that is registered in the backup disk pool management file | unusable | usable |
| Backup Status Query Command (stxvquery) | Displays Advanced Copy status of the specified source disk | unusable | usable |
| OLU Number Display Command (stxvgetolu) | Displays information such as the OLU number and Box ID of the specified ETERNUS Disk storage systems | usable | usable |
| Communication Environment Check Command (stxvchkcommu) | Checks whether the communication environment between the production server and backup server is correct | usable | unusable |
| Communication Environment Setup Command (stxvsetcommu) | Sets the VSSHP communication environment in a Server Core environment | usable | usable |
| Target Disk Pool Registration/ Deletion Command (stxvsetdiskpool) | Registers or deletes a Shadow Copy destination in the target disk pool management file in a Server Core environment | unusable | usable (*3) |
| Hyper-V Environment Setup Command (stxvhyperv) | Sets the Hyper-V transportable copy operation | usable | unusable |
| Shadow Copy Destination Recovery Command (stxvrecoverydisk) | Recovers Shadow Copy destination disks that are invisible from the server due to VSSHP. | usable (*1) | usable |
| Copy Set File Registration Command (stxvcopyset) | Registers copy set information to a copy set management file. | usable (*2) | unusable |
| Copy Set Registration Display Command (stxvcopyprt) | Displays the copy set information that is registered in a copy set management file. | usable (*2) | unusable |

*1: Used only for Transportable Copy Configuration (when backing up a Hyper-V virtual machine)
*2: Used only for a copy set operation
*3: Used only for a target disk pool operation

Commands must be executed by users who belong to the Administrators group.
For an account belonging to an Administrators group that is uniquely created by a user, select "Run as administrator" in the menu that is displayed by right-clicking and start the command prompt that is used to execute commands.
The following table shows notation used for explaining commands.

| Notation | Description |
|---|---|
| \| | One of multiple options is specified. |
| [ ] | Arbitrarily-specified item |
| _ | Omitted value |
| Italic | Variable part |

# 8.1    Provider Registration/Deletion Command (stxvprovider)

This command registers or deletes VSSHP in VSS.
For backup operation using VSSHP, VSSHP must be registered in VSS in advance to enable cooperation with VSS. To release cooperation with VSS, VSSHP must be deleted from VSS.

## ■ Format

```
"Installation folder"\bin\stxvprovider install | uninstall
```

## ■ Description of options

| Option | Description |
|---|---|
| install | Registers VSSHP in VSS. The following information is registered.<br>• Provider name: "ETERNUS VSS Hardware Provider"<br>• Provider type: Hardware<br>• Provider ID: {38A7D4B1-9B95-45ab-82E1-EDFC591307EF}<br>• Version: VSSHP version and level<br>If VSSHP has already been registered, it will not be registered again. |
| uninstall | Deletes VSSHP from VSS.<br>If VSSHP has already been deleted, it cannot be deleted again. |

■ Execution example

● For registration

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvprovider"
install
stxvprovider install successfully completed.

C:\>
```

● For deletion

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvprovider"
uninstall
stxvprovider uninstall successfully completed.

C:\>
```

■ Reference

Use the "vssadmin list provider" command that is provided by the OS to check whether VSSHP has been registered in VSS.
VSSHP has been registered when the provider name "ETERNUS VSS Hardware Provider" is displayed.

# 8.2    Update Volume Measurement Command (stxvtestcopy)

For a SnapOPC+ operation, this command keeps a cumulative total of the amount of source disk updates that have occurred for the specified physical disk or mount point.
Execute this command on a production server.

■ Format

```
"Installation folder"\bin\stxvtestcopy start | status | stop
-p source-disk | mount-point
```

■ Description of options

| Option | Description |
|--------|-------------|
| start | Starts measuring the amount of updates. |
| status | Outputs the current amount of updates. |
| stop | Stops measuring the amount of updates. |
| -p | Specifies a source disk with a physical disk number or mount point. |

■ **Description of operand**

| Operand | Description |
|---------|-------------|
| source-disk | Specifies the physical disk number of the target source disk. (*1) |
| mount-point | Specifies the mount point of the target source disk. (*2) |

*1:   Obtain the physical disk number according to the following procedure.
  1. Start "Computer Management".
     Click the [Start] – [Control Panel], then double-click [Administrative Tools], then [Computer Management] to start.
  2. Obtain the physical disk number of the target disk.
     Click [Computer Management (local)] – [Storage] – [Disk Management].
     The disk number of the target volume is the physical disk number.

*2:   Specify the mount point using its complete path or drive letter.

■ **Execution example**

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvtestcopy"
start -p 1
stxvtestcopy successfully completed.

C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvtestcopy"
status -p 1
source-disk  update
1            2
stxvtestcopy successfully completed.

C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvtestcopy"
stop -p 1
stxvtestcopy successfully completed.

C:\>
```

■ **Displayed contents**

| Title | Description |
|-------|-------------|
| source-disk | The physical disk number of the source disk is displayed. |
| update | The updated data amount after starting measurement is displayed in MB. |

**Caution**

• Data backup is not performed while the amount of updates is being measured.

# 8.3    Backup Control Command (stxvcopy)

This command stops the copy session of the specified source disk.
Execute this command on a production server.

### ■ Format

```
"Installation folder"\bin\stxvcopy source-disk | mount-point stop [-f] [-t olu]
```

### ■ Description of options

| Option | Description |
|---|---|
| stop | Stops a QuickOPC/SnapOPC+ session. |
| -f | Stops a copy session forcibly. |
| -t | This option is available only for QuickOPC operations.<br>When there are multiple copy sessions in the specified source disk, specify the OLU number of the Shadow Copy destination for the target copy session to be stopped. |

### ■ Description of operand

| Operand | Description |
|---|---|
| source-disk | Specify the physical disk number of the source disk. (*1) |
| mount-point | Specify the mount point of the source disk. (*2) |
| olu | Specify the OLU number of the Shadow Copy destination. (*3)<br>Use a four digit hexadecimal number prefixed by "0x".<br>For example, when the OLU number is 1, specify "0x0001". |

*1:    Obtain the physical disk number according to the following procedure.
    1. Start "Computer Management".
       Click the [Start] – [Control Panel], then double-click [Administrative Tools], then [Computer Management] to start.
    2. Obtain the physical disk number of the target disk.
       Click [Computer Management (local)] – [Storage] – [Disk Management].
       The disk number of the target volume is the physical disk number.

*2:    Specify the mount point using its complete path or drive letter.

*3:    Use the "Backup Status Query Command" to acquire the OLU number of the Shadow Copy destination.
       For details, refer to the Backup Status Query Command (stxvquery).

■ **Execution example**

● When the OLU number is not specified

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvcopy" 1 stop
STXV0317 INFO Copy session was stopped. Source-Disk = 1 Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001## Source-OLU = 0x000b
Target-BoxID = 00E4000M3#####E430S20AU###MP4020738001## Target-OLU = 0x001f
stxvcopy successfully completed.

C:\>
```

● When the OLU number is specified

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvcopy" 1
stop -t 0x001f
STXV0317 INFO Copy session was stopped. Source-Disk = 1 Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001## Source-OLU = 0x000b
Target-BoxID = 00E4000M3#####E430S20AU###MP4020738001## Target-OLU = 0x001f
stxvcopy successfully completed.

C:\>
```

**Caution**

Only a copy session of the specified source disk can be stopped.
- When there are multiple QuickOPC sessions in the specified source disk, use the -t option to specify the OLU number of the Shadow Copy destination for the target copy session to be stopped.
  Only the specified copy session is stopped.
- When there are multiple copy sessions in the specified source disk for the SnapOPC+ stop process, only the first generation of the SnapOPC+ sessions are stopped. Confirm that the copy sessions to be stopped are the first generation of the SnapOPC+ sessions and check that no backup is being performed before executing the SnapOPC+ stop process.
- When this command is executed with the -f option for the QuickOPC stop process, the copy session is stopped without waiting for the differential copy to be finished.
- If this command is executed without the -f option for the QuickOPC stop process when a differential copy is running, the copy session is stopped after the differential copy is finished
- If an ETERNUS Disk storage systems hardware error occurs, this command is not executed.

# 8.4    Batch Stop Command (stxvstopall)

This command stops copy sessions including sessions suspended by an error, for the Shadow Copy destinations that are registered in a target disk pool management file.
Execute this command on a backup server.

■ Format

```
"Installation folder"\bin\stxvstopall -f | -e
```

■ Description of options

| Option | Description |
|--------|-------------|
| -f | Stops all copy sessions including sessions suspended by an error. |
| -e | Stops only sessions suspended by an error. |

■ Execution example

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvstopall" -f

STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x000b, Target-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Target-OLU = 0x001f
STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x000f, Target-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Target-OLU = 0x0021
STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x0010, Target-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Target-OLU = 0x0015
STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x0010, Target-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Target-OLU = 0x0016
STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x0007, Target-BoxID =
00E4000M3#####E430S20AU###MQ5020739011##, Target-OLU = 0x001d
STXV3020 INFO Copy session was stopped. Source-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Source-OLU = 0x0018, Target-BoxID =
00E4000M3#####E430S20AU###MP4020738001##, Target-OLU = 0x0026
stxvstopall 6 copy sessions were stopped.
stxvstopall successfully completed.

C:\>
```

**Caution**

Only copy sessions of a Shadow Copy destination that is registered in the target disk pool management file can be stopped.

# 8.5    Backup Status Query Command (stxvquery)

This command displays the Advanced Copy status.
Execute this command on a backup server.

### ■ Format

```
"Installation folder"\bin\stxvquery
```

### ■ Execution example

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvquery"
id,elapsed-time,kind,source-box-id,source-olu-no,target-box-id,target-olu-no,
status,phase,execute,update,genaration,transfer,recovery
--------------------------------------------------------------------------------
----------------------------------------------------
0x0007,120,QOPC,00E4000M3#####E430S20AU###MP4020738001##,0x0007,00E4000M3#####E430
S20AU###MQ5020739011##,0x001d,executing,copying,8%,---,---,---,---
stxvquery successfully completed.

C:\>
```

### ■ Displayed contents

| Title | Description |
|---|---|
| id | The session ID of the chassis is displayed.<br>A hexadecimal number of four digits is displayed with "0x" in front of the hexadecimal number.<br>When the OLU number is 1, it is displayed as "0x0001". |
| elapsed-time | The elapsed time from the beginning of the copy is displayed. (unit: second) |
| kind | The copy type is displayed.<br>QOPC: QuickOPC<br>SOPCP: SnapOPC+ |
| source-box-id | The BOX ID of the source disk is displayed. |
| source-olu-no | The OLU number of the source disk is displayed.<br>A hexadecimal number of four digits is displayed with "0x" in front of the hexadecimal number.<br>When the OLU number is 1, it is displayed as "0x0001". |
| target-box-id | The BOX ID of the Shadow Copy destination is displayed. |
| target-olu-no | The OLU number of the Shadow Copy destination is displayed.<br>A hexadecimal number of four digits is displayed with "0x" in front of the hexadecimal number.<br>When the OLU number is 1, it is displayed as "0x0001". |
| status | The session status is displayed.<br>executing: operating normally<br>errsuspend: suspended by an error<br>halt: suspended in the hardware |

| Title | Description |
|---|---|
| phase | The copy status is displayed.<br>copying: copying<br>tracking: tracking (the copy process has completed)<br>trackingcopying: tracking (the copy is being processed)<br>---: suspended by an error, suspended in the hardware |
| execute | The copy progress is displayed.<br>*nnn*%: displayed in percentage<br>---: other than being copied |
| update | The update rate is displayed.<br>*nnn*%: While tracking (the copy process has completed) in QuickOPC operation, this item is displayed in percentage<br>---: except while tracking (the copy process has completed) in QuickOPC operation |
| generation | For a SnapOPC+, the generation is displayed.<br>1 to n: the number of generations<br>---: operation other than SnapOPC+ |
| transfer | The transfer mode type is displayed.<br>This is not displayed for QuickOPC/SnapOPC+ operation.<br>---: QuickOPC/SnapOPC+ |
| recovery | The setting information of the Recovery mode is displayed.<br>This is not displayed for QuickOPC/SnapOPC+ operation.<br>---: QuickOPC/SnapOPC+ |

**Caution**

Check the status of the copy sessions in the Shadow Copy destination disks that are registered in the target disk pool management file.

# 8.6 OLU Number Display Command (stxvgetolu)

This command displays information such as the OLU number and Box ID of the specified ETERNUS Disk storage systems.
This command can be executed by either a production server or a backup server.

## ■ Format

```
"Installation folder"\bin\stxvgetolu [-p physical-disk]
```

## ■ Description of options

| Option | Description |
|---|---|
| -p | Specify a physical disk number.<br>If omitted, information, such as all OLU numbers and Box IDs of ETERNUS Disk storage systems that are connected to the executed server, is displayed. |

ETERNUS VSS Hardware Provider 2.1 User's Guide

### ■ Description of operand

| Operand | Description |
|---|---|
| physical-disk | Specifies a physical disk number whose information, such as the OLU number and Box ID, is to be obtained. |

### ■ Execution example

#### ● When a physical disk number is specified

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvgetolu" -p 1
Disk,  OLU,     BoxID/Message,                               VOL,Maxgen
1,      0x0002, 00E4000M3#####E430S20AU###MP4020738001##,SDV,8
stxvgetolu successfully completed.

C:\>
```

#### ● When a physical disk number is not specified

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvgetolu"
Disk,  OLU,     BoxID/Message,                               VOL,Maxgen
0,      ,        STXV0603 INFO Disk is not a Disk Storage Systems.
1,      0x0002, 00E4000M3#####E430S20AU###MP4020738001##,---,-
2,      0x000a, 00E4000M3#####E430S20AU###MP4020738001##,---,-
stxvgetolu successfully completed.

C:\>
```

### ■ Displayed contents

| Title | Description |
|---|---|
| Disk | A physical disk number is displayed. |
| OLU | An OLU number is displayed.<br>A hexadecimal number of four digits is displayed with "0x" in front of the hexadecimal number<br>When the OLU number is 1, it is displayed as "0x0001". |
| BoxID/Message | A Box ID or message of ETERNUS Disk storage systems is displayed. |
| VOL | The disk type is displayed.<br>SDV: SDV volume<br>---: normal volume |
| Maxgen | For SDV, the maximum number of generations is displayed.<br>n: the maximum number of generations<br>-: other than SDV |

**Caution**

Device information that is not registered in a definition file is also output.

■ **Reference**

● Identifying if a command ends normally

An error has occurred if a message includes one of the following error levels:

"ERROR"
"WARNING"

● Notes on identifying if a command ends normally

The following message appears if any disks other than disks in the ETERNUS Disk storage system are detected with this command.

"STXV0603 INFO Disk is not a Disk Storage Systems."

This message does not mean an error has occurred. This message indicates that the detected disk is not a LUN from the ETRERNUS Disk storage system. If a device other than the ETERNUS Disk storage system is connected to, this message always appears. When this message is displayed, determining the relevance of the contents of this message may be required.
The output of this message can be checked with the following message number:

"STXV0603"

An example of an output message is shown below.

- When all of the OLU information is output in an environment in which an internal disk and the
  ETERNUS Disk storage system are connected..

```
> stxvgetolu
Disk,   OLU,    BoxID/Message,                        VOL,Maxgen
0,      ,       STXV0603 INFO Disk is not a Disk Storage Systems.
1,      0x000a, 00E2000#######E210S4B#####JD4170832013##,---,-
```

- When the OLU information of an internal disk with the specified disk number is output in an envi-
  ronment in which an internal disk and the ETERNUS Disk storage system are connected.

```
> stxvgetolu -p 0
Disk,   OLU,    BoxID/Message,                        VOL,Maxgen
0,      ,       STXV0603 INFO Disk is not a Disk Storage Systems.
```

# 8.7 Communication Environment Check Command (stxvchkcommu)

This command checks whether the communication environment between the production server and backup server is correct.
Execute this command on a production server.

### ■ Format

```
"Installation folder"\bin\stxvchkcommu
```

### ■ Execution example

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvchkcommu"
Computer Name : BKUPSRV002
stxvchkcommu successfully completed.

C:\>
```

### ■ Displayed contents

| Title | Description |
|-------|-------------|
| Computer Name | The computer name of the backup server is displayed.<br>If the computer name cannot be obtained, review the communication environment. |

**Caution**

There is no option in this command. The specified value is ignored.

ETERNUS VSS Hardware Provider 2.1 User's Guide

# 8.8 Communication Environment Setup Command (stxvsetcommu)

This command sets the VSSHP communication environment.
This command can be executed by either a production server or a backup server when setting the communication environment in the Server Core environment.

## ■ Format

```
"Installation folder"\bin\stxvsetcommu
```

## ■ Execution example

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\ stxvsetcommu"
Refer to "Window explanation", which is described below.

C:\>
```

## ■ Window explanation

The following window that checks the communication environment settings appears when executing the command.
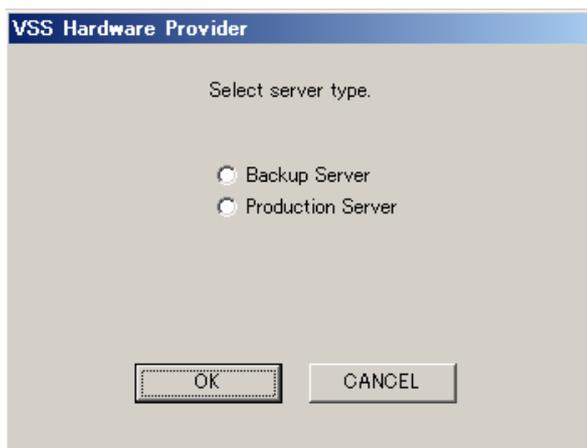
● For a backup server

Select "Backup Server".
Perform the communication service (ETERNUS VSS Hardware Provider Communication Server service) setting.
The service name is registered as "stxvcommunication". Check the port number and set the IP version.

● When the port number has already been set with the service name "stxvcommunication"

The set port number is displayed.



● When the service name "stxvcommunication" has not been registered and the default port number 50001 is used

The default port number is displayed in the following window.
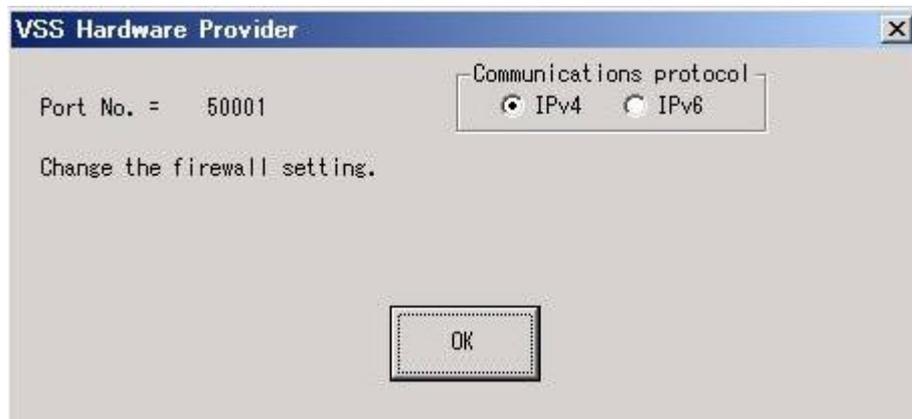
● When the service name "stxvcommunication" has not been registered and the default port number is used for another service

An unused port number between 49152 and 65535 is used. The port number to be used is displayed in the following window.



Check the port number and select the IP version (IPv4 or IPv6) for VSSHP.

● For a production server

Select "Production Server".
Set the IP address of the backup server in the communication management file.

● When the IP address has already been registered

The registered IP version and IP address are displayed. To change the IP address and IP version, enter a new IP address and IP version.
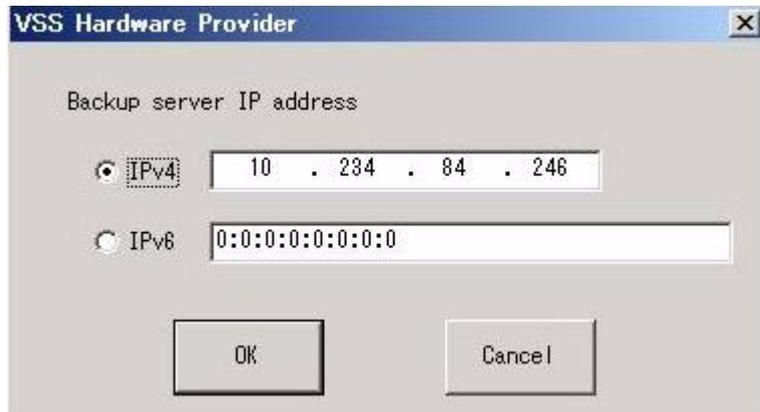
● When the IP address has not been registered in the registry.

The following window appears. Enter a new IP address and IP version.
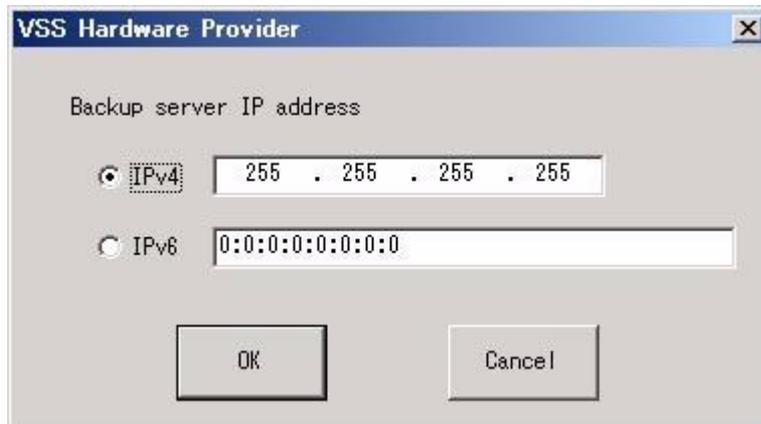


**Caution**

If the communication environment setting for a production server is performed before the communication environment setting for a backup server, the communication environment settings for the production server fail.
The same IP version must be set for the production server and the backup server.

# 8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)

This command registers or deletes a Shadow Copy destination in the target disk pool management file. Execute this command on a backup server. This command is mainly used in Server Core environments.

### ■ Format

```
"Installation folder"\bin\stxvsetdiskpool
```

### ■ Description of subcommands

| Subcommand | Description |
|---|---|
| add | Adds a Shadow Copy destination in the target disk pool management file. |
| delete | Deletes a Shadow Copy destination from the target disk pool management file. |
| list | Displays the contents of a target disk pool management file. |
| list detail | Displays the contents of a target disk pool management file. The Box ID and OLU number are also displayed. |
| exit | Exits the "Target Disk Pool Registration/Deletion Command". |

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ The input format of the "add" subcommand and "delete" subcommand

| Input format | Description |
|---|---|
| n | Specify the target Shadow Copy destination number with a numerical value.<br>The Shadow Copy destination of the specified number is registered or deleted in the target disk pool management file. |
| n-m | Specify the range of the target Shadow Copy destination numbers with numerical values.<br>The Shadow Copy destinations within the specified range are registered or deleted in the target disk pool management file. |
| n,m... | Specify the multiple target Shadow Copy destination numbers with numerical values.<br>The Shadow Copy destinations of the specified numbers are registered or deleted in the target disk pool management file. |
| all | All the Shadow Copy destinations are registered or deleted in the target disk pool management file. |
| quit | Quits the subcommand. |

■ Execution example

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvsetdiskpool"


VSSHP>add
  No.  DiskNo.   SDV  Size(KB)        MountPoint/DriveLetter
  1    Disk1          4194304
  2    Disk2          4194304          e:\MntPoint\Disk2P1\
  3    Disk3          4194304
  4    Disk10    SDV  2097152
  5    Disk11    SDV  2097152
  6    Disk12    SDV  2097152

select disk: 2,5-6
The specified target disks are added.

VSSHP>list
 Target disk list
  No.  DiskNo.   SDV  Size(KB)        MountPoint/DriveLetter
  1    Disk2          4194304          e:\MntPoint\Disk2P1\
  2    Disk11    SDV  2097152
  3    Disk12    SDV  2097152
 Used target disk list
  No.  DiskNo.   SDV  Size(KB)        MountPoint/DriveLetter

```

```
VSSHP>list detail
 Target disk list
  No.  DiskNo.    SDV  Size(KB)          OLU     BoxID
  1    Disk2           4194304          0x00ff 00E4000M3#####E430S20AU###MP4020
738001##
  2    Disk11     SDV  2097152          0x0101 00E4000M3#####E430S20AU###MP4020
738001##
  3    Disk12     SDV  2097152          0x0102 00E4000M3#####E430S20AU###MP4020
738001##
 Used target disk list
  No.  DiskNo.    SDV  Size(KB)          OLU     BoxID


VSSHP>delete
  No.  DiskNo.    SDV  Size(KB)          OLU     BoxID
  1    Disk2           4194304          0x00ff 00E4000M3#####E430S20AU###MP4020
738001##
  2    Disk11     SDV  2097152          0x0101 00E4000M3#####E430S20AU###MP4020
738001##
  3    Disk12     SDV  2097152          0x0102 00E4000M3#####E430S20AU###MP4020
738001##

select disk: 1
The specified target disks are deleted.


VSSHP>list
 Target disk list
  No.  DiskNo.    SDV  Size(KB)          MountPoint/DriveLetter
  1    Disk11     SDV  2097152
  2    Disk12     SDV  2097152
 Used target disk list
  No.  DiskNo.    SDV  Size(KB)          MountPoint/DriveLetter
VSSHP>exit

C:\>
```

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ **Displayed contents**

| Title | Description |
|---|---|
| No. | The serial number is displayed.<br>This number is used with the "add" subcommand and the "delete" subcommand. |
| DiskNo. | The physical disk number is displayed.<br>The disk number is blank if the disk has been registered in the target disk pool management file but is not connected to the server. |
| SDV | When the target disk is a SDV, "SDV" is displayed.<br>The SDV is blank if the target disk is a disk other than SDV. |
| Size(KB) | The disk capacity is displayed in KB. |
| MountPoint/DriveLetter | The mount point and drive letter are displayed.<br>The mount point and drive letter are displayed when the "add" subcommand or "list" subcommand is executed.<br>If multiple mount points or drive letters are allocated to one disk, one of them is displayed. |
| OLU | The OLU number is displayed.<br>The OLU number is displayed by a 4-digit hexadecimal number. "0x" is added as a prefix to the number.<br>When the OLU number is 1, "0x0001" is displayed.<br>The OLU is displayed when the "delete" subcommand or "list detail" subcommand is executed. |
| BoxID | The Box ID of the ETERNUS Disk storage system is displayed.<br>The Box ID is displayed when the "delete" subcommand or "list detail" subcommand is executed. |

# 8.10   Hyper-V Environment Setup Command (stxvhyperv)

This command sets the environment of the VSSHP Hyper-V.
Execute this command on a production server in which a Hyper-V transportable copy is to be performed.

■ **Format**

```
"Installation folder"\ bin\stxvhyperv [-s | -d]
```

■ **Description of options**

| Option | Description |
|---|---|
| -s | Sets the Hyper-V environment.<br>Creates the following file:<br>    "Installation folder"\etc\vss\vsshp_hyper-v.ini |
| -d | Deletes the Hyper-V environment. |
| (blank) | Displays the Hyper-V environment.<br>• When the environment is set<br>  VSSHP has been set as a Hyper-V transportable copy.<br>• When the settings of the environment are deleted<br>  VSSHP is not set as a Hyper-V transportable copy. |

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ Execution example

● When setting the Hyper-V environment

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvhyperv" -s
stxvhyperv set successfully completed.
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvhyperv"
VSSHP has been set as a Hyper-V transportable copy.

C:\>
```

● When deleting the Hyper-V environment

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvhyperv" -d
stxvhyperv delete successfully completed.
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvhyperv"
VSSHP is not set as a Hyper-V transportable copy.

C:\>
```

**Caution**

Do not execute this command in an environment in which a Hyper-V transportable copy is not
performed.

# 8.11  Shadow Copy Destination Recovery Command (stxvrecoverydisk)

If a backup ends abnormally, the Shadow Copy destination disk may not be able to be checked via [Disk Management] in the OS, resulting in the backup process being stopped. If this is the case, use this command to make the Shadow Copy destination disk checkable via [Disk Management].
Execute this command on a backup server.
If a Hyper-V transportable copy is performed, execute this command on a production server and a backup server.

## ■ Format

```
"Installation folder"\bin\stxvrecoverydisk
```

## ■ Execution example

### ● When there is a target disk for recovery

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvrecoverydisk"
stxvrecoverydisk successfully completed.

C:\>
```

### ● When there is no target disk for recovery

```
C:\>"C:\Program Files\ETERNUS VSS Hardware Provider\bin\stxvrecoverydisk"
There is no target disk for recovery.

C:\>
```

**Caution**

- Do not execute this command while performing backup using VSSHP. Doing so may result in the backup ending abnormally.
- This command may take time to complete its operation.

ETERNUS VSS Hardware Provider 2.1 User's Guide

## 8.12    Copy Set File Registration Command (stxvcopyset)

This command registers the copy set information of the copy set file that is created by the user to the copy set management file.
This command should be performed with a production server.

This command can only be used for a copy set operation.
For more details, refer to "8.3 Copy Set File Registration Command (stxvcopyset)" in "ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide".

## 8.13    Copy Set Registration Display Command (stxvcopyprt)

This command outputs the copy set information that is registered in a copy set management file to standard output.
This command should be performed with a production server.

This command can only be used for a copy set operation.
For more details, refer to "8.4 Copy Set Registration Information Display Command (stxvcopyprt)" in "ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide".

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

# Chapter 9

## Messages

The displayed error types are as follows.

| Error type | Description |
|---|---|
| Information | Indicates the completion status of the process. No action is required. |
| Warning | Indicates a process alert. Refer to the "Action" for the message. |
| Error | Indicates a process error. Refer to the "Action" for the message. |

## 9.1 Event Log Messages

VSSHP stores the following event logs.
Check the event logs when an error or trouble occurs.

■ Event ID: 501

**Type:Error**

**Messages:STXV0501 ERROR Internal inconsistency.**

**Details:**

Internal inconsistency. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 502

**Type:Error**

**Messages:STXV0502 ERROR Insufficient memory.**

**Details:**

Insufficient memory. The process is canceled.
Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ Event ID: 503

**Type:Error**

**Messages:STXV0503 ERROR Internal inconsistency.**

**Details:**

Internal inconsistency. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 504

**Type:Information**

**Messages:STXV504 INFO VSS Hardware Provider service has started. PID = [process ID]**

**Details:**

The ETERNUS VSS Hardware Provider service has started.

■ Event ID: 505

**Type:Information**

**Messages:STXV505 INFO VSS Hardware Provider service has stopped. PID = [process ID]**

**Details:**

The ETERNUS VSS Hardware Provider service has stopped.

■ Event ID: 513

**Type:Error**

**Messages:STXV0513 ERROR VSSHP Management file is invalid.**

**Details:**

The copy set management file is invalid. The process is canceled.
Register the copy set information in the copy set management file again. For details, refer to "4.5 Registering Copy Set Information" in "ETERNUS VSS Hardware Provider 2.1 Copy Set Operation Technical Guide".

■ Event ID: 514

**Type:Information**

**Messages:STXV0514 INFO Copy set not found in VSSHP Management file.**

**Details:**

The copy set information cannot be found in the copy set management file.

■ Event ID: 515

### Type:Error

### Messages:STXV0515 ERROR Error in the setting regarding the server constitution of backup software. Error code = "internal error code"

### Details:

There is an error with the server configuration setting of the requester. The process is canceled.

- When "internal error code" is 1
  The server configuration in the copy set information uses the same Windows PC for both the production server and backup server.
  The server configuration in the requester uses a different Windows PC for the production server and backup server.

- When "internal error code" is 2
  The server configuration in the copy set information uses a different Windows PC for the production server and backup server. However, the communication environment of VSSHP is not set.

- When "internal error code" is 3
  The server configuration in the copy set information uses a different Windows PC for the production server and backup server.
  The server configuration in the requester uses the same Windows PC for both the production server and backup server.
  Review the server configuration setting, and try again.

■ Event ID: 516

### Type:Information

### Messages:STXV0516 INFO Target disk not found. Internal code = "internal code", Size = "the disk size of the copy source" KB

### Details:

The Shadow Copy destination cannot be found in the target disk pool management file.
When performing backup using VSSHP, register the source disk and Shadow Copy destination that have the same size in the target disk pool management file.

- When "internal error code" is 1
  The server configuration in the requester uses the same Windows PC for both the production server and backup server.

- When "internal error code" is 2
  The server configuration in the requester uses a different Windows PC for the production server and backup server.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ Event ID: 517

**Type:Information**

**Messages:STXV0517 INFO Management file cannot be found. Internal code = "internal code"**

**Details:**

The copy set management file cannot be found.
When performing backup using VSSHP, perform either of the following.

- Register the Shadow Copy destination information in the target disk pool management file.
- Register the copy set information in the copy set management file.
  - When "internal error code" is 3
    Set the VSSHP communication environment.
    To start the Communication Environment Setup function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Communication Environment Setup].

  - For a Server Core environment
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

■ Event ID: 518

**Type:Error**

**Messages:STXV0518 ERROR Target disk not found. Error code = "internal error code"**

**Details:**

The Shadow Copy destination is not sufficient in the target disk pool management file.
The process is canceled.
Register a Shadow Copy destination that has the same size as those of the source disk in the target disk pool management file.

- When "internal error code" is 1
  The server configuration in the requester uses the same Windows PC for both the production server and backup server.
- When "internal error code" is 2
  The server configuration in the requester uses a different Windows PC for the production server and backup server.

There is also a possibility that the Shadow Copy destination disk cannot be checked via [Disk Management] since the backup ended abnormally. Use the "Shadow Copy Destination Recovery Command" to make the Shadow Copy destination disk checkable via [Disk Management]. For details, refer to "8.11 Shadow Copy Destination Recovery Command (stxvrecoverydisk)" (page 73). Review the server configuration setting, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ Event ID: 520

**Type: Error**

**Messages:STXV0520 ERROR Failed to operate the target disk pool management file. Internal code = "internal code"**

**Details:**

Failed to operate the target disk pool management file. The process is canceled.
Display the Target Disk Pool Registration/Deletion window in the backup server, confirm the setting, and try again.
If the problem persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 551

**Type:Error**

**Messages:STXV0551 ERROR Failed to obtain session information. Error = "detailed error code"**

**Details:**

Failed to obtain session information. The process is canceled.
Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ Event ID: 552

**Type:Error**

**Messages:STXV0552 ERROR Invalid session status.**

**Details:**

The session information is invalid. The process is canceled.
Check the copy status using "Backup status query command".
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).

■ Event ID: 560

**Type:Information**

**Messages:STXV0560 INFO "copy type" has started. Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"**

**Details:**

The "Copy type" copy has started.

ETERNUS VSS Hardware Provider 2.1 User's Guide

　　　　　　　　　　　　　　　P3AM-4582-03ENZ0

■ Event ID: 561

**Type:Error**

**Messages:STXV0561 ERROR "Copy type" cannot be performed. Error = "detailed error code" Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"**

**Details:**

"Copy type" copy process cannot be performed. The process is canceled.
Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ Event ID: 565

**Type:Error**

**Messages:STXV0565 ERROR "Copy type" cannot be stopped. Error = "detailed error code" Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"**

**Details:**

"Copy type" copy cannot be stopped. The process is canceled.
Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ Event ID: 570

**Type:Information**

**Messages:STXV0570 INFO EF_AreLunsSupported ended.
Disk"physical disk number" ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_AreLunsSupported ended.

■ Event ID: 571

**Type:Information**

**Messages:STXV0571 INFO EF_BeginPrepareSnapshot ended.
Disk"physical disk number" ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_BeginPrepareSnapshot ended.

■ Event ID: 572

**Type:Information**

**Messages:STXV0572 INFO EF_FillInLunInfo ended.
Disk"physical disk number" ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_FillInLunInfo ended.

■ Event ID: 573

**Type:Information**

**Messages:STXV0573 INFO EF_GetTargetLuns ended.
Source Disk
   Disk"physical disk number" ("Box ID", "OLU number")
Target Disk
   ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_GetTargetLuns ended.

■ Event ID: 574

**Type:Information**

**Messages:STXV0574 INFO EF_LocateLuns ended.
Disk"physical disk number" ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_LocateLuns ended.

■ Event ID: 575

**Type:Information**

**Messages:STXV0575 INFO EF_OnLunEmpty ended.
Disk"physical disk number" ("Box ID", "OLU number")**

**Details:**

ETERNUS VSSHP EF_OnLunEmpty ended.

■ Event ID 576

**Type:Information**

**Messages:STXV0576 INFO EF_AbortSnapshots ended.**

**Details:**

ETERNUS VSSHP EF_AbortSnapshots ended.

P3AM-4582-03ENZ0

■ Event ID 577

**Type:Information**

**Messages:STXV0577 INFO EF_OnLunStateChange ended.**

**Details:**
  ETERNUS VSSHP EF_OnLunStateChange ended.

■ Event ID: 578

**Type:Information**

**Messages:STXV0578 INFO EF_CommitSnapshots ended.**

**Details:**
  ETERNUS VSSHP EF_CommitSnapshots ended.

■ Event ID: 579

**Type:Information**

**Messages:STXV0579 INFO EF_EndPrepareSnapshots ended.**

**Details:**
  ETERNUS VSSHP EF_EndPrepareSnapshots ended.

■ Event ID: 580

**Type:Information**

**Messages:STXV0580 INFO EF_PostCommitSnapshots ended.**

**Details:**
  ETERNUS VSSHP EF_PostCommitSnapshots ended.

■ Event ID: 581

**Type:Information**

**Messages:STXV0581 INFO EF_PostFinalCommitSnapshots ended.**

**Details:**
  ETERNUS VSSHP EF_PostFinalCommitSnapshots ended.

■ Event ID: 582

**Type:Information**

**Messages:STXV0582 INFO EF_PreCommitSnapshots ended.**

**Details:**
  ETERNUS VSSHP EF_PreCommitSnapshots ended.

■ Event ID: 583

**Type:Information**

**Messages:STXV0583 INFO EF_PreFinalCommitSnapshots ended.**

**Details:**

ETERNUS VSSHP EF_PreFinalCommitSnapshots ended.

■ Event ID: 585

**Type:Information**

**Messages:STXV0585 INFO [Internal Function Name] started.**

**Details:**

ETERNUS VSSHP [Internal Function Name] started.

■ Event ID: 591

**Type:Error**

**Messages:STXV0591 ERROR Failed to access device. Error code = "internal error code"**

**Details:**

Failed to access device. The process is canceled.
If the "internal error code" is [-1], check the following.

- There is no access to the Shadow Copy destination during backup.
  For details, refer to [Caution] in "5.1 Backup" (page 44).
- The Shadow Copy destination that is registered in the copy set information is connected to the backup server.
- The setting of the requester must be a server configuration.
  For details of server configuration, refer to "1.3.1 Server Configuration" (page 17).
- The Shadow Copy destination must be unmounted.
  If the "internal error code" is [-3], check the following.
- The Hyper-V Transportable Copy Configuration is used.
  Check that the Shadow Copy destination is connected to the production server.
  For details, refer to "1.3.1.4 Transportable Copy Configuration (when Backing Up a Hyper-V Virtual Machine)" (page 21).

Execute the backup again when there is no problem.

■ Event ID: 592

**Type:Error**

**Messages:STXV0592 ERROR Failed to obtain device information. Error = "detailed error code"**

**Details:**

Failed to obtain device information. The process is canceled.
Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ Event ID: 593

### Type:Error

**Messages:STXV0593 ERROR The VSSHP version used when registering the copy set file does not match the operating version.**

#### Details:

The VSSHP version used when registering the copy set file does not match the operating version. The process is canceled.
Check the VSSHP version and re-register the copy set information in the copy set management file, or re-install VSSHP, and try again.

■ Event ID: 594

### Type:Error

**Messages:STXV0594 ERROR The VSSHP version of the production server does not match the VSSHP version of the backup server.**

#### Details:

The VSSHP version of the production server does not match the VSSHP version of the backup server. The process is canceled.
Check the VSSHP version, re-install VSSHP, and try again.

■ Event ID: 595

### Type:Error

**Messages:STXV0595 ERROR Failed to the access of the target disk pool management file. iReturn = [internal code]**

#### Details:

Access to the target disk pool management file failed. The process is canceled.
Execute the target disk pool registration/deletion function to register the target disk pool management file, and try again.

[For a Server Core environment]
Execute the "Target Disk Pool Registration/Deletion Command".
For details, refer to "8.9 Target Disk Pool Registration/Deletion Command (stxvsetdiskpool)" (page 68).

■ Event ID: 596

### Type:Error

**Messages:STXV0596 ERROR Failed to obtain device information. Error = "error number"**

#### Details:

Failed to obtain device information. The process is canceled.
Check the device status, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ Event ID: 1001

**Type:Information**

**Messages:STXV1001 INFO VSS Hardware Provider Communication Server service has started. PID = [process ID]**

**Details:**

The ETERNUS VSS Hardware Provider Communication Server service has started.

■ Event ID: 1002

**Type:Information**

**Messages:STXV1002 INFO VSS Hardware Provider Communication Server service has stopped. PID = [process ID]**

**Details:**

The ETERNUS VSS Hardware Provider Communication Server service has stopped.

■ Event ID: 1003

**Type:Error**

**Messages:STXV1003 ERROR "0" is specified for the port number of VSS Hardware Provider Communication Server service.**

**Details:**

"0" is specified for the port number of ETERNUS VSS Hardware Provider Communication Server service. The process is canceled.
Check that the port number of the ETERNUS VSS Hardware Provider Communication Server service (stxvcommunication) is not "0" in the System drive:\WINDOWS\system32\drivers\etc\services file.

■ Event ID: 1004

**Type:Error**

**Messages:STXV1004 ERROR An error occurred when creating the communication environment for VSS Hardware Provider Communication Server service. iReturn = [internal code], errno = [error number]**

**Details:**

An error occurred when creating the communication environment for the ETERNUS VSS Hardware Provider Communication Server service. The process is canceled.
Try again in a few minutes. If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1005

**Type:Error**

**Messages:STXV1005 ERROR Receive process of the select function failed. iReturn = [return code of the select function], errno = [error number of the select function]**

**Details:**

Receive process of the select function failed. The process is canceled.
Check the communication environment between the production server and backup server.
If there is no problem in the communication environment, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1006

**Type:Error**

**Messages:STXV1006 ERROR Receive process of the accept function failed. iReturn = [return code of the accept function], errno = [error number of the accept function]**

**Details:**

Receive process of the accept function failed. The process is canceled.
Check the communication environment between the production server and backup server.
If there is no problem in the communication environment, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1007

**Type:Error**

**Messages:STXV1007 ERROR An error was detected in receive process of the select function.**

**Details:**

An error was detected in receive process of the select function. The process is canceled.
Check the communication environment between the production server and backup server.
If there is no problem in the communication environment, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1008

**Type:Error**

**Messages:STXV1008 ERROR A user who does not belong to the Administrators group tried to start VSS Hardware Provider Communication Server service.**

**Details:**

A user who does not belong to the Administrators group tried to start ETERNUS VSS Hardware Provider Communication Server service. The process is canceled.
Start the ETERNUS VSS Hardware Provider Communication Server service by the user who belongs to the Administrators group.

■ Event ID: 1009

**Type:Error**

**Messages:STXV1009 ERROR Obtaining of required virtual memory area failed. iReturn = [internal code]**

**Details:**

The required virtual memory area cannot be obtained. The process is canceled.
Perform the following to obtain the required virtual memory area, and try again.

- - Expand the size of the paging file
- - Exit unnecessary applications

■ Event ID: 1010

**Type:Error**

**Messages:STXV1010 ERROR Creating a thread of VSS Hardware Provider Communication Server service failed. errno = [internal code]**

**Details:**

Creating a thread of ETERNUS VSS Hardware Provider Communication Server service failed. The process is canceled.
Perform the following, and try again.

- - Restart the ETERNUS VSS Hardware Provider Communication Server service
- - Exit unnecessary applications
- - Reboot the server

When this phenomenon occurs often, review the system resources.

■ Event ID: 1011

**Type:Error**

**Messages:STXV1011 ERROR Notification of the service status of VSS Hardware Provider Communication Server service failed. errno = [internal code]**

**Details:**

Notification of the service status of ETERNUS VSS Hardware Provider Communication Server service failed. The process is canceled.
Restart the ETERNUS VSS Hardware Provider Communication Server service.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1012

**Type:Error**

**Messages:STXV1012 ERROR Event handler setting of VSS Hardware Provider Communication Server service failed. errno = [internal code]**

**Details:**

Event handler setting of ETERNUS VSS Hardware Provider Communication Server service failed.
The process is canceled.
Restart the ETERNUS VSS Hardware Provider Communication Server service.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1013

**Type:Error**

**Messages:STXV1013 ERROR Obtaining the port number of the "services" file failed. errno = [internal code]**

**Details:**

Obtaining the port number of the "services" file failed. The process is canceled.
Restart the ETERNUS VSS Hardware Provider Communication Server service.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1101

**Type:Error**

**Messages:STXV1101 ERROR The thread ended with an error. Thread ID = [thread ID], exitcode = [end status of the thread]**

**Details:**

The thread ended with an error. The process is canceled.
This message is output when sending a request to the port of ETERNUS VSS Hardware Provider Communication Server service using a function such as port scan.
Check that there is no communication to the port of the ETERNUS VSS Hardware Provider Communication Server service via anything other than VSSHP.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1102

**Type:Error**

**Messages:STXV1102 ERROR The thread ended abnormally. Thread ID = [thread ID], exitcode = [end status of the thread]**

**Details:**

The thread ended abnormally. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1201

**Type:Error**

**Messages:STXV1201 ERROR A pipe error occurred during the process.**

**Details:**

A pipe error occurred during the process. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1202

**Type:Error**

**Messages:STXV1202 ERROR Preparation for starting process failed.**

**Details:**

Preparation for starting process failed. The process is canceled.
Perform the following procedure, and try again.
- Restart the ETERNUS VSS Hardware Provider Communication Server service
- Exit unnecessary applications
- Reboot the server

If this occurs often, review the system resources.

■ Event ID: 1203

**Type:Error**

**Messages:STXV1203 ERROR Execution of the process failed.**

**Details:**

Execution of the process failed. The process is canceled.
Perform the following procedure, and try again.
- Restart the ETERNUS VSS Hardware Provider Communication Server service
- Exit unnecessary applications
- Reboot the server

If this occurs often, review the system resources.

■ Event ID: 1204

**Type:Error**

**Messages:STXV1204 ERROR An error occurred while reading a result data during the process.**

**Details:**

An error occurred while reading a result data during the process. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 1205

**Type:Error**

**Messages:STXV1205 ERROR An internal error occurred. errno = [internal code]**

**Details:**

An internal error occurred. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information
before contacting a Fujitsu field engineer (FE).

■ Event ID: 1206

**Type:Error**

**Messages:STXV1206 ERROR An internal inconsistency occurred during the process. errno = [internal code]**

**Details:**

An internal inconsistency occurred during the process. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information
before contacting a Fujitsu field engineer (FE).

■ Event ID: 1207

**Type:Error**

**Messages:STXV1207 ERROR The command ended abnormally during the process. exitcode = [status information]**

**Details:**

The command ended abnormally during the process. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information
before contacting a Fujitsu field engineer (FE).
When cancelling the process during obtaining/reflecting the device information, this message may
be output. In this case, no action is required.

■ Event ID: 2001

**Type:Error**

**Messages:STXV2001 ERROR An invalid IP address has been specified.**

**Details:**

An invalid IP address has been specified. The process is canceled.
Change the IP address that was specified using the Communication Environment Setup function,
and try again.
To start the Communication Environment Setup function, click the [Start] button – [All Programs] –
[ETERNUS VSS Hardware Provider] – [Communication Environment Setup].

[For a Server Core environment]
Execute the "Communication Environment Setup Command".
For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

■ Event ID: 2002

### Type:Error

### Messages:STXV2002 ERROR An invalid port number has been specified.

### Details:

An invalid port number has been specified. The process is canceled.
Change the port number that was specified in the registry, and try again.

■ Event ID: 2003

### Type:Error

### Messages:STXV2003 ERROR VSSHP could not be connected to the backup server.

### Details:

VSSHP could not be connected to the backup server. The process is canceled.
Check the following, and try again.
- The IP address that was specified using the Communication Environment Setup function is valid.
  To start the Communication Environment Setup function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Communication Environment Setup].
  • [For a Server Core environment]
    Execute the "Communication Environment Setup Command".
    For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).
- The port number that is to be used for the ETERNUS VSS Hardware Provider Communication Server service is specified in the registry.
- The ETERNUS VSS Hardware Provider Communication Server service is running in the backup server.
- The port that is used for the ETERNUS VSS Hardware Provider Communication Server service is open in the security software being used, such as the firewall of the backup server.

■ Event ID: 2004

### Type:Error

### Messages:STXV2004 ERROR Timeout occurred.

### Details:

Timeout occurred. The process is canceled.
Perform the following procedure, and try again.
- Check the event logs of the backup sever, and take action according to the output error message.
- Check the status of the network line and there is no problem in the network.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ Event ID: 2005

**Type:Error**

**Messages:STXV2005 ERROR The timeout value is invalid.**

**Details:**

The timeout value is invalid. The process is canceled.
Change the timeout value that was specified in the registry, and try again.

■ Event ID: 2006

**Type:Error**

**Messages:STXV2006 ERROR An error was detected during communication process.**

**Details:**

An error was detected during communication process. The process is canceled.
Check the communication environment between the production server and backup server.
If there is no problem in the communication environment, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 2007

**Type:Error**

**Messages:STXV2007 ERROR Obtaining the required virtual memory area failed.**

**Details:**

The required virtual memory area cannot be obtained. The process is canceled.
Perform the following to obtain the required virtual memory area, and try again.

- Expand the paging file size
- Exit unnecessary applications

■ Event ID: 2008

**Type:Error**

**Messages:STXV2008 ERROR Internal inconsistency.**

**Details:**

An internal inconsistency occurred. The process is canceled.
Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ Event ID: 2102

**Type:Error**

**Messages:STXV2102 ERROR The IP address cannot be found.**

**Details:**

The IP address cannot be found. The process is canceled.
Execute the Communication Environment Setup function to set the IP address, and try again.
To start the Communication Environment Setup function, click the [Start] button – [All Programs] –
[ETERNUS VSS Hardware Provider] – [Communication Environment Setup].

[For a Server Core environment]
Execute the "Communication Environment Setup Command".
For details, refer to "8.8 Communication Environment Setup Command (stxvsetcommu)" (page 64).

■ Event ID: 2103

**Type:Error**

**Messages:STXV2103 ERROR The port number cannot be found.**

**Details:**

The port number cannot be found. The process is canceled.
Check that the port number is correctly specified in the registry, and try again.

■ Event ID: 2104

**Type:Error**

**Messages:STXV2104 ERROR The timeout value cannot be found.**

**Details:**

The timeout value cannot be found. The process is canceled.
Check that the timeout value is correctly specified in the registry (or the VSSHP environment file),
and try again. The process continues with the timeout value set to "60 seconds".

■ Event ID: 2105

**Type:Error**

**Messages:STXV2105 ERROR An error occurred in the backup server.**

**Details:**

An error occurred in the backup server. The process is canceled.
Check the event logs of the backup sever, and take action according to the output error message.

ETERNUS VSS Hardware Provider 2.1 User's Guide

# 9.2 Command Messages

VSSHP outputs a message when executing each command.
The following shows the output format of messages.

**Message number Error type Message**

## ■ STXV0001 ERROR Failed to register hardware provider.

**[Meaning]**

Failed to register hardware provider. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

## ■ STXV0002 WARNING Hardware provider already registered.

**[Meaning]**

A hardware provider has already been registered. The process is canceled.

**[Action]**

Check the currently registered hardware provider. If necessary, delete the current hardware provider and try again.

## ■ STXV0003 ERROR Failed to delete hardware provider.

**[Meaning]**

Failed to delete hardware provider. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

## ■ STXV0004 WARNING Hardware provider already deleted.

**[Meaning]**

The hardware provider has already been deleted. The process is canceled.

**[Action]**

If necessary, register a hardware provider.

■ STXV0005 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0006 ERROR Invalid parameter. Parameter="Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV0101 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0102 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.
Check the mount point if it has been specified.

■ STXV0103 ERROR Pseudo SnapOPC already started.

**[Meaning]**

Measurement of the amount of updates has already started. The process is canceled.

**[Action]**

Stop measuring the amount of updates, and try again.

■ STXV0104 ERROR Pseudo SnapOPC not started.

**[Meaning]**

Measurement of the amount of updates has not started yet. The process is canceled.

**[Action]**

Start the measurement of the amount of updates, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ STXV0105 ERROR Failed to access device. Error code = "error number","detailed error code"

**[Meaning]**

Failed to access device. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0106 ERROR Failed to obtain device information. Error = "error number","detailed error code"

**[Meaning]**

Failed to obtain device information. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0107 ERROR Source disk is not a Disk Storage Systems ("physical disk number").

**[Meaning]**

The source disk is not ETERNUS Disk storage systems disk. The process is canceled.

**[Action]**

Check the "physical disk number" of the source disk.

■ STXV0108 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0201 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0202 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV0203 ERROR Copy set file does not exist.

**[Meaning]**

The specified copy set file does not exist. Therefore, it cannot be registered.

**[Action]**

Create a copy set file and try again.

■ STXV0204 ERROR Failed to access copy set file.

**[Meaning]**

Failed to access copy set file. Therefore, it cannot be registered.

**[Action]**

Resolve the access problem, and try again.

■ STXV0205 ERROR Line["line number"] Invalid number of items.

**[Meaning]**

The number of items described in the copy set file is invalid. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0206 ERROR Line["line number"] Invalid copy type.

**[Meaning]**

The copy type descried in the copy set file is invalid. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0207 ERROR Line["line number"] Invalid copy option ("copy option").

**[Meaning]**

The "Copy option" described in the copy set file is invalid. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ STXV0208 ERROR Line["line number"] Unnecessary copy options are specified.

**[Meaning]**

Unnecessary copy options are specified in the copy set file. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0209 ERROR Line["line number"] Invalid source disk number. ("specified character")

**[Meaning]**

The source disk number specified in the copy set file is not numeral. Therefore, it cannot be registered.

**[Action]**

Correct the source disk number of the copy set file, and try again.

■ STXV0210 ERROR Line["line number"] Source disk is not a Disk Storage Systems ("physical disk number").

**[Meaning]**

The source disk specified in the copy set file is not an ETERNUS Disk storage systems disk. Therefore, it cannot be registered.

**[Action]**

Correct the source disk "physical disk number" specified in the copy set file, and try again.

■ STXV0211 ERROR Line["line number"] Invalid target disk number.("specified character")

**[Meaning]**

The Shadow Copy destination number specified in the copy set file is not numeral. Therefore, it cannot be registered.

**[Action]**

Correct the Shadow Copy destination number of the copy set file, and try again.

■ STXV0212 ERROR Line["line number"] Target disk is not a Disk Storage Systems. ("physical disk number")

**[Meaning]**

The Shadow Copy destination specified in the copy set file is not ETERNUS Disk storage systems disk. Therefore, it cannot be registered.

**[Action]**

Correct the Shadow Copy destination "physical disk number" specified in the copy set file, and try again.

■ STXV0213 ERROR Line["line number"] Target disk is the same as the source disk.

**[Meaning]**

The Shadow Copy destination is the same as the source disk specified in the copy set file. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0214 ERROR Line["line number"] Size of the source disk differs from target disk.

**[Meaning]**

The size of the source disk specified in the copy set file is different from the size of the Shadow Copy destination. Therefore, it cannot be registered.

**[Action]**

Check the sizes of the source and Shadow Copy destination, and try again.

■ STXV0216 ERROR Line["line number"] Backup server cannot be specified, if backup server is same as a source disk.

**[Meaning]**

The backup server cannot be specified, if backup server is same as a production server. Therefore, it cannot be registered.

**[Action]**

Delete the description of backup server from the copy set file, and try again.

■ STXV0217 ERROR Line["line number"] Duplicated source disk setting.

**[Meaning]**

The source disk specified in the copy set file has been duplicated. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0218 ERROR Line["line number"] Duplicated target disk setting.

**[Meaning]**

The Shadow Copy destination specified in the copy set file has been duplicated. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ STXV0219 ERROR Line["line number"] Source disk is already specified as a target disk of another copy set.

**[Meaning]**

The source disk specified in the copy set file is already specified as a Shadow Copy destination for another copy set. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0220 ERROR Line["line number"] Target disk is already specified as a source disk of another copy set.

**[Meaning]**

The Shadow Copy destination specified in the copy set file is already specified as a source disk for another copy set. Therefore, it cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0221 ERROR Line["line number"] Failed to obtain device information. Error = "internal error code"

**[Meaning]**

Failed to obtain device information. Therefore, it cannot be registered.

**[Action]**

Check the device status and try it again.

■ STXV0222 ERROR Line["line number"] Failed to access device. Error code = "internal error code","detailed error code"

**[Meaning]**

Failed to access device. Therefore, it cannot be registered.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0223 ERROR Cannot change or delete copy set information in use. Disk = ["physical disk number"]

**[Meaning]**

The copy set file in use cannot be changed or deleted. Therefore, it cannot be registered.

**[Action]**

Check the copy session, and try again.

## ■ STXV0224 ERROR Failed to access copy set information.

### [Meaning]

Failed to access copy set information. Therefore, it cannot be registered.

### [Action]

Correct the copy set file, and try again.

## ■ STXV0225 ERROR Invalid copy set information.

### [Meaning]

Copy set information is invalid. Therefore, it cannot be registered.

### [Action]

Use the "Backup Status Query Command" to check that no copy session exists.
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).
Then, delete the copy set management file ("installation folder"\etc\vss\copyset.cnv), and try again.

## ■ STXV0226 ERROR Failed to register copy set information.

### [Meaning]

Failed to register copy set information. Therefore, it cannot be registered.

### [Action]

Use the "Backup Status Query Command" to check that no copy session exists.
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).
Then, delete the copy set management file ("installation folder"\etc\vss\copyset.cnv), and try again.

## ■ STXV0227 INFO Number of errors: ["number of errors"]

### [Meaning]

"number of errors" errors occurred in the copy set file

### [Action]

Follow the action for each error message, and try again.

## ■ STXV0228 INFO Number of warnings: ["number of errors"]

### [Meaning]

"number of warnings" warnings occurred in the copy set file.

### [Action]

Follow the action for each warning message if necessary, and try again.

## ■ STXV0229 INFO ["number of copy set information"] copy set information is registered.

### [Meaning]

"number of copy set information" copy set information is registered.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ STXV0230 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. Therefore, it cannot be registered.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0231 ERROR Failed to access device. Disk = ["physical disk number"] Error code = "error number","detailed error code"

**[Meaning]**

Failed to access device. Therefore, it cannot be registered.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0232 ERROR Line["line number"] Specified physical disk number for a source disk in the copy set file does not exist in the system. Disk = ["physical disk number"]

**[Meaning]**

Specified physical disk number for a source disk in the copy set file does not exist in the system. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0233 ERROR Line["line number"] Specified physical disk number for a target disk in the copy set file does not exist in the system. Disk = ["physical disk number"]

**[Meaning]**

Specified physical disk number for a Shadow Copy destination in the copy set file does not exist in the system. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0234 ERROR Line["line number"] The OLU number of the target disk that is specified in the copy set file is not hexadecimal number. ("specified characters")

**[Meaning]**

The OLU number of the Shadow Copy destination that is specified in the copy set file is not hexadecimal number. The copy set file cannot be registered.

**[Action]**

Correct the OLU number that is specified in the copy set file, and try again.

■ STXV0235 ERROR Line["line number"] The Box ID of the target disk specified in the copy set file is invalid.

**[Meaning]**

The Box ID of the Shadow Copy destination specified in the copy set file is invalid. The copy set file cannot be registered.

**[Action]**

Correct the Box ID that is specified in the copy set file, and try again.

■ STXV0236 ERROR Line["line number"] A source disk and target disk with different Box IDs cannot be set for the copy type specified in the copy set file.

**[Meaning]**

A source disk and Shadow Copy destination with different Box IDs cannot be set for the copy type specified in the copy set file. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0237 ERROR Line["line number"] When the target disk is connected to the production server, the copy set file cannot be created in format 2.

**[Meaning]**

When the Shadow Copy destination is connected to the production server, the copy set file cannot be created in the Transportable Copy Configuration format (format 2). The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0238 ERROR Line["line number"] Too many generations specified in the SnapOPC+ copy set information for a given source disk in the copy set file.

**[Meaning]**

The SnapOPC+ copy set information for a given source disk in the copy set file specifies more generations than are allowed. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0239 ERROR Line["line number"] Foreign information found in the SnapOPC+ copy set information for a given source disk in the copy set file.

**[Meaning]**

The SnapOPC+ copy set information for a given source disk is interrupted by information for a different copy source or copy type. The copy set file cannot be registered.

**[Action]**

Correct the copy set file so that all SnapOPC+ copy set information for each source disk is in a clean run, and try again.

■ STXV0240 ERROR Failed to obtain device information.

**[Meaning]**

Device information could not be obtained. The copy set file cannot be registered.

**[Action]**

Check the device status, and try again.

■ STXV0241 ERROR The VSSHP Management file version is invalid.

**[Meaning]**

The copy set management file version is invalid. The copy set file cannot be registered.

**[Action]**

Use the "Backup Status Query Command" to check that no copy session exists.
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).
Then, delete the copy set management file ("installation folder"\etc\vss\copyset.cnv), and try again.

■ STXV0242 ERROR Insufficient memory.

**[Meaning]**

Insufficient memory. The process is canceled.

**[Action]**

Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0243 ERROR Line["line number"] The number of characters per line exceeds the maximum number of characters allowed.

**[Meaning]**

The number of characters per line of the copy set file exceeds the maximum number of characters allowed (200 bytes). The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0244 ERROR Line["line number"] Specified source disk number is 10 or more digits long. ("specified characters")

**[Meaning]**

Specified source disk number of the copy set file is 10 or more digits long. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0245 ERROR Line["line number"] Specified target disk number is 10 or more digits long. ("specified characters")

**[Meaning]**

Specified Shadow Copy destination number of the copy set file is 10 or more digits long. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0246 ERROR Line["line number"] Specified target disk OLU number is not a 4 digit number. ("OLU number")

**[Meaning]**

Specified Shadow Copy destination OLU number of the copy set file is not a 4 digit number. The copy set file cannot be registered.

**[Action]**

Correct the copy set file, and try again.

■ STXV0251 ERROR Line["line number"] Invalid mount point. ("specified letters")

**[Meaning]**

The mount point that is specified in the copy set file is invalid. The copy set file cannot be registered.

**[Action]**

Check and correct the mount point that is specified in the copy set file, and try again.

■ STXV0301 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0302 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.
Check the mount point if it has been specified.
When -t is displayed for "Parameter", check that the OLU number is correctly specified after the -t option.

■ STXV0303 ERROR Management file cannot be found.

**[Meaning]**

The copy set management file does not exist. The process is canceled.

**[Action]**

Register the copy set information for the copy set file, and try again.

■ STXV0304 ERROR Failed to access copy set information.

**[Meaning]**

Failed to access copy set information. The process is canceled.

**[Action]**

Register the copy set information for the copy set file, and try again.

■ STXV0305 ERROR Invalid copy set information.

**[Meaning]**

The copy set information is invalid. The process is canceled.

**[Action]**

Delete the copy set management file ("installation folder"\etc\vss\copyset.cnv).
Register the copy set information for the copy set file, and try again.

■ STXV0306 ERROR Source disk number cannot be found in Management file.

**[Meaning]**

The target disk cannot be found in the copy set  management file. The process is canceled.

**[Action]**

Check the copy set information for the copy set file. If the disk is not defined, register the copy set information for the copy set file, and try again.

■ STXV0307 ERROR Failed to access device. Error code = "error number","detailed error code"

**[Meaning]**

Failed to access device. Therefore, it cannot be registered.

**[Action]**

- When "error number" is "-1"

Check the following.

- No access to the Shadow Copy destination during backup
- For configuration using different Windows Servers for the production server and backup server, the Shadow Copy destination that is registered in the copy set information is connected to the backup server.

- When "error number" is other than "-1"

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0308 ERROR Failed to obtain device information. Error = "error number","detailed error code"

**[Meaning]**

Failed to obtain device information. Therefore, it cannot be registered.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0310 ERROR Failed to stop copy session. Error code = "error number, detailed error code"

**[Meaning]**

Failed to stop copy session. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0311 INFO Copy session was stopped. Disk = "physical disk number"

**[Meaning]**

The "physical disk number" copy session was stopped.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ STXV0312 WARNING Backup has not started.

**[Meaning]**

Backup copying process has not started. The process is canceled.

**[Action]**

Check the copy status using "Backup status query command".
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).

■ STXV0313 ERROR Operations other than "stop" are not possible for this copy type.

**[Meaning]**

Operations other than "stop" are not possible for this copy type. The process is canceled.

**[Action]**

Check copy type and options for the specified copy set information, and try again.

■ STXV0314 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0315 ERROR The specified physical disk number does not exist in the source disk. Disk = ["physical disk number"]

**[Meaning]**

The specified physical disk number does not exist in the source disk. The process is canceled.

**[Action]**

Check the "physical disk number" of the source disk.

■ STXV0316 ERROR The -a option cannot be specified with this copy type. Type = "copy type"

**[Meaning]**

The -a option cannot be specified with this copy type. The process is canceled.

**[Action]**

Check the option to be specified.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ STXV0317 INFO Copy session was stopped. Source-Disk = "physical disk number", Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"

**[Meaning]**

The copy session of "physical disk number" is stopped.

■ STXV0318 ERROR Failed to stop copy session. Source-Disk = "physical disk number", Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number", Error code = "error number, detailed error code"

**[Meaning]**

Failed to stop copy session. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0319 ERROR The VSSHP Management file version is invalid.

**[Meaning]**

The copy set management file version is invalid. The process is canceled.

**[Action]**

Check the VSSHP version, and try again.

■ STXV0320 ERROR Insufficient memory.

**[Meaning]**

Insufficient memory. The process is canceled.

**[Action]**

Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0325 ERROR An error occurred in the backup server.

**[Meaning]**

An error occurred in the backup server. The process is canceled.

**[Action]**

Check the events log message in the backup server and deal with the contents accordingly.

■ STXV0326 ERROR Communication environment with the backup server is incorrect. ("event ID")

**[Meaning]**

The communication environment with the backup server is incorrect. The cause is "event ID". The process is canceled.

**[Action]**

Refer to "9.1 Event Log Messages" (page 75) to deal with the corresponding "event ID".

■ STXV0327 ERROR The required parameter is not specified.

**[Meaning]**

The required parameter is not specified. The process is canceled.

**[Action]**

Specify the required parameter, and try again.

■ STXV0330 ERROR Invalid session status.

**[Meaning]**

Session status is invalid. The process is canceled.

**[Action]**

Use the "Backup Status Query Command" to check the backup status.
For details, refer to "8.5 Backup Status Query Command (stxvquery)" (page 59).

■ STXV0401 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0402 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV0403 ERROR Management file cannot be found.

**[Meaning]**

The copy set management file does not exist. The process is canceled.

**[Action]**

- For target disk pool operation
  Register the Shadow Copy destination in the target disk pool management file using the Target Disk Pool Registration/Deletion function, and try again.
  To start the Target Disk Pool Registration/Deletion function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion].
  Execute this function on a backup server.
- For copy set operation
  Register the copy set information of the copy set file, and try again.
  Execute this command on a production server.

■ STXV0404 ERROR Failed to access copy set information.

**[Meaning]**

Failed to access copy set information. The process is canceled.

**[Action]**

Register the copy set information for the copy set file, and try again.

■ STXV0405 ERROR Invalid copy set information.

**[Meaning]**

The copy set information is invalid. The process is canceled.

**[Action]**

Register the copy set information for the copy set file, and try again.

■ STXV0406 ERROR Failed to access device. Disk = ["physical disk number"], Error code = "error number,detailed error code"

**[Meaning]**

Failed to access device. Continue with next session to be stopped.

**[Action]**

- When "error number" is "-1"
  Check the following.
    - No access to the Shadow Copy destination during backup
    - For configuration using different Windows Servers for the production server and backup server, the Shadow Copy destination that is registered in the copy set information is connected to the backup server.
- When "error number" is other than "-1"
  Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
  For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0408 ERROR Failed to stop copy session. Disk = ["physical disk number"], Error code = "error number,detailed error code"

**[Meaning]**

Failed to stop "physical disk number" copy session. Continue with next session to be stopped.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0409 INFO Copy session was stopped. Disk = "physical disk number"

**[Meaning]**

The "physical disk number" copy session was stopped.

■ STXV0410 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 119), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0411 ERROR Stop process cannot be performed because the source disk to be stopped cannot be found. Source-BoxID = "Box ID", Source-OLU = "OLU number"

**[Meaning]**

Stop process cannot be performed because the source disk to be stopped cannot be found. Continue with next session to be stopped.

**[Action]**

Check the source disk to be stopped.

■ STXV0412 INFO Copy session was stopped. Source-Disk = "physical disk number", Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"

**[Meaning]**

Copy session of "physical disk number" was stopped.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ STXV0413 ERROR Failed to stop copy session. Source-Disk = "physical disk number", Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number", Error code = "error number, detailed error code"

**[Meaning]**

Failed to stop copy session. Continue with next session to be stopped.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0414 ERROR The VSSHP Management file version is invalid.

**[Meaning]**

The copy set management file version is invalid. The process is canceled.

**[Action]**

Check the VSSHP version, and try again.

■ STXV0415 ERROR Insufficient memory.

**[Meaning]**

Insufficient memory. The process is canceled.

**[Action]**

Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0416 ERROR An error occurred in the backup server.

**[Meaning]**

An error occurred in the backup server. The process is canceled.

**[Action]**

Check the events log message in the backup server and deal with the contents accordingly.

■ STXV0417 ERROR Communication environment with the backup server is incorrect. ("event ID")

**[Meaning]**

The communication environment with the backup server is incorrect. The cause is "event ID". Continue with next session to be stopped.

**[Action]**

Refer to "9.1 Event Log Messages" (page 75) to deal with the corresponding "event ID", and try again.

■ STXV0418 ERROR Failed to access the target disk pool management file. iReturn = ["internal code"]

**[Meaning]**

Access to the target disk pool management file failed. The process is canceled.

**[Action]**

Reregister a target disk pool management file using the Target Disk Pool Registration/Deletion function, and try again.
To start the Target Disk Pool Registration/Deletion function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion].

■ STXV0419 ERROR Failed to obtain device information.

**[Meaning]**

Failed to obtain device information. The process is canceled.

**[Action]**

Execute the command again.
If the problem still persists, check the device status, and try again.

■ STXV0601 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the number of parameters, and try again.

■ STXV0602 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV0603 INFO Disk is not a Disk Storage Systems.

**[Meaning]**

The disk is not ETERNUS Disk storage systems disk.

■ STXV0604 WARNING Failed to access device.

**[Meaning]**

Failed to access device.

**[Action]**

Use [Disk Management] to check that the disk is in normal status.
Start [Disk Management] according to the following procedure:

**1** Click the [Start] – [Control Panel], then double-click [Administrative Tools], then [Computer Management] to start.

**2** Click [Computer Management (local)] – [Storage] – [Disk Management].

■ STXV0605 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0701 ERROR Invalid number of parameters.

**[Meaning]**

The specified number of parameters is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV0702 ERROR Invalid parameter. Parameter = "parameter"

**[Meaning]**

The specified "parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.
Check the mount point if it has been specified.

■ STXV0703 ERROR Management file cannot be found.

**[Meaning]**

The copy set management file cannot be found. The process is canceled.

**[Action]**

- For target disk pool operation
  Register the Shadow Copy destination in the target disk pool management file using the Target Disk Pool Registration/Deletion function, and try again.
  To start the Target Disk Pool Registration/Deletion function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion].
  Execute this function on a backup server.
- For copy set operation
  Register the copy set information of the copy set file, and try again.
  Execute this command on a production server.

■ STXV0704 ERROR Failed to access copy set information.

**[Meaning]**

Failed to access copy set information. The process is canceled.

**[Action]**

Register the copy set file, and try again.

■ STXV0705 ERROR Invalid copy set information.

**[Meaning]**

The copy set information is invalid. The process is canceled.

**[Action]**

Register the copy set information of the copy set file, and try again.

■ STXV0706 ERROR Source disk number cannot be found in Management file.

**[Meaning]**

The source disk cannot be found in the copy set management file. The process is canceled.

**[Action]**

Check the copy set information of the copy set file. If a disk is not defined, register the copy set information of the copy set file, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

■ STXV0707 ERROR Failed to access device. Disk = ["physical disk number"], Error code = "error number, detailed error code"

**[Meaning]**

Failed to access a device. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV0708 ERROR Failed to obtain device information.

**[Meaning]**

Failed to obtain device information. The process is canceled.

**[Action]**

Execute the command again.
If the problem still persists, check the device status, and try again.

■ STXV0709 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0710 ERROR The source disk specified in the parameter is not a Disk Storage Systems disk. Disk = ["physical disk number"]

**[Meaning]**

The source disk specified in the parameter is not an ETERNUS Disk storage systems disk. The process is canceled.

**[Action]**

Specify the correct "physical disk number" of the source disk in the parameter, and try again.

■ STXV0711 ERROR The copy session of the source disk specified in the parameter has not been started. Disk = ["physical disk number"]

**[Meaning]**

The copy session of the source disk specified in the parameter has not been started. The process is canceled.

**[Action]**

Start the copy session of the source disk specified in the parameter, and try again.

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

■ STXV0712 ERROR The VSSHP Management file version is invalid.

**[Meaning]**

The copy set management file version is invalid. The process is canceled.

**[Action]**

Check the VSSHP version, and try again.

■ STXV0713 ERROR Insufficient memory.

**[Meaning]**

Insufficient memory. The process is canceled.

**[Action]**

Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0714 ERROR Failed to access the target disk pool management file. iReturn = ["internal code"]

**[Meaning]**

Access to the target disk pool management file failed. The process is canceled.

**[Action]**

Reregister the target disk pool management file using the Target Disk Pool Registration/Deletion function, and try again.
To start the Target Disk Pool Registration/Deletion function, click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Target Disk Pool Registration•Deletion].

■ STXV0801 ERROR An error occurred in the backup server.

**[Meaning]**

An error occurred in the backup server. The process is canceled.

**[Action]**

Check the events log message in the backup server and deal with the contents accordingly.

■ STXV0802 ERROR Communication environment with the backup server is incorrect. ("event ID")

**[Meaning]**

The communication environment with the backup server is incorrect. The cause is "event ID". The process is canceled.

**[Action]**

Refer to "9.1 Event Log Messages" (page 75) to deal with the corresponding "event ID", and try again.

■ STXV0803 ERROR Failed to access to services file("event ID")

**[Meaning]**

Access to the "services" file failed. The process is canceled.

**[Action]**

Check the "services" file, and try again.

■ STXV0804 ERROR No port number is able to use.

**[Meaning]**

There is no available port number. The process is canceled.

**[Action]**

Define the port number of the "services" file in the range of 49152 to 65535. After installing VSSHP in the production server, input the defined port number in the following registry, and try again.
Production server registry

Key name: `HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\ETL_VSS`

Change the value that is described in the item name "PortNumber".

■ STXV0805 ERROR Access error in VSSHP environment file. Internal code = "internal code"

**[Meaning]**

Access to the VSSHP environment file (registry) failed. The process is canceled.

**[Action]**

Check the registry, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0806 ERROR An error occurred when creating the communication environment for VSS Hardware Provider Communication Server service. errno = ["internal code"]

**[Meaning]**

An error occurred when creating the communication environment for the ETERNUS VSS Hardware Provider Communication Server service. The process is canceled.

**[Action]**

When this error occurs at installation, check that the VSSHP package (setup.exe) is executed with the administrator privilege.
If this error occurs for any other reason, try again in a few minutes.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV0902 ERROR Failed to access device. Error code = "internal error code","detailed error code"

**[Meaning]**

Failed to access a device.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).
The Target Disk Pool Registration/Deletion function may have been started while backup was being performed to the disks with physical disk numbers followed by the error message STXV0902 displayed in the Target Disk Pool Registration/Deletion window. Click the [CANCEL] button to close the window, check that no backup operations from the requester are in progress, and try again.

■ STXV0903 WARNING  the back-up disk Pool control file was updated. These changes will be discarded.

**[Meaning]**

Because the target disk pool management file was updated, the changes to the target disk pool management file were not applied.

**[Action]**

The backup process is performed and the target disk pool management file is updated when the Target Disk Pool Registration/Deletion window is displayed or the Target Disk Pool Registration/Deletion Command is performed. Reply to the message and try again.

■ STXV3001 ERROR Invalid number of parameters.

**[Meaning]**

The number of parameters specified is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV3002 ERROR Invalid parameter. Parameter = "Parameter"

**[Meaning]**

The specified "Parameter" is invalid. The process is canceled.

**[Action]**

Correct the parameter, and try again.

■ STXV3003 ERROR Internal inconsistency.

**[Meaning]**

Internal inconsistency. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3004 ERROR Failed to create a VSSHP Hyper-V environment

**[Meaning]**

Failed to create a VSSHP Hyper-V environment. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3005 ERROR Failed to delete a VSSHP Hyper-V environment

**[Meaning]**

Failed to delete a VSSHP Hyper-V environment. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3006 ERROR Not a Server Core environment

**[Meaning]**

The environment is not a Server Core environment. The process is canceled.

**[Action]**

Try again in a Server Core environment.

■ STXV3007 ERROR Insufficient memory.

**[Meaning]**

Insufficient memory. The process is canceled.

**[Action]**

Exit all unused programs, and try again.
If the problem still persists, refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3008 ERROR Failed to obtain device information.

**[Meaning]**

Failed to obtain device information. The process is canceled.

**[Action]**

Check the device status, and try again.

■ STXV3009 ERROR Failed to access the target disk pool management file.

**[Meaning]**

Failed to access the target disk pool management file. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3010 ERROR Failed to obtain device information. Error = "error number","detailed error code"

**[Meaning]**

Failed to obtain device information. The process is canceled.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

■ STXV3011 ERROR Failed to update the target disk pool management file.

**[Meaning]**

Failed to update the target disk pool management file. The process is canceled.

**[Action]**

Recreate the target disk pool management file, and try again.

■ STXV3012 ERROR The specified session does not exist.

**[Meaning]**

The specified session does not exist. The process is canceled.

**[Action]**

Check that the physical disk number of the source disk and the mount point of the source disk that are specified for the Backup Control Command are correct, and try again.
When the -t option is specified for the Backup Control Command, check that the OLU number of the specified Shadow Copy destination is correct, and try again.

■ STXV3013 ERROR Multiple sessions exist.

**[Meaning]**

Multiple sessions exist. The process is canceled.

**[Action]**

Specify the -t option for the Backup Control Command, and try again.

■ STXV3014 ERROR Invalid combination of options.

**[Meaning]**

The combination of options is invalid. The process is canceled.

**[Action]**

Check the combination of options, and try again.

■ STXV3017 ERROR Failed to operate the device. "BoxID", "OLU number"

**[Meaning]**

Failed to operate the device. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3018 ERROR Failed to delete the session. "BoxID", "OLU number", "error code"

**[Meaning]**

Failed to delete the session. The process is canceled.

**[Action]**

Refer to "10.2 How to Obtain Error Information" (page 131), and prepare the required information before contacting a Fujitsu field engineer (FE).

■ STXV3019 ERROR -t option cannot be specified since the copy type is SnapOPC+.

**[Meaning]**

The -t option cannot be specified since the copy type is SnapOPC+. The process is canceled.

**[Action]**

Try again without specifying the -t option.

■ STXV3020 INFO Copy session was stopped. Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number"

**[Meaning]**

The copy session was stopped.

■ STXV3021 ERROR Failed to stop copy session. Source-BoxID = "Box ID", Source-OLU = "OLU number", Target-BoxID = "Box ID", Target-OLU = "OLU number", Error code = "error number,detailed error code"

**[Meaning]**

Failed to stop copy session. Continue with next session to be stopped.

**[Action]**

Deal with the error according to the contents of the ETERNUS Disk storage systems "detailed error code", and try again.
For more details about the "detailed error code", refer to "9.3 Detailed Error Codes" (page 125).

# 9.3    Detailed Error Codes

The detailed error codes output by the ETERNUS Disk storage systems are listed below.

Table 9.1    **Detailed Error Codes**

| Detailed error code | Action |
|---|---|
| Invalid logical volume name | Take one of the following actions:<br>• Check that the specified copy source or destination device exists.<br>• Check that the user privilege with which the operation is performed is correct.<br>• Check that the disk is initialized. |
| invalid source OLU. | Check the partition information for the copy source device. |
| invalid destination OLU. | Check the partition information for the copy destination device. |
| invalid extent. | Check the slice information on the copy source or destination device. |
| memory allocation error. | Allocate sufficient memory or a swap area, or terminate any other programs that are being executed. |
| not STX. | The disk is not ETERNUS Disk storage systems disk. |
| SCSI command busy. | Take the applicable action as follows:<br>• Ensure that the OPC/EC copy source is not used for another copy target.<br>• Ensure that the OPC/EC copy target is not used for another copy source.<br>• Ensure that the OPC/EC copy target is not used for another copy target.<br>• Wait for about five seconds and then re-execute processing.<br>• Confirm the status of the copy by using ETERNUS Web GUI.<br>For other cases, contact a Fujitsu customer engineer. |
| SCSI command conflict. | SCSI error (Commandconflict) was detected.<br>Check the device connection status and then retry. If the error recurs, contact your Fujitsu customer engineer (CE). |
| SCSI queue full. | SCSI error (Queuefull) was detected.<br>Check the device connection status and then retry. If the error recurs, contact your Fujitsu customer engineer (CE). |
| hardware error requiring CE-CALL. | SCSI error (CheckCondition) was detected.<br>Check the device connection status and then retry. If the error recurs, contact your Fujitsu customer engineer (CE). |
| SCSI condition met. | SCSI error (Condition met) was detected.<br>Check the device connection status and then retry. If the error recurs, contact your Fujitsu customer engineer (CE). |
| unexpected SCSI error. | SCSI error (Abnormal status) was detected.<br>Check the device connection status and then retry. If the error recurs, contact your Fujitsu customer engineer (CE). |

| Detailed error code | Action |
|---|---|
| invalid OLU. | Check the device that is the copy source or the device partition information of the copy destination, and retry the function. If this error still occurs, collect material for troubleshooting, and then contact your Fujitsu system engineer (SE).(*1) |
| invalid BoxID. | Check the connection conditions between cabinets, and retry. If this error occurs again, then contact your Fujitsu customer engineer (CE). |
| invalid Role. | Check the connection conditions between cabinets, and retry. If this error occurs again, then contact your Fujitsu customer engineer (CE). |
| setup is inadequate | Take one of the following actions: <br>• Checking/Setting the license of the Advanced Copy option <br>• Checking/Setting device resources such as "Unset table size", "Lack of table size", and "Unset REC buffer size". |
| communication interrupted. | Check the connection state between the cabinets, and retry processing. If the error occurs again, contact a Fujitsu systems engineer (CE). |
| the session mode was not changed. | Check the connection status between cabinets and then retry. If this error occurs again, call your Fujitsu customer or systems engineer (CE or SE). |
| the session mode crosses. | Check the connection status between cabinets and then retry. If this error occurs again, call your Fujitsu customer or systems engineer (CE or SE). |
| the operation of SnapOPC was failed. | Take one of the following actions: <br>• Check the partition information for the copy destination disk, and then rerun the command. <br>• Check the status of SnapOPC session, and then try again. <br>• SnapOPC is not supported by this device. Try again using SnapOPC+. <br>If this error occurs again, call your Fujitsu customer or systems engineer (CE or SE). |
| the operation of REC buffer was failed. | Check the settings status of the REC transfer buffer and then rerun the command. If this error occurs again, call your Fujitsu customer or systems engineer (CE or SE). |
| the operation of concurrent suspend was failed. | Check the status of all sessions, and then rerun the command. If this error reoccurs, call your Fujitsu customer or systems engineer (CE or SE). |
| invalid Snap Data volume. | Take one of the following actions: <br>• When a copy type is SnapOPC/SnapOPC+, check that the copy destination is the Snap Data Volume. <br>• When a copy type is SnapOPC/SnapOPC+, check that the copy source is not the Snap Data Volume. <br>• When a copy type is a type other than SnapOPC/SnapOPC+, check that the copy destination and source are not the Snap Data Volume. <br>• For Snap Data Volume initialization, check that the Snap Data Volume is specified. <br>If this error occurs again, call your Fujitsu customer or systems engineer (CE or SE). |

P3AM-4582-03ENZ0

| Detailed error code | Action |
|---|---|
| out of sequence. | Take one of the following actions:<br>• Check the processing status, and then try again.<br>• Check the session status, and then try again.<br>• For SnapOPC+, check the generation number, and then try again.<br>If the error occurs again, contact your Fujitsu system engineer (SE). |
| disk drive motor off. | Activate the disk drive motor, and try again. |

If a detailed error code not shown in this table appears, contact your Fujitsu system engineer (SE). (*1)

*1:    Refer to "10.2 How to Obtain Error Information" (page 131), collect the data necessary to solve the error.

## 9.4 Output Error Messages in Message Box

The following explains error messages in the message boxes that are output by VSSHP.

### ■ Installation

If VSSHP 1.1.0 or a version of VSSHP with the same version level has already been installed, make sure to uninstall it before installation. Afterwards newly install VSSHP, and execute setting. If installing a new VSSHP without uninstalling the existing VSSHP, the following message appears:
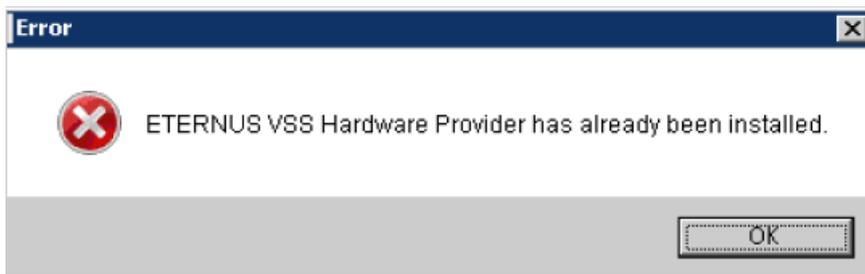


### ■ Provider registration

When registering VSSHP in VSS ended abnormally at installation, the following message is displayed. VSSHP is not registered.



Register VSSHP using the "Provider Registration/Deletion Command". For details, refer to "8.1 Provider Registration/Deletion Command (stxvprovider)" (page 53).

■ Backup server settings for Transportable Copy Configuration

When the service name "stxvcommunication" has not been registered and the default port number is used for another service, an unused port number between 49152 and 65535 is used. The port number to be used is displayed in the following window.



After installing VSSHP in the production server, input the port number that is displayed in the window above in the following registry.
Registry path name

```
Production server registry item
HKEY_LOCAL_MACHINE\SOFTWARE\FUJITSU\ETL_VSS
```
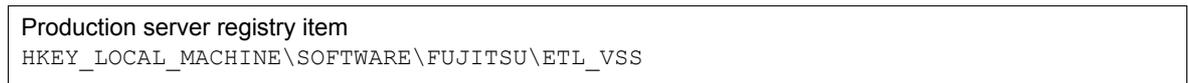
Change the value that is described in the item name "PortNumber".

■ Production server settings for Transportable Copy Configuration

If the IP address of the backup server cannot be found when setting it in the registry, the following message is displayed.

# Chapter 10

## Troubleshooting

## 10.1 How to Deal with Errors/Warnings

This section explains how to deal with errors/warnings.

| Contents of error/warning | Corrective action |
|---|---|
| Error notification from VSS | • Check the contents of error and event log from a requester, and deal with the error.<br>• If the error is not solved by taking the above action, there is a possibility that backup is interrupted by the error. In this case, it is necessary for backup to be forcibly stopped.<br>Execute the batch stop command with the -e option (forcibly stop a copy session suspended by an error).<br>For details, refer to "8.4 Batch Stop Command (stxvstopall)" (page 58). |
| VSS warning message<br>log name: application<br>event ID: 12333 | For Windows Server 2008, ignore the VSS warning message since it does not affect performance.<br>For details, refer to the Microsoft Knowledge Base:<br>Article ID: 951793<br>URL: http://support.microsoft.com/kb/951793/ |
| Error message<br>log name: application<br>event ID: 33 | When VSSHP is installed in Windows Server 2008 x64, ignore the message that fails to create an activation context for "stxvsnaper-rinfo.exe" since it does not affect normal operation. |
| The shadow copy destination disk cannot be checked from the server. | Execute the "Shadow Copy Destination Recovery Command".<br>For details, refer to "8.11 Shadow Copy Destination Recovery Command (stxvrecoverydisk)" (page 73). |
| Insufficient memory | Check the memory status and restart the system. |

P3AM-4582-03ENZ0

## 10.2    How to Obtain Error Information

If contacting a Fujitsu field engineer (FE) when an error occurs, prepare the following information. Obtain error information for each production server and backup server.

### ■ Obtaining information with the Error Information Acquisition function

The procedure for obtaining error information is as follows.

> **Procedure**

**1**   Start the Error Information Acquisition function.

The Error Information Acquisition function must be started by users who belong to the Administrators group.

- For Windows Server 2008
  Click the [Start] button – [All Programs] – [ETERNUS VSS Hardware Provider] – [Error Information Acquisition function] to start.

  - For a Server Core environment
    Execute ["installation folder"\bin\stxvsnaperrinfo.exe].

- For Windows Server 2012
  Click the [Start] icon – [Error Information Acquisition function] to start.

  - For a Server Core environment
    Execute ["installation folder"\bin\stxvsnaperrinfo.exe].

**2**   Specify the name of the folder where error information is stored.

Specify the folder name with alphanumeric characters and symbols that can be specified for a folder name. If inappropriate characters or symbols are specified, an error will occur.

**3**   Click the [START] button to start acquisition.

> **End of procedure**

### ■ dsnap information

dsnap information is collected using the "dsnap" command.
Check with a Fujitsu field engineer (FE) for the "dsnap" command.

If the Error Information Acquisition function ended abnormally, obtain all of the following information.

■ **Event logs**

Obtain Application logs, Security logs, and System logs in text format or CSV format.
The procedure for obtaining event logs is as follows.

> **Procedure**
>
> **1** Start Event Viewer.
>
> - For Windows Server 2008
>   Click the [Start] button – [Control Panel], then double-click [Administrative Tools], then [Event Viewer] to start.
>
> - For Windows Server 2012
>   Click the [Start] icon – [Administrative Tools], then double-click [Event Viewer] to start.
>
> **2** Select the target event log in Event Viewer.
>
> **3** Save the selected event log.
>   Select [Save Event As] from [Action].
>
> **4** Change [Save as type] in the save dialog into [Text (tab delimited)(*.txt)] or [CSV (Comma delimited)(*.csv)], and save it.
>
> **End of procedure**

■ **OS information**

Obtain the result after executing the following OS command.

```
msinfo32 /report .\msinfo.txt  /categories +SWEnvDrivers+SWEnvServices+Compo-
nentsStorage
```

Specify an available path for the part ".\" from ".\msinfo.txt".

■ **Trace log**

Obtain the files under the following folder.

```
"Installation folder"\log
```

■ **VSSHP Management file**

Obtain the files under the following folder.

```
"Installation folder"\etc
"Installation folder"\var
```

■ **Result after executing the OLU number display command**

Obtain the result after executing the following command

```
"Installation folder"\bin\stxvgetolu
```

ETERNUS VSS Hardware Provider 2.1 User's Guide

P3AM-4582-03ENZ0

Date of issuance: November 2012
Issuance responsibility: FUJITSU LIMITED

FUJITSU