

Hitachi TagmaStore®
Universal Storage Platform and
Network Storage Controller

Audit Log User and Reference Guide

© 2006 Hitachi Data Systems Corporation, ALL RIGHTS RESERVED

Notice: No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or stored in a database or retrieval system for any purpose without the express written permission of Hitachi Data Systems Corporation (hereinafter referred to as “Hitachi Data Systems”).

Hitachi Data Systems reserves the right to make changes to this document at any time without notice and assumes no responsibility for its use. Hitachi Data Systems products and services can only be ordered under the terms and conditions of Hitachi Data Systems’ applicable agreements. All of the features described in this document may not be currently available. Refer to the most recent product announcement or contact your local Hitachi Data Systems sales office for information on feature and product availability.

This document contains the most current information available at the time of publication. When new and/or revised information becomes available, this entire document is updated and distributed to all registered users.

Trademarks

Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd. The Hitachi Data Systems design mark is a trademark and service mark of Hitachi, Ltd.

TagmaStore is a registered trademark of Hitachi Data Systems Corporation.

ShadowImage, TrueCopy, and Volume Migration are trademarks of Hitachi Data Systems Corporation.

Apache is a trademark of the Apache Software Foundation.

z/OS is a registered trademark of International Business Machines Corporation.

Windows is a trademark of Microsoft Corporation.

Java is a trademark of Sun Microsystems, Inc.

VERITAS is a registered trademark of VERITAS Software Corporation.

All other brand or product names are or may be trademarks or service marks of and are used to identify products or services of their respective owners.

Notice of Export Controls

Export of technical data contained in this document may require an export license from the United States government and/or the government of Japan. Contact the Hitachi Data Systems Legal Department for any export compliance questions.

Document Revision Level

Revision	Date	Description
MK-95RD275-P	May 2005	Preliminary Release
MK-95RD275-00	June 2005	Initial Release
MK-95RD275-01	September 2005	Revision 1, supersedes and replaces MK-95RD275-00
MK-95RD275-02	November 2005	Revision 2, supersedes and replaces MK-95RD275-01
MK-95RD275-03	February 2006	Revision 3, supersedes and replaces MK-95RD275-02
MK-95RD275-04	May 2006	Revision 4, supersedes and replaces MK-95RD275-03
MK-95RD275-05	July 2006	Revision 5, supersedes and replaces MK-95RD275-04

Source Documents for this Revision

- A150d07g (RSD source document)
- A150d07h (RSD source document)
- R275-5b (RSD correction of this document)

Changes in this Revision

- Added new section on Audit Log Create File output (section 1.5)
- Revised table on Login and Settings Audit Log File (table 2.1)
- Added new section on Audit Log Function -- Create File (section 4.1)
- Revised illustration of screen output in section on Audit Log Function – Over MaxLine Event (section 4.2)
- Revised illustration of screen output in section on Audit Log Function – Over Threshold Event (section 4.3)
- Revised illustration of screen output and table of detailed information on Universal Replicator (UR) Function – Journal-Option Operation (section 4.139)
- Revised table of detailed information on Universal Replicator (UR) Function – Paircreate Operation (table 4.142)
- Revised illustration of screen output and table of detailed information on Universal Replicator (UR) Function – Pairresync Operation (section 4.143)
- Revised section on Universal Replicator (UR) Function – System-Option Operation (section 4.147)
- Revised table of detailed information on Universal Replicator (UR) Function – Add-Pair Operation (table 4.142)
- Revised illustration of screen output and table of detailed information on Universal Replicator (UR) z/OS Function – Journal-Option Operation (section 4.152)
- Revised illustration of screen output and table of detailed information on Universal Replicator (UR) z/OS Function – Resume-Pair Operation (section 4.156)

Preface

This document describes and provides instructions for using the audit log feature on the Hitachi TagmaStore® Universal Storage Platform (USP) and Network Storage Controller (NSC) storage subsystems.

This document assumes that:

- The user is familiar with the operating system and web browser software on the system hosting the Storage Navigator software.
- The user has a background in data processing and understands RAID storage subsystems and their basic functions.
- The user is familiar with the TagmaStore USP and/or NSC subsystem and has read and understands the *User and Reference Guide* for the subsystem and the *Hitachi USP and NSC Storage Navigator Users Guide* (MK-94RD206).

Notes:

- In this document the term “TagmaStore” refers to both the Universal Storage Platform and the Network Storage Controller, unless otherwise noted.
- In this document the term “Universal Storage Platform (USP)” refers to all models of the TagmaStore USP subsystem, unless otherwise noted.
- In this document the term “Network Storage Controller (NSC)” refers to all models of the TagmaStore NSC subsystem, unless otherwise noted.
- In this document, you might find “Hitachi TagmaStore® Universal Storage Platform and Hitachi TagmaStore® Network Storage Controller” omitted from document titles. For example, Hitachi TagmaStore® Universal Storage Platform and Hitachi TagmaStore® Network Storage Controller Storage Navigator™ User’s Guide is shortened to *Hitachi USP and NSC Storage Navigator User’s Guide*.
- This product includes software developed by the Apache Group for use in the Apache HTTP server project (<http://www.apache.org/>).
- The Storage Navigator screens shown in this document were captured on a Windows® system with the Internet Explorer web browser. The Storage Navigator screens may display differently on other operating systems and browsers. For more information, see the *Hitachi USP and NSC Storage Navigator Users Guide* (MK-94RD206).
- The functions described in this document are for storage administrators only. For more information on user access, see the *Hitachi USP and NSC Storage Navigator User’s Guide* (MK-94RD206).

Notice: The use of the Storage Navigator software and all other Hitachi Data Systems products is governed by the terms of your agreement(s) with Hitachi Data Systems.

Microcode Level

This document revision applies to TagmaStore® USP/NSC microcode 50-07-6x and higher.

Convention for Storage Capacity Values

Storage capacity values for hard disk drives (HDDs) are calculated based on the following values:

- 1 KB = 1,000 bytes
- 1 MB = 1,000² bytes
- 1 GB = 1,000³ bytes
- 1 TB = 1,000⁴ bytes

Storage capacity values for logical units (LUs) are calculated based on the following values:

- 1 KB = 1,024 bytes
- 1 MB = 1,024² bytes
- 1 GB = 1,024³ bytes
- 1 TB = 1,024⁴ bytes
- 1 block = 512 bytes

Referenced Documents

- **Hitachi TagmaStore Network Storage Controller:**
 - *NSC User and Reference Guide (MK-95RD279)*
- **Hitachi TagmaStore Universal Storage Platform:**
 - *USP User and Reference Guide (MK-94RD231)*
- **Hitachi TagmaStore Universal Storage Platform and Network Storage Controller:**
 - *LUN Manager User's Guide (MK-94RD203)*
 - *Storage Navigator User's Guide (MK-94RD206)*

Comments

Please send us your comments on this document. Make sure to include the document title, number, and revision. Please refer to specific section(s) and paragraph(s) whenever possible.

- **E-mail:** doc.comments@hds.com
- **Fax:** 858-695-1186
- **Mail:**
Technical Writing, M/S 35-10
Hitachi Data Systems
10277 Scripps Ranch Blvd.
San Diego, CA 92131

Thank you! (All comments become the property of Hitachi Data Systems Corporation.)

Contents

Chapter 1 Introduction

1.1	Purpose of Audit Logs	2
1.2	Downloading the Audit Log File	2
1.2.1	Downloading the Audit Log File using the Audit Button	2
1.2.2	Downloading the Audit Log File Using the Syslog Tab	3
1.3	Transferring the Audit Log File to Syslog Servers	3
1.4	Description of Audit Log File	5

Chapter 2 Audit Log File Format

2.1	Login Audit Log Files	8
2.2	Settings Audit Log File	8
2.3	Syslog Information File	11
2.3.1	Monitoring Threshold of Syslog Information File	14

Chapter 3 Audit Log Functions, Operations and Products15

Chapter 4 Sample Audit Logs

4.1	Audit Log Function – Over MaxLine Event.....	23
4.2	Audit Log Function – Over Threshold Event	24
4.3	Audit Log Function – Set Syslog Server Operation	25
4.4	Account Function – Set User Account Operation.....	26
4.5	BASE Function – ChangeMode Operation	27
4.6	BASE Function – Set System Info Operation	28
4.7	Cache Function – DCR Prestaging Operation	29
4.8	Cache Function – Delete M/F DCR Operation	30
4.9	Cache Function – Delete Open DCR Operation	31
4.10	Cache Function – Set M/F DCR Operation.....	32
4.11	Cache Function – Set Open DCR Operation	33
4.12	CFL Function – LUNM Operation	34
4.13	CPAV Function Operation – Add Alias Operation.....	35
4.14	CPAV Function – Delete Alias Operation	36
4.15	Cross-system Copy (CSC) Function – Delete Pair Operation.....	37
4.16	Cross-system Copy (CSC) Function – Pair Create Operation	38
4.17	Data Retention Utility (DRU) Function – Attribute Operation	39
4.18	Data Retention Utility (DRU) Function – Expiration Lock Operation.....	40
4.19	Data Retention Utility (DRU) Function – Release All Extents Operation	41
4.20	Data Retention Utility (DRU) Function – Retention-Term Operation	42
4.21	Data Retention Utility (DRU) Function – VMA Operation Name.....	43
4.22	ENAS Function – Boot Management Operation	44
4.23	ENAS Function – Set Cache Color Operation.....	45
4.24	Just in Time (JIT) Function – Release Cache Operation	46
4.25	Just in Time (JIT) Function – Release Cache/CLPR Operation.....	47
4.26	Just in Time (JIT) Function – Release Logical Unit Number (LUN) Operation	48
4.27	Logical Device (LDEV) Function – Volume-Blockade Operation.....	49
4.28	Logical Device (LDEV) Function – Volume-Format Operation	50
4.29	Logical Device (LDEV) Function – Volume-Restore(F) Operation.....	51

4.30	Logical Device (LDEV) Function – Volume-Format (H) Operation	52
4.31	Logical Device (LDEV) Function – Volume-Restore(N) Operation	53
4.32	LUN Manager (LUNM) Function – Add Host Group Operation	54
4.33	LUN Manager (LUNM) Function – Add iSCSI name Operation	55
4.34	LUN Manager (LUNM) Function – Add iSCSI Target Operation	56
4.35	LUN Manager (LUNM) Function – Add Logical Unit (LU) Path Operation	57
4.36	LUN Manager (LUNM) Function – Add World Wide Name (WWN) Operation.....	58
4.37	LUN Manager (LUNM) Function – Auth Info (Host) Operation.....	59
4.38	LUN Manager (LUNM) Function – Auth Info (Target) Operation	60
4.39	LUN Manager (LUNM) Function – Change Host Group Operation.....	61
4.40	LUN Manager (LUNM) Function – Change iSCSI name Operation	62
4.41	LUN Manager (LUNM) Function – Change iSCSI Target Operation	63
4.42	LUN Manager (LUNM) Function – Change WWN Operation	64
4.43	LUN Manager (LUNM) Function – Delete Disc Controller (DKC) World Wide Name (WWN) Operation	65
4.44	LUN Manager (LUNM) Function – Delete Host Group Operation.....	66
4.45	LUN Manager (LUNM) Function – Delete iSCSI name Operation	67
4.46	LUN Manager (LUNM) Function – Delete iSCSI Target Operation.....	68
4.47	LUN Manager (LUNM) Function – Delete Logical Unit (LU) Path Operation	69
4.48	LUN Manager (LUNM) Function – Init DKC iSCSI name Operation	71
4.49	LUN Manager (LUNM) Function – Delete World Wide Name (WWN) Operation	70
4.50	LUN Manager (LUNM) Function – Set Authentication Operation	72
4.51	LUN Manager (LUNM) Function – Set Channel Speed Operation	73
4.52	LUN Manager (LUNM) Function – Set CommandDev Operation.....	74
4.53	LUN Manager (LUNM) Function – Set CommandDevSec Operation.....	75
4.54	LUN Manager (LUNM) Function – Set FCSP Host Operation	76
4.55	LUN Manager (LUNM) Function – Set FCSP Port Info Operation	77
4.56	LUN Manager (LUNM) Function – Set FCSP Port Switch Operation.....	78
4.57	LUN Manager (LUNM) Function – Set FCSP Target Operation.....	79
4.58	LUN Manager (LUNM) Function – Set Fibre Address Operation	80
4.59	LUN Manager (LUNM) Function – Set Fibre Topology Operation	82
4.60	LUN Manager (LUNM) Function – Set Host Mode Operation.....	83
4.61	LUN Manager (LUNM) Function – Set IP Address Operation	84
4.62	LUN Manager (LUNM) Function – Set iSNS Operation	85
4.63	LUN Manager (LUNM) Function – Set Security Switch Operation.....	86
4.64	LUN Manager (LUNM) Function – Set Speed Mode Operation	87
4.65	LUN Manager (LUNM) Function – Set TCP/IP Port Operation	88
4.66	Logical Unit Number Expansion (LUSE) Function – Make LUSE Operation	89
4.67	Logical Unit Number Expansion (LUSE) Function – Release LUSE Operation	90
4.68	Performance Monitor (PFM) Function – Monitoring S/W Operation	91
4.69	PORT Function – Change Port Operation	92
4.70	Program Product (PP) KEY Function – File Operation	93
4.71	Program Product (PP) KEY Function – File Install Operation	94
4.72	Program Product (PP) KEY Function – Install Operation	95
4.73	Program Product (PP) KEY Function – Uninstall Operation	96
4.74	Remote Control Unit (RCU) Function – Add Path Operation.....	97
4.75	Remote Control Unit (RCU) Function – Add RCU Operation	98
4.76	Remote Control Unit (RCU) Function – Change RCU Option Operation	100
4.77	Remote Control Unit (RCU) Function – Delete Path Operation	102
4.78	Remote Control Unit (RCU) Function – Delete RCU Operation	103

4.79	Serverless Backup Enabler (SBE) Function – Port-Group (Forced) Operation	104
4.80	Serverless Backup Enabler (SBE) Function – Port-Group (Normal) Operation	105
4.81	SHRED Function – Set Shredding Operation.....	106
4.82	SHRED Function – Suspend Shredding Operation.....	107
4.83	ShadowImage (SI) Function – Change Reserve Operation	108
4.84	ShadowImage (SI) Function – Option Operation.....	109
4.85	ShadowImage (SI) Function – Paircreate Operation	110
4.86	ShadowImage (SI) Function – Pairresync Operation	111
4.87	ShadowImage (SI) Function Operation – Pairsplit Operation.....	112
4.88	ShadowImage (SI) Function – Pairsplit-E Operation	113
4.89	ShadowImage (SI) Function – Pairsplit-S Operation	114
4.90	ShadowImage (SI) z/OS Function – Add Pair Operation	116
4.91	ShadowImage (SI) z/OS Function – Change Reserve Operation.....	117
4.92	ShadowImage (SI) z/OS Function – CTG Operation	118
4.93	ShadowImage (SI) z/OS Function – Delete Pair Operation	119
4.94	ShadowImage (SI) z/OS Function – Exp R_TBL(Disable) Operation	120
4.95	ShadowImage (SI) z/OS Function – Exp R_TBL(Enable) Operation	121
4.96	ShadowImage (SI) z/OS Function – Option Operation.....	122
4.97	ShadowImage (SI) z/OS Function – Resync Pair Operation	123
4.98	ShadowImage (SI) z/OS Function – Set SCP Time Operation	124
4.99	ShadowImage (SI) z/OS Function – Split Pair Operation	125
4.100	ShadowImage (SI) z/OS Function – Suspend Pair Operation.....	126
4.101	SNMP Function – Set SNMP Agent Operation.....	127
4.102	Server Priority Manager (SPM) Function – Change PPCGrp Operation	129
4.103	Server Priority Manager (SPM) Function – Clear PPC Info Operation	130
4.104	Server Priority Manager (SPM) Function – Default Set Operation	131
4.105	Server Priority Manager (SPM) Function – PPCGrp Del/Chg Operation	132
4.106	Server Priority Manager (SPM) Function – Set All Prio Port Operation	133
4.107	Server Priority Manager (SPM) Function – Set All Prio WWN Operation	134
4.108	Server Priority Manager (SPM) Function – Set Ctrl Kind Operation	135
4.109	Server Priority Manager (SPM) Function – Set Prio Port Operation	136
4.110	Server Priority Manager (SPM) Function – Set Prio WWN Operation	137
4.111	Server Priority Manager (SPM) Function – Update Port WWN Operation	138
4.112	Server Priority Manager (SPM) Function – Update PPCGrp Operation	139
4.113	Server Priority Manager (SPM) Function – Update World Wide Name (WWN) Operation	140
4.114	TrueCopy (TC) Function – Add Consistency Group (CTG) Operation.....	141
4.115	TrueCopy (TC) Function – Change Async Option Operation	142
4.116	TrueCopy (TC) Function – Change CTG Option Operation.....	143
4.117	TrueCopy (TC) Function – Change Option Operation.....	144
4.118	TrueCopy (TC) Function – Change Pair Option Operation	145
4.119	TrueCopy (TC) Function – Delete Consistency Group (CTG) Operation	146
4.120	TrueCopy (TC) Function – Paircreate Operation	147
4.121	TrueCopy (TC) Function – Pairresync Operation	149
4.122	TrueCopy (TC) Function – Pairsplit-r Operation	150
4.123	TrueCopy (TC) Function – Pairsplit-S Operation	151
4.124	TrueCopy (TC) Function – Start Pair Operation	152
4.125	TrueCopy (TC) z/OS Function – Add Consistency Group (CTG) Operation	153
4.126	TrueCopy (TC) z/OS Function – Add Pair Operation	154
4.127	TrueCopy (TC) z/OS Function – Change Async Option Operation.....	156

4.128	TrueCopy (TC) z/OS Function – Change Consistency Group (CTG) Option Operation.....	157
4.129	TrueCopy (TC) z/OS Function – Change Option Operation.....	158
4.130	TrueCopy (TC) z/OS Function – Change Pair Option Operation	159
4.131	TrueCopy (TC) z/OS Function – Clear SIM Operation	160
4.132	TrueCopy (TC) z/OS Function – Delete CTG Operation.....	161
4.133	TrueCopy (TC) z/OS Function – Delete Pair Operation	162
4.134	TrueCopy (TC) z/OS Function – Resume Pair Operation.....	163
4.135	TrueCopy (TC) z/OS Function – Script Operation.....	164
4.136	TrueCopy (TC) z/OS Function – Start Pair Operation.....	165
4.137	TrueCopy (TC) z/OS Function – Suspend Pair Operation	166
4.138	Universal Replicator (UR) Function – Journal-Option Operation.....	167
4.139	Universal Replicator (UR) Function – Journal-Vol Operation	169
4.140	Universal Replicator (UR) Function – Journal-Vol Operation	170
4.141	Universal Replicator (UR) Function – Paircreate Operation	171
4.142	Universal Replicator (UR) Function – Pairresync Operation	172
4.143	Universal Replicator (UR) Function – Pairsplit-r Operation.....	174
4.144	Universal Replicator (UR) Function – Pairsplit-S Operation.....	175
4.145	Universal Replicator (UR) Function – Pair-Option Operation	176
4.146	Universal Replicator (UR) Function – System-Option Operation	177
4.147	Universal Replicator (UR) z/OS Function – Add Pair Operation	178
4.148	Universal Replicator (UR) z/OS Function – Clear-SIM Operation	179
4.149	Universal Replicator (UR) z/OS Function – Delete-Pair Operation.....	180
4.150	Universal Replicator (UR) z/OS Function – Edit-EXCTG Operation.....	181
4.151	Universal Replicator (UR) z/OS Function – Journal-Option Operation	182
4.152	Universal Replicator (UR) z/OS Function – Journal-Vol Operation.....	184
4.153	Universal Replicator (UR) z/OS Function – Journal-Vol Operation.....	185
4.154	Universal Replicator (UR) z/OS Function – Pair-Option Operation.....	186
4.155	Universal Replicator (UR) z/OS Function – Resume-Pair Operation	187
4.156	Universal Replicator (UR) z/OS Function – Suspend-Pair Operation.....	188
4.157	Universal Replicator (UR) z/OS Function – System-Option Operation.....	189
4.158	Universal Volume Manager (UVM) Function – Add-Lu2 Operation	190
4.159	Universal Volume Manager (UVM) Function – Add-WWN Operation	192
4.160	Universal Volume Manager (UVM) Function – Alternate-Path Operation	193
4.161	Universal Volume Manager (UVM) Function – Check-Paths Operation	194
4.162	Universal Volume Manager (UVM) Function – ChkPath-RestoreVol Operation ..	195
4.163	Universal Volume Manager (UVM) Function – Delete-Lu (Force) Operation.....	196
4.164	Universal Volume Manager (UVM) Function – Delete-Lu (Normal) Operation ...	197
4.165	Universal Volume Manager (UVM) Function – Disconnect-Paths Operation	198
4.166	Universal Volume Manager (UVM) Function – Disconnect-Volume Operation ...	199
4.167	Universal Volume Manager (UVM) Function – WwnTimer Operation	200
4.168	Virtual LVI / Virtual LUN (VLL) Function – Install Customized Volume (CV) Operation.....	201
4.169	Virtual LVI / Virtual LUN (VLL) Function – Make Volume Operation.....	202
4.170	Virtual LVI / Virtual LUN (VLL) Function – Set SSID Operation	203
4.171	Virtual LVI / Virtual LUN (VLL) Function – Volume Initialize Operation	204
4.172	Virtual LVI / Virtual LUN (VLL) Function – Volume to Space Operation	205
4.173	Volume Migration (VM) Function – Create Auto Plan Operation	206
4.174	Volume Migration (VM) Function – Del Auto Plan Log Operation.....	207
4.175	Volume Migration (VM) Function – Delete Auto Plan Operation.....	208

4.176	Volume Migration (VM) Function – Del Migration Log Operation	209
4.177	Volume Migration (VM) Function – Set Auto Plan Param Operation.....	210
4.178	Volume Migration (VM) Function – Set Class Threshold Operation	212
4.179	Volume Migration (VM) Function – Set Fixed PG Operation	213
4.180	Volume Migration (VM) Function – Set Migration Vol Operation.....	214
4.181	Volume Migration (VM) Function – Set Plan Condition Operation	215
4.182	Volume Migration (VM) Function – Set Reserved Vol Operation	216
4.183	Virtual Partition Manager (VPM Function) – Set Operation.....	217
4.184	Volume Retention Manager (VRM) Function – Attribute Operation	219
4.185	Volume Retention Manager (VRM Function) – VTOC Operation.....	220
4.186	Volume Security (VSEC) Function – Set Group Operation	221
4.187	V Volume (VVOL) Function – Add V-Vol Operation	223
4.188	V Volume (VVOL) Function – Delete V-Vol Operation	224
4.189	Volume (VVOL) Function – Pool Change / Delete Operation.....	225
4.190	V Volume (VVOL) Function – Pool Initialize Operation.....	226
4.191	V Volume (VVOL) Function – Pool Restore Operation	227
4.192	V Volume (VVOL) Function – Pool SIM Comp Req Operation	228
4.193	V Volume (VVOL) Function – Set Pool Operation	229
4.194	XRCR Function – Set XRC Option Operation	230
Appendix A Audit Log File Output by Function.....		231
Acronyms and Abbreviations.....		245

List of Figures

Figure 2.1	Login Audit Log File	8
Figure 2.2	Settings Audit Log File	8
Figure 2.3	Syslog Information File.....	11
Figure 4.1	Items Described in Sample Audit Logs.....	21
Figure 4.2	Detailed Information Described in Sample Audit Logs	21

List of Tables

Table 1.1	Components of Audit Log File	5
Table 2.1	Items in the Login and Settings Audit Log File.....	9
Table 2.2	Symbols Used in Detailed Parameter Information.....	10
Table 2.3	Items in the Syslog File	12
Table 2.4	Audit Log Function and Event in Syslog File	14
Table 3.1	Audit Log Functions, Operations and Programs	15
Table 4.1	Parameters for Set Syslog Server Info Operation.....	25
Table 4.2	Detailed Information for Set Syslog Server Info Operation	25
Table 4.3	Detailed Information for Set User Account Operation.....	26
Table 4.4	Parameters for ChangeMode Operation.....	27
Table 4.5	Detailed Information for Set System Info Operation.....	28
Table 4.6	Detailed Information for Delete M/F DCR Operation	30
Table 4.7	Detailed Information for Open DCR Operation	31
Table 4.8	Detailed Information for Set M/F DCR Operation	32
Table 4.9	Detailed Information for Set Open DCR Operation.....	33
Table 4.10	Detailed Information for LUNM Operation.....	34
Table 4.11	Detailed Information for Add Alias Operation	35
Table 4.12	Detailed Information for Delete Alias Operation.....	36
Table 4.13	Detailed Information for Delete Pair Operation.....	37
Table 4.14	Detailed Information for Pair Create Operation.....	38
Table 4.15	Detailed Information for Attribute Operation	39
Table 4.16	Parameters for Expiration Lock Operation	40
Table 4.17	Detailed Information for Release All Extents Operation	41
Table 4.18	Detailed Information for Retention-Term Operation	42
Table 4.19	Detailed Information for VMA Operation	43
Table 4.20	Detailed Information for Boot Management Operation.....	44
Table 4.21	Detailed Information for Set Cache Color Operation	45
Table 4.22	Detailed Information for Release Cache Operation.....	46
Table 4.23	Detailed Information for Release Cache/CLPR Operation	47
Table 4.24	Detailed Information for Release LUN Operation	48
Table 4.25	Detailed Information for Volume-Blockade Operation	49
Table 4.26	Detailed Information for Volume-Format Operation.....	50
Table 4.27	Detailed Information for Volume-Restore (F) Operation.....	51
Table 4.28	Detailed Information for Volume-Format(H) Operation.....	52
Table 4.29	Detailed Information for Volume Restore(N) Operation	53
Table 4.30	Detailed Information for Add Host Group Operation	54
Table 4.31	Detailed Information for Add iSCSI name Operation.....	55
Table 4.32	Detailed Information for Add iSCSI Target Operation	56
Table 4.33	Detailed Information for Add LU Path	57
Table 4.34	Detailed Information for Add WWN Operation.....	58
Table 4.35	Detailed Information for Auth Info (Host) Operation	59
Table 4.36	Detailed Information for Auth Info (Target) Operation	60
Table 4.37	Detailed Information for Change Host Group Operation	61

Table 4.38	Detailed Information for Change iSCSI name Operation	62
Table 4.39	Detailed Information for Change iSCSI Target Operation.....	63
Table 4.40	Detailed Information for Change WWN Operation	64
Table 4.41	Detailed Information for Delete DKC WWN Operation	65
Table 4.42	Detailed Information for Delete Host Group Operation	66
Table 4.43	Detailed Information for Delete iSCSI name Operation.....	67
Table 4.44	Detailed Information for Delete iSCSI Target Operation.....	68
Table 4.45	Detailed Information for Delete LU Path Operation.....	69
Table 4.46	Detailed Information for Delete WWN Operation.....	70
Table 4.47	Detailed Information for Set Authentication Operation	72
Table 4.48	Detailed Information for Set Channel Speed Operation	73
Table 4.49	Detailed Information for SetCommandDev Operation.....	74
Table 4.50	Detailed Information for Set CommandDevSec Operation.....	75
Table 4.51	Detailed Information for Set FCSP Host Operation	76
Table 4.52	Detailed Information for Set FCSP Port Info Operation	77
Table 4.53	Detailed Information for Set FCSP Port Switch Operation.....	78
Table 4.54	Detailed Information for Set FCSP Target Operation.....	79
Table 4.55	Detailed Information for Set Fibre Address.....	80
Table 4.56	Output Values to Detailed Information and Addresses of Fibre Channel Port...	81
Table 4.57	Detailed Information for Set Fibre Topology Operation	82
Table 4.58	Detailed Information for Set Host Mode Operation.....	83
Table 4.59	Values of Option and Host Mode Option.....	83
Table 4.60	Detailed Information for Set IP Address Operation.....	84
Table 4.61	Detailed Information for Set iSNS Operation	85
Table 4.62	Detailed Information for Set Security Switch Operation.....	86
Table 4.63	Detailed Information for Set Speed Mode Operation.....	87
Table 4.64	Detailed Information for Set TCP/IP Port Operation	88
Table 4.65	Detailed Information for Make LUSE Operation	89
Table 4.66	Detailed Information for Release LUSE Operation.....	90
Table 4.67	Parameters for Monitoring S/W Operation.....	91
Table 4.68	Detailed Information for Change Port Operation	92
Table 4.69	Detailed Information for File Operation.....	93
Table 4.70	Detailed Information for File Install Operation	94
Table 4.71	Detailed Information for Install Operation.....	95
Table 4.72	Detailed Information for Uninstall Operation	96
Table 4.73	Detailed Information for Add Path Operation	97
Table 4.74	Detailed Information for Add RCU Operation.....	99
Table 4.75	Detailed Information for Change RCU Option	101
Table 4.76	Detailed Information for Delete Path Operation.....	102
Table 4.77	Detailed Information for Delete RCU Operation	103
Table 4.78	Detailed Information for Port-Group (Forced)	104
Table 4.79	Detailed Information for Port-Group (Normal) Operation.....	105
Table 4.80	Detailed Information for Set Shredding Operation	106
Table 4.81	Detailed Information for Suspend Shredding Operation	107
Table 4.82	Detailed Information for Change Reserve Operation.....	108
Table 4.83	Detailed Information for Option Operation.....	109
Table 4.84	Detailed Information for Pair Create Operation	110
Table 4.85	Detailed Information for Pairresync Operation	111
Table 4.86	Detailed Information for Pairsplit Operation	112
Table 4.87	Detailed Information for Pairsplit-E Operation	113

Table 4.88	Detailed Information for Pairsplit-S Operation	114
Table 4.89	Detailed Information for Add Pair Operation	116
Table 4.90	Detailed Information for Change Reserve Operation	117
Table 4.91	Detailed Information for CTG Operation	118
Table 4.92	Detailed Information for Delete Pair Operation	119
Table 4.93	Detailed Information for Option operation.....	122
Table 4.94	Detailed Information for Resync Pair Operation	123
Table 4.95	Detailed Information for Set SCP Time Operation	124
Table 4.96	Detailed Information for Split Pair Operation	125
Table 4.97	Detailed Information for Suspend Pair Operation	126
Table 4.98	Detailed Information for Set SNMP Agent Operation	128
Table 4.99	Detailed Information for Change PPCGrp Operation.....	129
Table 4.100	Parameters for Default Set Operation	131
Table 4.101	Detailed Information for PPCGrpDel/Chg Operation	132
Table 4.102	Detailed Information for Set All Prio Port Operation	133
Table 4.103	Detailed Information for Set All Prio WWN Operation.....	134
Table 4.104	Parameters for Set Ctrl Kind Operation	135
Table 4.105	Detailed Information for Set Prio Port Operation	136
Table 4.106	Detailed Information for Set Prio WWN Operation.....	137
Table 4.107	Detailed Information for Update Port WWN Operation	138
Table 4.108	Detailed Information for Update PPCGrp Operation.....	139
Table 4.109	Detailed Information for Update WWN Operation	140
Table 4.110	Detailed Information for Add Consistency Group Operation	141
Table 4.111	Detailed Information for Change Async Option.....	142
Table 4.112	Detailed Information for Change CTG Option.....	143
Table 4.113	Detailed Information for Change Option Operation.....	144
Table 4.114	Detailed Information for Change Pair Option Operation.....	145
Table 4.115	Parameters for Delete CTG Operation	146
Table 4.116	Detailed Information for Paircreate Operation.....	148
Table 4.117	Detailed Information for Pairresync Operation.....	149
Table 4.118	Detailed Information for Pairsplit-r Operation	150
Table 4.119	Detailed Information for Pairsplit-S Operation	151
Table 4.120	Detailed Information for Add CTG Operation	153
Table 4.121	Detailed Information for Add Pair Operation	155
Table 4.122	Detailed Information for Change Async Option.....	156
Table 4.123	Detailed Information for Change CTG Option Operation.....	157
Table 4.124	Detailed Information for Change Option Operation.....	158
Table 4.125	Detailed Information for Change Pair Option Operation.....	159
Table 4.126	Parameters for Delete CTG Operation	161
Table 4.127	Detailed Information for Delete Pair Operation.....	162
Table 4.128	Detailed Information for Resume Pair Operation	163
Table 4.129	Parameters for Script Operation.....	164
Table 4.130	Detailed Information for Script Operation	164
Table 4.131	Detailed Information for Suspend Pair Operation.....	166
Table 4.132	Detailed Information for Journal-Option Operation	168
Table 4.133	Parameters for Journal-Vol Operation	169
Table 4.134	Detailed Information for Journal-Vol Operation.....	169
Table 4.135	Detailed Information for Journal-Vol Operation.....	170
Table 4.136	Detailed Information for Paircreate Operation.....	171
Table 4.137	Detailed Information for Pairresync Operation.....	172

Table 4.138	Detailed Information for Pairsplit-r Operation	174
Table 4.139	Detailed Information for Pairsplit-S Operation.....	175
Table 4.140	Detailed Information for Pair-Option Operation	176
Table 4.141	Detailed Information for Add-Pair Operation.....	178
Table 4.142	Detailed Information for Delete-Pair Operation	180
Table 4.143	Parameters for Edit-EXCTG Operation.....	181
Table 4.144	Detailed Information for Edit-EXCTG Operation	181
Table 4.145	Detailed Information for Journal-Option Operation	183
Table 4.146	Parameters for Journal-Vol Operation.....	184
Table 4.147	Detailed Information for Journal-Vol Operation	184
Table 4.148	Parameters for Journal-Vol Operation.....	185
Table 4.149	Detailed Information for Journal-Vol Operation	185
Table 4.150	Detailed Information for Pair-Option Operation	186
Table 4.151	Detailed Information for Resume-Pair Operation.....	187
Table 4.152	Detailed Information for Suspend-Pair Operation	188
Table 4.153	Detailed Information for System-Option Operation	189
Table 4.154	Detailed Information for Add-Lu2 Operation	191
Table 4.155	Detailed Information for Add-WWN Operation	192
Table 4.156	Detailed Information for Alternate-Path Operation	193
Table 4.157	Detailed Information for Check-Paths Operation	194
Table 4.158	Detailed Information for ChkPath-RestoreVol Operation.....	195
Table 4.159	Detailed Information for Delete LU Operation	196
Table 4.160	Detailed Information for Delete LU (Normal) Operation	197
Table 4.161	Detailed Information for Disconnect-Paths Operation	198
Table 4.162	Detailed Information for Disconnect-Volume Operation.....	199
Table 4.163	Detailed Information for WWN Timer Operation.....	200
Table 4.164	Detailed Information for Install CV Operation	201
Table 4.165	Detailed Information for Make Volume Operation.....	202
Table 4.166	Detailed Information for Set SSID Operation	203
Table 4.167	Detailed Information for Volume Initialize Operation	204
Table 4.168	Detailed Information for Volume to Space Operation.....	205
Table 4.169	Detailed Information for Delete Auto Plan Operation	208
Table 4.170	Detailed Information for Set Auto Plan Param	211
Table 4.171	Detailed Information for Set Class Threshold Operation	212
Table 4.172	Detailed Information for Set Fixed PG Operation.....	213
Table 4.173	Detailed Information for Set Migration Vol Operation	214
Table 4.174	Detailed Information for Set Plan Condition Operation	215
Table 4.175	Detailed Information for Set Reserved Vol Operation.....	216
Table 4.176	Detailed Information for Set Operation Operation	218
Table 4.177	Detailed Information for Attribute Operation.....	219
Table 4.178	Detailed Information for VTOC Operation	220
Table 4.179	Detailed Information for Set Group Operation	222
Table 4.180	Detailed Information for Add V-Vol Operation	223
Table 4.181	Detailed Information for Delete V-Vol Operation.....	224
Table 4.182	Detailed Information for Pool Change / Delete Operation	225
Table 4.183	Detailed Information for Pool Restore Operation.....	227
Table 4.184	Detailed Information for Pool SIM Comp Req Operation.....	228
Table 4.185	Detailed Information for Set Pool Operation	229
Table 4.186	Detailed Information for Set XRC Option Operation.....	230

Chapter 1 Introduction

This chapter introduces you to the audit logs created by the Storage Navigator on the TagmaStore. It includes the following sections:

- Purpose of Audit Logs (section 1.1)
- Downloading Audit Logs (section 1.2)
- Transferring Audit Logs to Syslog Servers (section 1.3)
- Description of Audit Log File (section 1.4)

1.1 Purpose of Audit Logs

The audit log files store a history of all operations performed from a Storage Navigator computer. This history includes the user, the time of the operation, the name of the operation, any parameters set, and the end result (normal completion or error message). Each audit log file ends with a serial number, from 000,000 to 999,999. When the number reaches 999,999, it resets and starts over at 000,000.

There are three types of audit log files:

- *Login Audit Log File* – Basic information about login and logout operations
- *Settings Audit Log File* – Basic and detailed information about settings made for each operation
- *Syslog Information File* – Information about operations on your service processor (SVP), including priority and host name, as well as audit log basic and detailed information. This file contains the audit log. You can download it to your Storage Navigator computer or to a primary or secondary syslog server.

The audit log is an important tool you can use to keep track of operations, to monitor security, to investigate the cause of errors, and to avoid potential errors.

1.2 Downloading the Audit Log File

You can download the audit log file by selecting the **Audit** button or the **Syslog** tab on the Storage Navigator main panel.

1.2.1 Downloading the Audit Log File using the Audit Button

To download the audit log file using the **Audit** button:

1. Log on as a storage administrator and open the Storage Navigator main panel.
2. Select the **Audit** button in the top right corner of the main panel:



- **Audit:Normal** displays when the number of saved lines in the audit log file is below the threshold.
 - **Audit:Warning** displays yellow when the number of saved lines in the audit log file is above the threshold, but the data is still being saved.
 - **Audit:Wraparound** displays red when the number of saved lines in the audit log file has exceeded the maximum, and data is being lost.
3. Select a destination for the file and select **Save**.

1.2.2 Downloading the Audit Log File Using the Syslog Tab

To download the audit log file using the **Syslog** Tab:

1. Log on as a storage administrator and open the Storage Navigator main panel.
2. Select the **Syslog** tab in the top left corner of the main panel. The Syslog panel displays.
3. Click **Download** on the Syslog panel. The Specify the Destination panel displays.
4. Enter the destination where you are saving the syslog information file and the file name and click **Save**.

1.3 Transferring the Audit Log File to Syslog Servers

In addition to downloading the syslog information file containing the audit log information to the Storage Navigator computer, you can transfer audit log files to either a primary or a secondary syslog server.

To transfer audit log files:

1. Make sure the TagmaStore is connected to syslog servers on a LAN.
2. Log on as a storage administrator and open the Storage Navigator main panel.
3. Change to **Modify** mode.
4. Select the **Syslog** tab to open the **Syslog** panel:

The screenshot shows the 'Syslog' configuration panel within the Storage Navigator interface. At the top, there are tabs for 'Information', 'System', 'Status', and 'Syslog', with 'Syslog' being the active tab. Below the tabs, the panel is titled 'Syslog'. It contains several sections for configuration:

- Syslog Server Setting**: A header section.
- Output to Primary Server**: A section with radio buttons for 'Enable' and 'Disable' (currently 'Disable' is selected).
- Primary Server Setting**: A section with input fields for 'IP Address' (192 . 168 . 0 . 1) and 'Port Number' (0).
- Output to Secondary Server**: A section with radio buttons for 'Enable' and 'Disable' (currently 'Disable' is selected).
- Secondary Server Setting**: A section with input fields for 'IP Address' (192 . 168 . 0 . 2) and 'Port Number' (0).
- Location Identification Name**: A section with a text input field.
- Output Detailed Information**: A section with radio buttons for 'Enable' and 'Disable' (currently 'Enable' is selected).
- Download Syslog**: A section with a 'Download' button.

At the bottom right of the panel, there are 'Apply' and 'Cancel' buttons.

5. Select one of the following:
 - If using a primary syslog server:
 - Select **Enable** in **Output to Primary Server**.
 - Enter the **IP Address** in **Primary Server Setting**. You do not have to enter the periods.
 - Enter the **Port Number** in **Primary Server Setting**. You can enter a number from 1 to 65,535.
 - If using a secondary syslog server:
 - Select **Enable** in **Output to Secondary Server**.
 - Enter the **IP Address** in **Secondary Server Setting**. You do not have to enter the periods.
 - Enter the **Port Number** in **Secondary Server Setting**. You can enter a number from 1 to 65,535.
6. Enter the name of the TagmaStore USP subsystem from which you are transferring the audit log file in **Location Identification Name**. The name can contain up to 32 one-byte characters, including:
 - Letters (A-Z and a-z)
 - Numbers (0-9)
 - Symbols (including ! " # \$ % & ' () = - ~ ^ | \ { } [] @ ` : ; * + _ ? / < > .)
 - You cannot use a comma (,) or a space.
7. Select **Enable** for **Output Detailed Information**.
8. Click **Apply**. A confirmation message is displayed.
9. Click **OK**.

1.4 Audit Log File Description

The audit log file includes the following components:

Table 1.1 Audit Log File Components

Component	Login Audit Log File	Settings Audit Log File	Syslog Information File
File Name	login.log	audit.log	syslog.log
Downloaded File Name	loginYYYYMMDD.tgz YYYY = year MM = month DD = day	auditYYYYMMDD.tgz YYYY = year MM = month DD = day	syslogYYYYMMDD.tgz YYYY = year MM = month DD = day
Linefeed Codes	CR + LF (Some text editors cannot display these codes correctly)		
File Output	Login and logout information	Basic and detailed information about settings made for each operation	Information about operations on your service processor (SVP), including priority and host name, as well as audit log information
Maximum Line Size	256 bytes	256 bytes	1,024 bytes
Maximum Number of Lines	10,000	250,000	120,000
Maximum FileSize	2.5 MB	61.5 MB	117.3 MB
Threshold	Once the audit log reaches its maximum capacity, the starting line of the oldest data begins to be overwritten with the starting line of the newest data (wrap around). When you reach 70% of this threshold, the yellow Audit:Warning button displays on the Storage Navigator Main panel. You should download the audit file at or before this threshold to prevent the old data from being overwritten. When you exceed the maximum, and data is being overwritten, the red Audit:Wraparound button displays. The counter is reset when you download the audit file.		Check Audit Log - Event in the syslog audit log file. [Audit Log], Over Threshold (File has reached 50% of the maximum number of lines.) [Audit Log], Over MaxLine (Size of file has reached its maximum number of lines and data is being overwritten.) See #29 in Table 2.3 and section 2.3.1.
Control Information	The first line of the audit log file is the control information, including the file name and the last time the file was written.		

1.5 Audit Log File Output

Table 1.2 describes the operation name, event name, and triggering events that are output when the audit log file is reproduced. The “create file” event name will be automatically output only once. A sample output of this file is described in section 4.1.

Table 1.2 Audit Log File Output

Function Name	Event Name	Output Trigger
AuditLog	Create File	Output when abnormal files in the Audit log are reproduced automatically.

Chapter 2 Audit Log File Format

This chapter describes the three types of audit log files and the items included in the files.

- Login Audit Log Files (section 2.1)
- Settings Audit Log File (section 2.2)
- Syslog Information File (section 2.3)

2.1 Login Audit Log Files

The Login Audit Log File includes user ID, SLPR number, date, time, function, operation (login or logout), IP address, result, and serial number. Each item is separated by a comma (see Table 2.1 for a description of each item).

Figure 2.1 illustrates a sample login audit log file:

```
user-00,99,2005/02/20,16:59:00:000,00:00,[Base],Login,IP=126.255.255.0,Normal end,Seq=000000
```

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Figure 2.1 Login Audit Log File

2.2 Settings Audit Log File

The Settings Audit Log File includes user ID, SLPR number, date, time, function, operation (any except login in or logout), parameter, result, and serial number. If no parameter displays after the operation name, detailed information about settings displays on the following line or lines. Each item is separated by a comma (see Table 2.1 for a description of each item and Table 2.2 for a description of symbols used in the detailed information).

Figure 2.2 illustrates a sample settings audit log file:

```
user-00,99,2005/02/20.16:59:00:000,00:00,[Base],ChangeMode,Modify,Normal end,Seq=000000
user-00,99,2005/02/20,17:00:00:000,00:00,[SI],Paircreate,,Normal end,Seq=000001
+Copy Pace=Faster
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MU,Result}=[{0x00:0x00,0x01:0x00,0,Normal end},
  {0x00:0x01,0x01:0x01,0,Normal end}, {0x00:0x02,0x01:0x02,0,Normal end},
  {0x00:0x03,0x01:0x03,0,Normal end}
  -{0x00:0x04,0x01:0x04,0,Normal end}, {0x00:0x05,0x01:0x05,0,Normal end}],Num.of Pairs=6
user-00,99,2005/02/20.17:10:00:000,00:00,[Base],ChangeMode,View,Normal end,Seq=000002
```

Basic Information	
Detailed Information	

Figure 2.2 Settings Audit Log File

Table 2.1 Login and Settings Audit Log File

No.	Item	Explanation
1	Login user ID	The user ID. <i>Note:</i> When the operation name is "AuditLog" and the event name is "Create File", "system" is output.
2	SLPR number	The SLPR number. For storage administrators, the number 99 displays. <i>Note:</i> Not output when the operation name is "AuditLog" and the event name is "Create File".
3	Date	Year, month and day the audit log was created (YYYYMMDD).
4	Time	Hour, minute, second and millisecond the audit log was created (HH:MM:SSxxx).
5	Time zone	The time difference between Universal Time (UT) and the local time displays as "±HH:MM" (HH: hour, MM: minute).
6	Function name	- [Base] or [AuditLog] is output in the login information file. - In the setting information file, the abbreviation indicating the function or program product option which has been used to perform the setting operation is output..
7	Operation or event name	The operation, event name or program product, such as Login, Cache Residency Manager, or LUN Expansion. Login audit log files display Login or Logout as the operation name. Settings audit log files display the operation or program product name. See Table 3.1 for a list of functions and how they relate to operations or program products.
8	Parameters	Login audit log files display the IP address of the Storage Navigator (web client) computer used for logging on. No information is output for the logoff operation. Settings audit log files display parameters for certain functions, such as Modify for the ChangeMode operation. For some operations, such as Paircreate, parameters display as detailed information on the following line or lines. These detailed parameters include an Index and the Values you set (see Figure 2.2).
9	Operation result	The end result of your operation. Normal end. The operation has ended normally. Error (xxxx-yyyyy). The operation has ended abnormally and an error code displays. Warning (xxxx-yyyyy). The operation has partly ended abnormally and an error code displays. For more information, refer to <i>Hitachi USP and NSC Storage Navigator Error Codes</i> (MK-94RD202).
10	Log information serial number	The serial number of the saved log information (000000 to 999999). When the number reaches 999,999, it is reset to 000000.

Table 2.2 Symbols Used in Detailed Parameter Information

Symbol	Definition
+ and -	'+' or '-' displays at the beginning of a line. '+' means the beginning of the index. The number of occurrences of '+' represents the number of indents. '-' means that the line continues from the previous line.
=	Connects an index and a setting value.
[]	When there is more than one setting value for one index, the setting values are enclosed by [], and separated by a comma (.). <i>Example:</i> CU:LDEV=[0x00:0x00,0x00:0x01,0x00:0x02]
{ }	Details are enclosed by {}. <i>Example:</i> {Port,Fabric,Connection}={{1E,ON,FC-AL},{3E,OFF,P-to-P}}
()	Supplementary and additional information for setting values are enclosed by (). <i>Example:</i> {VOL(CU:LDEV),Result}={0x00:0x01,Error(yyyy-xxxx)}

2.3 Syslog Information File

The Syslog Information File includes information about operations on your service processor (SVP), including priority and host name, as well as audit log information. (See Table 2.3 for a description of each item in the syslog information file.)

Figure 2.3 illustrates a sample syslog information file:

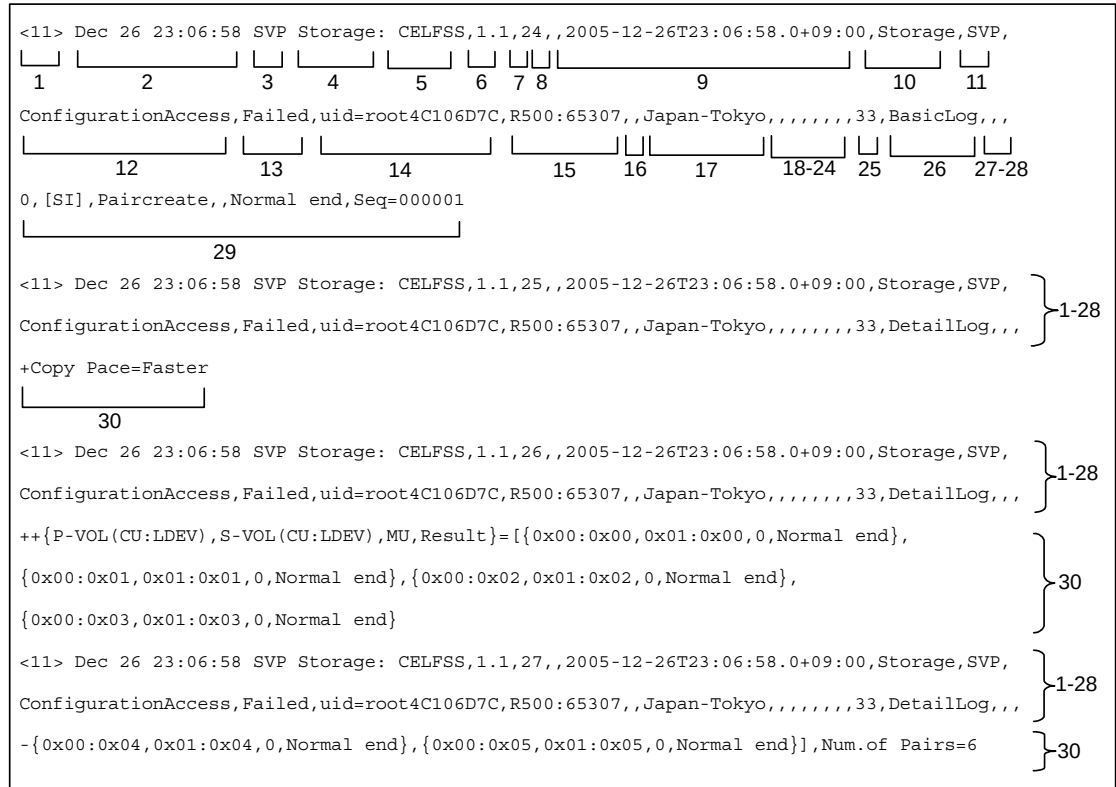


Figure 2.3 Syslog Information File

Table 2.3 Items in the Syslog File

No.	Item	Description
1	Priority	The priority according to the following formula, enclosed by bracket (< >): $\text{Priority} = 8 \times \text{Facility} + \text{Severity}$ Facility is 1 (fixed). The Severity depending on the type of log information: 3: Error. The operation has ended abnormally. 4: Warning. The operation has partly ended abnormally. 6: Informational. The operation has ended normally. For example, <11> is displayed for priority when severity is error.
2	Date, time	The date and time in the format of "MMM DD HH:mm:ss" (MMM: month, DD: day, HH: hour, mm: minute and SS: second). <i>Note:</i> If the "DD" is a single digit (for example, 1), it is displayed as " 1" (with a blank space before "1") and not as "01".
3	Detected location	The host name (SVP).
4	Program name	The detection entity identification character (Storage).
5	Unified specification identification information	The Unified specification identification character (CELFSS).
6		The revision number of the Unified specification document (1.1).
7	Message identification information	The serial number of the syslog header information.
8		Message ID. Not displayed because it is not used.
9	Date, time#2	The date, time and the time difference between UTC (Coordinated Universal Time) in the format of "YYYY-MM-DD-Thh:mm:ss.s $\pm$ hh:mm" (YYYY: year, MM: month, DD: day, hh: hour, mm: minute, ss.s: second, hh: hours of the time difference and mm: minute of the time difference) "Z" is displayed instead of "$\pm$ hh:mm" when there is no time difference between UTC, such as "2005-12-26T:23:06:58.0Z". <i>Note:</i> The displayed format for second "ss.s" represents one decimal place.
10	Detection entity	The detection entity identification character (Storage).
11	Detected location	The host name (SVP).
12	Type of audit event	The category name of the event as described in the following example: - Authentication. iSCSI login or authentication of RMI (Remote Method Invocation) - ConfigurationAccess. Setting from Storage Navigator. - AnomalyEvent. Reached the maximum of the audit log, etc.
13	Result of the audit event	The result of the audit event: - Success: Normal end. The operation has ended normally. - Failed: Error (xxxx-yyyy). The operation has ended abnormally. - Failed: Warning (xxxx-yyyy). The operation has partly ended abnormally.
14	Subject identification information	The user name in the format of "uid=user name". <i>Note:</i> "system" is displayed when the category name is "AnomalyEvent".
15	Hardware identification information	The ID (R500) to identify the model name of the product and the serial number divided by a colon.

16	Generated location information	Not displayed because it is not used.
17	Related information	The location identification name set by the user in the Syslog panel.
18		FQDN. Not displayed because it is not used.
19		Redundant identification information. Not displayed because it is not used.
20	Agent information	Not displayed because it is not used.
21	Detailed information	Host sending the request. Not displayed because it is not used.
22		Port sending the request. Not displayed because it is not used.
23		Host to which the request is sent. Not displayed because it is not used.
24		Port to which the request is sent. Not displayed because it is not used.
25		Collective operation identification number. This is a serial number which identifies that multiple lines displayed by one operation are the same operation. <i>Note:</i> Not displayed when the category name is "AnomalyEvent".
26		Log type information: - BasicLog: basic information - DetailLog: detailed information <i>Note:</i> Not displayed when the category name is "AnomalyEvent".
27		Reserve #1. Not displayed because it is not used.
28		Reserve #2. Not displayed because it is not used.
29		SLPR number. The basic information of the login information file and the setting information file are also displayed: - The abbreviation indicating the function - Name of the operation or event name - Parameters - Result of the operation - Serial number of the log information <i>Note:</i> - SLPR number and the serial number of the log information are not displayed when the category name is "AnomalyEvent". - The event name is displayed instead of the operation when the function is [AuditLog]. See Table 1.2 and Table 2.4.
30		The detailed information from the settings information file is displayed. For more information, see Figure 2.2.

2.3.1 Monitoring Threshold of Syslog Information File

When the size of the syslog information file reaches a threshold (50% of its capacity) or exceeds its maximum capacity, the Audit Log function and Event display in the detailed Information section of the file. (See item #29 in Table 2.3.)

Table 2.4 Audit Log Function and Event in Syslog File

Function	Event	Displays When
AuditLog	Over Threshold	The size of the syslog information file exceeds the threshold (50% of the maximum number of lines).
	Over MaxLine	The size of the syslog information file has reached its maximum number of lines.

When the information stored in the syslog information file reaches its maximum number of lines, it is overwritten by new information starting at the first line (wrap around system). Since the old information is erased, you should download the syslog information file as needed. See the *Storage Navigator User's Guide* for the maximum number of lines.

For examples of the Audit Log Function and Events in the Syslog file, see the following:

- Audit Log Function – Over Threshold Event (section 4.1)
- Audit Log Function – Over MaxLine Event (section 4.3)

Chapter 3 Audit Log Functions, Operations and Products

Table 3.1 illustrates the relationship between audit log functions, operations, and program products. Functions are listed in alphabetical order. To see a sample audit log for an operation, click on its section number in the Sample Log column.

Table 3.1 Audit Log Functions, Operations and Programs

Function Name	Operation Name	Sample Log (see section)	Program Product
Audit Log	Set Syslog Server	4.4	Changing information on the Syslog panel
Account	Set User Account	4.5	Changing Information on the Account Panel
BASE	ChangeMode	4.6	Changing between View Mode and Modify Mode
	Set System Info	4.7	Changing information on the Information Panel
Cache	DCR Prestaging	4.8	Cache Residency Manager
	Delete M/F DCR	4.9	Cache Residency Manager for IBM z/OS
	Delete Open DCR	4.10	
	Set M/F DCR	4.11	
	Set Open DCR	4.12	
CFL	LUNM Operation	4.13	Configuration File Loader
CPAV	Add Alias	4.14	Compatible PAV for IBM z/OS
	Delete Alias	4.15	
CSC	Delete Pair	4.16	Cross-system Copy
	Pair Create	4.17	
DRU	Attribute	4.18	Data Retention Utility
	Expiration Lock	4.19	
	Release All Extents	4.20	
	Retention-Term	4.21	
	VMA	4.22	
ENAS	Boot Management	4.23	NAS Boot Management of LUN Manager
	Set Cache Color	4.24	PCR of Cache Residency Manager
JIT	Release Cache	4.25	Just in Time
	Release Cache/CLPR	4.26	
	Release LUN	4.27	
LDEV	Volume-Blockade	4.28	LDEV operation such as blocking, restoring, and formatting
	Volume-Format	4.29	
	Volume-Restore(F)	4.30	
	Volume-Format(H)	4.31	
	Volume-Restore(N)	4.32	
LUNM	Add Host Group	4.33	LUN Manager
	Add iSCSI name	4.34	
	Add iSCSI Target	4.35	

	Add LU Path	4.36	
	Add WWN	4.37	
	Auth Info (Host)	4.38	
	Auth Info (Target)	4.39	
	Change Host Group	4.40	
	Change iSCSI name	4.41	
	Change iSCSI Target	4.42	
	Change WWN	4.43	
	Delete DKC WWN	4.44	
	Delete Host Group	4.45	
	Delete iSCSI name	4.46	
	Delete iSCSI Target	4.47	
	Delete LU Path	4.48	
	Delete WWN	0	
	Init DKC iSCSI name	4.49	
	Set Authentication	4.51	
	Set Channel Speed	4.52	
	Set CommandDev	4.53	
	Set CommandDevSec	4.54	
	Set FCSP Host	4.55	
	Set FCSP Port Info	4.56	
	Set FCSP Port Switch	4.57	
	Set FCSP Target	4.58	
	Set Fibre Address	4.59	
	Set Fibre Topology	4.60	
	Set Host Mode	4.61	
	Set IP Address	4.62	
	Set iSNS	4.63	
	Set Security Switch	4.64	
	Set Speed Mode	4.65	
	Set TCP/IP Port	4.66	
LUSE	Make LUSE	4.67	LUN Expansion (LUSE)
	Release LUSE	4.68	
PFM	Monitoring S/W	4.69	Performance Monitor
PORT	Change Port	4.70	Changing port attribute operation from TrueCopy, TrueCopy for z/OS, Universal Replicator, Universal Replicator for z/OS, Serverless Backup Enabler, or Universal Volume Manager
PP KEY	File	4.71	License Key
	File Install	4.72	
	Install	4.73	
	Uninstall	4.74	
RCU	Add Path	4.75	RCU operation from TrueCopy, TrueCopy for z/OS, Universal Replicator, or Universal Replicator for z/OS
	Add RCU	4.76	
	Change RCU Option	4.77	
	Delete Path	4.78	

	Delete RCU	4.79	
SBE	Port-Group(Forced)	4.80	Serverless Backup Enabler
	Port-Group(Normal)	4.81	
SHRED	Set Shredding	4.82	Volume Shredder
	Suspend Shredding	4.83	
SI	Change Reserve	4.84	ShadowImage, Copy-on-Write Snapshot
	Option	4.85	
	Paircreate	4.86	
	Pairresync	4.87	
	Pairsplit	4.88	
	Pairsplit-E	4.89	
	Pairsplit-S	4.90	
SI z/OS	Add Pair	4.91	ShadowImage for z/OS, Compatible Mirroring for IBM FlashCopy Version 2
	Change Reserve	4.92	
	CTG	4.93	
	Delete Pair	4.94	
	Exp R_TBL(Disable)	4.95	
	Exp R_TBL(Enable)	4.96	
	Option	4.97	
	Resync Pair	4.98	
	Set SCP Time	4.99	
	Split Pair	4.100	
	Suspend Pair	4.101	
SNMP	Set SNMP Agent	4.102	SNMP Information, SNMP
SPM	Change PPCGrp	4.103	Server Priority Manager
	Clear PPC Info	4.104	
	Default Set	4.105	
	PPCGrp Del/Chg	4.106	
	Set All Prio Port	4.107	
	Set All Prio WWN	4.108	
	Set Ctrl Kind	4.109	
	Set Prio Port	4.110	
	Set Prio WWN	4.111	
	Update Port WWN	4.112	
	Update PPCGrp	4.113	
	Update WWN	4.114	
TC	Add CTG	4.115	TrueCopy
	Change Async Option	4.116	
	Change CTG Option	4.117	
	Change Option	4.118	
	Change Pair Option	4.119	
	Delete CTG	4.120	
	Paircreate	4.121	
	Pairresync	4.122	

	Pairsplit-r	4.123	
	Pairsplit-S	4.124	
	Start Pair	4.125	
TC z/OS	Add CTG	4.126	TrueCopy for z/OS
	Add Pair	4.127	
	Change Async Option	4.128	
	Change CTG Option	4.129	
	Change Option	4.130	
	Change Pair Option	4.131	
	Clear SIM	4.132	
	Delete CTG	4.133	
	Delete Pair	4.134	
	Resume Pair	4.135	
	Script Operation	4.136	
	Start Pair	4.137	
	Suspend Pair	4.138	
UR	Journal-Option	4.139	Universal Replicator
	Journal-Vol	4.140	
	Journal-Vol	4.141	
	Paircreate	4.142	
	Pairresync	4.143	
	Pairsplit-r	4.144	
	Pairsplit-S	4.145	
	Pair-Option	4.146	
	System-Option	4.147	
UR z/OS	Add-Pair	4.148	Universal Replicator for z/OS
	Clear-SIM	4.149	
	Delete-Pair	4.150	
	Edit-EXCTG	4.151	
	Journal-Option	4.152	
	Journal-Vol	4.153	
	Journal-Vol	4.154	
	Pair-Option	4.155	
	Resume-Pair	0	
	Suspend-Pair	4.157	
	System-Option	4.158	
UVM	Add-Lu2	4.159	Universal Volume Manager
	Add-Wwn	4.160	
	Alternate-Path	4.161	
	Check-Paths	4.162	
	ChkPath-RestoreVol	4.163	
	Delete-Lu(Force)	4.164	
	Delete-Lu(Normal)	4.165	
	Disconnect-Paths	4.166	
	Disconnect Volume	4.167	

	WwnTimer	4.168	
VLL	Install CV Make Volume Set SSID Volume Initialize Volume to Space	4.169 4.170 4.171 4.172 4.173	Virtual LVI / Virtual LUN (VLL)
VM	Create Auto Plan Del Auto Plan Log Delete Auto Plan Del Migration Log Set Auto Plan Param Set Class Threshold Set Fixed PG Set Migration Vol Set Plan Condition Set Reserved Vol	4.174 4.175 4.176 4.177 4.178 4.179 4.180 4.181 4.182 4.183	Volume Migration
VPM	Set	4.184	Virtual Partition Manager
VRM	Attribute VTOC	4.185 4.186	Volume Retention Manager
VSEC	Set Group	4.187	Volume Security
VVOL	Add V-Vol Delete V-Vol Pool Change/Delete Pool Initialize Pool Restore Pool SIM Comp Req Set Pool	4.188 4.189 4.190 4.191 4.192 4.193 4.194	Copy-on-Write Snapshot
XRCR	Set XRC Option	4.195	Compatible Replication for IBM XRC

Chapter 4 Sample Audit Logs

This chapter includes a sample audit log for each function and operation you can perform with Storage Navigator. The logs are listed alphabetically by function name and operation name. For example:

- Section 4.4 BASE Function – ChangeMode Operation
- Section 4.5 BASE Function – Set Syslog Server Operation
- Section 4.6 Cache Function – DCR Prestaging Operation

The individual items in each sample log are described, starting with function name. These include function name, operation name, parameter, operation result, and serial number, as shown in Figure 4.1.

Described once (below)	Described for each sample log in this chapter
user-name,xx,YYYY/MM/DD,HH:MM:SS:xxx,00:00,	[Base], ChangeMode, Modify, Normal end, Seq.=xxxxxx

Figure 4.1 Items Described in Sample Audit Logs

If no parameter displays after an operation name in an audit log, detailed parameter information displays instead on the next line or lines. Detailed information items are also described in this chapter, as shown in Figure 4.2.

user-name,xx,YYYY/MM/DD,HH:MM:SS:xxx,00:00, [BASE],Set System Info,,Normal end,Seq.=xxxxxx +{Name,Contact,Location}=[{xxxx,xxxx,xxxx}],Num. of SystemInfo=1
Detailed information described in this chapter

Figure 4.2 Detailed Information Described in Sample Audit Logs

The user-name, ID, and time information, which display at the beginning of each audit log, are not described for each sample log in this chapter.

user-name

User ID

xx

Streaming Line Printer (SLPR) number. For storage administrators, the number is 99.

YYYY/MM/DD

Year, month and day audit log was created (YYYY/MM/DD).

HH:MM:SS:xxx

Hour, minute and millisecond audit log was created (HH:MM:SS:000).

00.00

Time difference in hours and minutes between Universal Time and local time ($\pm$ HH:MM).

4.1 Audit Log Function — Create File

Login information file:

```
system,,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[AuditLog],Create File>LoginLog,Warning,Seq.=xxxxx
```

Setting information file:

```
system,,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[AuditLog],Create File,AuditLog,Warning,Seq.=xxxxx
```

Syslog information file:

```
<12> Jul 4 06:25:18 SVP Storage: CELFSS,1.1,0,,2006-01-04T06:25:18.9Z,Storage,SVP,  
AnomalyEvent,Failed,system,R500:63517,,Japan-Tokyo,,,,,,,,,[AuditLog],Create  
File,SyslogLog,  
Warning
```

Table 4.1 Parameters for Create File Operation

Item	Explanation
Parameter	AuditLog The setting information file has been reproduced.
	LoginLog The login information file has been reproduced.
	SyslogLog The syslog information file has been reproduced.

4.2 Audit Log Function — Over MaxLine Event

```
14> Jan  4 06:25:18 SVP Storage: CELFSS,1.1,250001,,2006-01-04T06:25:18.3Z,Storage,SVP,  
AnomalyEvent,Success,system,R500:65307,,Japan-Tokyo,,,,,,,,,[AuditLog],Over MaxLine,,  
Normal end
```

This information is displayed in the Syslog Information file only. No parameters display for this event.

[Audit Log]

Audit Log function

Over MaxLine

Over the Maximum Line event

Normal end

The operation has ended normally.

4.3 Audit Log Function — Over Threshold Event

```
<14> Jan  4 06:25:18 SVP Storage: CELFSS,1.1,250001,,2006-01-04T06:25:18.3Z,Storage,SVP,  
AnomalyEvent,Success,system,R500:65307,,Japan-Tokyo,,,,,,,,,[AuditLog],Over Threshold,,  
Normal end
```

This information is displayed in the Syslog Information file only. No parameters display for this event.

[Audit Log]

Audit Log function

Over Threshold

Over Threshold event

Normal end

The operation has ended normally.

4.4 Audit Log Function — Set Syslog Server Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Audit Log],Set Syslog Server,DetailFlg=Enable,
Normal end,Seq.=xxxxxx
+DetailFlg=Enable
+LocationInfo=USP001
+{ServerType,IPAddrVer,OutFlg,SrvAddr,SrvPortNum}=[{Primary,IPv4,Disable,192.168.0.1,514},
{Secondary,-,Enable,192.168.10.111,-}]
```

[Audit Log]

Audit Log function

Set Syslog Server

Set System Log Server operation

Detail Flag=Enable

Enable is the selected parameter. This operation uses the following parameters, as shown in the following table.

Table 4.2 Parameters for Set Syslog Server Info Operation

Parameter	Description
Detail Flag=Enable	Detailed information is output to the syslog server.
Detail Flag=Disable	Detailed information is not output to the syslog server.

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

If enabled, detailed information displays for this operation, as shown in the following table.

Table 4.3 Detailed Information for Set Syslog Server Info Operation

Item	Description
DetailFlg	Indicates whether to output detailed information to the syslog server. Enable: Output detailed information. Disable: Do not output detailed information.
LocationInfo	The location identification information of the disk subsystem. Not output when setting is not changed.
ServerType	The syslog server to which information is output. Not output when setting is not changed. Primary: Primary syslog server. Secondary: Secondary syslog server.
IPAddrVer	The version number of the internet protocol. If the setting is not changed, a hyphen (-) is displayed. IPv6: Internet Protocol Version 6 (not supported). IPv4: Internet Protocol Version 4
OutFlg	Whether to transfer the syslog information to the syslog server. Enable: Transfer syslog information. Disable: Do not transfer syslog information.
SrvAddr	The IP address to which the syslog information is sent. If the setting is not changed, a hyphen (-) is displayed.
SrvPortNum	The port number of the LAN when sending the syslog information. If the setting is not changed, a hyphen (-) is displayed.

4.5 Account Function — Set User Account Operation

[illegible]

[Account]

Account function

Set User Account

Set User Account operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.4 Detailed Information for Set User Account Operation

Item	Description
Operation	The setting operation of the user account. Add: add user account. Change: change, Delete: delete. PassChg: change password
UserID	The user ID.
Authority	The authority of the user. A dash (-) displays when nothing is changed. Administrator (Modification authority of account administrator roll): Administrative right. User: users right
SLPRNo	The SLPR number of the user. A dash (-) displays when nothing is changed. 65535: Storage administrator. 1 to 31: Storage partition administrator
WritePermission	The write permission string of the user. A dash (-) displays when nothing is changed.
ReadPermission	The read permission string of the user. A dash (-) displays when nothing is changed.
Num of Users	The number of users.

4.6 BASE Function — ChangeMode Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS:xxx,00:00,[Base],ChangeMode,Modify,Normal end,Seq.=xxxxxx
```

[Base]

BASE function

ChangeMode

ChangeMode operation

Modify

Modify is the selected parameter. This operation uses the following parameters, as shown in the following table.

Table 4.5 Parameters for ChangeMode Operation

Parameter	Description
Modify	Change to Modify mode.
View	Change to View mode.
View_Logout	Change to View mode is requested by RMI server at log-out.
View_TimeOut	When the Modify mode takes timeout or time-out occurs because of no response from the client, change to the View mode is requested by RMI server.
View_Forced	Change to View mode is forcefully requested.
View_Forced_All	Change to View mode is forcefully requested to all users.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.7 BASE Function — Set System Info Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[BASE],Set System Info,,Normal end,Seq.=xxxxxx  
+{Name,Contact,Location}=[{xxxx,xxxx,xxxx}],Num. of SystemInfo=1
```

[Base]

BASE function

Set System Info

Set System Information operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.6 Detailed Information for Set System Info Operation

Item	Description
Name	Nickname of the device
Contact	Name of the system administrator.
Location	Installation location of the device.
Num of SystemInfo	Number of system information.

4.8 Cache Function — DCR Prestaging Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Cache],DCR Prestaging,, Normal end,Seq.=xxxxx
--

[Cache]

Cache function

DCR Prestaging

DCR Prestaging (FlashAccess) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.9 Cache Function — Delete M/F DCR Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[Cache],Delete M/F DCR,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Start CC-HH,End CC-HH}=[{0x00:0x00,XXXXXX-XX,XXXXXX-XX},  
{0x00:0x00,XXXXXX-XX,XXXXXX-XX}],Num. of LDEVs=2
```

[Cache]

Cache function

Delete M/F DCR

Delete M/F DCR operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.7 Detailed Information for Delete M/F DCR Operation

Item	Description
CU:LDEV	The CU and LDEV number of the logical volume (for a mainframe system) where the setting information of Cache Residency cache is canceled.
Start CC-HH	The starting cylinder number (CC) and the starting head number (HH) of the cancelled data.
End CC-HH	The ending cylinder number (CC) and the ending head number (HH). This number is output when the ending cylinder and ending head are specified for the cancelled data.
Num. of LDEVs	The number of logical volumes (for a mainframe system) where the setting information of Cache Residency cache is cancelled.

4.10 Cache Function — Delete Open DCR Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Cache],Delete Open DCR,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Start LBA,End LBA}=[{0x00:0x00,XXXXXXXXXXXXXXXX,XXXXXXXXXXXXXXXX},  
{0x00:0x00,XXXXXXXXXXXXXXXX,XXXXXXXXXXXXXXXX}],Num. of LDEVs=2
```

[Cache]

Cache function

Delete Open DCR

Delete Open DCR operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.8 Detailed Information for Open DCR Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume (for an open system) where the setting information of Cache Residency cache is canceled.
Start LBA	The starting LBA number of the cancelled data.
End LBA	The ending LBA number of the cancelled data. This number is output when only the ending LBA is specified for the cancelled data.
Num. of LDEVs	The number of logical volumes (for an open system) where Cache Residency cache is canceled.

4.11 Cache Function — Set M/F DCR Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Cache],Set M/F DCR,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Mode,Prestaging,Start CC-HH,End CC-HH}=[{0x00:0x00,Bind,No,XXXXXX-XX,XXXXXX-XX},  
{0x00:0x00,Priority,Yes,XXXXXX-XX,XXXXXX-XX}],Num. of LDEVs=2
```

[Cache]

Cache function

Set M/F DCR

Set M/F DCR operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.9 Detailed Information for Set M/F DCR Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume (for a mainframe system) where the setting information of Cache Residency cache is added or changed.
Mode	The setting mode of Cache Residency cache. Bind: Bind, Priority: Priority
Prestaging	The prestaging target. No: No (disables the prestaging mode) Yes: Yes (enables the prestaging mode)
Start CC-HH	The starting cylinder number (CC) and the starting head number (HH) of the data resident in Cache Residency cache.
End CC-HH	The CU and LDEV numbers of the logical volume (for a mainframe system) where the setting information of Cache Residency cache is added or changed.
Num. of LDEVs	The number of the logical volume (for a mainframe system) where the setting information of Cache Residency cache is added or changed.

4.12 Cache Function — Set Open DCR Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Cache],Set Open DCR,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Mode,Prestaging,Start LBA,End LBA}=[{0x00:0x00,Bind,No,XXXXXXXXXXXXXXXXX,  
XXXXXXXXXXXXXXXXX}],Num. of LDEVs=1
```

[Cache]

Cache function

Set Open DCR

Set Open DCR operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.10 Detailed Information for Set Open DCR Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume (for an open system) where the setting information of Cache Residency cache is added or changed.
Mode	The setting mode of Cache Residency cache. Bind: Bind, Priority: Priority
Prestaging	The prestaging target. No: No (disables the prestaging mode) Yes: Yes (enables the prestaging mode)
Start LBA	The starting LBA number of the data resident in Cache Residency cache.
End LBA	The ending LBA number of the data resident in Cache Residency cache.
Num. of LDEVs	The number of the logical volume (for an open system) where the setting information of Cache Residency cache is added or changed.

4.13 CFL Function — LUNM Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [CFL],LUNM Operation,,Normal end,Seq.=xxxxx  
+{Operation, Sheet Name}={LUNM,ADT_1.CSV} Num of Sheets=1
```

[CFL]

CFL function

LUNM Operation

LUNM operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.11 Detailed Information for LUNM Operation

Item	Description
Operation	A program product name. LUNM: LUN Manager If you are operating an external volume, this information is not displayed.
Sheet Name	The name of the file as specified by the Configuration File Loader. The file name is output as ADT_x.CSV. x = a number from 1 to 10000000 as automatically specified by the Configuration File Loader. The ADT_x.CSV file is compressed together with audit log files.
Num. of Sheets	The number of files as specified by the Configuration File Loader.

4.14 CPAV Function Operation — Add Alias Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[CPAV],Add Alias,,Normal end,Seq.=xxxxxx  
+CU=0x00  
++{Alias LDEV,Base LDEV}=[{0xFD,0x00},{0xFE,0x00},{0xFF,0x01}],Num. of Alias LDEVs=3  
+CU=0x01  
++{Alias LDEV,Base LDEV}=[{0xFF,0x00}],Num. of Alias LDEVs=1  
+Num. of Alias LDEVs=4
```

[CPAV]

CPAV function

Add Alias

Add Alias operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.12 Detailed Information for Add Alias Operation

Item	Description
CU	Indicates CU number containing the alias device and the base device.
Alias LDEV	The alias device number allocated to the CU number indicated in CU of the index.
Base LDEV	The base device number allocated to the CU number indicated in CU of the index.
Num. of Alias LDEVs	The number of alias devices allocated to the CU number indicated in CU of the index.
Num. of Alias LDEVs	The number of alias devices allocated to all CU numbers indicated in CU of the index.

4.15 CPAV Function — Delete Alias Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[CPAV],Delete Alias,,Normal end,Seq.=xxxxx  
+CU=0x00  
++{Alias LDEV,Base LDEV}=[{0xFD,0x00},{0xFE,0x00},{0xFF,0x01}],Num. of Alias LDEVs=3  
+CU=0x01  
++{Alias LDEV,Base LDEV}=[{0xFF,0x00}],Num. of Alias LDEVs=1  
+Num. of Alias LDEVs=4
```

[CPAV]

Compatible PAV for IBM z/OS function

Delete Alias

Delete Alias operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.13 Detailed Information for Delete Alias Operation

Item	Description
CU	Indicates CU number containing the alias device and the base device.
Alias LDEV	The alias device number allocated to the CU number indicated in CU of the index.
Base LDEV	The base device number allocated to the CU number indicated in CU of the index.
Num. of Alias LDEVs	The number of alias devices allocated to the CU number indicated in CU of the index.
Num. of Alias LDEVs	The number of alias devices allocated to all CU numbers indicated in CU of the index.

4.16 Cross-system Copy (CSC) Function — Delete Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[CSC],Delete Pair,,Normal end,Seq.=xxxxx  
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[CSC]

Cross-system Copy function

Delete Pair

Delete Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.14 Detailed Information for Delete Pair Operation

Item	Description
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the deleted pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the deleted pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of pairs deleted.

4.17 Cross-system Copy (CSC) Function — Pair Create Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [CSC],Pair Create,,Normal end,Seq.=xxxxxx  
+Copy Pace=Faster, Copy Type=Copy  
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[CSC]

Cross-system Copy function

Pair Create

Pair Create operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.15 Detailed Information for Pair Create Operation

Item	Description
Copy Pace	The set copy speed. Faster: high speed, Medium: medium speed, Slow: slow speed
Copy Type	The set copy type. Copy, NoCopy
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the created pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the created pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of pairs set.

4.18 Data Retention Utility (DRU) Function — Attribute Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [DRU],Attribute,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Attribute,Result}=[{0x00:0x01,0x80,Normal end},{0x00:0x02,0x82,Error(9605-8122)},  
{0x00:0x03,0x81,Normal end},{0x00:0x03,0x81,Normal end}],Num. of LDEVs=XXX
```

[DRU]

Data Retention Utility function

Attribute

Attribute operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.16 Detailed Information for Attribute Operation

Item	Description
CU:LDEV	The CU number and the LDEV number of the logical volume where the attribute is set.
Attribute	The set attribute in hexadecimal. Each bit (0–7) of 1 byte corresponds to the setting item. 1 is assigned to each bit when the setting is enabled and 0 (zero) is assigned to each bit when the setting is disabled. Each bit represents the following attributes: • Bit 0: Mounting of LEDV (fixed to 1) • Bit 1: Setting of S-VOL Disable • Bit 2: Setting of Zero Read Cap mode • Bit 3: Setting of Invisible mode • Bit 4: Setting of reserve • Bit 5: Fixed to 0 (zero)* • Bit 6: Setting of Read Only attribute* • Bit 7: Setting of Protect attribute* When 0x88 is output to the attribute, for example, Read/Write attribute is set to the logical volume to show that the reserve setting has been enabled.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of LDEVs	The number of the logical volume(s) where the attribute has been set.

* When bit 5, 6, and 7 are all 0 (zero), Read/Write has been set.

4.19 Data Retention Utility (DRU) Function — Expiration Lock Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[DRU],Expiration Lock,SLPR#xx:Enable, Normal end,Seq.=xxxxxx

[DRU]

Data Retention Utility function

Expiration Lock

Expiration Lock operation

SLPR#xx:Enable

SLPR#xx: Enable is selected as the parameter. The operation uses the following parameters, as shown in the following table.

Table 4.17 Parameters for Expiration Lock Operation

Parameter	Description
SLPR#xx:Enable	The expiration lock setting is enabled for SLPR number xx.
SLPR#xx:Disable	The expiration lock setting is disabled for SLPR number xx.
SYSTEM:Enable	The expiration lock setting is enabled in the disk subsystem.
SYSTEM:Disable	The expiration lock setting is disabled in the disk subsystem.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.20 Data Retention Utility (DRU) Function — Release All Extents Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[DRU], Release All Extents,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Operation,Result}=[{0x00:0x00,0x80,Normal end},  
{0x01:0x01,0x80,Error(9605-58435)}, {0x02:0x02,0x80,Normal end}],Num. of LDEVs=XXX
```

[DRU]

Data Retention Utility function

Release All Extents

Release All Extents operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.18 Detailed Information for Release All Extents Operation

Item	Description
CU:LDEV	The CU number and the LDEV number of the volume where the Extent operation is executed.
Operation	The content of the operation. 0x80: Delete Extent
Result	The result of the operation. Normal end: normal end, Error(xxxx-yyyyy): abnormal end xxxx: part code, yyyy: error code
Num. of LDEVs	The number of the volumes where the Extent operation is executed.

4.21 Data Retention Utility (DRU) Function — Retention-Term Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[DRU],Retention-Term,,Normal end,Seq.=xxxxx  
+{CU:LDEV,RT,Result}=[{0x00:0x01,xxxx,Normal end},{0x00:0x02,xxxx,Error(9205-8122)},  
{0x00:0x03,Unlimited,Normal end},{0x00:0x03,xxxx,Normal end}],Num of LDEVs=XXX
```

[DRU]

Data Retention Utility function

Retention-Term

Retention-Term operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.19 Detailed Information for Retention-Term Operation

Item	Description
CU:LDEV	The CU number and the LDEV number of the volume where the retention term to Read/Write attribute is set.
RT	The setting days of the retention term to Read/Write attribute. In case of unlimited setting, Unlimited is output.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of LDEVs	The number of the volumes where the retention term to Read/Write attribute has been set.

4.22 Data Retention Utility (DRU) Function — VMA Operation Name

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [DRU],VMA,,Normal end,Seq.=xxxxx  
+{CU:LDEV,Result}=[{0x00:0x01,Normal end},{0x00:0x02,Error(9605-8122)},{0x00:0x03,Normal  
end},  
{0x00:0x03,Normal end},{0x00:0x03,Normal end}],Num. of LDEVs=XXX
```

[DRU]

DRU function

VMA

Volume Management Area operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.20 Detailed Information for VMA Operation

Item	Explanation
CU:LDEV	The CU number and the LDEV number of the volume with VMA being set.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of LDEVs	The number of volumes where the VMA has been set.

4.23 ENAS Function — Boot Management Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[ENAS],Boot Management,,Normal end,Seq.=xxxxxx  
+{CHN,Operation}=[{CHA-1E,Shutdown},{CHA-2Q,Boot},{CHA-1F,Reboot},{CHA-2R,Shutdown},  
{CHA-1G,Boot},{CHA-2T,Reboot},{CHA-1H,Shutdown},{CHA-2U,Boot},  
-{CHA-1A,Reboot},{CHA-2M,Shutdown},{CHA-1B,Boot},{CHA-2N,Reboot},{CHA-1L,Shutdown},  
{CHA-2X,Boot},{CHA-1K,Reboot},{CHA-2W,Shutdown}],Num.of CHNs=16
```

[ENAS]

Network Area Storage function

Boot Management

Boot Management operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.21 Detailed Information for Boot Management Operation

Item	Description
CHN	The name of a channel adapter of NAS operated.
Operation	The content of operation. Shutdown, Boot, Reboot
Num. of CHNs	The number of NAS channel adapters that are shut down, booted or rebooted.

4.24 ENAS Function — Set Cache Color Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[ENAS],Set Cache Color,,Normal end,Seq.=xxxxxx  
+CLPR=0  
++{CHN,i-node(MB),log(MB)}=[{CHA-1E,10,20},{CHA-2Q,30,40},{CHA-1F,50,60},{CHA-2R,70,80},  
{CHA-1G,90,120},{CHA-2T,130,140},{CHA-1H,150,160},  
-{CHA-2U,170,180}],Num.of CHNs=8  
+CLPR=1  
++{CHN,i-node(MB),log(MB)}=[{CHA-1A,190,200},{CHA-2M,210,220},{CHA-1B,230,240},  
{CHA-2N,250,260},{CHA-1L,270,280},{CHA-2X,290,300},{CHA-1K,310,320},  
-{CHA-2W,330,340}],Num.of CLPRs=8
```

[ENAS]

Network Area Storage function

Set Cache Color

Set Cache Color operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.22 Detailed Information for Set Cache Color Operation

Item	Description
CLPR	The Cache Logical Partition (CLPR) number. This number is output when CLPR is used only.
CHN	The name of the NAS channel adaptor with PCR being set or cleared.
Num. of CHNs	The number of the NAS channel adaptors with PCR being set or cleared.
i-node(MB)	The value of i-node set (actual control of the file). The unit is megabyte (MB).
log(MB)	The value of the log set (cache space assigned as an area for log information acquisition of NAS channel). The unit is megabyte (MB).
Num. of CLPRs	The number of CLPRs operated.

4.25 Just in Time (JIT) Function — Release Cache Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[JIT],Release Cache,,Normal end,Seq.=xxxxx +Cache (MB) =258048

[JIT]

Just in Time function

Release Cache

Release Cache operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.23 Detailed Information for Release Cache Operation

Item	Description
Cache(MB)	The capacity of the cache memory cancelled. The unit is megabyte (MB).

4.26 Just in Time (JIT) Function — Release Cache/CLPR Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[JIT],Release Cache/CLPR,,Normal end,Seq.=xxxxx  
+Cache (MB)=258048  
++{CLPR,Cache (MB)}=[{01,4096},{02,4096},{03,4096},{04,4096},{05,4096},{06,4096},{07,4096},  
{08,4096},{09,4096},{10,4096},{11,4096},{12,4096},{13,4096},{14,4096},  
-{15,4096},{16,4096},{17,4096},{18,4096},{19,4096},{20,4096},{21,4096},{22,4096},{23,4096},  
{24,4096},{25,4096},{26,4096},{27,4096},{28,4096},{29,4096},{30,4096},  
-{31,4096}],Num. of CLPRs=xx
```

[JIT]

Just in Time (JIT) function

Release Cache/CLPR

Release Cache/Cache Logical Partition (CLPR) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.24 Detailed Information for Release Cache/CLPR Operation

Item	Description
Cache(MB)	The capacity of the cache memory cancelled. The unit is megabyte (MB).
CLPR	The CLPR number.
Cache(MB)	The capacity of the cache memory assigned to CLPR. The unit is megabyte (MB).
Num. of CLPRs	The number of CLPRs that expansion of cache memory is set.

4.27 Just in Time (JIT) Function — Release Logical Unit Number (LUN) Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [JIT],Release LUN ,,Normal end,Seq.=xxxxxx +PG=[x-x,x-xx],Num. of PGs=xx

[JIT]

Just in Time function

Release LUN

Release Logical Unit Number operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.25 Detailed Information for Release LUN Operation

Item	Description
PG	The parity group number cancelled.
Num. of PGs	The number of parity groups cancelled.

4.28 Logical Device (LDEV) Function — Volume-Blockade Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LDEV],Volume-Blockade,,Normal end,Seq.=xxxxxx  
+CU:LDEV=[0x00:0x01,0x00:0x02,0x00:0x03,0x00:0x04,0x00:0x05,0x00:0x06,0x00:0x07,0x00:0x08,  
0x00:0x09,0x00:0x0A],Num.of LDEVs=XXX
```

[LDEV]

Logical Device function

Volume-Blockade

Volume-Blockade operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.26 Detailed Information for Volume-Blockade Operation

Item	Description
CU:LDEV	The CU number and the LDEV number.
Num. of LDEVs	The number of LDEVs being set.

Note: The status does not change immediately after you execute an LDEV operation command. As a result, errors may occur after you execute the command.

4.29 Logical Device (LDEV) Function — Volume-Format Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LDEV],Volume-Format,,Normal end,Seq.=xxxxxx  
+CU:LDEV=[0x00:0x01,0x00:0x02,0x00:0x03,0x00:0x04,0x00:0x05,0x00:0x06,0x00:0x07,0x00:0x08,  
0x00:0x09,0x00:0x0A],Num. of LDEVs=XXX
```

[LDEV]

Logical Device function

Volume-Format

Volume-Format operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.27 Detailed Information for Volume-Format Operation

Item	Description
CU:LDEV	The CU number and the LDEV number.
Num. of LDEVs	The number of LDEVs being set.

Note: The status does not change immediately after you execute an LDEV operation command. As a result, errors may occur after you execute the command.

4.30 Logical Device (LDEV) Function — Volume-Restore(F) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LDEV],Volume-Restore(F),,Normal end,Seq.=xxxxx  
+CU:LDEV=[0x00:0x01,0x00:0x02,0x00:0x03,0x00:0x04,0x00:0x05,0x00:0x06,0x00:0x07,0x00:0x08,  
0x00:0x09,0x00:0x0A],Num.of LDEVs=XXX
```

[LDEV]

Logical Device function

Volume-Restore(F)

Volume-Restore(F) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.28 Detailed Information for Volume-Restore (F) Operation

Item	Description
CU:LDEV	The CU and LDEV number of the external volume restored.
Num. of LDEVs	The number of LDEVs restored.

Note: The status does not change immediately after you execute an LDEV operation command. As a result, errors may occur after you execute the command.

4.31 Logical Device (LDEV) Function — Volume-Format (H) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LDEV], Volume-Format (H) , ,Normal end,Seq.=xxxxx  
+CU:LDEV=[0x00:0x01,0x00:0x02,0x00:0x03,0x00:0x04,0x00:0x05,0x00:0x06,0x00:0x07,0x00:0x08,  
0x00:0x09,0x00:0x0A],Num. of LDEVs=XXX
```

[LDEV]

Logical Device function

Volume-Format(H)

Volume-Format(H) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.29 Detailed Information for Volume-Format(H) Operation

Item	Description
CU:LDEV	The CU and LDEV number.
Num. of LDEVs	The number of LDEVs being set.

Note: The status does not change immediately after you execute an LDEV operation command. As a result, errors may occur after you execute the command.

4.32 Logical Device (LDEV) Function — Volume-Restore(N) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LDEV], Volume-Restore(N), ,Normal end, Seq.=xxxxx  
+CU:LDEV=[0x00:0x01,0x00:0x02,0x00:0x03,0x00:0x04,0x00:0x05,0x00:0x06,0x00:0x07,0x00:0x08,  
0x00:0x09,0x00:0x0A],Num.of LDEVs=XXX
```

[LDEV]

Logical Device function

Volume-Restore(N)

Volume Restore(N) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.30 Detailed Information for Volume Restore(N) Operation

Item	Description
CU:LDEV	The CU and LDEV numbers.
Num. of LDEVs	The number of LDEVs being set.

Note: The status does not change immediately after you execute an LDEV operation command. As a result, errors may occur after you execute the command.

4.33 LUN Manager (LUNM) Function — Add Host Group Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Add Host Group,,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,HostGrpName}=[{XX,0xxx,XXXXXXXXXXXXXXXX}, {XX,0xxx,XXXXXXXXXXXXXXXX}],  
Num.of Host Groups=2
```

[LUNM]

Logical Unit Number Manager function

Add Host Group

Add Host Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.31 Detailed Information for Add Host Group Operation

Item	Description
Port	The name of the port where the host group has been added.
HostGrpID	The host group number newly added.
HostGrpName	The name of the host group newly added.
Num. of Host Groups	The number of host groups added.

4.34 LUN Manager (LUNM) Function — Add iSCSI name Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Add iSCSI name,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,iSCSI name,Name}=[{1E,0x01,iqn.aaaaaaaaaaaaaaaaaaaa,aaaaaaaa},  
{3E,0x01,iqn.yyyyyyyyyyyyyyyyyyyy,bbbbbbbbbb}],Num. of iSCSI name=2
```

[LUNM]

Logical Unit Number Manager function

Add iSCSI name

Add iSCSI name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.32 Detailed Information for Add iSCSI name Operation

Item	Description
Port	The name of the port where the iSCSI name has been added.
HostGrpID	The host group number where the iSCSI name has been added.
iSCSI name	The iSCSI name added.
Name	The iSCSI nickname added.
Num. of iSCSI name	The number of the iSCSI name added.

4.35 LUN Manager (LUNM) Function — Add iSCSI Target Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Add iSCSI Target,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,Target name,Alias}=[{1E,0x01,iqn.aaaaaaaaaaaaaaaaaaaa,aaaaaaaa},  
{3E,0x01,iqn.yyyyyyyyyyyyyyyyyyyy,bbbbbbbbbb}],Num. of iSCSI Target=2
```

[LUNM]

Logical Unit Number Manager function

Add iSCSI Target

Add iSCSI Target operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.33 Detailed Information for Add iSCSI Target Operation

Item	Description
Port	The name of the port where the iSCSI Target has been added.
HostGrpID	The host group number where the iSCSI Target has been added.
Target name	The iSCSI Target name added.
Alias	The alias of the iSCSI Target name added.
Num. of iSCSI Target	The number of iSCSI Target added.

4.36 LUN Manager (LUNM) Function — Add Logical Unit (LU) Path Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LUNM],Add LU Path, ,Normal end,Seq.=xxxxxx  
+ {Port,HostGrpID,LUN,CU:LDEV} = [ {XX,0xXXX,XX,0xXX:0xXX} , {XX,0xXXX,XX,0xXX:0xXX} ,  
{XX,0xXXX,XX,0xXX:0xXX} ] , Num. of Paths=3
```

[LUNM]

Logical Unit Number Manager function

Add LU Path

Add Logical Unit operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.34 Detailed Information for Add LU Path

Item	Description
Port	The name of the port where the host group is created.
HostGrpID	The host group number linked to the logical volume.
LUN	Indicates LUN of the logical volume linked to the host group.
CU:LDEV	The CU and LDEV numbers of the logical volume linked to the host group.
Num. of Paths	The number of LU paths set.

4.37 LUN Manager (LUNM) Function — Add World Wide Name (WWN) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Add WWN,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,WWN,Nickname }=[{XX,0xxx,0xxxxxxxxxxxxxxxxx,xxxxxxxxxxxxxxxx},  
{XX,0xxx,0xxxxxxxxxxxxxxxxx,xxxxxxxxxxxxxxxx}],Num. of WWNs=2
```

[LUNM]

Logical Unit Number Manager function

Add WWN

Add World Wide Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.35 Detailed Information for Add WWN Operation

Item	Description
Port	The name of the port where the host group is created.
HostGrpID	The host group number where the host is registered.
WWN	Indicates WWN of the host bus adapter for the host registered in the host group. WWN is a 16-digit number in the hexadecimal format.
Nickname	The nickname of the host bus adapter for the host registered in the host group.
Num. of WWNs	The number of registered hosts (WWN).

4.38 LUN Manager (LUNM) Function — Auth Info (Host) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Auth Info(Host),,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,Kind,UserName,Change UserName,Protocol}=[{1E,0x01,Add,user1,-,CHAP},  
{3E,0x01,Change,user2,user22,CHAP},{5E,0x01>Delete,user3,-,CHAP}],Num. of Info=3
```

[LUNM]

Logical Unit Number Manager function

Auth Info (Host)

Auth Info (Host) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.36 Detailed Information for Auth Info (Host) Operation

Item	Description
Port	The name of the port where user authentication information has been set.
HostGrpID	The host group number where user authentication information has been set.
Kind	The setting status of user authentication information. Add: add user authentication information, Change: change user authentication information, Delete: delete user authentication information
UserName	The user name where user authentication information has been set. The user name before change is indicated when "Kind" is set to "Change".
Change UserName	The user name after change is indicated when "Kind" is set to "Change". A hyphen (-) is indicated when "Kind" is set to "Add" or "delete".
Protocol	The authentication type which is CHAP (Challenge Handshake Authentication Protocol).
Num. of Info	The number of user authentication information set.

4.39 LUN Manager (LUNM) Function — Auth Info (Target) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Auth Info(Target),,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,UserName}=[{1E,0x01,user1},{3E,0x01,user2}],Num. of Info=2
```

[LUNM]

Logical Unit Number Manager function

Add Info (Target)

Add Info (Target) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.37 Detailed Information for Auth Info (Target) Operation

Item	Description
Port	The name of the port where user authentication information for Target has been set.
HostGrpID	The host group number where user authentication information for Target has been set.
UserName	The user name where user authentication information for Target has been set.
Num. of Info	The number of user authentication information for Target set.

4.40 LUN Manager (LUNM) Function — Change Host Group Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Change Host Group,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,HostGrpName}=[{XX,XXX,XXXXXXXXXXXXXXXXXX},{XX,XXX,XXXXXXXXXXXXXXXXXX}],  
Num. of Host Groups=2
```

[LUNM]

Logical Unit Number Manager function

Change Host Group

Change Host Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.38 Detailed Information for Change Host Group Operation

Item	Description
Port	The name of the port where the host group is created.
HostGrpID	The host group number where the name or host modes have been changed.
HostGrpName	The name of the host group. If the name is changed, the name after change is indicated.
Num. of Host Groups	The number of host groups where the settings have been changed.

4.41 LUN Manager (LUNM) Function — Change iSCSI name Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Change iSCSI name,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,iSCSI name,Change iSCSI name,Name}=[{1E,0x01,iqn.xxxxx,iqn.yyyyy,aaaaa},  
{3E,0x01,iqn.mmmmm,iqn.nnnnn,bbbbbb}],Num. Of iSCSI name=2
```

[LUNM]

Logical Unit Number Manager function

Change iSCSI name

Change iSCSI name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.39 Detailed Information for Change iSCSI name Operation

Item	Description
Port	The name of the port where the iSCSI name has been changed.
HostGrpID	The host group number where the iSCSI name has been changed.
iSCSI name	The iSCSI name before change.
Change iSCSI name	The iSCSI name after change.
Name	The iSCSI nickname after change.
Num. of iSCSI name	The number of iSCSI name changed.

4.42 LUN Manager (LUNM) Function — Change iSCSI Target Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Change iSCSI Target,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,Target name,Alias}=[{1E,0x05,iqn.00000000000000000000000000000000,aaaaaaaa},  
{3E,0x05,iqn.yyyyyyyyyyyyyyyyyyyyyy,bbbbbbbbbb}],Num. of iSCSI Target=2
```

[LUNM]

Logical Unit Number Manager function

Change iSCSI Target

Change iSCSI Target operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.40 Detailed Information for Change iSCSI Target Operation

Item	Description
Port	The name of the port where the iSCSI Target has been changed.
HostGrpID	The host group number where the iSCSI Target has been changed.
Target name	The iSCSI Target name changed.
Alias	The alias of the iSCSI Target name changed.
Num. of iSCSI Target	The number of iSCSI Name changed.

4.43 LUN Manager (LUNM) Function — Change WWN Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Change WWN,,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,WWN,Change WWN,Change Nickname}=[{XX,0xxx,0xxxxxxxxxxxxxxxxx,  
0xxxxxxxxxxxxxxxxx,xxxxxxxxxxxxxxxxx}],Num.of WWNs=1
```

[LUNM]

Logical Unit Number Manager function

Change WWN

Change World Wide Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.41 Detailed Information for Change WWN Operation

Item	Description
Port	The name of the port where the host is connected.
HostGrpID	The host group number on which the host with WWN or nickname of the host bus adapter being changed is registered.
WWN	Indicates WWN of the host bus adapter before change. WWN is represented in hexadecimal.
Change WWN	Indicates WWN of the host bus adapter after change.
Change Nickname	The nickname of the host bus adapter after change.
Num. of WWNs	The number of host bus adapters (WWN) where the settings have been changed.

4.44 LUN Manager (LUNM) Function — Delete Disc Controller (DKC) World Wide Name (WWN) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Delete DKC WWN,,Normal end,Seq.=xxxxxx  
+{Port,Delete WWN}=[{XX,0xxxxxxxxxxxxxxxxx},{XX,0xxxxxxxxxxxxxxxxx}],Num. of =2
```

[LUNM]

Logical Unit Number Manager function

Delete DKC WWN

Delete Disc Controller World Wide Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.42 Detailed Information for Delete DKC WWN Operation

Item	Description
Port	The port name where the host of WWN deleted from WWN list was connected.
Delete WWN	Indicates WWN deleted from WWN list. WWN is a 16-digit number in the hexadecimal format.
Num. of WWNs	The number of WWNs deleted.

4.45 LUN Manager (LUNM) Function — Delete Host Group Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Delete Host Group,,Normal end,Seq.=xxxxx +{Port,HostGrpID}=[{XX,XXX},{XX,XXX}],Num.of Host Groups=2

[LUNM]

Logical Unit Number Manager function

Delete Host Group

Delete Host Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.43 Detailed Information for Delete Host Group Operation

Item	Description
Port	The name of the port where the host group deleted or initialized was created.
HostGrpID	The host group number deleted or initialized.
Num. of Host Groups	The number of host groups deleted or initialized.

4.46 LUN Manager (LUNM) Function — Delete iSCSI name Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Delete iSCSI name,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,iSCSI name}=[{1E,0x01,iqn.00000000000000000000000000000000},  
{3E,0x01,iqn.yyyyyyyyyyyyyyyyyyyyyy}],Num. of iSCSI name=2
```

[LUNM]

Logical Unit Number Manager function

Delete iSCSI name

Delete iSCSI name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.44 Detailed Information for Delete iSCSI name Operation

Item	Description
Port	The name of the port where the iSCSI name has been deleted.
HostGrpID	The host group number where the iSCSI name has been deleted.
iSCSI name	The iSCSI name deleted.
Num. of iSCSI name	The number of iSCSI name deleted.

4.47 LUN Manager (LUNM) Function — Delete iSCSI Target Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Delete iSCSI Target,,Normalend,Seq.=xxxxx  
+{Port,HostGrpID}=[{1E,0x01},{3E,0x10}],Num. of iSCSI Target=2
```

[LUNM]

Logical Unit Number Manager function

Delete iSCSI Target

Delete iSCSI Target operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.45 Detailed Information for Delete iSCSI Target Operation

Item	Description
Port	The name of the port where the iSCSI Target has been deleted.
HostGrpID	The host group number where the iSCSI Target has been deleted.
Num. of iSCSI Target	The number of iSCSI Target deleted.

4.48 LUN Manager (LUNM) Function — Delete Logical Unit (LU) Path Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Delete LU Path,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,LUN}=[{XX,0xXXX,XX},{XX,0xXXX,XX},{XX,0xXXX,XX}],Num.of Paths=3
```

[LUNM]

Logical Unit Number Manager function

Delete LU Path

Delete Logical Unit Path operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.46 Detailed Information for Delete LU Path Operation

Item	Description
Port	The name of the port where the host group is created.
HostGrpID	The host group number where the LU path is deleted.
LUN	Indicates LUN where the LU path assignment is cancelled.
Num. of Paths	The number of LU paths deleted.

4.49 LUN Manager (LUNM) Function — Delete World Wide Name (WWN) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LUNM],Delete WWN,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,WWN}={ {XX,0xXXX,0xXXXXXXXXXXXXXXXXX}, {XX,0xXXX,0xXXXXXXXXXXXXXXXXX} } ,  
Num. of WWNs=2
```

[LUNM]

Logical Unit Number Manager function

Delete WWN

Delete World Wide Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.47 Detailed Information for Delete WWN Operation

Item	Description
Port	The name of the port where the host deleted from host group was connected.
HostGrpID	The host group number where the host is deleted.
WWN	Indicates WWN of the host deleted from the host group.
Num. of WWNs	The number of hosts (WWN) deleted from the host group.

4.50 LUN Manager (LUNM) Function — Init DKC iSCSI name Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Init DKC iSCSI name,,Normal end,Seq.=xxxxx
--

[LUNM]

Logical Unit Number Manager function

Init DKC iSCSI name

Initialize Disc Controller Unit iSCSI Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

No detailed information displays for this operation.

4.51 LUN Manager (LUNM) Function — Set Authentication Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set Authentication,,Normal end,Seq.=xxxxx  
+{Port,HostGrpID,Authentication}=[{1E,0x01,Enable},{3E,0x01,Disable}],  
Num. of Authentication=2
```

[LUNM]

Logical Unit Number Manager function

Set Authentication

Set Authentication operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.48 Detailed Information for Set Authentication Operation

Item	Description
Port	The name of the port where user authentication has been set.
HostGrpID	The host group number where user authentication has been set.
Authentication	The setting status of user authentication. Enable: user authentication enabled, Disable: user authentication disabled
Num. of Authentication	The number of user authentication set.

4.52 LUN Manager (LUNM) Function — Set Channel Speed Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set Channel Speed,,Normal end,Seq.=xxxxx  
+{Port,Speed(Gbps)}=[{XX,1},{XX,2},{XX,Auto},{XX,10}],Num. of Ports=4
```

[LUNM]

Logical Unit Number Manager function

Set Channel Speed

Set Channel Speed operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.49 Detailed Information for Set Channel Speed Operation

Item	Description
Port	The name of the port that the host speed (data transfer speed) is set.
Speed(Gbps)	The host speed set. The unit is Gbps (<u>G</u> igab <u>i</u> ts p <u>e</u> r s <u>e</u> c <u>o</u> nd). When Auto is set for the host speed, Auto is output.
Num. of Ports	The number of ports where the host speed is set.

4.53 LUN Manager (LUNM) Function — Set CommandDev Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set CommandDev,,Normal end,Seq.=xxxxx  
+{CU:LDEV,CommandDev}=[{0xXX:0xXX,Disable},{0xXX:0xXX,Enable}],Num.of LDEVs=2
```

[LUNM]

Logical Unit Number Manager function

Set CommandDev

Set CommandDev operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.50 Detailed Information for SetCommandDev Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume where the command device setting is changed.
CommandDev	Indicates whether the command device setting is enabled or disabled. Disable or Enable is output.
Num. of LDEVs	The number of logical volumes where the command device setting is changed.

4.54 LUN Manager (LUNM) Function — Set CommandDevSec Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set CommandDevSec,,Normal end,Seq.=xxxxx  
+{CU:LDEV,CommandDevSec}=[{0xXX:0xXX,Disable},{0xXX:0xXX,Enable}],Num.of LDEVs=2
```

[LUNM]

Logical Unit Number Manager function

Set CommandDevSec

Set CommandDevSec operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.51 Detailed Information for Set CommandDevSec Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume where the command device security setting is changed.
CommandDevSec	Indicates whether the command device security setting is enabled or disabled. Disable or Enable is output.
Num. of LDEVs	The number of logical volumes that the command device security setting is changed.

4.55 LUN Manager (LUNM) Function — Set FCSP Host Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set FCSP Host,,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,Kind,UserName,Change UserName}=[{1E,0x01,Add,11111111111111,-},  
{3E,0x01,Change,22222222222222,33333333333333},{5E,0x01,Delete,44444444444444,-}],  
Num. of Info=3
```

[LUNM]

Logical Unit Number Manager function

Set FCSP Host

Set FCSP Host operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.52 Detailed Information for Set FCSP Host Operation

Item	Description
Port	The name of the port which includes the host group where user name has been set.
HostGrpID	The number of the host group where user name has been set.
Kind	The setting status of the user name which is registered to the host group. Add: Add user name, Change: Change user name, Delete: Delete user name.
UserName	The user name added or deleted when Kind is Add or Delete. The user name before change when Kind is Change.
Change UserName	The user name after change when Kind is Change. Indicates a dash (-) when Kind is Add or Delete.
Num. of Info	The number of added, changed or deleted user names.

4.56 LUN Manager (LUNM) Function — Set FCSP Port Info Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Set FCSP Port Info,,Normal end, Seq=xxxxx  
+{Port,Auth_TOV,Reject Time,Reject Count}=[{1E,45,3,3},{3E,60,1,10}],Num. of Ports=2
```

[LUNM]

Logical Unit Number Manager function

Set FCSP Port Info

Set FCSP Port Information operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.53 Detailed Information for Set FCSP Port Info Operation

Item	Description
Port	The name of the port where authentication parameter has been set.
Auth_TOV	The time to execute authentication after the failure of port authentication. The unit is second.
Reject Time	The period of time to reject authentication when port authentication have failed. The unit is minute.
Reject Count	The number of authentication failures allowed before port authentication is rejected.
Num. of Ports	The number of ports where authentication parameter has been set.

4.57 LUN Manager (LUNM) Function — Set FCSP Port Switch Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Set FCSP Port Switch,,Normal end,  
Seq=xxxxxx  
+{Port,Switch,DH Group,Auth,UserName}=[{1E,Enable,0,Interactive,111111111111111},  
{3E,Disable,0,One Direction,222222222222222}],Num. of Ports=2
```

[LUNM]

Logical Unit Number Manager function

Set FCSP Port Switch

Set FCSP Port Switch operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.54 Detailed Information for Set FCSP Port Switch Operation

Item	Description
Port	The name of the port where authentication parameter has been set.
Switch	The setting status whether to execute authentication by port. Disable: Do not authenticate, Enable: Authenticate
DH Group	Not used. (fixed to 0)
Auth	The setting status of authentication method. bi-directional: bi-directional authentication, unidirectional: unidirectional authentication
UserName	The user name of the port.
Num. of Ports	The number of ports where authentication parameter has been set.

4.58 LUN Manager (LUNM) Function — Set FCSP Target Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set FCSP Target,,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,Switch,DH Group,UserName}=[{1E,0x01,Enable,0,1111111111111111},  
{3E,0x01,Disable,0,2222222222222222}],Num. of Grps=2
```

[LUNM]

Logical Unit Number Manager function

Set FCSP Target

Set FCSP Target operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.55 Detailed Information for Set FCSP Target Operation

Item	Description
Port	The name of the port which includes the host group where authentication parameter has been set.
HostGrpID	The number of the host group where authentication has been set.
Switch	The setting status whether to execute authentication by host group. Disable: Do not authenticate, Enable: Authenticate
DH Group	Not used. (fixed to 0)
UserName	The user name of the host group.
Num. of Grps	The number of host groups where authentication parameter has been set.

4.59 LUN Manager (LUNM) Function — Set Fibre Address Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set Fibre Address,,Normal end,Seq.=xxxxx  
+{Port,Fibre Addr.}=[{XX,1},{XX,126}],Num.of Ports=2
```

[LUNM]

Logical Unit Number Manager function

Set Fibre Address

Set Fibre Address operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.56 Detailed Information for Set Fibre Address

Item	Description
Port	The name of the port that the address has been changed.
Fibre Addr	The address of Fibre Channel port after change using the number from 1 to 126. See Table 4.57 for relation of number and Fibre Channel port address.
Num. of Ports	The number of ports where address has been changed.

Table 4.57 Output Values to Detailed Information and Addresses of Fibre Channel Port

Value	Address*	Value	Address*	Value	Address*	Value	Address*
1	EF (0)	33	B2 (32)	65	72 (64)	97	3A (96)
2	E8 (1)	34	B1 (33)	66	71 (65)	98	39 (97)
3	E4 (2)	35	AE (34)	67	6E (66)	99	36 (98)
4	E2 (3)	36	AD (35)	68	6D (67)	100	35 (99)
5	E1 (4)	37	AC (36)	69	6C (68)	101	34 (100)
6	E0 (5)	38	AB (37)	70	6B (69)	102	33 (101)
7	DC (6)	39	AA (38)	71	6A (70)	103	32 (102)
8	DA (7)	40	A9 (39)	72	69 (71)	104	31 (103)
9	D9 (8)	41	A7 (40)	73	67 (72)	105	2E (104)
10	D6 (9)	42	A6 (41)	74	66 (73)	106	2D (105)
11	D5 (10)	43	A5 (42)	75	65 (74)	107	2C (106)
12	D4 (11)	44	A3 (43)	76	63 (75)	108	2B (107)
13	D3 (12)	45	9F (44)	77	5C (76)	109	2A (108)
14	D2 (13)	46	9E (45)	78	5A (77)	110	29 (109)
15	D1 (14)	47	9D (46)	79	59 (78)	111	27 (110)
16	CE (15)	48	9B (47)	80	56 (79)	112	26 (111)
17	CD (16)	49	98 (48)	81	55 (80)	113	25 (112)
18	CC (17)	50	97 (49)	82	54 (81)	114	23 (113)
19	CB (18)	51	90 (50)	83	53 (82)	115	1F (114)
20	CA (19)	52	8F (51)	84	52 (83)	116	1E (115)
21	C9 (20)	53	88 (52)	85	51 (84)	117	1D (116)
22	C7 (21)	54	84 (53)	86	4E (85)	118	1B (117)
23	C6 (22)	55	82 (54)	87	4D (86)	119	18 (118)
24	C5 (23)	56	81 (55)	88	4C (87)	120	17 (119)
25	C3 (24)	57	80 (56)	89	4B (88)	121	10 (120)
26	BC (25)	58	7C (57)	90	4A (89)	122	0F (121)
27	BA (26)	59	7A (58)	91	49 (90)	123	08 (122)
28	B9 (27)	60	79 (59)	92	47 (91)	124	04 (123)
29	B6 (28)	61	76 (60)	93	46 (92)	125	02 (124)
30	B5 (29)	62	75 (61)	94	45 (93)	126	01 (125)
31	B4 (30)	63	74 (62)	95	43 (94)	-	-
32	B3 (31)	64	73 (63)	96	3C (95)	-	-
* Addresses outside parentheses = arbitrated-loop physical address (AL-PA). Addresses in parentheses = loop IDs.							

4.60 LUN Manager (LUNM) Function — Set Fibre Topology Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Set Fibre Topology,,Normal end,Seq.=xxxxx  
+{Port,Fabric,Connection}=[{XX,ON,FC-AL},{XX,OFF,FC-AL},{XX,ON,P-to-P},{XX,OFF,P-to-P}],  
Num. of Ports=4
```

[LUNM]

Logical Unit Number Manager function

Set Fibre Topology

Set Fibre Topology operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.58 Detailed Information for Set Fibre Topology Operation

Item	Description
Port	The name of the port where the topology of Fibre Channel is changed.
Fabric	Indicates whether the Fabric switch is enabled or disabled. ON: Enable, OFF: Disable
Connection	The connecting mode of the Fabric switch selected. FC-AL: FC-AL is selected, P-to-P: P-to-P is selected
Num. of Ports	The number of ports where the topology of Fibre Channel is changed.

4.61 LUN Manager (LUNM) Function — Set Host Mode Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LUNM],Set Host Mode,,Normal end,Seq.=xxxxxx  
+{Port,HostGrpID,Mode,Option}=[{XX,0xXXX,0x00,0x20000000},{XX,0xXXX,0x09,0x20000}],  
Num.of Host Groups=2
```

[LUNM]

Logical Unit Number Manager function

Set Host Mode

Set Host Mode operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.59 Detailed Information for Set Host Mode Operation

Item	Description
Port	The name of the port where the host group is created.
HostGrpID	The host group number.
Mode	The host mode set. Please refer to the <i>Hitachi USP and NSC LUN Manager User's Guide</i> (MK-94RD203) for the meaning of the host mode number.
Option	The host mode option set. Hexadecimal values are output. See Table 4.59 for the relation of output values and host mode option.
Num. of Host Groups	The number of host groups that the host mode setting is changed.

Table 4.60 Values of Option and Host Mode Option

Value of Option	Host Mode Option
0x20000000	2 VERITAS Database Edition/Advanced Cluster
0x2000000	6 TPRLO
0x1000000	7 Automatic recognition function of LUN
0x80000	12 Undisplay function of ghost LUN
0x40000	13 SIM report at link failure
0x20000	14 HP TruCluster with TrueCopy function
Note: When several options are set, a logical addition of their values is output. For example, 0x20020000 means that 0x20000000: "2 VERITAS Database Edition/Advanced Cluster" and 0x20000: "14HP TruCluster with TrueCopy function" are set.	

4.62 LUN Manager (LUNM) Function — Set IP Address Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set IP Address,,Normal end,Seq.=xxxxx  
+{Port,IPVersion,IPAddr,SubNetMask,GateWayAddr,DNSAddr}=[{1A,IPv4,(192.168.11.10),  
(255.255.255.0),(192.168.11.245),(192.168.250.100)},  
-{3A,IPv4,(192.168.11.11),(255.255.255.0),(192.168.11.245),(192.168.250.100)},  
{1B,IPv4,(192.168.100.100),(255.255.255.0),(192.168.100.245),(192.168.250.100)},  
-{3B,IPv4,(192.168.254.128),(255.255.255.128),(192.168.254.245),(192.168.250.100)}],  
Num. of Ports=4
```

[LUNM]

Logical Unit Number Manager function

Set IP Address

Set IP Address operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.61 Detailed Information for Set IP Address Operation

Item	Description
Port	The name of the port where the IP address has been set.
IPVersion	The Internet Protocol Version which is IPv4 (Internet Protocol Version 4).
IPAddr	The IP address set.
SubNetMask	The subnet mask set.
GateWayAddr	The gateway address set.
DNSAddr	The DNS server address set.
Num. of Ports	The number of ports where the IP address is set.

4.63 LUN Manager (LUNM) Function — Set iSNS Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set iSNS,,Normal end,Seq.=xxxxx  
+{PortID,iSNSPort,iSNSAddr}={ {1A,5000,(216.128.12.123)}, {3A,4000,(216.128.120.123)},  
{1B,3000,(216.128.123.123)}, {3B,3300,(216.128.13.123)}},Num. of Ports=4
```

[LUNM]

Logical Unit Number Manager function

Set iSNS

Set iSNS operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.62 Detailed Information for Set iSNS Operation

Item	Description
PortID	The name of the port where the iSNS server address has been set.
iSNSPort	The iSNS server port number set.
iSNSAddr	The iSNS server address set.
Num. of Ports	The number of ports where the iSNS server address has been set.

4.64 LUN Manager (LUNM) Function — Set Security Switch Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[LUNM],Set Security Switch,,Normal  
end,Seq.=xxxxxx  
+{Port,Switch}=[{XX,Disable},{XX,Enable}],Num.of Ports=2
```

[LUNM]

Logical Unit Number Manager function

Set Security Switch

Set Security Switch operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.63 Detailed Information for Set Security Switch Operation

Item	Description
Port	The name of the port where the LUN security setting is changed.
Switch	Indicates whether the LUN security setting is enabled or disabled. Disable or Enable is output.
Num. of Ports	The number of ports where the LUN security setting is changed.

4.65 LUN Manager (LUNM) Function — Set Speed Mode Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set Speed Mode,,Normal end,Seq.=xxxxx  
+CHA=CHA-1E  
++{Port Block,Mode}=[{A,High Speed/MIX},{B,High Speed/MIX},{C,Standard},{D,Standard}],  
Num. of Blocks=4  
+CHA=CHA-1H  
++{Port Block,Mode}=[{A,Standard},{B,High Speed/MIX}],Num. of Blocks=2  
+Num. of CHAs=2
```

[LUNM]

Logical Unit Number Manager function

Set Speed Mode

Set Speed Mode operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.64 Detailed Information for Set Speed Mode Operation

Item	Description
CHA	The CHA name (name of channel adapter).
Port Block	The port block. Port block A, B, C, and D are output in case of a 16-port channel adapter. In case of an 8-port channel adapter, port block A and B are output.
Mode	The mode set to the port. Standard: Standard mode. High Speed/MIX: High speed mode/Mix mode.
Num. of Blocks	The number of port blocks in the channel adapter.
Num. of CHAs	The number of channel adapters that the mode is changed.

4.66 LUN Manager (LUNM) Function — Set TCP/IP Port Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUNM],Set TCP/IP Port,,Normal end,Seq.=xxxxxx  
{Port,PortNumber}=[{1A,2054},{3A,2055},{1B,4010},{3B,4011}],Num. of Ports=4
```

[LUNM]

Logical Unit Number Manager function

Set TCP/IP Port

Set TCP/IP Port operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.65 Detailed Information for Set TCP/IP Port Operation

Item	Description
Port	The name of the port where the TCP/IP port number has been set.
PortNumber	The TCP/IP port number set.
Num. of Ports	The number of ports where the TCP/IP port number has been set.

4.67 Logical Unit Number Expansion (LUSE) Function — Make LUSE Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [LUSE],Make LUSE,,Normal end,Seq.=xxxxxx  
+LUSE(CU:LDEV)=[ [0x00:0x00,0x00:0x01,0x00:0x02,0x00:0x03] , [0x01:0x00,0x01:0x01,0x01:0x02,  
0x01:0x03]] ,Num. of LUSEs=2
```

[LUSE]

Logical Unit Number Expansion function

Make LUSE

Logical Unit Number Expansion operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.66 Detailed Information for Make LUSE Operation

Item	Description
LUSE(CU:LDEV)	The CU and LDEV numbers of several LDEVs combined into an LUSE volume. The number indicated at the beginning represents the CU and LDEV numbers of the top LDEV.
Num. of LUSEs	The number of LUSE volumes configured.

4.68 Logical Unit Number Expansion (LUSE) Function — Release LUSE Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[LUSE],Release LUSE,,Normal end,Seq.=xxxxx  
+LUSE(CU:LDEV)=[0x00:0x00,0x01:0x00],Num.of LUSEs=2
```

[LUSE]

Logical Unit Number Expansion function

Release LUSE

Release Logical Unit Number Expansion operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.67 Detailed Information for Release LUSE Operation

Item	Description
LUSE(CU:LDEV)	The CU and LDEV numbers of the top LDEV.
Num. of LUSEs	The number of LUSE volumes cancelled.

4.69 Performance Monitor (PFM) Function — Monitoring S/W Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[PFM],Monitoring S/W,Enable 60sec,,Normal end, Seq.=xxxxxx
--

[PFM]

Performance Monitor function

Monitoring S/W

Monitoring Options operation

Enable 60sec

Enable 60 sec is selected as the parameter. The operation uses the following parameters, as shown in the following table.

Table 4.68 Parameters for Monitoring S/W Operation

Parameter	Description
Enable XXsec	Monitoring is enabled and the gathering interval is set as XX sec.
Disable	Monitoring is disabled.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999).

4.70 PORT Function — Change Port Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[PORT],Change Port,,Normal end,Seq.=xxxxxx  
+Attribute=RCU Target  
++Port=[1E,3E,5E,7E], Num.of Ports=4
```

[PORT]

PORT function

Change Port

Change Port operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.69 Detailed Information for Change Port Operation

Item	Description
Attribute	The attribute of the port after change. Target: Target port, Initiator: Initiator port, RCU Target: RCU Target port, External: External port
Port	The name of the port where the setting is changed.
Num. of Ports	The number of ports where the setting is changed.

4.71 Program Product (PP) KEY Function — File Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[PP KEY],File,,Normal end,Seq.=xxxxxx  
+File Name=C:\Dkc200\Home\Sample.plk  
++{P.P. Name,Key Code}=[{JAVA API,XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX},  
-{JAVA API,XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX}],Num. of PPs=2
```

[PP KEY]

Program Product License Key function

File

File operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.70 Detailed Information for File Operation

Item	Description
File Name	The name of the license key file used for installation.
P.P. Name	The name of the program product installed.
Key Code	The key code used for installation.
Num. of PPs	The number of program products installed.

4.72 Program Product (PP) KEY Function — File Install Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[PP KEY],File Install,,Normal end,Seq.=xxxxxx  
+{P.P. Name,SLPR#,License Capa(GB)}=[{JAVA API,XX,ZZZZZ00},{JAVA API XP,XX,ZZZZZ00}],  
Num. of PPs=2
```

[PP KEY]

Program Product License Key function

File Install

File Install operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.71 Detailed Information for File Install Operation

Item	Description
P.P. Name	The name of the program product installed.
SLPR#	The SLPR number of the SLPR where the program product is installed.
License Capa(GB)	The licensed capacity of the installed program product. The unit is GB (gigabyte).
Num. of PPs	The number of installed program products.

4.73 Program Product (PP) KEY Function — Install Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[PP KEY],Install,,Normal end,Seq.=xxxxx  
+{P.P. Name,Key Code}={JAVA API,XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX}
```

[PP KEY]

Program Product License Key function

Install

Install operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.72 Detailed Information for Install Operation

Item	Description
P.P. Name	The name of the installed program product.
Key Code	The key code used for installation.

4.74 Program Product (PP) KEY Function — Uninstall Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[PP KEY],Uninstall,,Normal end,Seq.=xxxxxx +P.P. Name=JAVA API

[PP KEY]

Program Product License Key function

Uninstall

Uninstall operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.73 Detailed Information for Uninstall Operation

Item	Description
P.P. Name	The name of the uninstalled program product.

4.75 Remote Control Unit (RCU) Function — Add Path Operation

Example 1 (when CU Free is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [RCU],Add Path, ,Normal end,Seq.=xxxxxx  
+{S/N,Path Gr. ID,Controller ID}={99999,Default,4}  
++{MCU Port,RCU Port}=[{1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}],  
Num. of Port Pairs=8
```

Example 2 (when CU Free is not used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [RCU],Add Path, ,Normal end,Seq.=xxxxxx  
+{S/N,SSID,Controller ID}={99999,0x0004,4}  
++{MCU Port,RCU Port}=[{1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}],  
Num. of Port Pairs=8
```

[RCU]

Remote Control Unit function

Add Path

Add Path operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.74 Detailed Information for Add Path Operation

Item	Description
S/N	Indicates a serial number of the device.
Path Gr. ID	The path group ID. When the path group ID is default setting, "Default" is output.
Controller ID	The controller ID.
SSID	The SSID.
MCU Port	The port number of MCU.
RCU Port	The port number of RCU.
Num. of Port Pairs	The number of port pairs set.

4.76 Remote Control Unit (RCU) Function — Add RCU Operation

Example 1 (when CU Free is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [RCU],Add RCU,,Normal end,Seq.=xxxxxx  
+{S/N,Path Gr. ID,Controller ID,Min. Path,MIH Time(s),Round Trip  
Time(ms),Incident,FREEZE}={99999,  
Default,4,08,015,001,only to RCU host,Disable}  
++{MCU Port,RCU Port}={1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}},  
Num. of Port Pairs=8
```

Example 2 (when CU Free is not used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [RCU],Add RCU,,Normal end,Seq.=xxxxxx  
+{S/N,MCU,RCU,SSID,Controller ID,Min. Path,MIH Time(s),Round Trip  
Time(ms),Incident,FREEZE}={99999,  
0x00,0x3f,0x0004,4,08, 015,001,only to RCU host,Disable}  
++{MCU Port,RCU Port}={1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}},  
Num. of Port Pairs=8
```

[RCU]

Remote Control Unit function

Add RCU

Add Remote Control Unit operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.75 Detailed Information for Add RCU Operation

Item	Description
S/N	Indicates a serial number of the registered RCU device.
Path Gr. ID	The path group ID of the registered RCU. When the path group ID is default setting, Default is output.
Controller ID	The controller ID of the registered RCU device.
MCU	The CU number of the connected CU.
RCU	The CU number of the paired CU.
SSID	The SSID of the registered RCU.
MCU Port	The port number of MCU.
RCU Port	The port number of the registered RCU.
Min. Path	The number of set minimum paths.
MIH Time(s)	The value of set RIO MIH (Remote I/O Missing Interrupt Handler) timer (wait time until data copy from MCU to RCU is completed). The unit is second.
Round Trip Time(ms)	The round-trip response time set (delay time for round-trip remote I/O). The unit is millisecond. This value is output when TrueCopy or TrueCopy for z/OS is used.
Incident	The set incident of the RCU. This value is output only when TrueCopy for z/OS is used. "only to RCU host " or " to any host " is output.
FREEZE	Indicates whether CGROUP (FREEZE/RUN) PPRC TSO command support is enabled or disabled. This value is output only when TrueCopy for z/OS is used. Enable or Disable is output.
Num. of Port Pairs	The number of port pairs set.

4.77 Remote Control Unit (RCU) Function — Change RCU Option Operation

Example 1 (when CU Free is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Change RCU Option,,Normal end,Seq.=xxxxx  
+{S/N,Path Gr. ID,Controller ID,Min. Path,MIH Time(s), Round Trip  
Time (ms), Incident,FREEZE}={99999,  
Default,4,08,015,001,only to RCU host,Disable}
```

Example 2 (when CU Free is not used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Change RCU Option,,Normal end,Seq.=xxxxx  
+{S/N,SSID,Controller ID,Min. Path,MIH Time(s), Round Trip  
Time (ms), Incident,FREEZE}={99999,0x0004,  
4,08,015,001,only to RCU host,Disable}
```

[RCU]

Remote Control Unit function

Change RCU Option

Change Remote Control Unit Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.76 Detailed Information for Change RCU Option

Item	Description
S/N	Indicates a serial number of the RCU device where the RCU option setting is changed.
Path Gr. ID	The RCU path group ID where the RCU optional setting is changed. When the path group ID is default setting, "Default" is output.
Controller ID	The controller ID of the RCU where the optional setting is changed.
SSID	Indicates SSID of the RCU where the optional setting is changed.
Min. Path	The minimum number of paths after change.
MIH Time(s)	The value of RIO MIH (Remote I/O Missing Interrupt Handler) timer (wait time until data copy from MCU to RCU is completed). The unit represents seconds.
Round Trip Time(ms)	The round-trip response time (delay time for round-trip remote I/O) after change. The unit is in milliseconds. This value is output when TrueCopy or TrueCopy for z/OS is used.
Incident	The incident of RCU after change. This value is output only when TrueCopy for z/OS is used. "only to RCU host " or " to any host " is output.
FREEZE	Indicates whether CGROUP (FREEZE/RUN) PPRC TSO command support is enabled or disabled. This value is output only when TrueCopy for z/OS is used. Enable or Disable is output.
Num. of Port Pairs	The number of port pairs changed.

4.78 Remote Control Unit (RCU) Function — Delete Path Operation

Example 1 (when CU Free is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Delete Path,,Normal end,Seq.=xxxxxx  
+{S/N,Path Gr. ID,Controller ID}={99999,Default,4}  
++{MCU Port,RCU Port}=[{1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}],  
Num. of Port Pairs=8
```

Example 2 (when CU Free is not used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Delete Path,,Normal end,Seq.=xxxxxx  
+{S/N,SSID,Controller ID}={99999,0x0004,4}  
++{MCU Port,RCU Port}=[{1E,3E},{5E,7E},{1F,3F},{5F,7F},{1G,3G},{5G,7G},{1H,3H},{5H,7H}],  
Num. of Port Pairs=8
```

[RCU]

Remote Control Unit function

Delete Path

Delete Path operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.77 Detailed Information for Delete Path Operation

Item	Description
S/N	The serial number of the device of RCU where the path has been deleted.
Path Gr. ID	The path group ID of the path deleted. When the path group is a default setting, "Default" is output.
Controller ID	The controller ID of the RCU where the path has been deleted.
SSID	Indicates SSID.
MCU Port	The port number of MCU.
RCU Port	The port number of RCU.
Num. of Port Pairs	The number of path pairs deleted.

4.79 Remote Control Unit (RCU) Function — Delete RCU Operation

Example 1 (when CU Free is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Delete RCU,,Normal end,Seq.=xxxxxx  
+{S/N,,}={99999,Default,4}
```

Example 2 (when CU Free is not used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[RCU],Delete RCU,,Normal end,Seq.=xxxxxx  
+{S/N,SSID}={99999,0x0004}
```

[RCU]

Remote Control Unit function

Delete RCU

Delete Remote Control Unit operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.78 Detailed Information for Delete RCU Operation

Item	Description
S/N	The serial number of the device of RCU deleted.
Path Gr. ID	The path group ID of the RCU deleted. When the path group ID is a default setting, "Default" is output.
Controller ID	The controller ID of the RCU deleted.
SSID	The SSID of the RCU deleted.

4.80 Serverless Backup Enabler (SBE) Function — Port-Group (Forced) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [SBE],Port-Group(Forced) , ,Normal end,Seq.=xxxxx  
+{Port Group#,Port Name,Host Group#,Time out(sec.),Result}=[{Free Port,1A,0,50,Normal End},  
{1,1A,1,50,Normal End},{2,1A,2,50,Normal End}],Num. of Port Groups=XXX
```

[SBE]

Serverless Backup Enabler function

Port-Group (Forced)

Port-Group (Forced) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.79 Detailed Information for Port-Group (Forced)

Item	Description
Port Group#	The port group number specified (1 to 128). For free ports, 'Free Port' is output.
Port Nam	The name of the port specified.
Host Group#	The host group number under the specified port.
Time Out(sec.)	The time-out period specified to the port. The unit is second.
Result	The result of operation. Normal end: Normal end Error(xxx-yyy): Abnormal end xxx: Part code yyy: Error code
Num. of Port Groups	The number of port groups whose setting is changed.

4.81 Serverless Backup Enabler (SBE) Function — Port-Group (Normal) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [SBE],Port-Group(Normal) , ,Normal end,Seq.=xxxxx  
+{Port Group#,Port Name,Host Group#,Time out(sec.),Result}=[{Free Port,1A,0,50,Normal End},  
{1,1A,1,50,Normal End},{2,1A,2,50,Normal End}],Num. of Port Groups=XXX
```

[SBE]

Serverless Backup Enabler function

Port-Group (Normal)

Port-Group (Normal) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.80 Detailed Information for Port-Group (Normal) Operation

Item	Description
Port Group#	The port group number specified (1 to 128). For free ports, 'Free Port' is output.
Port Name	The name of the port specified.
Host Group#	The host group number under the specified port.
Time Out(sec.)	The time-out period specified to the port. The unit is second.
Result	The result of operation. Normal end: Normal end Error(xxx-yyy): Abnormal end xxx: Part code yyy: Error code
Num. of Port Groups	The number of port groups whose setting is changed.

4.82 SHRED Function — Set Shredding Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SHRED],Set Shredding,,Normal end,Seq.=xxxxx  
+OwnerID=0x00  
+{Data,Output File}={0xffff,Disable},{Random,Disable},{0x00,Enable},Num. of Data=3  
+{Output LDEV}={0x00:0x00,0x00:0x01,0x00:0x02},Num. of LDEVs=3  
+{Shred LDEV}=  
{0x00:0x00,0x00:0x01,0x00:0x02,0x01:0x00,0x01:0x01,0x01:0x02,0x03:0x00,0x03:0x01,0x03:0x02,  
0x0a:0xa0,0x0a:0xa1,0x0a:0xa2,0x0a:0xa3,  
-0x1f:0xf8,0x1f:0xf9,0x1f:0xfa,0x1f:0xfb,0x1f:0xfc,0x1f:0xfd,0x1f:0xfe,0x1f:0xff},  
Num. of LDEVs=21
```

[SHRED]

SHRED function

Set Shredding

Set Shredding operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.81 Detailed Information for Set Shredding Operation

Item	Description
OwnerID	The owner ID. 0x00: Indicates Storage Navigator 0xXX: Owner ID is expressed in two digits of the hexadecimal format
Data	The data type. Random: Random, 0XXXX: Define
Output File	Indicates whether the result of shredding is output to the file. Disable: No output, Enable: Output
Num. of Data	The number of data types.
Output LDEV	Indicates LDEVs whose shredding results are output to the file.
Num. of LDEVs	The number of LDEVs output to the file.
Shred LDEV	The LDEV to be shredded.
Num. of LDEVs	The number of LDEVs.

4.83 SHRED Function — Suspend Shredding Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SHRED],Suspend Shredding,,Normal end,Seq.=xxxxx +Target OwnerID=0x00

[SHRED]

SHRED function

Suspend Shredding

Suspend Shredding operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.82 Detailed Information for Suspend Shredding Operation

Item	Description
Target OwnerID	The owner ID. 0x00: Indicates Storage Navigator 0xXX: Owner ID is expressed in two digits of the hexadecimal format.

4.84 ShadowImage (SI) Function — Change Reserve Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI],Change Reserve,,Normal end,Seq.=xxxxx  
+Attribute=Set  
++{VOL(CU:LDEV),Result}=[{0xXX:0xYY,Normal end},{0xXX:0xYY, Error(xxxx-yyyy)}],Num. of  
Vols=2
```

[SI]

ShadowImage function

Change Reserve

Change Reserve operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.83 Detailed Information for Change Reserve Operation

Item	Description
Attribute	Indicates whether the reserve attribute is set or cancelled. Set: Reserve attribute is set, Reset: Reserve attribute is cancelled.
VOL(CU:LDEV)	The CU number and the LDEV number of the volume where the reserve attribute is set or cancelled.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Vols	The number of volumes where the reserve attribute is set or cancelled.

4.85 ShadowImage (SI) Function — Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI],Option,,Normal end,Seq.=xxxxx  
+Swap & Freeze=Enable,HOST I/O Performance=Enable,Reserve03=Enable,(snip),Reserve32=Disable
```

[SI]

ShadowImage function

Option

Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.84 Detailed Information for Option Operation

Item	Description
Swap & Freeze	Indicates whether the Swap & Freeze option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
HOST I/O Performance	Indicates whether the host I/O option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
Reserve X	Reserved items. X is the number from 03 to 32.

4.86 ShadowImage (SI) Function — Paircreate Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00, [SI],Pair Create,,Normal end,Seq.=xxxxxx  
+Copy Pace=Faster  
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MU,Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num.of Pairs=2
```

[SI]

ShadowImage function

Pair Create

Paircreate operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.85 Detailed Information for Pair Create Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed, Medium: Medium speed, Slower: Low speed
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the created pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the created pair.
MU	The MU number of the created pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of created pairs.

4.87 ShadowImage (SI) Function — Pairresync Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI],Pairresync,,Normal end,Seq.=xxxxx  
+Copy pace=Faster,Resync Type=Normal Copy  
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal  
end},{0xAA:0xBB,0xCC:0xDD,  
Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI]

ShadowImage function

Pairresync

Pairresync operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.86 Detailed Information for Pairresync Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed, Medium: Medium speed, Slower: Low speed
Resync Type	The type of resynchronization. Normal Copy: Normal resynchronization, Quick Resync: High speed resynchronization, Reserve Copy: Reverse resynchronization, Quick Restore: High speed restore
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the resynchronized pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the resynchronized pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of resynchronized pairs.

4.88 ShadowImage (SI) Function Operation — Pairsplit Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [SI],Pairsplit,,Normal end,Seq.=xxxxx  
+Copy pace=Faster,Split Type=QuickSplit  
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MU,Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num. of Pairs = 2
```

[SI]

ShadowImage function

Pairsplit

Pairsplit operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.87 Detailed Information for Pairsplit Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed Medium: medium speed Slower: Low speed
Split Type	The split type. Quick Split: Pair split by background copy Steady Split: Pair split by update copy
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the split pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the split pair.
MU	The MU number of the split pair.
Result	The result of operation. Normal end: Normal end, Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of split pairs.

4.89 ShadowImage (SI) Function — Pairsplit-E Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI],Pairsplit-E,,Normal end,Seq.=xxxxx  
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI]

ShadowImage function

Pairsplit-E

Pairsplit-E operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.88 Detailed Information for Pairsplit-E Operation

Item	Description
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the suspended pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the suspended pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of suspended pairs.

4.90 ShadowImage (SI) Function — Pairsplit-S Operation

Example 1 (When ShadowImage is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI],Pairsplit-S,,Normal end,Seq.=xxxxxx  
+Kind=0  
++{P-VOL(CU:LDEV),S-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

Example 2 (When Copy-on-Write Snapshot is used)

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI],Pairsplit-S,,Normal  
end,Seq.=xxxxxx  
+Kind=1,Option=Pair  
++{P-VOL(CU:LDEV),S-  
VOL(CU:LDEV),MU,Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI]

ShadowImage function

Pairsplit-S

Pairsplit-S operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.89 Detailed Information for Pairsplit-S Operation

Item	Description
Kind	Kind of Delete Pair operation: 0 Delete ShadowImage Pair 1 Delete Copy-on-Write Snapshot pair
Option	The option in the delete pair, enabled when Kind=1. Pair: Delete pair of Copy-on-Write Snapshot by pair specification.
P-VOL(CU:LDEV)	The CU number and the LDEV number of the primary volume in the deleted pair.
S-VOL(CU:LDEV)	The CU number and the LDEV number of the secondary volume in the deleted pair.
MU	The Snapshot ID of the deleted pair, enabled when Kind=1 and Option=Pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code

	yyyyy: Error code
Num. of Pairs	The number of deleted pairs.

4.91 ShadowImage (SI) z/OS Function — Add Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS(R)],Add Pair,,Normal end,Seq.=xxxxx  
+Copy Pace=Faster  
++{S-VOL(CU:LDEV),T-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Add Pair

Add Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.90 Detailed Information for Add Pair Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed, Medium: Medium speed, Slower: Low speed
S-VOL(CU:LDEV)	The CU number and the LDEV number of the source volume in the created pair.
T-VOL(CU:LDEV)	The CU number and the LDEV number of the target volume in the created pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of created pairs.

4.92 ShadowImage (SI) z/OS Function — Change Reserve Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI z/OS(R)],Change Reserve,,Normal  
end,Seq.=xxxxxx  
+Attribute=Set  
++{VOL(CU:LDEV),Result}=[{0xXX:0xYY,Normal end},{0xXX:0xYY, Error(xxxx-yyyy)}],Num.of  
Vols=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Change Reserve

Change Reserve operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.91 Detailed Information for Change Reserve Operation

Item	Description
Attribute	Indicates whether the reserve attribute is set or cancelled. Set: the reserve attribute is set, Reset: the reserve attribute is cancelled.
VOL(CU:LDEV)	The CU number and the LDEV number of the volume that the reserve attribute is set or cancelled.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Vols	The number of volumes that the reserve attribute is set or cancelled.

4.93 ShadowImage (SI) z/OS Function — CTG Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS (R)],CTG,,Normal end,Seq.=xxxxx  
+{CTG,Command,Result}=[{0x00,,Normal end},{0x01,,Error(xxxx,yyyy)}],Num. of CTGs=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

CTG

Consistency Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.92 Detailed Information for CTG Operation

Item	Description
CTG	The consistency group number.
Command	Indicates whether the CT group (consistency group) is newly registered or the existing CT group is deleted. Add: Registration of CT group, Delete: deletion of CT group
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of CTGs	The number of CT groups registered or deleted.

4.94 ShadowImage (SI) z/OS Function — Delete Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS(R)],Delete Pair,,Normal end,Seq.=xxxxx  
+{S-VOL(CU:LDEV),T-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Delete Pair

Delete Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.93 Detailed Information for Delete Pair Operation

Item	Description
S-VOL(CU:LDEV)	The CU number and the LDEV number of the source volume in the deleted pair.
T-VOL(CU:LDEV)	The CU number and the LDEV number of the target volume in the deleted pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of deleted pairs.

4.95 ShadowImage (SI) z/OS Function — Exp R_TBL(Disable) Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[Si zOS(R)], Exp R_TBL(Disable) ,,Normal end, Seq.=xxxxxx
--

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Exp R_TBL(Disable)

Disable Relationship Expansion operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.96 ShadowImage (SI) z/OS Function — Exp R_TBL(Enable) Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[Si zOS(R)], Exp R_TBL(Enable) ,,Normal end, Seq.=xxxxxx
--

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Exp R_TBL(Enable)

Enable Relationship Expansion operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.97 ShadowImage (SI) z/OS Function — Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS(R)],Option,,Normal end,Seq.=xxxxx  
+Swap & Freeze=Enable,HOST I/O Performance=Enable,FCv2 Slower Copy1=Enable,FCv2 Slower  
Copy2=Disable,  
Reserve05=Enable,(snip),Reserve32=Disable
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Option

Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.94 Detailed Information for Option operation

Item	Description
Swap & Freeze	Indicates whether the Swap & Freeze option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
HOST I/O Performance	Indicates whether the host I/O option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
FCv2 Slower Copy1	Indicates whether the FCv2 Slower Copy1 option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
FCv2 Slower Copy2	Indicates whether the FCv2 Slower Copy2 option is enabled or disabled. Enable: Option is enabled, Disable: Option is disabled.
Reserve X	Reserved items. X is the number from 05 to 32.

4.98 ShadowImage (SI) z/OS Function — Resync Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS(R)],Resync Pair,,Normal end,Seq.=xxxxx  
+Copy pace=Faster,Resync Type=Normal Copy  
++{S-VOL(CU:LDEV),T-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Resync Pair

Resync Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.95 Detailed Information for Resync Pair Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed, Medium: Medium speed, Slower: Low speed
Resync Type	The type of resynchronization. Normal Copy: Normal resynchronization, Quick Resync: High speed resynchronization, Reserve Copy: Reverse resynchronization, Quick Restore: High speed restore
S-VOL(CU:LDEV)	The CU number and the LDEV number of the source volume in the resynchronized pair.
T-VOL(CU:LDEV)	The CU number and the LDEV number of the target volume in the resynchronized pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of resynchronized pairs.

4.99 ShadowImage (SI) z/OS Function — Set SCP Time Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI z/OS(R)],Set SCP Time,,Normal end,Seq.=xxxxx  
+{CU, SCP Delay Time(s)}=[{0x00,600},{0x01,600},{0x02,600},{0x03,600},{0x04,600},(snip),  
{0x3F,600}],Num. of CUs=64
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Set SCP Time

Set State Change Pending (SCP) Time operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.96 Detailed Information for Set SCP Time Operation

Item	Description
CU	The CU number.
SCP Delay Time(s)	The State Change Pending (SCP) delay time in seconds.
Num. of CUs	The number of CUs on which the SCP delay time is set.

4.100 ShadowImage (SI) z/OS Function — Split Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SI z/OS(R)],Split Pair,,Normal end,Seq.=xxxxx  
+Copy pace=Faster,Split Type=QuickSplit  
++{S-VOL(CU:LDEV),T-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,0,Normal end},  
{0xAA:0xBB,0xCC:0xDD,1,Error(xxxx-yyyy)}],Num. of Pairs = 2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Split Pair

Split Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.97 Detailed Information for Split Pair Operation

Item	Description
Copy Pace	The set copy speed. Faster: High speed, Medium: Medium speed, Slower: Low speed
Split Type	The split type. Quick Split: Pair split by background copy, Steady Split: Pair split by update copy
S-VOL(CU:LDEV)	The CU number and the LDEV number of the source volume in the split pair.
T-VOL(CU:LDEV)	The CU number and the LDEV number of the target volume in the split pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of split pairs.

4.101 ShadowImage (SI) z/OS Function — Suspend Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SI z/OS(R)],Suspend Pair,,Normal end,Seq.=xxxxx  
+{S-VOL(CU:LDEV),T-VOL(CU:LDEV),Result}=[{0xAA:0xBB,0xCC:0xDD,Normal end},  
{0xAA:0xBB,0xCC:0xDD,Error(xxxx-yyyy)}],Num. of Pairs=2
```

[SI z/OS]

ShadowImage z/OS function (for the IBM z/OS)

Suspend Pair

Suspend Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.98 Detailed Information for Suspend Pair Operation

Item	Description
S-VOL(CU:LDEV)	The CU number and the LDEV number of the source volume in the suspended pair.
T-VOL(CU:LDEV)	The CU number and the LDEV number of the target volume in the suspended pair.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of suspended pairs.

4.102 SNMP Function — Set SNMP Agent Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SNMP],Set SNMP Agent,,Normal end,Seq.=xxxxx
+Install=Disable
+Manager=[(158.214.133.001),(158.214.133.002),(158.214.133.003),(158.214.133.004),
(158.214.133.005),(158.214.133.006),(158.214.133.007),(158.214.133.008),(158.214.133.009),
-(158.214.133.010),(158.214.133.011),(158.214.133.012),(158.214.133.013),(158.214.133.014),
(158.214.133.015),(158.214.133.016),(158.214.133.017),(158.214.133.018),(158.214.133.019),
(snip)
-(158.214.133.031),(158.214.133.032)],Num. of Managers=xx
+Community=12345678911234567892123456789312345678941234567895123456789612345678971234567898
1234567899123456789012345678911234567892123456789312345678941234567895
++Trap=[(158.214.133.001),(158.214.133.002),(158.214.133.003),(158.214.133.004),
(158.214.133.005),(158.214.133.006),(158.214.133.007),(158.214.133.008),(158.214.133.009),
-(158.214.133.010),(158.214.133.011),(158.214.133.012),(158.214.133.013),(158.214.133.014),
(158.214.133.015),(158.214.133.016),(158.214.133.017),(158.214.133.018),(158.214.133.019),
(snip)
-(158.214.133.031),(158.214.133.032)],Num. of Traps=xx
(snip)
-Num. of Communities=xx
+System Group(Name,Contact,Location)=
{123456789112345678921234567893123456789412345678951234567896123456789712345678981234567899
12345678901234567891123456789212345678,
-12345678911234567892123456789312345678941234567895123456789612345678971234567898123456789
9123456789012345678911234567892123456789312345678941234567895123456789612345,
-12345678911234567892123456789312345678941234567895123456789612345678971234567898123456789
9123456789012345678911234567892123456789312345678941234567895123456789612345}
```

[SNMP]

Simple Network Management Protocol function

Set SNMP Agent

Set SNMP Agent operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.99 Detailed Information for Set SNMP Agent Operation

Item	Description
Install	The setting status of SNMP Agent. Enable, Disable
Manager	The IP address of the registered SNMP manager.
Num. of Managers	The number of the registered SNMP managers.
Community	The registered community name.
Trap	The IP address where the trap of community is reported.
Num. of Traps	The number of traps reported.
Num. of Communities	The number of registered communities.
System Group	The setting of system group information (Name, Contact, and Location).
Name	The nickname of the device set.
Contact	The setting name of the system administrator.
Location	The setting location of the device set.

4.103 Server Priority Manager (SPM) Function — Change PPCGrp Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [SPM],Change PPCGrp,,Normal end,Seq.=xxxxx  
+{PPC Group,Priority,UpperLimit,Mode}=[{XXXXXXXXXXXXXXXXX,Non-Prio,XXXXXXX,IOPS}],  
Num. of PPC Groups=1
```

[SPM]

Server Priority Manager function

Change PPCGrp

Change PPCGrp operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.100 Detailed Information for Change PPCGrp Operation

Item	Description
PPC Group	The SPM group name.
Priority	The attribute of the host bus adapter in the SPM group after change. Prio: Prioritized WWN, Non-Prio: Non-prioritized WWN
Upper Limit	The upper limit value when the attribute is set to Non-Prio. When the attribute is set to Prio, this value is not output.
Mode	The type of rate used for upper limit control. IOPS: I/O rate, KB/s: Transfer rate When the attribute is set to Prio, this value is not output.
Num. of PPC Groups	The number of the SPM groups that the setting is changed.

4.104 Server Priority Manager (SPM) Function — Clear PPC Info Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SPM],Clear PPC Info,,Normal end,Seq.=xxxxx

[SPM]

Server Priority Manager function

Clear PPC Info

Clear PPC Info operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.105 Server Priority Manager (SPM) Function — Default Set Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SPM],Default Set,Kind=WWN,,Normal end,Seq.=xxxxx
```

[SPM]

Server Priority Manager function

Default Set

Default Set operation

Kind=WWN

WWN is selected as the default. The operation uses the following parameters, as shown in the following table.

Table 4.101 Parameters for Default Set Operation

Parameter	Description
Port	The setting content of the port tab is initialized.
WWN	The setting content of the WWN tab is initialized.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.106 Server Priority Manager (SPM) Function — PPCGrp Del/Chg Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SPM],PPCGrp Del/Chg,,Normal end,Seq.=xxxxx  
+{Mode, Group,Change Name}=[{Update,XXXXXXXXXXXXXXXX,XXXXXXXXXXXXXXXX}],Num of Groups=1
```

[SPM]

Server Priority Manager function

PPCGrp Del/Chg

PPCGrp De/Chg operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.102 Detailed Information for PPCGrpDel/Chg Operation

Item	Description
Mode	The operation executed. Delete: Deletion of SPM group, Update: Change of the SPM group name
PPC Group	The SPM group name to be operated.
Change Name	The SPM group name after change. This value is output only when the SPM group name is changed.
Num. of PPC Groups	The number of SPM groups deleted or renamed.

4.107 Server Priority Manager (SPM) Function — Set All Prio Port Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00 [SPM],Set All Prio Port,,Normal end,Seq.=xxxxxx  
+{AllPriority,Treshold,Mode}={Enable,XXXXXXXX,IOPS}
```

[SPM]

Server Priority Manager function

Set All Prio Port

Set All Prio Port operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.103 Detailed Information for Set All Prio Port Operation

Item	Description
AllPriority	The setting status of the All Thresholds value in the port tab. Enable: All Thresholds value is set Disable: All Thresholds value is cancelled
Threshold	The All Thresholds value set. This value is output only when the All Thresholds value is set.
Mode	The rate type of the All Thresholds value. IOPS: I/O rate, KB/s: Transfer rate This value is output only when the All Thresholds value is set.

4.108 Server Priority Manager (SPM) Function — Set All Prio WWN Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SPM],Set All Prio WWN,,Normal end,Seq.=xxxxx  
+{AllPriority,Threshold,Mode}={Enable,XXXXXXXX,IOPS}
```

[SPM]

Server Priority Manager function

Set All Prio WWN

Set All Prio WWN operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.104 Detailed Information for Set All Prio WWN Operation

Item	Description
AllPriority	The setting status of the All Thresholds value in the WWN tab. Enable: All Thresholds value is set Disable: All Thresholds value is cancelled
Threshold	The All Thresholds value set. This value is output only when the All Thresholds value is set.
Mode	The rate type of the All Thresholds value. IOPS: I/O rate, KB/s: Transfer rate This value is output only when the All Thresholds value is set.

4.109 Server Priority Manager (SPM) Function — Set Ctrl Kind Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SPM],Set Ctrl Kind,Kind=WWN,,Normal  
end,Seq.=xxxxxx
```

[SPM]

Server Priority Manager function

Set Ctrl Kind

Set Ctrl Kind operation

Kind=WWN

WWN is selected as the parameter. The operation uses the following parameters, as shown in the following table.

Table 4.105 Parameters for Set Ctrl Kind Operation

Parameter	Description
Port	Port Control is applied without the All Thresholds value being set.
All Port	Port Control is applied with the All Thresholds value being set.
WWN	WWN Control is applied. This value is output whether the All Thresholds value is set or not.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.110 Server Priority Manager (SPM) Function — Set Prio Port Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SPM],Set Prio Port,,Normal end,Seq.=xxxxxx  
+{Port,Priority,Use,Threshold/Upper Limit,Mode}=[{1A,Non-Prio,Enable,XXXXXXXX,IOPS},  
{3A,Prio,Disable,,}],Num. of Ports=2
```

[SPM]

Server Priority Manager function

Set Prio Port

Set Prio Port operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.106 Detailed Information for Set Prio Port Operation

Item	Description
Port	The port name.
Priority	The attribute set to the port. Prio: Prioritized port, Non-Prio: Non-prioritized port
Use	Indicates whether the threshold is set or not in case of the prioritized port and whether the upper limit value is set or not in case of non-prioritized port. Enable: Value is set, Disable: Value is not set.
Threshold/ Upper Limit	The threshold in case of prioritized port and the upper limit value in case of non-prioritized port. This value is output only when the threshold or the upper limit value is set.
Mode	The type of rate used for upper limit control and threshold control. IOPS: I/O rate, KB/s: Transfer rate This value is output when the threshold or the upper limit value is set.
Num. of Ports	The number of ports that the setting is changed.

4.111 Server Priority Manager (SPM) Function — Set Prio WWN Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SPM],Set Prio WWN,,Normal end,Seq.=xxxxx  
+{WWN,Priority,,Mode}={0xxxxxxxxxxxxxxxx,Non-Prio,xxxxxxx,IOPS},  
Num of WWNs=1
```

[SPM]

Server Priority Manager function

Set Prio WWN

Set Prio WWN operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.107 Detailed Information for Set Prio WWN Operation

Item	Description
WWN	Indicates WWN of the host bus adapter. WWN is a 16-digit number in the hexadecimal format.
Priority	The attribute set to the host bus adapter. Prio: Prioritized WWN, Non-Prio: Non-prioritized WWN
Upper Limit	The upper limit value when the attribute is set to non-prioritized WWN. This value is not output when the attribute is set to prioritized WWN.
Mode	The type of rate used for the upper limit control. IOPS: I/O rate, KB/s: Transfer rate This value is not output when the attribute is set to prioritized WWN.
Num. of WWNs	The number of WWNs of the host bus adapters that the setting is changed.

4.112 Server Priority Manager (SPM) Function — Update Port WWN Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SPM],Update Port WWN,,Normal end,Seq.=xxxxx  
+{Mode,WWN, Name,Priority}=[{Add ,0xxxxxxxxxxxxxxxx,xxxxxxxxxxxxxxxx,Non-Prio},  
++Port=[1A,3A],Num. of Ports=2],Num of WWNs=1
```

[SPM]

Server Priority Manager function

Update Port WWN

Update Port WWN operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.108 Detailed Information for Update Port WWN Operation

Item	Description
Mode	The operation executed. Add WWN: New registration of WWN (the host bus adapter is subject to monitoring) Delete WWN: Deletion of WWN (the host bus adapter is not subject to monitoring)
WWN	Indicates WWN of the host bus adapter registered or deleted. WWN is a 16-digit number in the hexadecimal format.
PPC Name	The SPM name of the host bus adapter registered or deleted.
Priority	The attribute of the registered host bus adapter. Prio: Prioritized WWN, Non-Prio: Non-prioritized WWN This value is output only when the host bus adapter (WWN) is registered.
Port	The name of the port to which the host bus adapter is registered.
Num. of Ports	The number of ports to which the host bus adapter is registered.
Num. of WWNs	The number of WWNs of the registered or deleted host bus adapters.

4.113 Server Priority Manager (SPM) Function — Update PPCGrp Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[SPM],Update PPCGrp,,Normal end,Seq.=xxxxx  
+{UpdateMode, Group,Priority,Upper Limit,Mode}=[{Add WWN,XXXXXXXXXXXXXXXX,Non-Prio,  
XXXXXXXX,IOPS},  
++WWN=[0XXXXXXXXXXXXXXXX,0XXXXXXXXXXXXXXXX],Num. of WWNs=2],  
+Num. of PPC Group=1
```

[SPM]

Server Priority Manager function

Update PPCGrp

Update PPCGrp operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.109 Detailed Information for Update PPCGrp Operation

Item	Description
UpdateMode	The operation executed. Add New Group: Creation of an SPM group Add WWN: Addition of the host bus adapter to the SPM group Delete WWN: Deletion of the host bus adapter from the SPM group
PPC Group	The SPM group name.
Priority	The attribute of the SPM group. Prio: Prioritized WWN, Non-Prio: Non-prioritized WWN This attribute is applied to all host bus adapters that belong to this SPM group. This value is output only when the SPM group is created.
Upper Limit	The upper limit value applied to the host bus adapters belonging to this SPM group when the attribute of the SPM group is Non-Prio. This value is output only when the SPM group is created.
Mode	The type of rate used for the upper limit control. IOPS: I/O rate, KB/s: Transfer rate This value is output only when the SPM group is created.
WWN	Indicates WWN of the host bus adapter belonging to this SPM group. WWN is a 16-digit number in the hexadecimal format. All WWNs are output for this index. Up to 32 WWNs can be registered to one SPM group.
Num. of WWNs	The number of WWNs of the added or deleted host bus adapter.
Num. of PPC Group	The number of SPM groups that the setting is changed.

4.114 Server Priority Manager (SPM) Function — Update World Wide Name (WWN) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[SPM],Update WWN,,Normal end,Seq.=xxxxx  
+{Update Mode,WWN,Change PPC Name,Change WWN}={Change Nickname,0XXXXXXXXXXXXXXXXX,  
XXXXXXXXXXXXXXXXXX,0XXXXXXXXXXXXXXXXXX},Num. of WWNs=1
```

[SPM]

Server Priority Manager function

Update WWN

Update World Wide Name operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.110 Detailed Information for Update WWN Operation

Item	Description
Update Mode	The operation executed. Change WWN: Change of host bus adapter Change Nickname: Change of SPM name of the host bus adapter
WWN	Indicates WWN of the host bus adapter. WWN is a 16-digit number in the hexadecimal format. When the host bus adapter is changed, the WWN of the host bus adapter before change is output.
Change PPC Name	The SPM name of the host bus adapter. When the SPM name of the host bus adapter is changed, the SPM name after change is output.
Change WWN	Indicates WWN of the host bus adapter after change. This value is output only when the host bus adapter is changed.
Num. of WWNs	The number of WWNs of the host bus adapters that the setting is changed.

4.115 TrueCopy (TC) Function — Add Consistency Group (CTG) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC] ,Add CTG, ,Normal end,Seq.=xxxxxx  
+{CTG,Path,Offloading(s),Inflow Control,Copy Pending(min.),RCU Ready(min.) }=  
{0x00,Fibre,090,Enable,05,05}
```

[TC]

TrueCopy function

Add CTG

Add Consistency Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.111 Detailed Information for Add Consistency Group Operation

Item	Description
CTG	The consistency group number of the consistency group (CT group) newly registered.
Path	The channel type of path interface. Fibre: Fibre channel
Offloading(s)	The value set to the monitoring time of transfer to the side file. The unit is second.
Inflow Control	Indicates whether the inflow control to the cache is enabled or disabled. Enable: Setting is enabled, Disable: Setting is disabled
Copy Pending(min.)	The setting value for Time Out (Copy Pending). The unit is minute. When Time Out (Copy Pending) is set to 0 (zero), 'None' is output.
RCU Ready(min.)	The setting value for Time Out (RCU ready). The unit is minute. When Time Out (RCU ready) is set to 0 (zero), 'None' is output.

4.116 TrueCopy (TC) Function — Change Async Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Change Async Option,,Normal end,Seq.=xxxxx  
+{CLPR,Rate(%),Delay Start(%),Delay Increase(%)}={00,050,030,040}
```

[TC]

TrueCopy function

Change Async Option

Change Async Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.112 Detailed Information for Change Async Option

Item	Description
CLPR	The CLPR number.
Rate(%)	The value set to the pending update data rate.
Delay Start(%)	The value set to the I/O Delay Start value (the threshold that the inflow control of asynchronous copy starts).
Delay Increase(%)	The value set to the I/O Delay Increase value (the threshold that the inflow control of asynchronous copy increases).

4.117 TrueCopy (TC) Function — Change CTG Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Change CTG Option,,Normal end,Seq.=xxxxxx  
+{CTG, Offloading(s),Inflow Control,Copy Pending(min.),RCU Ready(min.) }=  
{0x00,090,Enable,05,05}
```

[TC]

TrueCopy function

Change CTG Option

Change Consistency Group Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.113 Detailed Information for Change CTG Option

Item	Description
CTG	The consistency group number of the consistency group (CT group) where the option is changed.
Offloading(s)	The value set to the monitoring time of transfer to the side file. The unit is second.
Inflow Control	Indicates whether the inflow control to the cache is enabled or disabled. Enable: Setting is enabled, Disable: Setting is disabled
Copy Pending(min.)	The setting value for Time Out (Copy Pending). The unit is minute. When Time Out (Copy Pending) is set to 0 (zero), 'None' is output.
RCU Ready(min.)	The setting value for Time Out (RCU ready). The unit is minute. When Time Out (RCU ready) is set to 0 (zero), 'None' is output.

4.118 TrueCopy (TC) Function — Change Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC], Change Option,,Normal end,Seq.=xxxxx  
+{ Max Initial Copy,Path Blockade Watch(s),Path Blockade SIM Watch(s) }={128,45,70}  
+{CU,Service SIM,PPRC Support,SCP Delay Time(s)}=  
-{0x00,Not Report,Yes,600},{0x01,Not Report,Yes,600},{0x02,Not Report,Yes,600},  
{0x03,Not Report,Yes,600},{0x04,Not Report,Yes,600},  
(snip)  
-(snip), Num. of CUs=64
```

[TC]

TrueCopy function

Change Option

Change Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.114 Detailed Information for Change Option Operation

Item	Description
Max Initial Copy	The maximum number of initial copy operations set.
Path Blockade Watch(s)	The path blockade watch period set. The unit is second.
Path Blockade SIM Watch(s)	The path blockade SIM watch period set. The unit is second.
CU	The CU number of the connected CU.
Service SIM	Indicates whether to report the remote copy-related SIM. Report, Not Report
PPRC Support	Indicates whether the host supports PPRC. Yes: support, No: not support
SCP Delay Time(s)	The SCP delay time when the pair is suspended. The unit is second.
Num. of CUs	The number of CUs set.

4.119 TrueCopy (TC) Function — Change Pair Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Change Pair Option,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),Fence Level, Error Level,Result}=  
-{1A-0x00-0x000,Never,Group,Normal End},{1A-0x00-0x001,Never,Group,Normal End},  
{1A-0x00-0x002,Never,Group,Normal End},{snip}  
-(snip), Num. of Pairs=xx
```

[TC]

TrueCopy function

Change Pair Option

Change Pair Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.115 Detailed Information for Change Pair Option Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary volume where the pair option is changed sequentially.
Fence Level	The changed fence level (the condition that MCU rejects Write to the primary volume). Never: No condition, Data: S-VOL data, Status: S-VOL status
Error Level	The error level changed (handling in case of trouble). This value is output when the pair option of the asynchronous pair is changed only. Group: Group (suspended by consistency group), LU: LU (appropriate LU only is suspended)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of changed pairs.

4.120 TrueCopy (TC) Function — Delete Consistency Group (CTG) Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Delete CTG,0x00,,Normal end,Seq.=xxxxxx
--

[TC]

TrueCopy function

Delete CTG

Delete Consistency Group operation

0x00

This operation uses the following parameters, as shown in the following table.

Table 4.116 Parameters for Delete CTG Operation

Parameter	Description
0x00 to 0x7F	The consistency group number of the consistency group (CT group) deleted.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.121 TrueCopy (TC) Function — Paircreate Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC],Paircreate,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),S/N,ID,ControllerID,Type, Initial Copy, Fence  
Level,Copy Pace,Priority,Diff,CTG, Error Level,Result}=  
-{1A-0x00-0x000,GR-0xFE-0x3FF,99999,Default,4,Async,Entire,Never,15,032,Auto,0x00,Group,  
Normal End}, (snip)  
-(snip), Num. of Pairs=xx
```

[TC]

TrueCopy function

Paircreate

Paircreate operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.117 Detailed Information for Paircreate Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the volume specified to the primary volume when the pair is created sequentially.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the volume specified to the secondary volume when the pair is created sequentially.
S/N	The serial number of the device.
ID	The path group ID or SSID. When the path group ID is default setting, the output is "Default."
Controller ID	The controller ID.
Type	The update copy mode set. Sync: Synchronous mode, Async: Asynchronous mode
Initial Copy	The initial copy mode set. Entire: All copy, None: No copy
Fence Level	The fence level set (the condition that MCU rejects the write operation to the primary volume). Never: No condition, Data: S-VOL data, Status: S-VOL status
Copy Pace	The initial copy speed set (the number of tracks you can copy at one time).
Priority	The priority of the set initial copy operation (scheduling order).
Diff	The unit of the differential management set. Auto, Cylinder, Track
CTG	The consistency group number of the consistency group (CT group) that the created pair belongs to. This value is output when the asynchronous pair is created only.
Error Level	The error level set (handling in case of trouble). This value is output when the asynchronous pair is created only. Group: Group (suspended by consistency group), LU: LU (appropriate LU only is suspended)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of created pairs.

4.122 TrueCopy (TC) Function — Pairresync Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC],Pairresync,,Normal end,Seq.=xxxxxx
+{P-VOL(Port-G-ID-LUN), S-VOL(Port-G-ID-LUN),Fence Level,Copy Pace,Priority,Range, Error
Level,Result}=
-{1A-0x00-0x000, 1B-0x00-0x000,Never,15,256,Group,Group,Normal End},
{1A-0x00-0x001,Never,15,256,Group,Group,Normal End}, (snip)
- (snip), Num. of Pairs=xx
```

[TC]

TrueCopy function

Pairresync

Pairresync operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.118 Detailed Information for Pairresync Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary volume in the restored pair sequentially.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary volume in the restored pair sequentially.
Fence Level	The fence level set (the condition that MCU rejects Write to the primary volume). Never: No condition, Data: S-VOL data, Status: S-VOL status
Copy Pace	The initial copy speed set (the number of tracks you can copy at a time).
Priority	The priority of restoring operation set (scheduling order).
Range	The resume range set (the range to restore the asynchronous pair). This value is output when the asynchronous pair is restored only. Group: Group (all asynchronous pairs in the consistency group), LU: LU (appropriate asynchronous pair only)
Error Level	The error level set (handling in case of trouble). This value is output when the asynchronous pair is restored only. Group: Group (all asynchronous pairs in the consistency group) LU: LU (appropriate asynchronous pairs only)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of restored pairs.

4.123 TrueCopy (TC) Function — Pairsplit-r Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Pairsplit-r,,Normal end,Seq.=xxxxxxx  
+{P-VOL(Port-G-ID-LUN), S-VOL(Port-G-ID-LUN),Type, S-VOL Write,Kind,Range,Mode, Result}=  
-{1A-0x00-0x000, 1B-0x00-0x000,P-VOL,Disable,S-VOL,Group,Drain,Normal End},  
{1A-0x00-0x001,Disable,S-VOL,Group,Drain,Normal End},(snip)  
-(snip), Num.of Pairs=xx
```

[TC]

TrueCopy function

Pairsplit-r

Pairsplit-r operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.119 Detailed Information for Pairsplit-r Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary volume in the split pair sequentially.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary volume in the split pair sequentially.
Type	The volume type of the volume on the primary site. P-VOL: Primary volume, S-VOL: Secondary volume
S-VOL Write	Indicates whether writing to the secondary volume is enabled. Enable: Write enable, Disable: Write disable
Kind	The suspend type set. P-VOL Failure: P-VOL write disable, S-VOL: P-VOL write enable
Range	The suspend rage set. This value is output when the asynchronous pair is split only. Group: Group (all asynchronous pairs in the consistency group), LU: LU (specified asynchronous pair only)
Mode	The setting of unreflected data handling. This value is output when the asynchronous pair is split only. Drain, Purge
Result	The result of operation. Normal end: Normal end Error(yyy-yyy): Abnormal end yyy: Part code yyy: Error code
Num. of Pairs	The number of split pairs.

4.124 TrueCopy (TC) Function — Pairsplit-S Operation

```

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC],Pairsplit-S,,Normal end,Seq.=xxxxxx
+{P-VOL(Port-G-ID-LUN), S-VOL(Port-G-ID-LUN),Type,Force,Range,Result}=
-{1A-0x00-0x000, 1B-0x00-0x000,P-VOL,No,Group,Normal End},{1A-0x00-0x001,No,Group,
Normal End},
+{1A-0x00-0x002,No,Group,Normal End},(snip)
-(snip), Num. of Pairs=xx

```

[TC]

TrueCopy function

Pairsplit-S

Pairsplit-S operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.120 Detailed Information for Pairsplit-S Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary volume in the deleted pair sequentially.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary volume in the deleted pair sequentially.
Type	The volume type of the volume on the primary site. P-VOL: Primary volume, S-VOL: Secondary volume
Force	The setting content of forced pair deletion. Yes: Pair is deleted even when MCU cannot communicate with RCU No: Pair is deleted when MCU can change the pair status to SMPL only
Range	The delete range set. This value is output when the asynchronous pair is deleted only. Group: Group (all asynchronous pairs in the consistency group), CT: C/T (asynchronous pairs which the consistency status of the consistency group is group and the pair status is PSUE) LU: LU (specified asynchronous pairs only)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of deleted pairs.

4.125 TrueCopy (TC) Function — Start Pair Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC], Start Pair,,Normal end,Seq.=xxxxxx

[TC]

TrueCopy function

Start Pair

Start Pair operation

This operation is executed automatically when you use Paircreate or Pairresync, or change the mode to Modify (first time only), in the Pair Operation panel.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

No detailed information displays for this operation.

4.126 TrueCopy (TC) z/OS Function — Add Consistency Group (CTG) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TCz/OS(R)],Add CTG,,Normal end,Seq.=xxxxxx  
+{CTG,Path,Offloading(min.),Inflow Control,Copy Pending(min.),RCU Ready(min.),Timer Type}=  
{0x00,Fibre,005,Enable,05,05,System}
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Add CTG

Add Consistency Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.121 Detailed Information for Add CTG Operation

Item	Description
CTG	The consistency group number of the consistency group (CT group) newly registered.
Path	The channel type set. Fibre: Fibre channel
Offloading(min.)	The value set to the offloading timer of the sidefile. The unit is minute.
Inflow Control	Indicates whether the inflow control to the cache is enabled or disabled. Enable: Setting is enabled, Disable: Setting is disabled
Copy Pending(min.)	The setting value for Time Out (Copy Pending). The unit is minute. When Time Out (Copy Pending) is set to 0 (zero), 'None' is output.
RCU Ready(min.)	The setting value for Time Out (RCU ready). The unit is minute. When Time Out (RCU ready) is set to 0 (zero), 'None' is output.
Timer Type	The timer type set. System: System timer, Local: Local timer, None: No timer (system timer)

4.127 TrueCopy (TC) z/OS Function — Add Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC z/OS(R)],Add Pair,,Normal end,Seq.=xxxxxx  
+{M-VOL(CU:LDEV),R-VOL(LDEV),S/N,SSID,ControllerID,Type, Initial Copy, Fence Level,Copy  
Pace, Priority,Diff,CFW,DFW,CTG, Error Level,Result}=  
-{0x00:0x00,0xFF,99999,0x0004,4,Async,Entire,Never,15,032,Auto,Only M-VOL,-,0x00,Group,  
Normal End}, (snip)  
-(snip), Num.of Pairs=xx
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Add Pair

Add Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.122 Detailed Information for Add Pair Operation

Item	Description
M-VOL(CU:LDEV)	The CU number and the LDEV number of the volume specified to the main volume when the pair is created.
R-VOL(LDEV)	The LDEV number of the volume specified to the remote volume when the pair is created.
S/N	The serial number of the device.
SSID	Indicates SSID.
Controller ID	The controller ID.
Type	The update copy mode set; Sync: Synchronous mode, Async: Asynchronous mode
Initial Copy	The initial copy mode set.; Entire: All copy, None: No copy
Fence Level	The fence level set (the condition that MCU rejects the write operation to the main volume.) Never: No condition, Data: S-VOL data, Status: S-VOL status
Copy Pace	The initial copy speed set (the number of tracks you can copy at a time).
Priority	The priority of the initial copy operation set (scheduling order).
Diff	The unit of the differential management set: Auto, Cylinder, Track
CFW	Indicates whether the setting to copy the CFW data to the remote volume is enabled or not. Only M-VOL: Copy to main volume only is enabled Copy To R-VOL: Copy to main and remote volume is enabled
DFW	Indicates whether DFW use to the remote volume is set or not. This value is output when the synchronous pair is created only. When the asynchronous pair is created, a hyphen (-) is output. Not required: DFW not required, Required: DFW required
CTG	The consistency group number of the consistency group (CT group) that the created pair belongs to. This value is output when the asynchronous pair is created only.
Error Level	The error level set (handling in case of trouble). This value is output when the asynchronous pair is created only. Volume: Volume (suspended by appropriate pair); Group: Group (suspended by consistency group)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of created pairs.

4.128 TrueCopy (TC) z/OS Function — Change Async Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[TC z/OS(R)],Change Async Option,,Normal end,  
Seq.=xxxxxxx  
+{CLPR,Rate(%),PPRC Command}={00,050,16CT Compatible}
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Change Async Option

Change Async Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.123 Detailed Information for Change Async Option

Item	Description
CLPR	The CLPR number.
Rate(%)	The specified pending update data rate.
PPRC Command	The PPRC TSO command. 16CT Compatible: Format compatible to 16 CT group is used, Native: Native

4.129 TrueCopy (TC) z/OS Function — Change Consistency Group (CTG) Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC z/OS(R)], Change CTG Option,,Normal end,  
Seq.=xxxxxx  
+{CTG, Offloading(min.),Inflow Control,Copy Pending(min.),RCU Ready(min.),Timer Type}=  
{0x00,090,Enable,05,05,System}
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Change CTG Option

Change Consistency Group Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.124 Detailed Information for Change CTG Option Operation

Item	Description
CTG	The consistency group number of the consistency group (CT group) that the option is changed.
Offloading(min.)	The value set to the offloading timer of the sidefile. The unit is minute.
Inflow Control	Indicates whether the inflow control to the cache is enabled or disabled. Enable: Setting is enabled, Disable: Setting is disabled
Copy Pending(min.)	The setting value for Time Out (Copy Pending). The unit is minute. When Time Out (Copy Pending) is set to 0 (zero), 'None' is output.
RCU Ready(min.)	The setting value for Time Out (RCU ready). The unit is minute. When Time Out (RCU ready) is set to 0 (zero), 'None' is output.
Timer Type	The timer type set. System: System timer, Local: Local timer, None: No timer (system timer)

4.130 TrueCopy (TC) z/OS Function — Change Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC z/OS(R)],Change Option,,Normal
end,Seq.=xxxxxxx
+{ Max Initial Copy,Path Blockade Watch(s),Path Blockade SIM Watch(s) }={128,45,70}
+{CU,Service SIM,PPRC Support,SCP Delay Time(s)}=
-{0x00,Not Report,Yes,600},{0x01,Not Report,Yes,600},{0x02,Not Report,Yes,600},
{0x03,Not Report,Yes,600},{0x04,Not Report,Yes,600},{snip}
-(snip), Num.of CUs=64
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Change Option

Change Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.125 Detailed Information for Change Option Operation

Item	Description
Max Initial Copy	The maximum number of initial copy operations set.
Path Blockade Watch(s)	The path blockade watch period set. The unit is second.
Path Blockade SIM Watch(s)	The path blockade SIM watch period set. The unit is second.
CU	The CU number of the CU on the primary site.
Service SIM	Indicates whether the remote copy related SIM is reported or not. Report, Not Report
PPRC Support	Indicates whether the host supports PPRC or not. Yes: Support, No: Not support
SCP Delay Time(s)	The SCP delay time when the pair is suspended. The unit is second.
Num. of CUs	The number of CUs set.

4.131 TrueCopy (TC) z/OS Function — Change Pair Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[TC z/OS(R)],Change Pair Option,,Normal  
end,Seq.=xxxxxxx  
+{M-VOL(CU:LDEV),Fence Level,CFW, Error Level,Result}=  
-{0x00:0x00,Never,Copy To R-VOL,Group,Normal End},{0x00:0x01,Never,Copy To R-VOL,Group,  
Normal End},{snip}  
-(snip), Num. of Pairs=xx
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Change Pair Option

Change Pair Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.126 Detailed Information for Change Pair Option Operation

Item	Description
M-VOL(CU:LDEV)	The CU number and the LDEV number of the main volume where the pair option is changed.
Fence Level	The changed fence level (the condition that MCU rejects the write operation to the main volume). Never: No condition, Data: S-VOL data, Status: S-VOL status
CFW	Indicates whether the setting to copy the CFW data to the remote volume is enabled or not. Only M-VOL: Copy to main volume only is enabled Copy To R-VOL: Copy to main and remote volume is enabled
Error Level	The error level changed (handling in case of trouble). This value is output when the pair option of the asynchronous pair is changed only. Volume: Volume (appropriate volume only is suspended) Group: Group (suspended by consistency group)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of changed pairs.

4.132 TrueCopy (TC) z/OS Function — Clear SIM Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC z/OS(R)],Clear SIM,Normal end,Seq.=xxxxxx

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Clear SIM

Clear Service Information Message (SIM) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.133 TrueCopy (TC) z/OS Function — Delete CTG Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[TC z/OS(R)],Delete CTG,0x00,,Normal end, Seq.=xxxxxxx

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Delete CTG

Delete Consistency Group operation

0x00

The operation uses the following parameters, as shown in the following table.

Table 4.127 Parameters for Delete CTG Operation

Parameter	Description
0x00 to 0x7F	The number of the deleted consistency group.

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

4.134 TrueCopy (TC) z/OS Function — Delete Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[TC z/OS(R)],Delete Pair,,Normal end,Seq.=xxxxxx
+{VOL(CU:LDEV),PairVOL(LDEV),Type,Mode,Range,Result}=
-{0x00:0x00,0xFF,M-VOL,Normal,Group,Normal End},{0x00:0x01,Normal,Group,Normal End},
{0x00:0x02,Normal,Group,Normal End},(snip)
-(snip), Num. of Pairs=xx
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Delete Pair

Delete Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.128 Detailed Information for Delete Pair Operation

Item	Description
VOL(CU:LDEV)	The CU number and the LDEV number of the volume on the primary site in the deleted pair.
PairVOL(LDEV)	The LDEV number of the paired volume in the deleted pair.
Type	The volume type of the connected volume. M-VOL: Main volume, R-VOL: Remote volume
Mode	The delete mode. Force: Forced deletion, Normal: Normal deletion, All: All deletion
Range	The delete range set. This value is output when the asynchronous pair is deleted only. Volume: Volume (appropriate TrueCopy for z/OS® Asynchronous pairs only) Group: Group (all suspended TrueCopy for z/OS® Asynchronous pairs in the consistency group)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of deleted pairs.

4.135 TrueCopy (TC) z/OS Function — Resume Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[TC z/OS(R)],Resume Pair,,Normal end,Seq.=xxxxxx
+{M-VOL(CU:LDEV), R-VOL(LDEV),Fence Level,Copy Pace,Priority,Range, Error Level,Result}=
-{0x00:0x00,0xFF,Never,15,256,Group,Group,Normal End},{0x00:0x01,Never,15,256,Group,Group,
Normal End},(snip)
-(snip), Num. of Pairs=xx
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Resume Pair

Resume Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.129 Detailed Information for Resume Pair Operation

Item	Description
M-VOL(CU:LDEV)	The CU number and the LDEV number of the main volume in the restored pair.
R-VOL(LDEV)	The LDEV number of the remote volume in the restored pair.
Fence Level	The fence level set (the condition that MCU rejects the write operation to the primary volume). Never: No condition, Data: S-VOL data, Status: S-VOL status
Copy Pace	The initial copy speed set (the number of tracks you can copy at a time by restoring).
Priority	The priority of the restoring operation set (scheduling order).
Range	The resume range set (the range to restore the asynchronous pair). This value is output when the asynchronous pair is restored only. Volume: Volume (appropriate TrueCopy for z/OS® Asynchronous pairs only) Group: Group (all suspended TrueCopy for z/OS® Asynchronous pairs in the consistency group)
Error Level	The error level set (handling in case of trouble). This value is output when the asynchronous pair is restored only. Volume: Volume (appropriate TrueCopy for z/OS® Asynchronous pair only) Group: Group (all suspended TrueCopy for z/OS® Asynchronous pairs in the consistency group)
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of restored pairs.

4.136 TrueCopy (TC) z/OS Function — Script Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[TC z/OS(R)],Script Operation,Run,,Normal end,  
Seq.=xxxxxxx  
+FileName=script.spt
```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Script Operation

Script Operation operation

Run

Run is selected as the parameter. This operation uses the following parameters, as shown in the following table.

Table 4.130 Parameters for Script Operation

Parameter	Description
Run	The script has been executed.
Stop	The script has been suspended.

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.131 Detailed Information for Script Operation

Item	Description
FileName	The file name of the executed script.

4.137 TrueCopy (TC) z/OS Function — Start Pair Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [TC z/OS(R)], Start Pair,,Normal end,Seq.=xxxxxx

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Start Pair

Start Pair operation.

This operation is executed automatically when you use Add Pair or Resume Pair, or change the mode to Modify (first time only), in the Pair Operation panel.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

No detailed information displays for this operation.

4.138 TrueCopy (TC) z/OS Function — Suspend Pair Operation

```

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxxx,00:00,[TC z/OS(R)],Suspend Pair,,Normal
end,Seq.=xxxxxx
+{VOL(CU:LDEV),PairVOL(LDEV),Type,SSB,Kind,Range,Mode,Result}=
-{0x00:0x00,0xFF,P-VOL,Disable,R-VOL,Group,Drain,Normal End},{0x00:0x01,Disable,R-
VOL,Group,Drain,Normal End},(snip)
-(snip),Num. of Pairs=xx

```

[TC z/OS]

TrueCopy z/OS function (for IBM z/OS)

Suspend Pair

Suspend Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.132 Detailed Information for Suspend Pair Operation

Item	Description
VOL(CU:LDEV)	The CU and LDEV numbers of the connected volume in the split (suspended) pair.
PairVOL(LDEV)	The LDEV number of the paired volume in the split (suspended) pair.
Type	The volume type of the connected volume. M-VOL: Main volume, R-VOL: Remote volume
SSB	The SSB[F/M=FB] option setting. Enable: Notified, Disable: Not notified
Kind	The suspend type set. M-VOL Failure: Main volume write is disabled R-VOL: Main volume write is enabled
Range	The suspend range set. This value is output when the asynchronous pair is split only. Volume: Volume (specified TrueCopy for z/OS® Asynchronous pairs only are suspended) Group: Group (all other TrueCopy for z/OS® Asynchronous pairs in the same consistency group as the specified pairs are suspended)
Mode	The setting of unreflected data handling. This value is output when the asynchronous pair is split only. Drain, Purge
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of split pairs.

4.139 Universal Replicator (UR) Function — Journal-Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR],Journal-Option,,Normal end,Seq.=xxxxx  
+{JNLG,MetaData Ratio,Extent,Data Overflow Watch(s),Inflow Control,Copy Pace,  
Path Watch Time(m),Forward Path Watch Time,Use of Cache,Speed of Line(Mbps),  
Delta resync Failure,Result}=  
-{0x01,32,32,20,No,150,30,Yes,Not Use,256,Entire,Normal end},{snip},  
{0x02,32,32,20,No,150,30,No,Use,256,Entire,Normal end},Num. of JNL Grps=3
```

[UR]

Universal Replicator function

Journal-Option

Journal-Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.133 Detailed Information for Journal-Option Operation

Item	Description
JNLG	The journal group number.
MetaData Ratio	The ratio of the metadata to the journal data. When the ratio is 1:32, the number for MetaData Ratio is "32".
Extent	The number of extents.
Data Overflow Watch(s)	The overflow watch time of the metadata or journal data. The unit is second.
Inflow Control	Indicates whether inflow control is executed or not. Yes: Controlled, No: Not controlled
Copy Pace	The speed of initial copy. 150: Low speed. 500: Medium speed. 1500: High speed
Path Watch Time(m)	The path blockade watch period set. The unit is minutes.
Forward Path Watch Time	Whether to transfer the path blockade watch period set to the master journal group to the restore journal group. Yes: Transfer. No: Do not transfer.
Use of Cache	Whether to store the journal data in the restore journal group in cache. Use: Store the journal data in cache. Not used: Store the journal data in journal volume
Speed of Line(Mbps)	The transfer speed of the communication line. The unit is megabits per second (Mbps).
Delta resync Failure	Indicates the operation mode when Delta resync operation have failed. Entire: Copy the entire data volume, None: Do not copy the data volume
Result	The result of the operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of JNL Grps	The number of journal groups.

4.140 Universal Replicator (UR) Function — Journal-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00, [UR],Journal-Vol,Add,,Normal end,Seq.=xxxxxx  
+JNLG=0x00  
++{CU:LDEV,Result}=[{0x00:0x01,Normal end},{0x00:0x02,Normal end},{0x00:0x03,Normal end}]  
+JNLG=0x01  
++{CU:LDEV,Result}=[{0x01:0x01,Normal end},{0x01:0x02,Normal end},{0x01:0x03,Normal end},  
{0x01:0x04,Normal end},{0x01:0x05,Normal end},{0x01:0x06,Normal end},{0x01:0x07,Normal  
end},(snip)  
-{0x01,0x0B,Normal end}]  
+Num. of JNL Grps=2
```

[UR]

Universal Replicator function

Journal-Vol

Journal-Vol operation

Add

Add is selected as the parameter. The operation uses the following parameters as shown in the following table.

Table 4.134 Parameters for Journal-Vol Operation

Parameter	Description
Add	The journal volume is added.
Delete	The journal volume is deleted.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed information

Detailed information displays for this operation, as shown in the following table.

Table 4.135 Detailed Information for Journal-Vol Operation

Item	Description
JNLG	The journal group number.
CU:LDEV	The CU and LDEV numbers.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of JNL Grps	The number of journal groups.

4.141 Universal Replicator (UR) Function — Journal-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR],Journal-Vol,Group-Delete,,Normal end,  
Seq.=xxxxxxx  
+{JNLG,Result}=[{0x00,Normal end},{0x01,Normal end}],Num. of JNL Grps=2
```

[UR]

Universal Replicator function

Journal-Vol

Journal-Vol operation

Group-Delete

Group-Delete is selected as the parameter. The journal group is deleted.

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed information

Detailed information displays for this operation, as shown in the following table.

Table 4.136 Detailed Information for Journal-Vol Operation

Item	Description
JNLG	The journal group number.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of JNL Grps	The number of journal groups.

4.142 Universal Replicator (UR) Function — Paircreate Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UR],Paircreate,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),MirrorID,S/N,CTRLID,Priority,CTG,Initial Copy,  
M-JNLG,R-JNLG,Path Gr.ID,Error Level,Result}={1A-0x00-0x000,5A-0x00-0x000,0x00,65432,4,32,  
0x05,Entire,0x02,0x00,Default,Group,Normal end} (snip)  
-{1A-0x00-0x001,5A-0x00-0x001,0x00,65432,4,32,0x05,Entire,0x02,0x00,Default,Group, Normal  
end}], Num. of Pairs=2
```

[UR]

Universal Replicator function

Paircreate

Paircreate operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.137 Detailed Information for Paircreate Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary data volume.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Priority	The priority of copy.
CTG	The consistency group ID.
Initial Copy	Indicates whether initial copy or paircreate operation for Delta resync is executed or not. Entire: execute initial copy, None: do not execute initial copy, Delta: execute paircreate operation for Delta resync
M-JNLG	The master journal group.
R-JNLG	The restore journal group.
Path Gr. ID	The path group ID (Default fixed) specified for the disk subsystem.
Error Level	The error level; Group: Group level, LU: LU level
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of Pairs	The number of pairs.

4.143 Universal Replicator (UR) Function — Pairresync Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UR],Pairresync,,Normal end,Seq.=xxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),MirrorID,S/N,CTRLID,Priority,CTG,Range,M-JNLG,  
R-JNLG,Error Level,Resync Mode,Result}=[{1A-0x00-0x000,5A-0x00-0x000,0x00,65432,4,32,0x05,  
Group,Normal end}, (snip)  
-{1A-0x00-0x001,5A-0x00-0x001,0x00,65432,4,32,0x05,Group,0x02,0x00,Group,Normal,Normal  
end}],Num. of Pairs=2
```

[UR]

Universal Replicator function

Pairresync

Pairresync operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.138 Detailed Information for Pairresync Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary data volume.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Priority	The priority of copy.
CTG	The consistency group ID.
Range	The range to restore the pair. Group: Group range. LU: LU range
M-JNLG	The master journal group number.
R-JNLG	The restore journal group number.
Error Level	The error level. Group: Group level. LU: LU level
Resync Mode	Indicates the Resync Mode. Normal: normal resync, Delta: delta resync, Return to standby: return to standby status
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)

Num. of Pairs	The number of pairs.
---------------	----------------------

4.144 Universal Replicator (UR) Function — Pairsplit-r Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UR],Pairsplit-r,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),MirrorID,S/N,CTRLID,Type,S-VOL Write,Range,  
Suspend Mode,Result}=[{1A-0x00-0x000,5A-0x00-0x000,0x00,65432,4,P-VOL,Disable,LU,Flush,  
Normal end},(snip)  
-{1A-0x00-0x001,5A-0x00-0x001,0x00,65432,4,P-VOL,Disable,LU,Flush,Normal end},  
{1A-0x00-0x002,5A-0x00-0x002,0x00,65432,4,P-VOL,Disable,LU,Flush,Normal end}],Num. of  
Pairs=3
```

[UR]

Universal Replicator function

Pairsplit-r

Pairsplit-r operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.139 Detailed Information for Pairsplit-r Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary data volume.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Type	Indicates whether the split data volume is a primary or secondary data volume. P-VOL: Primary, S-VOL: Secondary
S-VOL Write	Indicates whether writing to the secondary volume is enabled. Disable: Disabled, Enable: Enabled
Range	The split range. LU: LU range, Group: Group range
Suspend Mode	The suspend mode. Purge: Purge mode, Flush: Flush mode
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of Pairs	The number of pairs.

4.145 Universal Replicator (UR) Function — Pairsplit-S Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UR],Pairsplit-S,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),MirrorID,S/N,CTRLID,Type,Range,  
Delete Mode,Result}=[{1A-0x00-0x000,5A-0x00-0x000,0x00,65432,4,P-VOL,Group,Normal,  
Normal end}, (snip)  
-{1A-0x00-0x002,5A-0x00-0x002,0x00,65432,4,P-VOL,LU,Normal,Normal end},{1A-0x00-0x003,  
5A-0x00-0x003,0x00,65432,4,P-VOL,LU,Normal,Normal end}],Num. of Pairs=4
```

[UR]

Universal Replicator function

Pairsplit-S Operation

Pairsplit-S operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.140 Detailed Information for Pairsplit-S Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary data volume.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Type	Indicates whether the deleted data volume is a primary or secondary data volume. P-VOL: Primary, S-VOL: Secondary
Range	The delete range. LU: LU range, Group: Group range
Delete Mode	The delete mode. Normal: Normal mode, Force: Force mode
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of pairs.

4.146 Universal Replicator (UR) Function — Pair-Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR],Pair-Option,,Normal end,Seq.=xxxxxx  
+{P-VOL(Port-G-ID-LUN),S-VOL(Port-G-ID-LUN),MirrorID,M-JNLG,R-JNLG,Error Level,Result}=  
[{1A-0x00-0x000,5A-0x00-0x000,0x03,0x01,0x02,LU,Normal end}, (snip)  
-{1A-0x00-0x002,5A-0x00-0x002,0x03,0x01,0x02,LU,Normal end},Num. of Pairs=3
```

[UR]

Universal Replicator function

Pair-Option Operation

Pair-Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.141 Detailed Information for Pair-Option Operation

Item	Description
P-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the primary data volume.
S-VOL(Port-G-ID-LUN)	The port number, host group number and LUN of the secondary data volume.
MirrorID	The mirror ID.
M-JNLG	The master journal group number.
R-JNLG	The restore journal group number.
Error Level	The error level. LU: volume level, Group: group level
Result	The result of operation. Normal end: Normal end, Error(xxxx-yyyyy): Abnormal end xxx: Part code, yyyy: Error code
Num. of Pairs	The number of changed pairs.

4.147 Universal Replicator (UR) Function — System-Option Operation

Example:

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR],System-Option,,Normal end,Seq.=xxxxxx  
+Max Initial Copy=64
```

Basic Information:

No Parameters.

Detailed Information:

Table 4.142 Detailed Information for System-Option Operation

Index	Description
Max Initial Copy	Indicates the number of volumes copiable at a time by one initial copy.

No detailed information.

4.148 Universal Replicator (UR) z/OS Function — Add-Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR z/OS(R)],Add-Pair,,Normal end,Seq.=xxxxxx
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MirrorID,S/N,CTRLID,Priority,Initial Copy,M-JNLG,R-JNLG,
Path Gr. ID,Error Level,CFW,Result}=[{0x00:0x00,0x20:0x00,0x00,65432,4,32,Entire,0x02,0x00,
Default,Group,Copy to S-VOL,Normal end}(snip)
-{0x00:0x01,0x20:0x01,0x00,65432,4,32,Entire,0x02,0x00,Default,Group,Copy to S-VOL,
Normal end}],Num. of Pairs=2
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Add-Pair

Add-Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.143 Detailed Information for Add-Pair Operation

Item	Description
P-VOL(CU:LDEV)	The CU and LDEV numbers of the primary data volume.
S-VOL(CU:LDEV)	The CU and LDEV numbers of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Priority	The priority of the copy.
Initial Copy	Indicates whether initial copy or paircreate operation for Delta resync is executed or not. Entire: execute initial copy, None: do not execute initial copy, Delta: execute paircreate operation for Delta resync
M-JNLG	The master journal group number.
R-JNLG	The restore journal group number.
Path Gr. ID	The path group ID (Default fixed) set for the disk subsystem.
Error Level	The error level: Group: Group level, Volume: Volume level
CFW	Indicates whether the cache-fast-write data is copied to the secondary data volume is enabled or not. Only P-VOL: Not copied, Copy to S-VOL: Copied
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of Pairs	The number of pairs.

4.149 Universal Replicator (UR) z/OS Function — Clear-SIM Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UR z/OS (R)],Clear-SIM, ,Normal end,Seq.=xxxxxx
--

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Clear-SIM

Clear-SIM operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.150 Universal Replicator (UR) z/OS Function — Delete-Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR z/OS(R)],Delete-Pair,,Normal end,Seq.=xxxxxx
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MirrorID,S/N,CTRLID,Type,Range,Delete Mode,Result}=
[{0x00:0x01,0x20:0x01,0x00,0x00,65432,4,P-VOL,Group,Normal,Normal end},
{0x00:0x01,0x20:0x01,0x00,65432,4,P-VOL,Volume,Normal,Normal end}(snip)
-{0x00:0x01,0x20:0x01,0x00},0x00,65432,4,P-VOL,Volume,Normal,Normal end},
{0x00:0x01,0x20:0x01,0x00,0x00,65432,4,P-VOL,Volume,Normal,Normal end}],Num.of Pairs=4
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Delete-Pair

Delete-Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed information

Detailed information displays for this operation, as shown in the following table.

Table 4.144 Detailed Information for Delete-Pair Operation

Item	Description
P-VOL(CU:LDEV)	The CU and LDEV numbers of the primary data volume.
S-VOL(CU:LDEV)	The CU and LDEV numbers of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Type	The primary and secondary of the deleted volume. P-VOL: Primary, S-VOL: Secondary
Range	The delete range. Volume: Volume range, Group: Group range
Delete Mode	The delete mode. Normal: Normal mode, Force: Force mode
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of Pairs	The number of pairs.

4.151 Universal Replicator (UR) z/OS Function — Edit-EXCTG Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR z/OS(R)],Edit-EXCTG,Add,Normal end, Seq=xxxxxx
+EXCTG=0x00
++{JNLG,MirrorID,S/N,CTRLID,Cmd.Dev.(CU:LDEV),Result}=[{0x00,0x01,65432,4,0x20:0x00,
Normal end},{0x01,0x01,65432,4,0x20:0x00,Normal end}]
+EXCTG=0x01
++{JNLG,MirrorID,S/N,CTRLID,Cmd.Dev.(CU:LDEV),Result}=[{0x00,0x01,65433,4,0x20:0x00,Normal end}]
+Num. of EXCTGs=2
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Edit-EXCTG

Extended consistency group operation

Add

Add is selected as the parameter. This operation uses the following parameters:

Table 4.145 Parameters for Edit-EXCTG Operation

Parameter	Description
Add	Add journal groups to the extended consistency group.
Remove	Remove journal groups from the extended consistency group.

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed information

Detailed information displays for this operation, as shown in the following table.

Table 4.146 Detailed Information for Edit-EXCTG Operation

Item	Description
EXCTG	The number of the extended consistency group.
JNLG	The journal group number.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Cmd.Dev.(CU:LDEV)	The CU and LDEV number of the remote command device.
Result	The result of the operation. Normal end: normal end. Error(xxxx-yyyyy): abnormal end xxxx: part code, yyyy: error code
Num. of EXCTGs	The number of extended consistency groups for which the configuration has been changed.

4.152 Universal Replicator (UR) z/OS Function — Journal-Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR z/OS(R)],Journal-Option,,Normal end,  
Seq.=xxxxxx  
+{JNLG,MetaData Ratio,Extent,Data Overflow Watch(s),Inflow Control,Copy Pace,Timer Type,  
Path Watch Time(m),Forward Path Watch Time,Use of Cache,Speed of Line(Mbps),  
Delta resync Failure,Result}=  
-{0x00,32,32,20,No,150,Local,30,Yes,Not Use,256,Entire,Normal end},(snip),  
{0x02,32,32,20,No,150,Local,30,Yes,Not Use,256,Entire,Normal end},Num. of JNL Grps=3
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Journal-Option

Journal-Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.147 Detailed Information for Journal-Option Operation

Item	Description
JNLG	The journal group number.
MetaData Ratio	The ratio of the metadata to the journal data. When the ratio is 1:32, the number for MetaData Ratio is "32".
Extent	The number of extents.
Data Overflow Watch(s)	The overflow watch time of the metadata or journal data. The unit is second.
Inflow Control	Indicates whether or not inflow control is executed. Yes: Controlled, No: Not controlled
Copy Pace	The speed of initial copy. 150: Low speed, 500: Medium speed, 1500: High speed
Timer Type	The timer type. System: System timer, Local: Local timer, None: No timer
Path Watch Time(m)	The path blockade watch period set. The unit is minute.
Forward Path Watch Time	Indicates whether to transfer the path blockade watch period set to the master journal group to the restore journal group. Yes: Transfer, No: Do Not Transfer.
Use of Cache	Indicates whether to store the journal data in the restore journal group in cache. Use: Store the journal data in cache. Not Used: Store the journal data in journal volume.
Speed of Line(Mbps)	The transfer speed of the communication line. The unit is megabits per second (Mbps).
Delta resync Failure	Indicates the operation mode when Delta resync operation have failed. Entire: Copy the entire data volume, None: Do not copy the data volume
Result	The result of operation. Normal end: Normal end. Error(xxxx-yyyyy): Abnormal end xxxx: Part code. yyyy: Error code
Num. of JNL Grps	The number of journal groups.

4.153 Universal Replicator (UR) z/OS Function — Journal-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR z/OS (R)],Journal-Vol,Add,,Normal
end,Seq.=xxxxxx
+JNLG=0x00
++{CU:LDEV,Result}=[{0x00:0x01,Normal end},{0x00:0x02,Normal end}},{0x00:0x03,Normal end}]
+JNLG=0x01
++{CU:LDEV,Result}=[{0x01:0x01,Normal end},{0x01:0x02,Normal end},{0x01:0x03,Normal end},
{0x01:0x04,Normal end},{0x01:0x05,Normal end},{0x01:0x06,Normal end},
{0x01:0x07,Normal end}, (snip)
-{0x01,0x0,Normal end}]
+Num. of JNL Grps=2
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Journal-Vol

Journal-Vol operation

Add

Add is selected as the parameter. The operation uses the following parameters, as shown in the following table.

Table 4.148 Parameters for Journal-Vol Operation

Parameter	Description
Add	The journal volume is deleted.
Delete	The journal volume is deleted.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.149 Detailed Information for Journal-Vol Operation

Item	Description
JNLG	The journal group number.
CU:LDEV	The CU and LDEV numbers.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end (xxxx: Part code yyyy: Error code)
Num. of JNL Grps	The number of journal groups.

4.154 Universal Replicator (UR) z/OS Function — Journal-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR z/OS(R)],Journal-Vol,Group-Delete,,  
Normal end,Seq.=xxxxxx  
+{JNLG,Result}={0x80,Normal end},{0x81,Normal end},Num. of JNL Grps=2
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Journal-Vol

Journal-Vol operation

Group-Delete

Group-Delete is selected as the parameter. The operation uses the following parameters, as shown in the following table.

Table 4.150 Parameters for Journal-Vol Operation

Parameter	Description
Group-Delete	The journal group is deleted.
Remove-JNLG (Force)	The journal group is forcibly deleted from the extended consistency group.

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.151 Detailed Information for Journal-Vol Operation

Item	Description
JNLG	The journal group number.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of JNL Grps	The number of journal groups.

4.155 Universal Replicator (UR) z/OS Function — Pair-Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR z/OS(R)],Pair-Option,,Normal end,Seq.=xxxxx
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MirrorID,M-JNLG,R-JNLG,Error
Level,CFW,Result}={0x00:0x00,0x01:0x00,0x03,0x01,0x02,Volume,Only P-VOL,Normal
end},{0x00:0x01,0x01:0x01,0x03,0x01,0x02,Volume,(snip)
- {0x00:0x02,0x01:0x02,0x03,0x01,0x02,Volume,Only P-VOL,Normal end},Num. of Pairs=3
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Pair-Option

Pair-Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.152 Detailed Information for Pair-Option Operation

Item	Description
P-VOL(CU:LDEV)	The CU and LDEV numbers of the primary data volume.
S-VOL(CU:LDEV)	The CU and LDEV numbers of the secondary data volume.
MirrorID	The mirror ID.
M-JNLG	The master journal group number.
R-JNLG	The restore journal group number.
Error Level	The error level. Group: Group level, Volume: Volume level
CFW	Indicates whether the setting to copy the CFW data to the remote volume is enabled or not. Only M-VOL: Copy to the main volume only is enabled. Copy To R-VOL: Copy to the main and remote volume is enabled.
Result	The result of operation. Normal end: Normal end, Error(xxxx-yyyy): Abnormal end xxxx: Part code, yyyy: Error code
Num. of Pairs	The number of pairs.

4.156 Universal Replicator (UR) z/OS Function — Resume-Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UR z/OS(R)],Resume-Pair,,Normal end,Seq.=xxxxx
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MirrorID,S/N,CTRLID,Priority,Range,M-JNLG,R-JNLG,
Error Level,Resync
Mode,Result}=[{0x00:0x00,0x20:0x00,0x00,65432,4,7,Volume,0x02,0x00,Group,
Normal end},(snip)
-{0x00:0x02,0x20:0x02,0x00,65432,4,7,Group,0x02,0x00,Group,Normal,Normal end}],
Num. of Pairs=2
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Resume-Pair

Resume-Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Table 4.153 Detailed Information for Resume-Pair Operation

Item	Description
P-VOL(CU:LDEV)	The CU and LDEV numbers of the primary data volume.
S-VOL(CU:LDEV)	The CU and LDEV numbers of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Priority	The priority of copy.
Range	The range to restore the pair. Group: Group range. Volume: Volume range
M-JNLG	The master journal group number.
R-JNLG	The restore journal group number.
Error Level	The error level. Group: Group level. Volume: Volume level
Resync Mode	Indicates the resync mode. Normal: normal resync, Delta: delta resync, Return to standby: return to standby status
Result	The result of operation. Normal end: Normal end. Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Pairs	The number of pairs.

4.157 Universal Replicator (UR) z/OS Function — Suspend-Pair Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR z/OS(R)],Suspend-Pair,,Normal end,Seq.=xxxxxx
+{P-VOL(CU:LDEV),S-VOL(CU:LDEV),MirrorID,S/N,CTRLID,Type,S-VOL Write,Range,Suspend Mode,
Result}=[{0x00:0x00,0x20:0x00,0x00,65432,4,P-VOL,Disable,Volume,Flush,Normal end},(snip)
-{0x00:0x02,0x20:0x00,0x02,65432,4,P-VOL,Disable,Volume,Flush,Normal end}],
{0x00:0x3,0x20:0x03,0x00,65432,4,P-VOL,Disable,Volume,Flush,Normal end},Num. of Pairs=4
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

Suspend-Pair

Suspend-Pair operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.154 Detailed Information for Suspend-Pair Operation

Item	Description
P-VOL(CU:LDEV)	The CU and LDEV numbers of the primary data volume.
S-VOL(CU:LDEV)	The CU and LDEV numbers of the secondary data volume.
MirrorID	The mirror ID.
S/N	The serial number of the device (disk subsystem).
CTRLID	The controller ID.
Type	Indicates whether the split data volume is a primary or secondary data volume. P-VOL: Primary, S-VOL: Secondary
S-VOL Write	Indicates whether writing to the secondary volume is enabled or not. Disable: Disabled, Enable: Enabled
Range	The split range. Volume: Volume range, Group: Group range
Suspend Mode	The suspend mode. Purge: Purge mode, Flush: Flush mode
Result	The result of operation. Normal end: Normal end Error(xxxx- yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Pairs	The number of pairs.

4.158 Universal Replicator (UR) z/OS Function — System-Option Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[UR z/OS],System-Option,Normal end,Seq.=xxxxx  
+Max Initial Copy=64  
"+{CU,Change SIM Report}=[{0x00,Report},{0x01,Not Report},{0x02,Not Report},  
{0x03,Not Report},{0x04,Not Report},{0x05,Not Report}, (snip)  
- (snip), {0x3F,Report}],Num of CUs=64
```

[UR z/OS]

Universal Replicator z/OS function (for IBM z/OS)

System-Option

System-Option operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.155 Detailed Information for System-Option Operation

Item	Description
Max Initial Copy	The number of volumes you can copy at a time during an initial copy operation.
CU	The CU numbers.
Change SIM Report	Whether to report SIM to the host or not. Report. Not report.
Num of CUs	The number of CUs (fixed to 64).

4.159 Universal Volume Manager (UVM) Function — Add-Lu2 Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UVM],Add-Lu2,,Normal end,Seq.=xxxxxx  
+{Vendor,Product,Serial,Dev,Dev-Name,D-Type,Capa(blocks),Group,IOSup,CM,CLPR,Type,  
UsedCapa(blocks),Result}=  
{ {HITACHI,9970V,28528,0001,DF600,0x0000,4294967296,E1-1,Enable,Disable,0,OPEN-V,  
4294967296, Normal end},  
++{CU:LDEV,Capa(MB),SSID}={0x03:0x00,3287040,0x20},Num. of LDEVs=xxx  
++{Port,WWN,LUN}=[{1A,50060E8000C3E214,0x0001},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000},  
{1A,-,0x0000},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000}],  
+Num. of Groups=xxx
```

[UVM]

Universal Volume Manager function

Add-Lu2

Add-Lu2 operation (add logical unit)

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.156 Detailed Information for Add-Lu2 Operation

Item	Description
Vendor	The vendor name of the external subsystem with the mapped external volume.
Product	The product name.
Serial	The serial number of the external subsystem with the mapped external volume.
Dev	The device identification number of the mapped external volume.
Dev-Name	The device name of the mapped external volume.
D-Type	The external subsystem information (Ex-Dev Info) of the mapped external volume.
Capa(blocks)	The capacity of the mapped external volume by block.
Group	The group number of the mapped external volume.
IOSup	Indicates whether the I/O suppression mode is enabled or disabled; Enable: Mode is enabled, Disable: Mode is disabled.
CM	Indicates whether the cache mode is enabled or disabled; Enable: Mode is enabled, Disable: Mode is disabled.
CLPR	The CLPR number of the CLPR set to be used to access the mapped external volume.
Type	The emulation type of the mapped external volume.
UsedCapa(blocks)	The capacity of the volume used by Data Retention Utility.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
CU:LDEV	The CU and LDEV numbers of the mapped external volume.
Capa(MB)	The capacity of the mapped external volume. The unit is megabyte (MB).
SSID	Indicates SSID.
Num. of LDEVs	The number of mapped external volumes.
Port	The port name of the local subsystem.
WWN	The WWN of the external subsystem. This index is output for the top WWN and the others are omitted. “-“ shows the WWN is the same as the top WWN.
LUN	The LUN of the external volume.
Num. of Groups	The number of external volume groups set.

4.160 Universal Volume Manager (UVM) Function — Add-WWN Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UVM],Add-Wwn,,Normal end,Seq.=xxxxxx  
+{WWN,Result}=[{50060E8000C3E214,Normal end},{50060E8000C3E214,Normal end},  
{50060E8000C3E214,Normal end},{50060E8000C3E214,Error(605-8100)},  
-{50060E8000C3E214,Error(605-8100)},{50060E8000C3E214,Normal end},Num of WWNs=xxx
```

[UVN]

Universal Volume Manager function

Add-WWN

Add-WWN operation (World Wide Name)

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.157 Detailed Information for Add-WWN Operation

Item	Description
WWN	The newly registered WWN of the port in the external subsystem.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of WWNs	The number of registered WWNs.

4.161 Universal Volume Manager (UVM) Function — Alternate-Path Operation

```

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UVM],Alternate-Path,Normal end,Seq.=xxxxxx
+{Group,Result}=[{E1-1,Normal End}],
++{Port,WWN,LUN}=[{1A,50060E8000C3E214,0x0001},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000},
{1A,-,0x0000},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000}],
+{Group,Result}=[{E1-1,Normal End}],
++{Port,WWN,LUN}=[{1A,50060E8000C3E214,0x0001},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000},
{1A,-,0x0000},{3A,-,0x0000},{7B,-,0x0000},{7B,-,0x0000}],
+Num. of Groups=xxx

```

[UVM]

Universal Volume Manager function

Alternate-Path

Alternate-Path operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.158 Detailed Information for Alternate-Path Operation

Item	Description
Group	The group number of the external volume where the alternate path is set.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Port	The port name of the local subsystem.
WWN	The WWN of the external subsystem. This index is output for the top WWN and the others are omitted. “-“ shows the WWN is the same as the top WWN.
LUN	The LUN of the external volume that the alternate path is set.
Num. of Groups	The number of external volume groups set.

Note: The status does not change immediately after you perform the Alternate-Path operation. As a result, errors may occur after you perform the operation.

4.162 Universal Volume Manager (UVM) Function — Check-Paths Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UVM],Check-Paths,,Normal end,Seq.=xxxxxx  
+{Group,Port,WWN,LUN,Result}=[{E1-1,,50060E8000C3E214,0x1111,Normal end},  
{E1-2,,50060E8000C3E214,0x1111,Error(605-8122)},  
-{E1-4,1A,50060E8000C3E214,0x1111,Normal end}],Num of Paths=XXX
```

[UVM]

Universal Volume Manager function

Check-Paths

Check-Paths operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.159 Detailed Information for Check-Paths Operation

Item	Description
Group	The group number of the external volume that the path is restored.
Port	The port name.
WWN	The WWN of the external subsystem.
LUN	The LUN of the external volume that the path is restored.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Paths	The number of paths restored.

Note: The status does not change immediately after you perform the Check-Paths operation. As a result, errors may occur after you perform the operation.

4.163 Universal Volume Manager (UVM) Function — ChkPath-RestoreVol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UVM],ChkPath-RestoreVol,,Normal  
end,Seq.=xxxxxxx  
+{Group,Result}=[{E1-1,Normal End},{E1-2,Error(605-3003)},{E1-3,Normal End},  
{E1-4,Normal End}],Num. of Groups=XXX
```

[UVM]

Universal Volume Manager function

ChkPath-RestoreVol

ChkPath-Restore Vol operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.160 Detailed Information for ChkPath-RestoreVol Operation

Item	Description
Group	The group number of the external volume resumed.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Groups	The number of external volumes resumed.

Note: The status does not change immediately after you perform the ChkPath-RestoreVol operation. As a result, errors may occur after you perform the operation.

4.164 Universal Volume Manager (UVM) Function — Delete-Lu (Force) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UVM],Delete-Lu(Force),,Normal end,Seq.=xxxxxx  
+{Group,Result}=[{E1-1,Normal End},{E1-2,Error(605-3003)},{E1-3,Normal End},  
{E1-4,Normal End}],Num of Groups=XXX
```

[UVM]

Universal Volume Manager function

Delete-Lu (Force)

Delete-Lu operation (delete logical unit)

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.161 Detailed Information for Delete LU Operation

Item	Description
Group	The group number of the external volume where the mapping is deleted.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Groups	The number of external volume groups that contain the external volume where mapping is deleted.

4.165 Universal Volume Manager (UVM) Function — Delete-Lu (Normal) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UVM],Delete-Lu(Normal),,Normal end,Seq.=xxxxxx  
+{Group,Result}=[{E1-1,Normal End},{E1-2,Error(605-3003)},{E1-3,Normal End},  
{E1-4,Normal End}],Num of Groups=XXX
```

[UVM]

Universal Volume Manager function

Delete-Lu (Normal)

Delete-Lu (Normal) operation (delete logical unit)

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.162 Detailed Information for Delete LU (Normal) Operation

Item	Description
Group	The group number of the external volume where the mapping is deleted.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Groups	The number of external volume groups that contain the external volume where the mapping is deleted.

4.166 Universal Volume Manager (UVM) Function — Disconnect-Paths Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UVM],Disconnect-Paths, ,Normal end,Seq.=xxxxxx  
+{Group,Port,WWN,LUN,Result}=[{E1-1,1A,50060E8000C3E214,0x1111,Normal end},  
{E1-2,1A,50060E8000C3E214,0x1111,Error(605-8122)},  
-{E1-4,1A, 50060E8000C3E214,0x1111,Normal end}],Num.of Paths=XXX
```

[UVM]

Universal Volume Manager function

Disconnect-Paths

Disconnect-Paths operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.163 Detailed Information for Disconnect-Paths Operation

Item	Description
Group	The group number of the external volume where use of path is stopped.
Port	The port name.
WWN	The WWN of the external subsystem.
LUN	The LUN of the external volume where use of path is stopped.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of Paths	The number of paths of the external volume where use of path is stopped.

Note: The status does not change immediately after you perform the Disconnect-Paths operation. As a result, errors may occur after you perform the operation.

4.167 Universal Volume Manager (UVM) Function — Disconnect-Volume Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[UVM],Disconnect-Volume,,Normal end,Seq.=xxxxxx  
+{Group,Result}=[{E1-1,Normal End},{E1-2,Error(605-3003)},{E1-3,Normal End},  
{E1-4,Normal End}],Num of Groups=XXX
```

[UVM]

Universal Volume Manager function

Disconnect-Volume

Disconnect-Volume operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.164 Detailed Information for Disconnect-Volume Operation

Item	Description
Group	The group number of the disconnected external volume.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of Groups	The number of external volume groups that contain the disconnected external volume.

Note: The status does not change immediately even after you perform the Disconnect-Volume and Disconnect Subsystem operation. As a result, errors may occur after you have performed the operation.

4.168 Universal Volume Manager (UVM) Function — WwnTimer Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [UVM],WwnTimer,,Normal end,Seq.=xxxxxx  
+{WWN,I/O-TOV,Quedepth,LinkDown,Result}=[{50060E8000C3E214,15,8,180,Normal End},  
{50060E8000C3E214,15,8,180,Error(605-3003)}, {50060E8000C3E214,15,8,180,Normal End},Num of  
WWNs=XXX
```

[UVM]

Universal Volume Manager function

WwnTimer

WwnTimer operation (World Wide Name)

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.165 Detailed Information for WWN Timer Operation

Item	Description
WWN	The WWN of the external subsystem.
I/O-TOV	The I/O time over value set.
Quedepth	The Quedepth value (the number of commands issuable).
LinkDown	The Path Blockade watch value.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of WWNs	The number of WWNs set of the external subsystem.

4.169 Virtual LVI / Virtual LUN (VLL) Function — Install Customized Volume (CV) Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VLL],Install CV,,Normal end,Seq.=xxxxxx
+{PG,CU:LDEV,SLOT,Emulation,Size,Unit}=[{XX-XX-(X),0xXX-0xXX,0xXXXX,OPEN-V,XXXXXXXX,KB},
{X-X-(X),0xXX-0xXX,0xXXXX,OPEN-V,XXXXXXXX,KB}],Num. of LDEVs=2
```

[VLL]

Virtual LVI / Virtual LUN function

Install CV

Install Customized Volume (CV) operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.166 Detailed Information for Install CV Operation

Item	Description
PG	The parity group number. <i>Note:</i> The parity group number whose first letter is "E" indicates that an external volume is present in the parity group.
CU:LDEV	The CU and LDEV numbers.
SLOT	The slot number. <i>Note:</i> A hyphen (-) is output when not specified.
Emulation	The emulation type.
Size	The user-specified capacity.
Unit	The unit of the CV capacity. <i>Note:</i> The output unit is different according to the setting. KB: For open-system volume Cyl: For mainframe volume LBA: For external volume
Num. of LDEVs	The number of LDEVs.

4.170 Virtual LVI / Virtual LUN (VLL) Function — Make Volume Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VLL],Make Volume,,Normal end,Seq.=xxxxxx  
+ [PG,CU:LDEV,Emulation,Size,Unit]=[ {X-X- (X) , 0xXX:0xXX,OPEN-V,XXXXXXXXXXXXXXXX,KB} ,  
{X-X- (X) , 0xXX:0xXX,OPEN-V,XXXXXXXXXXXXXXXX,KB} ], Num. of LDEVs=2
```

[VLL]

Virtual LVI / Virtual LUN function

Make Volume

Make Volume operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.167 Detailed Information for Make Volume Operation

Item	Description
PG	The parity group number. <i>Note:</i> The parity group number whose first letter is "E" indicates that an external volume is present in the parity group.
CU:LDEV	The CU and LDEV numbers.
Emulation	The emulation type.
Size	The user-specified capacity.
Unit	The unit of the CV capacity. <i>Note:</i> The unit varies according to the setting. KB: For open-system volume Cyl: For mainframe volume LBA: For external volume
Num. of LDEVs	The number of LDEVs

4.171 Virtual LVI / Virtual LUN (VLL) Function — Set SSID Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VLL],Set SSID,Normal end,Seq.=xxxxxx  
+{SSID,Start CU:LDEV}=[{XXXXX,0xXX:0xXX},{XXXXX,0xXX:0xXX}],Num. of SSIDs=2
```

[VLL]

Virtual LVI / Virtual LUN function

Set SSID

Set SSID operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.168 Detailed Information for Set SSID Operation

Item	Description
SSID	The SSID number. <i>Note:</i> The SSID specified when Volume Initialize or Make Volume is executed is also output.
Start CU:LDEV	The starting CU number and LDEV numbers.
Num. of SSIDs	The number of SSID

4.172 Virtual LVI / Virtual LUN (VLL) Function — Volume Initialize Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VLL],Volume Initialize,,Normal end,Seq.=xxxxxx  
+{PG,CU:LDEV}=[{XX-XX-(X),0xXX:0xXX},{XX-XX-(X),0xXX:0xXX}],Num. of PGs=2
```

[VLL]

Virtual LVI / Virtual LUN function

Volume Initialize

Volume Initialize operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.169 Detailed Information for Volume Initialize Operation

Item	Description
PG	The parity group numbers. <i>Note:</i> The parity group number whose first letter is "E" indicates that an external volume is present in the parity group.
CU:LDEV	The CU and LDEV numbers. <i>Note:</i> 'None' is output when the CU and LDEV numbers are not specified.
Num. of PGs	The number of parity groups.

4.173 Virtual LVI / Virtual LUN (VLL) Function — Volume to Space Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VLL],Volume to Space,,Normal end,Seq.=xxxxxx  
+{PG,CU:LDEV}=[{XX-XX-(X),0xXX:0xXX},{XX-XX-(X),0xXX:0xXX}],Num. of LDEVs=2
```

[VLL]

Virtual LVI / Virtual LUN function

Volume to Space

Volume to Space operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.170 Detailed Information for Volume to Space Operation

Item	Description
PG	The parity group number. <i>Note:</i> The parity group number whose first letter is "E" indicates that an external volume is present in the parity group.
CU:LDEV	The CU and LDEV numbers.
Num. of LDEVs	The number of LDEVs.

4.174 Volume Migration (VM) Function — Create Auto Plan Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VM],Create Auto Plan,,Normal end,Seq.=xxxxxx
--

[VM]

Volume Migration function

Create Auto Plan

Create Auto Plan operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.175 Volume Migration (VM) Function — Del Auto Plan Log Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VM],Del Auto Plan Log,,Normal end,Seq.=xxxxxx

[VM]

Volume Migration function

Del Auto Plan Log

Del Auto Plan Log operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.176 Volume Migration (VM) Function — Delete Auto Plan Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VM],Delete Auto Plan,,Normal end,Seq.=xxxxxx  
+{PlanNo}={1} Num. of Plan=1
```

[VM]

Volume Migration function

Delete Auto Plan

Delete Auto Plan operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.171 Detailed Information for Delete Auto Plan Operation

Item	Description
PlanNo	The operation executed. ▪ Number: The number is output when one auto migration plan is deleted. The number indicates which line from the top is deleted on the auto migration plan list on the screen. ▪ All: All is output when all auto migration plans are deleted.
Num. of Plan	The number of settings. 1 is always output.

4.177 Volume Migration (VM) Function — Del Migration Log Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VM],Del Migration Log,,Normal end,Seq.=xxxxxx

[VM]

Volume Migration function

Del Migration Log

Del Migration Log operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.178 Volume Migration (VM) Function — Set Auto Plan Param Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VM],Set Auto Plan Param,,Normal end,Seq.=xxxxxx  
+{SetType,PlanSwitch,PlanType,PlanDay,MonitorPeriod,SampleCount}= [{Default,Enable,  
Once a month,31,00:30-24:00,All}] Num. of Data = 1
```

[VM]

Volume Migration function

Set Auto Plan Param

Set Auto Plan Param operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.172 Detailed Information for Set Auto Plan Param

Item	Description
SetType	The operation executed. ▪ Default: A default auto migration plan is applied. (Click Set after clicking Default.) ▪ Customize: A customized auto migration plan is applied. (Click Set after the user changes the parameters of Auto Plan Parameters.)
PlanSwitch	Indicates whether the auto migration function is enabled or disabled. Enable: Setting is enabled, Disable: Setting is disabled.
PlanType	The sampling term set. ▪ None: no setting ▪ Every day ▪ Once every X days (see PlanDay index for an X value) ▪ Once a week ▪ Once a month
PlanDay	The setting value of the sampling term. The output depends on the sampling term output in PlanType. ▪ If sampling term is "None": no output ▪ If sampling term is "Every day": no output ▪ If sampling term is "Once every X days": The number of days of the interval for sampling is output. ▪ If sampling term is "Once a week": The specified day of the week is output: (SUN: Sunday, MON: Monday, TUE: Tuesday, WED: Wednesday, THE: Thursday, FRI: Friday, SAT: Saturday) ▪ When the sampling term is "Once a month", specified date is output in number from 1 to 31
MonitorPeriod	The period of time for sampling. The left of the hyphen (-) represents the start time and the right represents the end time.
SampleCount	The number of the sampling points (the range of the usage rate data analyzed by the auto migration function). All: All sampling points xx: Sampling points up to upper xx. xx is the number from 1 to 96
Num. of Data	The number of settings. 1 is always output.

4.179 Volume Migration (VM) Function — Set Class Threshold Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VM],Set Class Threshold,,Normal end,Seq.=xxxxxx  
+{ClassName,AvailabilityMax(%) }=[{A,100},{B,100},{C,100},{D,100},{E,100},{F,100}]  
Num. of Classes = 6
```

[VM]

Volume Migration function

Set Class Threshold

Set Class Threshold operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.173 Detailed Information for Set Class Threshold Operation

Item	Description
ClassName	The name of HDD class which the threshold is changed. The class name is indicated by the alphabet from A to J.
AvailabilityMax(%)	The threshold (disk usage limit) after change. The threshold is indicated by the number from 0 to 100. The unit is percent (%).
Num. of Classes	The number of HDD classes whose threshold is changed.

4.180 Volume Migration (VM) Function — Set Fixed PG Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VM],Set Fixed PG,,Normal end,Seq.=xxxxxx  
+{Type, PG}=[{Release,1-1},{Release,1-2},{Release,1-3},{Release,1-4},{Release,1-6},  
{Release,2-1},{Release,2-2},{Release,2-3}] Num. of PGs = 8
```

[VM]

Volume Migration function

Set Fixed PG

Set Fixed PG operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.174 Detailed Information for Set Fixed PG Operation

Item	Description
Type	The operation executed to the parity group. Set: Fixed parity group setting Release: Normal parity group setting
PG	The ID of the parity group whose setting has been changed.
Num. of PGs	The number of parity groups whose setting has been changed.

4.181 Volume Migration (VM) Function — Set Migration Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VM],Set Migration Vol,,Normal end,Seq.=xxxxxx  
+{Instruction,SourceLDEV,TargetLDEV,OwnerID,Result}=[{Create,0x00:0x00,0x00:0x01,0xFF,  
Normal end},{ Create,0x00:0x02,0x00:0x03,0xFF, Error (XXXX-YYYY) end },{ Create,0x00:0x04,  
0x00:0x05,0xFF,Normal end},{ Create,0x00:0x06,0x00:0x07,0xFF, Error (XXXX-YYYY) end }]  
Num. of LDEVs =4
```

[VM]

Volume Migration function

Set Migration Vol

Set Migration Vol operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.175 Detailed Information for Set Migration Vol Operation

Item	Description
Instruction	Indicates that the manual migration plan is set or deleted; Create: Set, Delete: Deleted
SourceLDEV	The logical volume ID of the migration source. The number before the colon is a CU number and that after the colon is an LDEV number.
TargetLDEV	The logical volume ID of the migration target. The number before the colon is a CU number and that after the colon is an LDEV number. This value is output only when the manual migration plan is set.
OwnerID	The program which set this migration plan; for Volume Migration, "0x00" is output. For a program other than Volume Migration, the ID that The product is output.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of LDEVs	The number of manual migration plans set and deleted.

4.182 Volume Migration (VM) Function — Set Plan Condition Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VM],Set Plan Condition,,Normal end,Seq.=xxxxxx  
+{SetType,StartTime,TimeRequiredMax(min.),AvailabilityMax(%),VolumeMax}=  
[{Default,24:00,120,100,65535}] Num. of Data = 1
```

[VM]

Volume Migration function

Set Plan Condition

Set Plan Condition operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.176 Detailed Information for Set Plan Condition Operation

Item	Description
SetType	The operation executed. ▪ Default: A default auto migration plan is applied. (Click Set after clicking Default.) ▪ Customize: A customized auto migration plan is applied. (Click Set after changing parameters of Auto Plan Parameters.)
StartTime	The time when the auto migration will start.
TimeRequiredMax(min.)	The time limit for the auto migration. This value is indicated by the number from 10 to 120. The unit is minute.
AvailabilityMax(%)	The disk usage limit during auto migration. This value is indicated by the number from 10 to 100. The unit is percent (%).
VolumeMax	The maximum number of volumes that can be migrated concurrently. This value is indicated by the number from 1 to 40.
Num. of Data	The number of settings. 1 is always output.

4.183 Volume Migration (VM) Function — Set Reserved Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VM],Set Reserved Vol,,Normal end,Seq.=xxxxxx  
+{Set,CU:LDEV,Result}=[{Reserved,0x00:0x00,Normal end},{ Reserved,0x00:0x01,Normal end},  
{ Reserved,0x00:0x02,Normal end},{ Reserved,0x00:0x03,Normal end},  
{ Reserved,0x00:0x04,Normal end},{ Reserved,0x00:0x05,Normal end},  
{ Reserved,0x00:0x06,Normal end}] Num. of LDEVs = 7
```

[VM]

Volume Migration function

Set Reserved Vol

Set Reserved Vol operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.177 Detailed Information for Set Reserved Vol Operation

Item	Description
Set	The operation executed to the logical volume. Normal: Set to the normal volume Reserved: Set to the reserved volume of Volume Migration
CU:LDEV	The ID of the logical volume which the setting is changed. The number before the colon is a CU number and that after the colon is an LDEV number.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of LDEVs	The number of logical volumes which the setting is changed.

4.184 Virtual Partition Manager (VPM Function) — Set Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VPM],Set,,Normal end,Seq.=xxxxxx  
+Delete SLPR=[xx,xx],Num. of SLPRs=xx  
+Delete CLPR=[xx,xx],Num. of CLPRs=xx  
+SLPR=xx:xxxxxxxxxxxxxxxx,Operation=xxxxxx  
++Port=[CLx-x,CLx-x],Num. of Ports=xx  
++CU=[0xXX,0xXX],Num. of CUs=xx  
++SSID=[0XXXXX,0XXXXX],Num. of SSIDs=xx  
++CLPR=xx:xxxxxxxxxxxxxxxx,Cache (MB)=xxxxx,Cache Residency (MB)=xxxx,  
Num. of Cache Residency Areas=xxxx,Partial Cache Residence (MB)=xxxx  
+++PG=[xx-xx,xx-xx],Num. of PGs=xx  
++Num. of CLPRs=xx  
+Num. of SLPRs=xx
```

[VPM]

Virtual Partition Manager function

Set

Set Operation operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.178 Detailed Information for Set Operation Operation

Item	Description
Delete SLPR	The deleted SLPR number.
Num. of SLPRs	The number of deleted SLPRs.
Delete CLPR	The deleted CLPR number.
Num. of CLPRs	The number of deleted CLPRs.
SLPR	The set SLPR number and the set SLPR name.
Operation	The operation executed for SLPR. Create SLPR: SLPR is created, Change SLPR: Setting of SLPR is changed.
Port	The name of the port belonging to SLPR.
Num. of Ports	The number of ports belonging to SLPR.
CU	The CU number belonging to SLPR.
Num. of CUs	The number of CUs belonging to SLPR.
SSID	Indicates SSID belonging to SLPR. A space is output in case of SLPR0.
Num. of SSIDs	The number of SSIDs belonging to SLPR.0 (zero) is output in case of SLPR0.
CLPR	The CLPR number and the CLPR name belonging to SLPR.
Cache(MB)	The cache capacity set. The unit is megabyte (MB).
Cache Residency(MB)	The Cache Residency capacity set. The unit is megabyte (MB).
Num. of Cache Residency Areas	The number of Cache Residency areas set.
Partial Cache Residence(MB)	The Partial Cache Residence capacity set. The unit is megabyte (MB).
PG	The parity group number assigned to CLPR. <i>Note:</i> When the external volume is present in the parity group, the first letter of the parity group number is "E".
Num. of PGs	The number of parity groups assigned to CLPR.
Num. of CLPRs	The number of CLPRs by set SLPR.
Num. of SLPRs	The number of SLPRs set.

4.185 Volume Retention Manager (VRM) Function — Attribute Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00,[VRM],Attribute,,Normal end,Seq.=xxxxxx  
+{CU:LDEV,Attribute,Result}=[{0x00:0x01,0x80,Normal end},{0x00:0x02,0x82,Error(9205-8122),  
{0x00:0x03,0x81,Normal end},{0x00:0x03,0x81,Normal end}],Num. of LDEVs=XXX
```

[VRM]

Volume Retention Manager function

Attribute

Attribute operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.179 Detailed Information for Attribute Operation

Item	Description
CU:LDEV	The CU and LDEV numbers of the logical volume to which the access attribute is set.
Attribute	The access attribute of the logical volume. 0x80: Read/Write attribute, 0x81: Protect attribute, 0x82: Read Only attribute
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyy): Abnormal end xxxx: Part code yyyy: Error code
Num. of LDEVs	The number of logical volumes to which the access attribute is set.

4.186 Volume Retention Manager (VRM Function) — VTOC Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VRM],VTOC,,Normal end,Seq.=xxxxxx  
+{CU:LDEV,VTOC(Trk),Result}=[{0x00:0x01,xxxxx,Normal end},  
{0x00:0x02,xxxxx,Error(9205-8122)}, {0x00:0x03,xxxxx,Normal end},  
{0x00:0x03,xxxxx,Normal end}],Num. of LDEVs=XXX
```

[VRM]

Volume Retention Manager function

VTOC

Volume Table of Contents operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.180 Detailed Information for VTOC Operation

Item	Description
CU:LDEV	The CU and LDEV numbers.
VTOC(Trk)	The VTOC size of the specified LDEV is indicated by the number of tracks.
Result	The result of operation. Normal end: Normal end Error(xxxx-yyyyy): Abnormal end xxxx: Part code yyyyy: Error code
Num. of LDEVs	The number of logical volumes.

4.187 Volume Security (VSEC) Function — Set Group Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VSEC],Set Group,,Normal end,Seq.=xxxxxx
+{Security Group,Host Group,LDEV Group,Security,Attr,RsvVol}=[{SecGrp01,HstGrp01,LdvGrp01,
Enable,Access,Disable},{SecGrp02,HstGrp02,LdvGrp02,Enable,Access,Disable},
-{SecGrp03,HstGrp03,LdvGrp03,Enable,Access,Disable},{SecGrp04,HstGrp04,LdvGrp04,Disable,
Pool,Enable},{SecGrp05,HstGrp05,LdvGrp05,Disable,Pool,Enable},
(snip)
-{SecGrp09,HstGrp09,LdvGrp09,Disable,Pool,Enable},{SecGrp61,HstGrp61,LdvGrp61,Disable,
Pool,Enable},{SecGrp62,HstGrp62,LdvGrp62,Disable,Pool,Enable}],Num. of Security Groups=xx
+Host Group=HstGrp01
++Host (Type,Model,SeqNo,LPAR,Attr)=[{000100,001,020000000000001,001,CNT(Ex)},
{000100,001,020000000000001,001,CNT(Ex)}, {000100,001,020000000000001,001,CNT(Ex)},
-{000100,001,020000000000001,001,CNT(Ex)}, {000100,001,020000000000001,001,CNT(Ex)},
{000100,001,020000000000001,001,CNT(Ex)}, {000100,001,020000000000001,001,CNT(Ex)},
(snip)
-{000100,001,020000000000001,001,CNT(Ex)}, {000100,001,020000000000001,001,CNT(Ex)},
{000100,001,020000000000001,001,CNT(Ex)}],Num. of Hosts=xx
++Port=[1A,3A,5A,7A,1B,3B,5B,7B,1C,3C,5C,7C,1D,3D,5D,7D,1E,3E,5E,7E,1F,3F,5F,7F,1G,3G,
-5G,7G,1H,3H,5H,7H,1J,3J,5J,7J,1K,3K,5K,7K,1L,3L,5L,7L,1M,3M,5M,7M,1N,3N,5N,7N,1P,
(snip)
-2A,4A,6A,8A],Num. of Ports=xxx
(snip)
Num. of Host Groups=xx
+LDEV Group=LdvGrp01
++CU=0x00
+++LDEV=[0x00,0x01,0x02,0x03,0x04,0x05,0x06,0x07,0x08,0x09,0x0a,0x0b,0x0c,0x0d,0x0e,0x0f,0x
10,
0x11,0x12,0x13,0x14,0x15,0x16,0x17,0x18,0x19,0x1a,0x1b,0x1c,0x1d,0x1e,
-0x1f,0x20,0x21,0x22,0x23,0x24,0x25,0x26,0x27,0x28,0x29,0x2a,0x2b,0x2c,0x2d,0x2e,0x2f,0x30,
0x31,0x32,0x33,0x34,0x35,0x36,0x37,0x38,0x39,0x3a,0x3b,0x3c,0x3d,0x3e,0x3f,
(snip)
-0xf9,0xfa,0xfb,0xfc,0xfd,0xfe,0xff],Num. of LDEVs=xxx
(snip)
++CU=0x01
+++LDEV=[0x00,0x01,0x02,0x03,0x04,0x05,0x06,0x07,0x08,0x09,0x0a,0x0b,0x0c,0x0d,0x0e,0x0f,
0x10,0x11,0x12,0x13,0x14,0x15,0x16,0x17,0x18,0x19,0x1a,0x1b,0x1c,0x1d,0x1e,
-0x1f,0x20,0x21,0x22,0x23,0x24,0x25,0x26,0x27,0x28,0x29,0x2a,0x2b,0x2c,0x2d,0x2e,0x2f,0x30,
0x31,0x32,0x33,0x34,0x35,0x36,0x37,0x38,0x39,0x3a,0x3b,0x3c,0x3d,0x3e,0x3f,
(snip)
-0xf9,0xfa,0xfb,0xfc,0xfd,0xfe,0xff],Num. of LDEVs=xxx
Num. of LDEV Groups=xx
```

[VSEC]

Volume Security function

Set Group

Set Group operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.181 Detailed Information for Set Group Operation

Item	Description
Security Group	The security group name.
Host Group	The host group name.
LDEV Group	The LDEV group name.
Security	The setting status of the security set to the security group. Enable, Disable
Attr	The attribute of the security group. Access: Access attribute, Pool: Pool attribute
RsvVol	Indicates whether the logical volume in the security group can be used as a secondary volume in the remote copy destination. Enable: Used as secondary volume, Disable: Not used as secondary volume
Num. of Security Groups	The number of security groups.
Host	The host information.
Type	The type of the host.
Model	The model number of the host.
SeqNo	The node ID of the host.
LPAR	The logical partition number of the host.
Attr	The manufacturer of the host. CNT(EX): Channel extender, HTC: Hitachi, IBM: IBM, FJT: Fujitsu
Num. of Hosts	The number of hosts.
Port	The port name registered in the host group.
Num. of Ports	The number of ports registered.
Num. of Host Groups	The number of host groups.
CU	The CU number registered in the LDEV group.
LDEV	The LDEV numbers registered in the LDEV group.
Num. of LDEVs	The number of LDEVs registered.
Num. of LDEV Group	The number of LDEV groups.

4.188 V Volume (VVOL) Function — Add V-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VVOL],Add V-Vol,,Normal end,Seq.=xxxxxx  
+{V-VOL Group,Capa(blocks),CLPR,Type,Result}={ {V1-1,4294967296,0,OPEN-V,Normal end},  
++{CU:LDEV,Capa(MB),SSID}={0x03:0x00,3287040,0x20},Num. of LDEVs=xxx  
+Num. of V-VOL Groups=xxx
```

[VVOL]

V Volume function

Add V-Vol

Add V-Vol operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.182 Detailed Information for Add V-Vol Operation

Item	Description
V-VOL Group	The V-VOL group ID of the created V-VOL group.
Capa(blocks)	The capacity of the created V-VOL group. The unit is block.
CLPR	The CLPR number of the created V-VOL group.
Type	The emulation type of the created V-VOL group.
Result	The result of the operation. Normal end: normal end, Error(xxxx-yyyyy): abnormal end xxxx: part code, yyyy: error code
CU:LDEV	The CU and LDEV numbers of the created virtual volume.
Capa(MB)	The capacity of the created virtual volume. The unit is megabyte (MB).
SSID	The SSID.
Num. of LDEVs	The number of the created virtual volume.
Num. of V-VOL Groups	The number of created V-VOL group.

4.189 V Volume (VVOL) Function — Delete V-Vol Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VVOL],Delete V-Vol,,Normal end,Seq.=xxxxx  
+{V-VOL Group,Result}=[{V1-1,Normal End},{V1-2,Error(3205-3003)},{V1-3,Normal End},  
{V1-4,Normal End}],Num. of V-VOL Groups=XXX
```

[VVOL]

V Volume function

Delete-V-Vol

Delete V-Vol operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.183 Detailed Information for Delete V-Vol Operation

Item	Description
V-VOL Group	The V-VOL group ID of the deleted V-VOL group.
Result	The result of the operation. Normal end: normal end, Error(xxxx-yyyyy): abnormal end xxxx: part code, yyyy: error code
Num. of V-VOL Groups	The number of the deleted V-VOL group.

4.190 Volume (VVOL) Function — Pool Change / Delete Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00,[VVOL],Pool Change/Delete,,Normal end,Seq.=xxxxx  
+{Command,Pool ID,Pool Type,Threshold(%) , Result}=[{ Change,1,1,20% ,Normal end}, {  
Change,2,1,20% , Normal end },{ Change,3,1,20% ,Normal end }] Num. of Data = 3
```

[VVOL]

V Volume function

Pool Change / Delete

Pool Change / Delete operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.184 Detailed Information for Pool Change / Delete Operation

Item	Description
Command	The operation to the pool. Change: Changing pool information Delete: Delete pool
Pool ID	The pool ID of the pool where the settings have been changed or the number of the pool that have been deleted.
Pool Type	The pool type. 1 is always output. This index is output only when pool information is changed.
Threshold(%)	The threshold value of the usage rate of the pool. The unit is percent (%). This index is output only when pool information is changed.
Result	The result of the operation. Normal end: Normal end, Error(xxxx-yyyy): Abnormal end, Not Execute: Not Executed xxxx: Part code, yyyy: Error code
Num. of Data	The number of the pool where the settings have been changed or the number of the pool that have been deleted.

4.191 V Volume (VVOL) Function — Pool Initialize Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx,00:00, [VVOL], Pool Initialize ,Normal end,Seq.=xxxxx

[VVOL]

V Volume function

Pool Initialize

Pool Initialize operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

4.192 V Volume (VVOL) Function — Pool Restore Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VVOL], Pool Restore, ,Normal end, Seq.=xxxxx  
+{Pool ID, Result}=[{1,Normal end}, {2,Normal end }, {2,Normal end}, {128,Normal end}] Num.  
of Pools = 3
```

[VVOL]

V Volume function

Pool Restore

Pool Restore operation

Normal end

The operation has ended normally.

Seq.=xxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.185 Detailed Information for Pool Restore Operation

Item	Description
Pool ID	The restored pool ID.
Result	The result of the operation: Normal end: Normal end, Error(xxxx-yyyy): Abnormal end, Not Execute: Not Executed xxxx: Part code, yyyy: Error code
Num. of Pools	The number of the restored pool.

4.193 V Volume (VVOL) Function — Pool SIM Comp Req Operation

user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VVOL], Pool SIM Comp Req, Normal end, Seq.=xxxxxx +SIM=[0x600000,0x600001,0x60000F],Num. of SIMs=3

[VVOL]

V Volume function

Pool SIM Comp Req

Pool SIM Complete Request operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.186 Detailed Information for Pool SIM Comp Req Operation

Item	Description
SIM	The reference code of the Service Information Message (SIM) generated in the disk subsystem with resolved errors or service request status. 0xxxxxxx: Reference code of the SIM
Num. of SIMs	The number of SIMs with resolved errors and service request status.

4.194 V Volume (VVOL) Function — Set Pool Operation

```
user-name,xx,YYYY/MM/DD,HH:MM:SS.xxx, 00:00, [VVOL], Set Pool,,Normal end,Seq.=xxxxxx  
+{Pool ID, Pool Type, Threshold(%), Pool Result}=[{ 1,20% , Normal end }] Num of Pool = 1  
++{ CU:LDEV, LDEV Result} =[{0x00:0x00 , Normal end}, {0x01:0x00 , Normal end},{0x02:0x00 ,  
Normal end}, {0x03:0x00 , Normal end}] Num. of LDEVs = 3
```

[VVOL]

V Volume function

Set Pool

Set Pool operation

Normal end

The operation has ended normally.

Seq.=xxxxxxx

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.187 Detailed Information for Set Pool Operation

Item	Description
Pool ID	The pool ID of the created pool.
Pool Type	The pool type. 1 is always output.
Threshold(%)	The threshold value of the usage rate of the created pool. The unit is percent (%).
Pool Result	The result of pool creation. Normal end: Normal end, Error(xxxx-yyyy): Abnormal end, Not Execute: Not Executed xxxx: Part code, yyyy: Error code
Num of Pool	The number of the created pool.
CU:LDEV	The CU number and the LDEV number of the pool volume.
LDEV Result	The result of the pool volume creation. Normal end: Normal end, Error(xxxx-yyyy): Abnormal end, Not Execute: Not Executed xxxx: Part code, yyyy: Error code
Num. of LDEVs	The number of the created pool volume.

4.195 XRCR Function — Set XRC Option Operation

```
root,99,2004/12/02,17:51:17:468,+09:00,[XRCR],Set XRC Option,,Normal End,Seq.=00020
+{CLPR,LV2THD(%),Block Option,Donot Block,LV1 Sleep,SleepTime(ms),LV1 SIM,LV2 Suspend}=
[{00,50,Cache,Disable,Disable,100,Disable,Disable},
-{01,70,Cache,Enable ,Disable,10,Disable,Disable},
-{02,60,Cache,Disable,Disable, 10,Enable ,Enable }],Num. of CLPRs=32
```

[XRCR]

XRCR function (Compatible Replication Software for IBM XRC)

Set XRC Option

Set XRC Option operation

Normal end

The operation has ended normally.

Seq.=00020

Serial number of log information (000000 to 999999)

Detailed Information

Detailed information displays for this operation, as shown in the following table.

Table 4.188 Detailed Information for Set XRC Option Operation

Item	Description
CLPR	The specified CLPR number (00-31).
LV2THD(%)	The specified Level 2 Threshold (30, 40, 50, 60, and 70). (unit: %)
Block Option	The status of the specified Block Option. Volume: Volume Level, Cache: Cache Level
Donot Block	The status of the specified Donot Block (Volume Level). Enable, Disable
LV1 Sleep	The status of the specified Level 1 Sleep. Enable, Disable
Sleep Time(ms)	The specified Sleep Time value (10 or 100). (unit: millisecond)
LV1 SIM	The status of the specified Level 1 SIM. Enable, Disable
LV2 Suspend	The status of the specified Level 2 Suspend. Enable, Disable
Num. of CLPRs	The number of CLPRs.

Appendix A Audit Log File Output by Function

This appendix includes more detailed information about audit log file output. Table A.1 lists audit log file output for operations that are common to all Storage Navigator functions. Table A.2 lists audit log file output for each program option button on the Storage Navigator Main Panel.

Table A.1 Audit Log File Output for Operations Common to All Functions

Program Product Operation		Output of Audit Log File		Note
Function	Operation	Function Name	Operation Name	
Common to all Storage Navigator functions	Login	BASE	Login	The log information is output in the Login information file (login.log). The IP address of the web client is output as the parameter. When "" is output at the end of the IP address, the IP address may be that of the proxy server.
	Logout (Exit)		Logout	The log information is output in the login information file (login.log).
			ChangeMode	The processing of the release of the Modify authority by the system during logout.
	Modify		ChangeMode	—
	View		ChangeMode	This information is output regardless of the status of the Modify mode.
	Closing with the × button of the web browser.		ChangeMode	If the session is cut off while the processing is in progress, this information is output as the processing has finished.
	Timeout of Modify		ChangeMode	—
	Network failure, termination of the web browser processing from the task manager, and so on.		ChangeMode	As the connection from the client is disconnected and the processing is ended without the demand of logout, the timeout occurs in the server side and the log information is output.

Table A.2 Audit Log File Output by Program Option Button

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
Information / Status	Information	Apply	BASE	Set System Info
	Syslog		AuditLog	Set Syslog Server
	Account		Account	Set User Account
LUNM	LUNM <i>(Note 3)</i>	Command Device: Disable → Enable	LUNM	Set CommandDev
LUN Sec		Command Device: Enable → Disable		Set CommandDev <i>(Note 1)</i>
		Cmd Dev.Security: Disable → Enable		Set CommandDevSec <i>(Note 1)</i>
		Cmd Dev.Security: Enable → Disable		Set CommandDevSec <i>(Note 1)</i>
		Add LU Path		Add LU Path <i>(Note 1)</i>
		Delete LU Path		Delete LU Path <i>(Note 1)</i>
		Set Host Mode		Set Host Mode <i>(Note 1)</i>
		LUN Security: Disable → Enable		Set Security Switch
		LUN Security: Enable → Disable		Set Security Switch
		Add New WWN		Add WWN <i>(Note 1)</i>
		Delete WWN		Delete WWN <i>(Note 1)</i>
		Change WWN & Name		Change WWN <i>(Note 1)</i>
		Add New Host Group		Add Host Group <i>(Note 1)</i>
		Delete Host Group		Delete Host Group <i>(Note 1)</i>
		Change Host Group		Change Host Group <i>(Note 1)</i>
		Clear Host Group		Delete Host Group <i>(Note 1)</i>
		Paste (Host Group)		Add Host Group <i>(Note 1)</i>
				Set Host Mode <i>(Note 1)</i>
				Add WWN <i>(Note 1)</i>
				Add LU Path <i>(Note 1)</i>
		Delete DKC WWN		Delete DKC WWN <i>(Note 1)</i>
		"Drag & Drop" WWN node		Add WWN <i>(Note 1)</i>
				Delete WWN <i>(Note 1)</i>
		Paste (LU Path)		Add LU Path <i>(Note 1)</i>
		Add New iSCSI Target		Add iSCSI Target <i>(Note 1) (Note 2)</i>
		Delete iSCSI Target		Delete iSCSI Target <i>(Note 1) (Note 2)</i>
		Change iSCSI Target		Change iSCSI Target <i>(Note 1) (Note 2)</i>

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Add New iSCSI name		Add iSCSI name (Note 1) (Note 2)
		Delete iSCSI name		Delete iSCSI name (Note 1) (Note 2)
		Change iSCSI name & Nickname		Change iSCSI name (Note 1) (Note 2)
		Initialization of iSCSI name connected to DKC.		Init DKC iSCSI name (Note 1) (Note 2)
	Port (Note 4)	Standard Mode		Set Speed Mode (Note 1)
		High Speed Mode		Set Speed Mode (Note 1)
		High Speed (2Port) Mode		Set Speed Mode (Note 1)
		Fibre Addr.		Set Fibre Address (Note 1)
		Fabric		Set Fibre Topology (Note 1)
		Connection		Set Fibre Topology (Note 1)
		Host Speed		Set Channel Speed (Note 1)
		IP Address/Subnet Mask/Gate way		Set IP Address
		Port Number		Set TCP/IP Port
		iSNS IP Address/iSNS Port Number		Set iSNS
		Shutdown	ENAS	Boot Management
		Boot		Boot Management
		Reboot		Boot Management
	Authentication (iSCSI) (Note 7)	Authentication: Disable → Enable	LUNM	Set Authentication (Note 1) (Note 2)
		Authentication: Enable → Disable		Set Authentication (Note 1) (Note 2)
		Add New Authentication information		Auth Info(Host) (Note 1) (Note 2)
		Change Authentication information		Auth Info(Host) (Note 1) (Note 2)
		Delete Authentication information		Auth Info(Host) (Note 1) (Note 2)
		Specify Authentication information		Auth Info(Target) (Note 1) (Note 2)
		Clear Authentication information		Auth Info(Target) (Note 1) (Note 2)
	Authentication (Fibre) (Note 8)	Set Port Information		Set FCSP Port Info (Note 1) (Note 2)
		Specify Authentication Information		Set FCSP Target (Note 1) (Note 2)
		Clear Authentication Information		Set FCSP Target (Note 1) (Note 2)
		Authentication (Host Group) : Disable → Enable		Set FCSP Target (Note 1) (Note 2)
		Authentication (Host Group) : Enable → Disable		Set FCSP Target (Note 1) (Note 2)
		Add New Authentication Information		Set FCSP Host (Note 1) (Note 2)

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Change Authentication Information		Set FCSP Host (Note 1) (Note 2)
		Delete Authentication Information		Set FCSP Host (Note 1) (Note 2)
		Specify User Information		Set FCSP Port Switch (Note 1) (Note 2)
		Authentication Mode: bi-directional → unidirectional		Set FCSP Port Switch (Note 1) (Note 2)
		Authentication Mode: unidirectional → bi-directional		Set FCSP Port Switch (Note 1) (Note 2)
		Authentication (Port) : Enable → Disable		Set FCSP Port Switch (Note 1) (Note 2)
		Authentication (Port) : Disable → Enable		Set FCSP Port Switch (Note 1) (Note 2)
LUSE VLL	LUSE (Note 5)	Make LUSE	LUSE	Make LUSE (Note 1)
		Release LUSE		Release LUSE (Note 1)
	VLL	Install CV	VLL	Install CV (Note 1)
		Volume to Space		Volume to Space (Note 1)
		Volume Initialize		Volume Initialize (Note 1)
		Make Volume		Make Volume (Note 1)
		Blockade	LDEV	Volume-Blockade (Note 1)
		Restore		Volume-Restore(N) (Note 1)
		Format		Volume-Format (Note 1)
	Pool	New Pool	VVOL	Set Pool (Note 1)
		Change Pool Information		Pool Change/Delete (Note 1)
		Delete Pool		
		Initialize Pool		Pool Initialize (Note 1)
		Restore Pool		Pool Restore (Note 1)
		Pool SIM Complete Request		Pool SIM Copm Req (Note 1)
	V-VOL	New V-VOL Group		Add V-Vol (Note 1)
		Delete V-VOL Group		Delete V-Vol (Note 1)
Cache Residency / PCR	Cache Residency	Set Cache Residency (Open Volume)	Cache	Set Open DCR (Note 1) (Note 2)
		Set Cache Residency (M/F Volume)		Set M/F DCR (Note 1) (Note 2)
		Release Cache Residency (Open Volume)		Delete Open DCR (Note 1) (Note 2)
		Release Cache Residency (M/F Volume)		Delete M/F DCR (Note 1) (Note 2)

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Prestaging ON		DCR Prestaging (Note 1) (Note 6)
	PCR	PCR Set / Clear	ENAS	Set Cache Color (Note 1)
Performance Monitor	Monitoring Options	CurrentStatus Enable Gathering Interval	PFM	Monitoring S/W
		CurrentStatus Disable		Monitoring S/W
Volume Migration	Manual Plan	Set	VM	Set Migration Vol (Note 1) (Note 2)
		Delete		Set Migration Vol (Note 1) (Note 2)
Server Priority Manager	Auto Plan	Auto Migration Function		Set Auto Plan Param (Note 1)
		Make New Plan		Create Auto Plan (Note 1)
		Delete		Create Auto Plan (Note 1)
	Attribute	Change Class Threshold		Set Class Threshold (Note 1)
		Fixed PG		Set Fixed PG (Note 1) (Note 2)
		Normal PG		Set Fixed PG (Note 1) (Note 2)
		Reserved LDEV		Set Reserved Vol (Note 1) (Note 2)
		Normal LDEV		Set Reserved Vol (Note 1) (Note 2)
	History	Erase Auto Migration History		Del Auto Plan Log
		Erase Migration History		Del Migration Log
	Port	All Thresholds		Set All Prio Port (Note 1) (Note 2) Set Ctrl Kind
		Set Prio Port (Attribute / Threshold / Upper)		Set Prio Port (Note 1) (Note 2) Set All Prio Port
		Initialize		Default Set (Note 1) (Note 2)
		Delete ports if CHA is removed		Clear PPC Info
		Set Ctrl Kind (Port Control)		Set Ctrl Kind
	WWN	All Thresholds		Set All Prio WWN (Note 1) (Note 2)
		Set Prio WWN (Attribute / Upper)		Set Prio WWN (Note 1) (Note 2) Set All Prio WWN
		Update WWN (SPM Name / WWN Change)		Update WWN (Note 1) (Note 2) Set All Prio WWN
		Add WWN (WWN is added to a SPM Group.)		Update PPCGrp (Note 1) (Note 2)
		Delete WWN (WWN is deleted to a SPM Group.)		Update PPCGrp (Note 1) (Note 2)

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		SPM Group Add & WWN Add		Update PPCGrp (Note 1) (Note 2) Set All Prio WWN
		SPM Group Delete		Update PPCGrp (Note 1) (Note 2) PPCGrp Del/Chg Set All Prio WWN
		Change SPM Group (Attribute / Upper)		Change PPCGrp (Note 1) (Note 2) Set All Prio WWN
		SPM Group Change (ReName)		PPCGrp Del/Chg (Note 1) (Note 2) Set All Prio WWN
		Set Ctrl Kind (WWN Control)		Set Ctrl Kind (Note 1) (Note 2)
		Port-WWN Add		Update Port WWN (Note 1) (Note 2)
		Port-WWN Delete		Update Port WWN (Note 1) (Note 2)
		Initialize		Default Set (Note 2)
		Delete ports if CHA is removed		Clear PPC Info (Note 2)
TrueCopy	Pair Operations	Paircreate	TC	Paircreate (Note 1) Start Pair
		Pairsplit-S		Pairsplit-S (Note 1)
		Pairsplit-r		Pairsplit-r (Note 1)
		Pairresync		Pairresync (Note 1) Start Pair
		Change Pair Option		Change Pair Option (Note 1)
		Change to Modify Mode (first time only)		Start Pair
	RCU Operations	Add RCU	RCU	Add RCU
		Change RCU Option		Change RCU Option
		Delete RCU		Delete RCU
		Add Path		Add Path (Note 1) (Note 2)
		Delete Path		Delete Path (Note 1) (Note 2)
		Add SSID		Add RCU
		Delete SSID		Delete RCU
		Port Change (Target, Initiator, RCU Target)	PORT	Change Port
	Asynchronous Operations	Add CT Group	TC	Add CTG
		CT Group Option		Change CTG Option
		Delete CT Group		Delete CTG
		Async Option		Change Async Option

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
	Other Operations	Option		Change Option
Universal Replicator	JNL Operation	Edit JNL Volumes	UR	Journal-Vol (Note 1)
		Change JNL Option		Journal-Option (Note 1)
		Delete JNL Groups		Journal-Vol (Note 1)
		Pairsplit-r		Pairsplit-r (Note 1)
		Pairresync		Pairresync (Note 1)
		Pairsplit-S		Pairsplit-S (Note 1)
	DKC Operation	Add DKC	RCU	Add RCU
		Change DKC Option		Change RCU Option
		Delete DKC		Delete RCU
		Add Path		Add Path (Note 1) (Note 2)
		Delete Path		Delete Path (Note 1) (Note 2)
		Port Change (Target, Initiator, RCU Target)	PORT	Change Port
	Pair Operation	Paircreate	UR	Paircreate (Note 1)
		Pairsplit-r		Pairsplit-r (Note 1)
		Pairresync		Pairresync (Note 1)
		Pairsplit-S		Pairsplit-S (Note 1)
		Change Pair Option		Pair-Option (Note 1)
	Optional Operation	Change System Option		System-Option (Note 1)
ShadowImage	Main	Paircreate	SI	Paircreate (Note 1)
		Pairsplit		Pairsplit (Note 1)
		Pairresync		Pairresync (Note 1)
		Pairsplit-E		Pairsplit-E (Note 1)
		Pairsplit-S		Pairsplit-S (Note 1)
		Change Reserve		Change Reserve (Note 1)
	Option	Option		Option (Note 1)
	C.O.W. Snapshot	Pairsplit-S		Pairsplit-S (Note 1)
TrueCopy z/OS	Pair Operations	Add Pair	TC z/OS (R)	Add Pair (Note 1) Start Pair
		Delete Pair		Delete Pair (Note 1)
		Suspend Pair		Suspend Pair (Note 1)

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Resume Pair		Resume Pair (<i>Note 1</i>)
				Start Pair
		Change Pair Option		Change Pair Option (<i>Note 1</i>)
		Change to Modify Mode (first time only)		Start Pair
	RCU Operations	Add RCU	RCU	Add RCU
		Change RCU Option		Change RCU Option
		Delete RCU		Delete RCU
		Add Path		Add Path (<i>Note 1</i>) (<i>Note 2</i>)
		Delete Path		Delete Path (<i>Note 1</i>) (<i>Note 2</i>)
		Add SSID		Add RCU
		Delete SSID		Delete RCU
		Port Change (Target, Initiator, RCU Target)	PORT	Change Port
	Asynchronous Operations	Add CT Group	TC z/OS (R)	Add CTG
		CT Group Option		Change CTG Option
		Delete CT Group		Delete CTG
		Async Option		Change Async Option
	Script Operations	Run		Script Operation
		Stop		
	Other Operations	Clear SIM		Clear SIM
		Option		Change Option
Universal Replicator - z/OS	JNL Operation	Edit JNL Volumes	UR z/OS (R)	Journal-Vol (<i>Note 1</i>)
		Change JNL Option		Journal-Option (<i>Note 1</i>)
		Delete JNL Groups		Journal-Vol (<i>Note 1</i>)
		Suspend Pair		Suspend-Pair (<i>Note 1</i>)
		Resume Pair		Resume-Pair (<i>Note 1</i>)
		Delete Pair		Delete-Pair (<i>Note 1</i>)
		Remove JNLG from EXCTG (Force)		Journal-Vol (<i>Note 1</i>)
	DKC Operation	Add DKC	RCU	Add RCU
		Change DKC Option		Change RCU Option
		Delete DKC		Delete RCU

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Add Path		Add Path (Note 1) (Note 2)
		Delete Path		Delete Path (Note 1) (Note 2)
		Port Change (Target, Initiator, RCU Target)	PORT	Change Port
	Pair Operation	Add Pair	UR z/OS (R)	Add-Pair (Note 1)
		Suspend Pair		Suspend-Pair (Note 1)
		Resume Pair		Resume-Pair (Note 1)
		Delete Pair		Delete-Pair (Note 1)
		Change Pair Option		Pair-Option (Note 1)
	Optional Operation	Change System Option		System-Option (Note 1)
		Clear SIM		Clear-SIM (Note 1)
	EXCTG Operation	Add JNLG to EXCTG, Remove JNLG from EXCTG		Edit-EXCTG (Note 1)
ShadowImage z/OS	Main	Add Pair	SI z/OS (R)	Add Pair (Note 1)
		Split Pair		Split Pair (Note 1)
		Resync Pair		Resync Pair (Note 1)
		Suspend Pair		Suspend Pair (Note 1)
		Delete Pair		Delete Pair (Note 1)
		Change Reserve		Change Reserve (Note 1)
		Relationship Expansion (Disable → Enable)		Exp R_TBL(Enable)
		Relationship Expansion (Enable→ Disable)		Exp R_TBL(Disable)
	Option	Option		Option (Note 1)
	CTG	Add CTG		CTG (Note 1)
		Delete CTG		CTG (Note 1)
	FCv2	Set SCP Delay Time		Set SCP Time (Note 1)
Mainframe Connection	Compatible PAV	Add	CPAV	Add Alias (Note 1)
		Delete		Delete Alias (Note 1)
	Volume Security	Set Group	VSEC	Set Group (Note 1)
	Volume Retention z/OS (R)	Attribute	VRM	Attribute (Note 1)
		VTOC		VTOC (Note 1)
	XRC	XRC Option	XRCR	Set XRC Option

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
Serverless Backup	Serverless Backup	Construct Port Group / Set Timeout	SBE	Port-Group(Forced) (<i>Note 1</i>)
				Port-Group(Normal) (<i>Note 1</i>)
		Change to Target / Change to External	PORT	Change Port (<i>Note 1</i>)
Data Retention	Data Retention	Attribute / S-VOL / Reserved	DRU	Attribute (<i>Note 1</i>)
		Retention-Term		Retention-Term (<i>Note 1</i>)
		Expiration Lock		Expiration Lock (<i>Note 1</i>)
		VMA		VMA (<i>Note 1</i>)
		Delete Extent		Release All Extents (<i>Note 1</i>)
Universal Volume Mgr / Cross-system Copy	LU Operation	Add LU	UVM	Add-Wwn / Add-Lu2 (<i>Note 1</i>) <i>Note:</i> Add Wwn is output only when the WWN has not been registered.
		Delete LU		Delete-Lu (Normal) (<i>Note 1</i>)
				Delete-Lu (Force) (<i>Note 1</i>)
		Alternate Path (ADD / Delete / Priority UP / Priority Down)		Alternate-Path (<i>Note 1</i>)
		Check Paths & Restore Vol.		ChkPath-RestoreVol (<i>Note 1</i>)
		Disconnect Subsystem / Disconnect Volume		Disconnect-Volume (<i>Note 1</i>)
		Disconnect Paths		Disconnect-Paths (<i>Note 1</i>)
		Check Paths		Check-Paths (<i>Note 1</i>)
		Change Parameter		Wwn Timer (<i>Note 1</i>)
		Restore / LDEV Restore	LDEV	Volume-Restore(F) (<i>Note 1</i>)
	Port Operation	Change to Target / Change to External	PORT	Change Port
	Cross-system Copy	Create Pair	CSC	Paircreate (<i>Note 1</i>)
		Delete Pair		Pairsplit-S (<i>Note 1</i>)
CFL	Configuration File Loader	Upload	CFL	LUNM Operation <i>Note:</i> The log information is not output for the format violation and inconsistency of configuration.
LicenseKey	LicenseKey	Install	PP KEY	PP Install (<i>Note 1</i>) (<i>Note 2</i>)
SNMP		Uninstall		PP Uninstall (<i>Note 1</i>) (<i>Note 2</i>)
Just in Time		File		PP Install from File

Program Product Operation			Output of Audit Log File	
Buttons for Launching Options	Tab	Operation	Function Name	Operation Name
		Apply		PP Apply
	SNMP	Set SNMP Agent	SNMP	Set SNMP Agent
	Just in Time	Release	JIT	Release LUN (<i>Note 1</i>)
		Extend		Release Cache (<i>Note 1</i>)
		Extend		Release Cache / CLPR (<i>Note 1</i>)
	Partition Definition	Apply (Create SLPR / Delete SLPR / Create CLPR / Delete CLPR / Paste CLPR, Port / Paste PG / SLPR Parameter / CLPR Parameter)	VPM	Set
	License Key Partition Definition	Apply	PP KEY	SLPR PP Change

Note 1: When you apply two or more settings of the same type to the subsystem at the same time, the log information is output as one entry.

Note 2: When one or more settings that you have applied at one time ends abnormally, the output log information is **Error**, not **Warning**.

Note 3: When you perform two or more LUN Manager operations, the following conditions apply:

- When you perform two or more operations on one target and select **Apply**, the log information is output as one entry.
- When you apply two or more settings at one time, the log information is output according to the priority shown in Table A.3.

If the priority is the same, the log information is output in the order of the operations performed.

Table A.3 LUN Manager Operation and Priority of Audit Log Output

Operation	Target of Operation	Priority
Delete	LU	2
	Host Group	1
	WWN	1
	DKC connection WWN	2
Add	LU	4
	Host Group	3
	WWN	3
Change	Host Group	3
	WWN	3
	Changing Host Mode	3
	Command Device	4
	Command Dev. Security	4
	LUN Security	OFF: 3
		ON: 1

- If you perform the following operations at the same time, the following happens:
 - **Add → Delete:** The operations cancel each other and no log information is output.
 - **Change → Delete:** Log information is output for the Delete operation.
 - **Change 1 → Change 2:** Log information is output for the Change 2 operation.
 - **Add → Change:** Log information is output as an Add operation, but the contents of the setting are output according to the setting of the Change operation.
- If you have deleted a host group, the following operations performed for that Host Group are not output as log information:
 - Changing host mode
 - Changing Host Group
 - Adding or deleting paths
 - Adding, changing, or deleting WWN

Note 4: When you set two or more port settings, the following conditions apply:

- When you perform two or more operations for one target, the log information is output as one entry.
- The log information is output in the order of the operations performed.
- If you perform the following operations at the same time, the following happens:
Change 1 → Change 2: Log information is output for the Change 2 operation.

Note 5: When you set two or more LUSE settings, the following conditions apply:

- When you perform two or more operations for one target, the log information is output as one log information file. For example, if you have created one LUSE volume and then created another LUSE volume using the previously-created LUSE volume, the log information is output just as "Make LUSE".
- The log information is output in the order of the operations performed.
- If you perform the following operations at the same time, the following happens:
 - **Create LUSE volume → Delete LUSE volume:** The operations cancel each other, and the log information is not output.
 - **Create LUSE volume 1 → Create LUSE volume 2 → Create LUSE volume 3 using LUSE volume 1 and LUSE volume 2 → Delete LUSE volume 3:** Log information is output only for the Create LUSE volume 1 operation and Create LUSE volume 2 operation.

Note 6: The log information is output at the end, no matter when you perform the Cache Residency Manager operation.

Note 7: Indicates the operation when iSCSI port is selected in Authentication Tab.

Note 8: Indicates the operation when Fibre port is selected in Authentication Tab.

Acronyms and Abbreviations

API	application program interface
CCI	Command Control Interface
CHA	channel adapter
CHN	NAS channel adapter
CLPR	cache logical partition
CPAV	compatible PAV for z/OS
CSC	cross-system copy
CT	consistency
CTG	consistency group
CU	control unit
CV	custom volume
DASD	direct-access storage device
DCR	FlashAccess
DFW	DASD fast write
DKA	disk adapter
DKC	disk controller
DRU	Data Retention Utility
IP	internet protocol
JIT	just in time
L1, L2	level 1, level 2
LAN	local-area network
LBA	logical block address
LCP	local control port
LDEV	logical device
LU	logical unit
LUN	logical unit number
LUNM	LUN Manager
LUSE	LUN Expansion
LVI	logical volume image
MCU	main control unit
MIB	message information block
MU	mirror unit
M-VOL	main volume
NAS	network-attached storage
NSC	Network Storage Controller
NVS	nonvolatile storage
P.P.	Program Product
PA	priority access
PCR	partial cache residence
PDEV	physical device

PFM	performance monitor
PPC	prioritized port control
PS	power supply
PSUE	pair suspended-error (status)
PSUS	pair suspended-split (status)
P-VOL	primary volume
RAID	redundant array of independent disks
RCP	remote control port
RCU	remote control unit
R-VOL	remote volume
SBE	Serverless Backup Enabler
SI	ShadowImage
SIM	service information message
SIz	ShadowImage for z/OS
SLPR	streaming line printer
SM	shared memory
SMPL	simplex
SNMP	simple network management protocol
SSID	subsystem ID
S-VOL	secondary volume (TrueCopy), source volume (ShadowImage for z/OS)
SVP	service processor
TCz	TrueCopy for z/OS
T-VOL	target volume
USP	Universal Storage Platform
VDEV	virtual device
VLL	Virtual LVI / Virtual LUN
VMA	volume management area
VTOC	volume table of contents
WWN	world wide name extended remote copy
XRC	
XRCR	extended remote copy replicator
z/OS	IBM Z/OS operating system