Engineering Change Notice
VSP Gx00 models, VSP Fx00 models

ECN #	ECN DW800-M093
Rev #	00
FCB #	n/a
Date	2018.10.12

Classification		S/W or F/W Changes		Application		S/W or F/W Code Type	
Hardware		New Features		Mandatory		Q-Code (GA)	x
Firmware	x	Improvements	x	Recommended	x	T-Code (Test)	
Software / Maintenance Tool		Bug-Fixes	x	Optional		I-Code (ICS)	
Documentation	x	n/a				n/a (H/W)	
(check all that apply)		*(check all that apply)*		*(check only one)*		*(check only one)*	

Title

SVOS7.4.0 Q-code update
G800, F800   : DKCMAIN Ver. 83-05-26-60/00, SVP/MPC Ver. 83-05-25-60/00
G400, G600, F400, F600   : DKCMAIN Ver. 83-05-26-40/00, SVP/MPC Ver. 83-05-25-40/00
G200   : DKCMAIN Ver. 83-05-26-20/00, SVP/MPC Ver. 83-05-25-20/00

Purpose

This document is notification about a microcode update to SVOS7.4.0 for HM800.

Description of Release

New microcode for DKC is composed of the following versions.

No.	Program	Model	New Version	Previous Version notified by ECN-M088
1	DKCMAIN	G800, F800	83-05-26-60/00	83-05-24-60/00
		G400, G600, F400, F600	83-05-26-40/00	83-05-24-40/00
		G200	83-05-26-20/00	83-05-24-20/00
2	Environment	Moni	80-01-10-EB	80-01-10-EA
		eMoni	80-02-10-7F	Same as left
		BKM	0D	0C
3	CHB	FC16G	83-00-01-34	83-00-01-33
		iSCSI	83-01-01-25	Same as left
		FC32G	83-03-01-0E	Same as left
4	DKB		83-30-30	Same as left
5	BOOT(ROM)		-	Same as left
6	BOOT(RAM)		83-00-06	Same as left
7	Expander		90-10-01	Same as left
8	CONFIG		83-05-23/00	83-05-22/00
9	CFM		01-44-00-00	Same as left
			J3-HT-01-02	Same as left
			00-13-00-00	Same as left
			GX-M1-00-3Q	Same as left
			GX-M5-10-4Q	Same as left

Engineering Change Notice
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ECN #	ECN DW800-M093
Rev #	00
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Date	2018.10.12

No.	Program		Model	New Version	Previous Version notified by ECN-M088
10	Drive		DKS5C-K/DKS2E-H	00-7F-5A/ 00-7F-A6	Same as left/ Same as left
			SLB5B-M/DKR5D-J	00-T2-N7/ 00-GJ-GJ	Same as left/ Same as left
			DKR5E-J/DKS5E-J	00-GC-GC/ 00-7F-0D	Same as left/ Same as left
			DKS5F-J/DKR2E-H	00-7F-0B/ 00-GH-GH	Same as left/ 00-GG-GG
			NFH1A-P/NFH1B-P	00-K1-30/ 00-K1-30	Same as left/ Same as left
			NFH1C-P/DKR5C-K	00-K1-30/ 00-GL-GL	Same as left/ 00-GK-GK
			DKS2F-H/NFHAE-Q	00-7F-A6/ 00-F4-50	Same as left/ Same as left
			SLR5D-M/DKS5D-K	00-A7-A7/ 00-7F-05	Same as left/ Same as left
			SLB5C-M/DKR5G-J	00-T3-07/ 00-HE-HE	Same as left/ Same as left
			DKS5H-J/SLB5D-M	00-7F-A9/ 00-T3-08	Same as left/ Same as left
			NFH1D-P/NFHAF-Q	00-L3-20/ 00-F4-51	Same as left/ Same as left
			SLB5E-M/DKS2H-H	00-T4-07/ 00-7F-08	00-T4-04/ Same as left
			DKS5E-K/DKR2G-H	00-7F-09/ 00-HC-HC	Same as left/ 00-HA-HA
			NFHAH-Q/DKS5K-J	00-J1-10/ 00-7F-04	00-J0-J0/ Same as left
			SLR5E-M/NFHAJ-Q	00-A4-A4/ 00-J1-10	Same as left/ 00-J0-J0
			SLB5F-M	00-T4-07	-
11	GUM			83-05-24/00	83-05-23/00
12	Unified Hypervisor			01-03-06-00	Same as left
13	NASFWINST			13.4.4911.01	13.4.4911.00
14	NASFW			13.4.4911.01	13.4.4911.00
15	SVP/ MPC		G800, F800	83-05-25-60/00	83-05-23-60/00
			G400,G600, F400, F600	83-05-25-40/00	83-05-23-40/00
			G200	83-05-25-20/00	83-05-23-20/00
			CONFIG	83-05-23/00	83-05-22/00
16			OSS	83-04-25/00	83-04-24/10
			JRE	1.8.0_181	1.8.0_144
			Apache with SSL	2.4.16 (OpenSSL 1.0.2o)	Same as left
			Perl	5.18.1	Same as left
			Flash	30.0.0.154	30.0.0.113
			Jetty	9.2.10	Same as left
			Putty	0.70	0.64
Program Management Number			MPC	H8-MPC-05A-07	H8-MPC-05A-05
			SVP	H8-SVP-05A-07	H8-SVP-05A-05

* Hatched indicates the changed items from the previous release.

Related Program Versions

Refer to Appendix-G.

Related Document Versions

(1) Refer to Appendix-B for Maintenance Manual and User's Guides.

(2) This microcode ECN was verified against the following document revisions, which may not be the highest revision currently available when you need to install microcode or as a reference. Therefore, please always obtain the highest revision available to ensure that you have the most current instructions and information.

  - Microcode Exchange Restrictions Rev.35

  - Microcode Exchange Wizard Tool Rev.56

  - Support and Interoperability Document Rev.37

Related Part #s or Products

None

Field Changes

None

Engineering Change Notice
VSP Gx00 models, VSP Fx00 models

ECN #	ECN DW800-M093
Rev #	00
FCB #	n/a
Date	2018.10.12

Factory Shipment / Effective Date

None

Restrictions

(1) It is required to judge whether the microcode replacement is available, collect the dump information and then contact the technical support center. (Bug-ID=HM800-0669)

This restriction applies when:

- upgrading the microcode from DKCMAIN 83-01-24-x0/00 or earlier to any version.
- downgrading the microcode from DKCMAIN 83-01-24-x0/00 or earlier to any version.

(2) When DKCMAIN microcode is upgraded or downgraded to 83-03-21-x0/01, make sure that all resources are not locked. For details, see HM800 Microcode Exchange Restrictions. (Bug-ID=HM800-1181)

(3) If upgrading or downgrading the firmware online in any one of the following cases for a storage system with NAS modules and CHBs installed, the operation will fail and Unified Hypervisor will be blocked. To make the firmware upgrade or downgrade, perform the operation offline.

  (a) DKCMAIN: within the version range between 83-03-21-x0/00 and 83-03-24-x0/00 (Unified Hypervisor: 01-02-09-00)

  (b) DKCMAIN: within the version range between 83-03-25-x0/00 and 83-03-27-x0/00 (Unified Hypervisor: 01-02-0A-00)

  (c) DKCMAIN: from 83-04-01-x0/00 to 83-04-02-x0/00 or 83-04-02-x0/02, or vice versa (Unified Hypervisor: 01-03-04-00)

  If offline firmware upgrade or downgrade cannot be performed and an online operation is required, collect a normal dump, and then contact customer support.

(4) If NAS modules are mounted and NASFW is installed, make sure to enable the HTTP communication port setting first, and then replace the firmware including NASFW.

  If you perform the operation with the HTTP communication port setting disabled, message 33361-005021 is displayed and the firmware replacement ends abnormally. In this case, take the following actions:

  (a) Enable the HTTP communication port setting.

  (b) After (a), GUM is rebooted. Wait for 5 minutes.

  (c) Log into Maintenance Utility.

  (d) Log into NAS Manager using the maintenance account.

  (e) Retry the firmware replacement.

Export Regulation

HNAS OS and SMU Software (Ver. 12.6 and later): 5D002.c.1 Unrestricted ENC

HNAS specific tools: 5D002.c.1 Unrestricted ENC

DI Image (FPGA Configuration Data): 5D002.c.1 Unrestricted ENC

Unified Hypervisor: 5D992

  (NASFW and NASFWINST include HNAS OS and SMU Software. NASFW includes DI Image (FPGA Configuration Data).)

For other items, refer to "The ECCN of the Program Product and Manual for RAID Series" as follows.

  For microcode: HM800 P.P sheet

  For Maintenance Manual and User Guide: HM800 manual sheet

Engineering Change Notice
VSP Gx00 models, VSP Fx00 models

ECN # ECN DW800-M093
Rev # 00
FCB # n/a
Date 2018.10.12

List of Appendices

Appendix	Appendix Title	File Name	Updated
a	Supported Features and Functions	Apx-ao.docx	Yes
b	Related Documentation	Apx-bo.xlsx	Yes
c	NAS OS and SMU	Apx-co.docx	Yes
e	Change of Contents	Apx-eo-BugFix.xlsx	Yes
f	Program Versions Summary	Apx-fo.xlsx	Yes
g	Related Program Versions	Apx-go.docx	Yes
s	Antivirus Software Support	Apx-so.docx	Yes

ECN Revision History

Revision	Date	Written/Revised By	Description
0	2018.10.12	-	Initial Release

Appendix-A   Supported Features and Functions

1	Support for GAD configuration with no volume set to quorum disk
Description	A GAD configuration where no volume is set to a quorum disk is supported. The support can reduce cost as external storage systems and paths, which were required for preparing quorum disks before the support, are no longer necessary. The support applies to the following case. - Data migration from the following model A to model B using GAD. Model A: VSP F400, F600, F800 and VSP G200, G400, G600, G800 Model B: VSP F350, F370, F700, F900 and VSP G350, G370, G700, G900
Supported Model	DKCMAIN, SVP, CCI
Changed Part	DKCMAIN, SVP, CCI
Note	None
Documented	Global-Active Device User Guide Storage Navigator Messages, Command Control Interface User and Reference Guide, Command Control Interface Command Reference, Audit Log User Guide, Maintenance Manual (4 FIRMWARE, 7 INSTALLATION, 13 TROUBLESHOOTING, 14 REPLACEMENT)

2	Improvement for capacity saving operation
Description	The following improvements are implemented for a system down risk at a capacity saving operation for a virtual volume of a Dynamic Provisioning pool consisting of only pool volumes created in a parity group with accelerated compression enabled. (1) Displaying a warning message at an operation on the Create LDEVs window and Edit LDEVs window. (2) Displaying a warning message at an operation on the Edit Parity Groups window. (3) Adding a column of pool name on the Parity Groups window. (4) Displaying a warning message at an operation on the Select Pool VOLs window. (5) Adding a function to set accelerated compression for FMD parity groups on the Create Pools window and Expand Pool window.
Supported Model	All models
Changed Part	SVP/MPC
Note	None
Documented	Provisioning Guide

3	Support for PuTTY 0.70
Description	To address the PuTTY 0.64 series vulnerability, PuTTY in OSS is updated to the latest version, PuTTY 0.70.
Supported Model	All models
Changed Part	SVP/MPC, OSS
Note	None
Documented	Maintenance Manual (8. MAINTENANCE PC)

4	Support for Command Control Interface Ver. 01-48-03/03

Description	Supported functions from Ver. 01-47-03/05 (1) A column displaying TCP port# of iSCSI Target is added to the output of raidcom get external_iscsi_name. (2) An option to specify the iSCSI name and IP address of iSCSI Target for raidcom check external_iscsi_name is supported. (3) The error message reported when an unused ID cannot be automatically obtained by raidcom add host_grp, add lun is modified. (4) A quorum disk without using an LDEV is supported. (5) A list of mounted quorum disks is added to the output of raidcom get quorum.
Supported Model	All models
Changed Part	Command Control Interface
Note	None
Documented	Command Control Interface Command Reference, Command Control Interface User and Reference Guide

5	Support for new FMDs (NFHAL-Q and NFHAK-Q)
Description	The drives below are newly supported. - NFHAL-Q6R4SS - NFHAK-Q6R4SS - NFHAK-Q13RSS This information is only intended to show microcode support for future drives (not yet shipped) that will be compatible with existing models. When the drives are shipped, we will issue hardware ECNs containing more details about shipping dates and drive compatibility.
Supported Model	All models
Changed Part	CONFIG
Note	None
Documented	Maintenance Manual (3 OPTION & FIRMWARE VERSION, 5 THEORY OF OPERATION, 7 INSTALLATION, 10 ACC (ACTION CODE), 14 REPLACEMENT, 17 PARTS CATALOG)

6	Support for new drive firmware (SLB5F-M)
Description	The drive firmware below is supported. SLB5F-M480SS, 960SS, 3R8SS (version 00-T4-07)
Supported Model	All models
Changed Part	Drive
Note	None
Documented	None

7	Improvement for maximum number of TI pairs operated at a time
Description	The maximum number of TI pairs on a storage system for which pair operations, such as restore, resync, and deletion, can be performed at a time is increased as follows. VSP G200: From 8 pairs to 16 pairs VSP F400, F600, VSP G400, G600: From 14 pairs to 32 pairs

	VSP F800, VSP G800: From 28 pairs to 60 pairs
Supported Model	All models
Changed Part	DKCMAIN
Note	None
Documented	None

8	**Addition of message 21443-200047**
Description	Message 21443-200047 is added. With previous versions: Before SVP setup, the service of Hi-Track Agent must be stopped. If the SVP update is performed while the service is working, the update fails. With the new version: When performing SVP setup, whether the Hi-Track Agent service is active or not is checked first. If the service is active, the message is displayed to prompt the user to stop the service.
Supported Model	All models
Changed Part	SVP/MPC
Note	None
Documented	None

9	**Support for Flash Player 30.0.0.154 and JRE 8u 181**
Description	Flash Player 30.0.0.154 and JRE 8u 181 are supported. Installation procedure <OS is Windows 7 or Windows Server 2008 R2> From Control Panel, remove the current Flash Player and JRE, and then take the procedure described in Maintenance PC Initial Installation/Update Installation of the MAINTENANCE PC section in the Maintenance Manual. Or download the Flash Player installer, and then update Flash Player. <OS is other than Window 7 and Windows Server 2008 R2> JRE: From Control Panel, remove the current JRE, and then take the procedure described in Maintenance PC Initial Installation/Update Installation of the MAINTENANCE PC section in the Maintenance Manual. Flash Player: Download the Flash Player patch, and then update Flash Player; or perform Windows Update. If Windows Update has not been performed, Flash Player installation may fail and the Storage Navigator or Web Console window may not be displayed. If it occurs, take the recovery action below. Recovery action Manually install Flash Player. If the window is still not opened, perform Windows Update, and then retry the manual installation. In addition, security is enhanced for the communication between SMI-S Provider and client by disabling TLS1.0 and TLS1.1.

Supported Model	All models
Changed Part	OSS, JRE, Flash, SMI-S
Note	None
Documented	Maintenance Manual (8 MAINTENANCE PC)

10	Improvement for HTTP security headers
Description	(1) For security improvement, the following HTTP security headers are supported on Storage Navigator. - Strict-Transport-Security: max-age=31536000 - X-Frame-Options: SAMEORIGIN - X-XSS-Protection: "1; mode=block" - X-Content-Type-Options: nosniff (2) From the Strict Transport Security of HTTP security headers supported on Maintenance Utility, the includeSubDomains option is removed as follows. - Strict-Transport-Security: max-age=31536000 Note (1) To enable HTTP Strict Transport Security, a security certificate issued for an address of Storage Navigator or Maintenance Utility from a qualified root certificate authority is necessary. For example, when a user accesses Storage Navigator or Maintenance Utility, if the following message (a) or (b) below is displayed on the browser, HTTP Strict Transport Security is not enabled. In this case, verify that the certificate is issued from a qualified root certificate authority and the certificate is issued for the web application address (if SAN (Subject Alternate Name is correct). Which certificate can be trusted varies depending on the browser. Confirm with your vendor for your certificate. <Message> (a) This website's security certificate isn't from a trusted source. (b) This website's address doesn't match the address in the security certificate. (2) HTTP Strict Transport Security is valid for a year (31536000 seconds), and the term of validity is updated each time when HTTP Strict Transport Security headers are sent to the browser.
Supported Model	All models
Changed Part	SVP/MPC, GUM
Note	None
Documented	None

	Document Title	PDF	Online Help	Remark
1	Storage Navigator User Guide	stnHM8e052a.pdf	Available	FSD process
2	Provisioning User Guide (Open System)	pvoHM8e052a.pdf	Available	FSD process
3	Performance Manager User Guide	perHM8e052a.pdf	Available	FSD process
4	Volume Migration	vmiHM8e050a.pdf	Available	
5	Volume Shredder User Guide	vshHM8e046a.pdf	Available	FSD process
6	ShadowImage User Guide	sioHM8e052a.pdf	Available	FSD process
7	SNMP Agent User Guide	snmHM8e052a.pdf	Available	FSD process
8	Storage Navigator Messages	msgHM8e052a.pdf	-	No need for OLH.
9	Universal Volume Manager User Guide	uvmHM8e052b.pdf	Available	FSD process
10	Thin Image User Guide	htiHM8e052a.pdf	Available	FSD process
11	TrueCopy User Guide	tcoHM8e052b.pdf	Available	FSD process
12	Audit Log User and Reference Guide	audHM8e052a.pdf	Available	
13	Universal Replicator User Guide	uroHM8e052b.pdf	Available	FSD process
14	CCI Installation & Configuration User Guide	cccHM8e052a.pdf	-	No need for OLH.
15	CCI User's Guide	cciHM8e052a.pdf	-	No need for OLH.
16	CCI Reference Guide	cmrHM8e052a.pdf	-	No need for OLH.
17	Document Map	mapHM8e046a.pdf	-	
18	Encryption License Key User Guide	darHM8e052a.pdf	Available	FSD process
19	Global-active device User Guide	gadHM8e052b.pdf	Available	FSD process
20	Nondisruptive Migrationn Operation Manual	ndmHM8e052b.pdf		

Maintenance Manual

<mark>Rev. 11.4 for DW800 Maintenance Manual</mark>

Appendix-C   NAS OS and SMU

To release NAS OS: 13.4.4911.01 and SMU: 13.4.4911.01 updated software for the following hardware platforms:

- Hitachi VSP G400, G600, G800 with NAS Module
- Hitachi VSP F400, F600, F800 with NAS Module

This release of NAS OS and SMU v13.4 includes server update (SU) 13.4.4911.01 and SMU 13.4.4911.01. This release addresses several issues.

SU 13.4.4911.01 firmware replaces all earlier versions of the NAS OS firmware for the supported platforms.

The SMU release 13.4 uses the CentOS 6.2 operating system.

Estimated Installation Time: < 2 hours
System Restart Required: Yes, for both SU and SMU systems
Data Transfer Required: No

(1) Software

Software	New Version	Previous Version
NAS OS	13.4.4911.01	13.4.4911.00
SMU	13.4.4911.01	13.4.4911.00

(2) Restrictions

Point build upgrades do not require a complete cluster reboot and can be done as a rolling upgrade.

The SU and SMU firmware that comprise the NAS OS are interdependent. Newer versions of 13.x SMU code can manage predecessor versions of SU code or appropriately matched code levels as described in "(3) SMU Compatibility Chart". The noted release levels should be installed on the storage server.

(3) SMU Compatibility Chart

SMU Code Level	Manageable NAS OS Code Level(s)
13.4	13.4 -> 13.0, 12.x
13.3	13.3 -> 13.0, 12.x
13.2	13.2 -> 13.0, 12.x
13.1	13.1 -> 13.0, 12.x
13.0	13.0 -> 12.x
12.7	12.7 -> 12.6
12.6	12.6

(4) NAS Module

NAS Module

Part Number	Product Descriptions
DW-F800-NAS.P	NAS Blade

NAS Module Media Kits

Part Number	Product Descriptions
044-236173-01.P	VSP G400-600 - NAS Enterprise Virtual Server - Media Kit
044-236154-01.P	VSP G400-600 - NAS Local Replication - Media Kit
044-236156-01.P	VSP G400-600 - NAS Mobility - Media Kit

Part Number	Product Descriptions
044-236155-01.P	VSP G400-600 - NAS Remote Replication - Media Kit
044-236153-01.P	VSP G400-600 - NAS SVOS - Media Kit
044-236166-01.P	VSP G400-600 - Unified Data Mobility - Media Kit
044-236164-01.P	VSP G400-600 - Unified Local Replication - Media Kit
044-236165-01.P	VSP G400-600 - Unified Remote Replication - Media Kit
044-236163-01.P	VSP G400-600 - Unified SVOS - Media Kit
044-236161-01.P	VSP G800 - NAS Data Mobility - Media Kit
044-236159-01.P	VSP G800 - NAS Local Replication - Media Kit
044-236160-01.P	VSP G800 - NAS Remote Replication - Media Kit
044-236158-01.P	VSP G800 - NAS SVOS - Media Kit
044-236171-01.P	VSP G800 - Unified Data Mobility - Media Kit
044-236169-01.P	VSP G800 - Unified Local Replication - Media Kit
044-236170-01.P	VSP G800 - Unified Remote Replication - Media Kit
044-236168-01.P	VSP G800 - Unified SVOS - Media Kit

(5) New features

None

(6) Issues Addressed in this Release

Customer Facing Issues

The following list summarizes the customer reported issues addressed in this release.

Issue ID	Sev	Customer	Summary
135572	C	UBS	Fixed a stability issue that could occur where HNAS sees file serving traffic from 16384 or more network endpoints, uses LACP link aggregation, and where the fix or work around for D132691 (fixed in 13.4.4715.00) has been deployed.

Non-Customer Facing Issues

The following list summarizes the issues that have been addressed in this release.

Issue ID	Sev	Customer
135662	C	Fixed an issue with the output of the 'ls' command, so that it now reports appropriate errors, such as NotFound or VolumeNotMounted, rather than just silently failing.

(7) Export Regulation

ECCN: 5D002 c.1
License Exception: ENC Unrestricted
Export Authorization: ERN R100166 under §740.17(b)(1)

No.	1
Product Name	VSP Gx00
BugID	HM800-2132
Title	Many Write PINs occur due to drive failure, resulting in poor host I/O performance and host access loss
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-05-05-60/00 and later (within 83-05-0x range) / 83-05-23-60/00 and later G400, G600, F400, F600: 83-05-05-40/00 and later (within 83-05-0x range) / 83-05-23-40/00 and later G200: 83-05-05-20/00 and later (within 83-05-0x range) / 83-05-23-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	After Dynamic Sparing (hereinafter stated as DS) starts, many Write PINs may occur. It may cause a delay in a response to a host I/O, and lead to host access loss.
Symptoms	After Dynamic Sparing starts, many Write PINs may occur. It may cause a delay in a response to a host I/O, and lead to host access loss. When the phenomenon occurs, SSB=A402 (drive failure) and SIM=EF4XYY (PIN) are reported frequently.
ConditionsOfOccurrence	When all the following conditions (1) (2) and (3) are met, the phenomenon may occur. (1) DKCMAIN versions are as follows. - 83-05-05-x0/00 and later (within 83-05-0x range) - 83-05-23-x0/00 and later (2) System option mode 654 (SOM654) is set to OFF (3) A drive continuously returns an error response. (SSB=A402 is logged continuously) Note: 1) SOM654: When a drive response delay or a drive response times out is detected, the microcode disables a read access to the failure drive. In addition, the microcode performs a correction read which will mitigate the impact on the host I/O performance. The function works when the mode is set to OFF (default). The function is disabled when the mode is set to ON. 2) SSB=A402 is logged when a drive returns Not Ready status (Sense
CauseForFailure	When there is an access to the failure drive and the drive returns Not Ready status during DS, the drive cannot be blocked and a Write I/O to the failure drive results in creating a Write PIN.
SeverityOfFailure	High
ProbabilityOfFailure	High
BugImpact	Access loss
RecoveryFromProblem	Refer to the detail bytes of SSB=A402, and replace the affected drive with a spare part. If a spare part cannot be prepared immediately, follow the procedure mentioned in TemporaryCircumvention. Afterwards, apply the modified microcode.
TemporaryCircumvention	Perform both (1) and (2) as follows. (1) SOM654=ON (*1) Note: The control class of the mode is RBE, but Technical Support permission is required to enable the mode when the conditions of occurrence are met. (2) SOM144=ON (*2) (*1) Setting SOM654 to ON will disable the following function: When a drive response delay or a drive response times out is detected, the microcode disables a read access to the failure drive. In addition, the microcode performs a correction read which will mitigate the impact on the host I/O performance. (*2) Setting SOM144 to ON will block a drive which is permanently

WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-104375
HDS_SupportCaseID	00679666
RelatedOS	N/A
RelatedEarlyNoticeNumber	HM800-EN-M025
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	2
Product Name	VSP Gx00
BugID	HM800-2050
Title	Failure suspension of TI pair
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a TI pair is restored, SSB=97E0 is logged and the pair is suspended due to failure.
Symptoms	When a TI pair was restored, SSB=97E0 was logged and the TI pair was suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A TI pair is restored. (2) An MP failure (CHK1) occurs and SSB=1606 and 1607 are logged.
CauseForFailure	A failure of internal processing sequence at pair status change with local copy function
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Thin Image
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	3
Product Name	VSP Gx00
BugID	HM800-2081
Title	Failure of data copy to UR S-VOL
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	During de-staging fails or a controller is blocked during controller replacement at UR L or R site, the data may not be copied to the S-VOL.
Symptoms	When de-staging failed or a controller was blocked during controller maintenance at UR L or R site, the data that should have been copied to the S-VOL might not be copied.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) UR configuration (2) A write I/O is issued to the UR P-VOL or UR pair creation is performed. (3) A controller maintenance operation is performed at UR L or R site while the controller is in normal status. (4) The maintenance target controller is removed or a controller failure occurs before blocking the controller for maintenance.
CauseForFailure	A failure of data transfer processing at cache failure with remote copy function
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	When the replace target controller is removed or a controller failure occurs at UR L or R site during controller replacement, perform initial copy of the UR pair. Is the UR S-VOL is used for a different program product pair (such as SI or TI), perform initial copy of the program product pair.
TemporaryCircumvention	To replace a controller at UR R site, suspend the UR pair, and then create the UR pair again after the controller replacement is complete.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? RCU (3) Recommendation of installing the modified code for TC. None

No.	4
Product Name	VSP Gx00
BugID	HM800-2083
Title	Access loss due to garbage accumulation by continuous write I/O
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When write I/Os are continuously issued and garbage is accumulated, access loss may occur.
Symptoms	When write I/Os were continuously issued to a virtual volume with capacity saving enabled and garbage was accumulated, access loss might occur. SSB=F497
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) There is a virtual volume with capacity saving enabled (2) A write I/O is issued to the virtual volume. (3) The user and system data of 3 TB in total exists in the virtual volume.
CauseForFailure	A failure of internal processing sequence at deduplication processing with capacity saving function
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Access loss
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	5
Product_Name	VSP Gx00
BugID	HM800-2095
Title	MP blockage during I/O
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	An MP is blocked during I/O.
Symptoms	An MP was blocked during I/O. SIM=3073XX
ConditionsOfOccurrence	The problem may occur in rare cases when user data transfer that uses a data transfer path between controllers is highly loaded due to a hardware failure.
CauseForFailure	A failure of reset processing in high load I/O environment in open I/O processing
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Blockage
RecoveryFromProblem	Dummy replace the controller that contains the blocked MP.
TemporaryCircumvention	Reduce the host I/O load.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM8UN-103832
HDS_SupportCaseID	00491292
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	6
Product Name	VSP Gx00
BugID	HM800-2112
Title	MP blockage during controller replacement
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	An MP is blocked during controller replacement.
Symptoms	During controller replacement after a controller was blocked due to a hardware failure, such as controller and DIMM, an MP was blocked (SIM=3073XX, SSB=1355).
ConditionsOfOccurrence	The problem may occur in rare cases when all the following conditions are met. (1) A controller is blocked due to a hardware failure, such as a controller and DIMM failure. (2) The controller is replaced with a maintenance part.
CauseForFailure	A failure of interface between internal functions at controller failure in failure recovery processing
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Dummy replace the blocked controller. If the dummy replacement fails continuously, forcibly turn off and then turn on the storage system, and then dummy replace the blocked controller.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103467, HM800-103467
HDS_SupportCaseID	00342234, 00545115
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	7
Product Name	VSP Gx00
BugID	HM800-2129
Title	Failure of volume creation with SN message 20121-107097
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-04-41-60/00 and later G400, G600, F400, F600: 83-04-41-40/00 and later G200: 83-04-41-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	After a resource lock and then unlock that take place during volume creation, the volume creation processing stops at 99% and Storage Navigator message 20121-107097 is displayed.
Symptoms	At volume creation on Storage Navigator, a resource lock occurred so that the user unlocked the resource. After that, when the user continued the volume creation, the processing stopped at 99% and Storage Navigator message 20121-107097 was displayed.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The version of Java used on the SVP is Java8 Update40 or later. (2) HCS (Hitachi Command Suite/Device Manager) is connected.
CauseForFailure	A failure of incorrect memory access at maintenance operation on Storage Navigator
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Reboot the SVP PC.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	8
Product Name	VSP Gx00
BugID	HM800-2056
Title	Unable to automatically select LDEV as pool volume
Products_and_Versions_Affected	SVP/MPC
	G800, F800: 83-03-01-60/00 and later
	G400, G600, F400, F600: 83-03-01-40/00 and later
	G200: 83-03-01-20/00 and later
Products_and_Versions_Fixed	SVP/MPC
	G800, F800: 83-05-25-60/00
	G400, G600, F400, F600: 83-05-25-40/00
	G200: 83-05-25-20/00
ProblemDescription	An LDEV in a parity group consisting of drives that support accelerated compression is not included in volumes that can be selected automatically as pool volumes at pool creation.
Symptoms	If an LDEV in a parity group consisting of drives that supported accelerated compression was specified as a pool volume at pool creation, the LDEV was not included in those that could be selected automatically as pool volumes so that Auto selected for Pool Volume Selection did not work.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met.
	(1) Auto is selected for Pool Volume Selection on the Create Pools window on Storage Navigator.
	(2) A pool is created using an LDEV in a parity group consisting of drives that support accelerated compression.
CauseForFailure	A failure of internal processing sequence at maintenance operation on Storage Navigator
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Display failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Select Manual for Pool Volume Selection.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	None
	(3) Recommendation of installing the modified code for TC.
	None

No.	9
Product Name	VSP Gx00
BugID	HM800-2066
Title	Journal data piled up at L site
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	The journal data at L site is piled up in TC-UR delta configurations (with remote command device assigned).
Symptoms	In TC-UR delta configurations (with remote command device assigned), the journal data at L site was piled up.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Universal Replicator (2) 2 or more TC-UR delta configurations (with remote command device assigned) (3) Journal #0 is used at P or L site. (4) The site of (3) is VSP F400, F600, F800 or VSP G200, G400, G600, G800. (5) All TC pairs in the configuration where journal #0 is not used are deleted
CauseForFailure	A failure of internal processing sequence at pair operation with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Release all assigned remote command devices in the configuration where journal #0 is used, and then assign again.
TemporaryCircumvention	Release all assigned remote command devices, and then delete TC pairs.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? MCU (3) Recommendation of installing the modified code for TC. None

No.	10
Product Name	VSP Gx00
BugID	HM800-2072
Title	Failure suspension of TC/UR/GAD due to wrongly enabled cache maintenance operation
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00
ProblemDescription	A cache maintenance operation while a TC, UR, or GAD pair was in COPY status is wrongly enabled and the TC, UR, or GAD pair is suspended due to failure.
Symptoms	A cache maintenance operation while a TC, UR, or GAD pair was in COPY status was wrongly enabled and the TC, UR, or GAD pair was suspended due to failure.

ConditionsOfOccurrence	The problem occurs when all the following conditions are met.
	(1) VSP F400, F600 or F800, or VSP G400, G600 or G800 model
	(2) TC, UR, or GAD
	(3) The TC, UR, or GAD pair is in COPY status.
	(4) One of the following controller board maintenance operations is performed.
	  (a) Cache installation by which CMG#1 is installed
	  (b) Cache removal by which CMG#1 is removed
	  (c) Controller board maintenance while CMG#1 is installed

CauseForFailure	A failure of internal processing sequence with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Resynchronize the suspended TC, UR, or GAD pair.
TemporaryCircumvention	Perform cache maintenance after the TC, UR, or GAD copy is complete.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	TrueCopy, Universal Replicator, global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	11
Product Name	VSP Gx00
BugID	HM800-2131
Title	Failure of DP capacity expansion with SSBs logged
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	DP capacity expansion operations fail and SSB=B96B and AF2E are logged.
Symptoms	DP capacity expansion operations using OpenStak Cinder plugin failed and SSB=B96B and AF2E were logged.
ConditionsOfOccurrence	The problem occurs when multiple DP capacity expansion operations are performed at the same time using OpenStack Cinder plugin or CCI.
CauseForFailure	A failure of internal processing sequence at maintenance operation on CCI
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Do not perform multiple DP capacity expansion operations at a time.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Command Control Interface
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	12
Product Name	VSP Gx00
BugID	HM800-2121
Title	Blockage of added alternate path
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When an alternate path is added from CCI in a UVM environment, the added path is blocked.
Symptoms	When an alternate path was added from CCI in a UVM environment, the added path was blocked.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) UVM environment where one of the following storage systems is connected SUN T3, SUN T4, SUN StorEdge 3511, SUN CSM100_R_FC, SUN 3510, SUN 3511, SUN 6130, SUN 6140, SUN 7120, SUN 7130, SUN 7320, SUN 7330, SUN 7420, SUN 7430, SUN Hickory, SUN STK6580/STK6780,IBM FAStT, IBM DS8000, IBM DS5000, IBM DS4700, IBM SVC, IBM Flash System, IBM A9000, HPE EVA, HPE MSA1040, HPE MSA2040, HPE MSA2000, HPE MSA2000G3, HPE MSA 1040,FUJITSU E2000, FUJITSU E3000, FUJITSU E4000, FUJITSU E8000, TOSHIBA ArrayFort, NEC storage, Pure storage, DELL storage, STK storage, Gateway storage, 3PARdata storage, IFT storage, NEXSAN storage, XIOTECH storage, NETAPP storage, DFT storage, SGI storage, LSI storage, LIO-ORG storage, DDN storage, QNAP storage, PURE storage, LEFTHAND storage, UIT storage, IET storage, HUAWEI storage (2) A configuration where LU# of port (a) and LU# of port (b) are different. (a) Port to which an already set UVM path is connected (b) Port to which a path to be added is connected
CauseForFailure	A failure of interface between internal functions for external storage connection with CCI
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Delete the added path, and then retry the operation on Storage Navigator, or set the same LU# for ports (a) and (b) of occurrence condition (2).
TemporaryCircumvention	Add an alternate path on Storage Navigator, or set the same LU# for ports (a) and (b) of occurrence condition (2).
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Volume Manager
AreaChangedInFirmware	DKCMAIN

SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	None
	(3) Recommendation of installing the modified code for TC.
	None

SpecialInstructionsForApplyingFix (1) Restriction of micro-program exchange
None
(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
None
(3) Recommendation of installing the modified code for TC.
None

No.	13
Product Name	VSP Gx00
BugID	HM800-2049
Title	Virtual volume blockage and blockage recovery failure
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When obtaining an encryption key from an external key server fails, a virtual volume with capacity saving enabled and a deduplication system data volume may be blocked, and a recovery of the blocked volumes may fail.
Symptoms	At the PS ON processing of a storage system for which an encryption setting was enabled and on which a virtual volume with capacity saving was defined, if an operation to obtain an encryption key from an external key server for the storage system failed (SIM=661000), the virtual volume with capacity saving enabled and the deduplication system data volume might be blocked. After the blockage, when a recovery action was taken in accordance with the action code of the SIM, the blocked volumes might not be recovered.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A virtual volume with capacity saving enabled is defined on a storage system. (2) For the storage system, an encryption setting is enabled. (3) At the PS ON processing of the storage system, obtaining an encryption key from an external key server for the storage system fails. (SIM=661000). (4) A recovery action is taken in accordance with the action code of the SIM
CauseForFailure	A failure of internal processing sequence of pair function with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Take the recovery action described in the provided document below. L3. Recovery Procedures for recovering DRD VOLs.docx.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN

SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	None
	(3) Recommendation of installing the modified code for TC.
	None

No.	14
Product Name	VSP Gx00
BugID	HM800-2058
Title	Unable to start zero data page reclamation
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-02-01-60/00 and later G400, G600, F400, F600: 83-02-01-40/00 and later G200: 83-02-01-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	Zero data page reclamation cannot be performed with Storage Navigator message 03222-205201 displayed.
Symptoms	When zero data page reclamation was performed on Storage Navigator, message 03222-205201 was displayed and the processing could not start.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) A port from which a path is connected to an LDEV is assigned to a host group with host mode option 97 set to ON. (2) Zero data page reclamation is performed.
CauseForFailure	A failure of internal processing sequence at maintenance operation on Storage Navigator
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Perform the zero data page reclamation by running the command below from CCI. raidcom modify ldev -ldev id <ldev#> -status discard zero page
TemporaryCircumvention	Perform the zero data page reclamation by running the command below from CCI. raidcom modify ldev -ldev id <ldev#> -status discard zero page
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103741
HDS_SupportCaseID	00416989
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dynamic Provisioning
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	15
Product Name	VSP Gx00
BugID	HM800-2062
Title	SVP unavailable from Storage Navigator/HCS (1/2)
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	An SVP that is added to HCS as a management target becomes unavailable from Storage Navigator and HCS after being used for approximately 6 months.
Symptoms	An SVP that was added to HCS as a management target became unavailable from Storage Navigator and HCS after being used for approximately 6 months. Example: (1) The progress of adding an external volume from Storage Navigator remained 20%. (2) An error on the storage system was reported on HCS. (java.lang.OutOfMemoryError:Java heap space)
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) The SVP has run for a long time (about 6 months). (2) Device Manager to which a storage system is added has run for a long time. (3) The JDK (*) is one of the following versions. - JDK bundled in HCS: 1.8.0 update 66 or later (Note: It is the case that at least one product of HCS 8.4.1-00 or later is installed) - Oracle JDK: 1.8.0 update 65 or later * The JDK is not the one that runs on SVP. It runs on a PC where HCS works and is used by HCS
CauseForFailure	A failure of specification at maintenance operation on Storage Navigator
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Reboot the SVP PC.
TemporaryCircumvention	Exclude the SVP from management target by HCS.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	BugID=HM800-1872
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC

SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	None
	(3) Recommendation of installing the modified code for TC.
	None

No.	16
Product Name	VSP Gx00
BugID	HM800-2063
Title	SVP unavailable from Storage Navigator/HCS (2/2)
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	An SVP that is added to HCS as a management target becomes unavailable from Storage Navigator and HCS after being used for approximately 6 months.
Symptoms	An SVP that was added to HCS as a management target became unavailable from Storage Navigator and HCS after being used for approximately 6 months. Example: (1) The progress of adding an external volume from Storage Navigator remained 20%. (2) An error on the storage system was reported on HCS. (java.lang.OutOfMemoryError:Java heap space)
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) The SVP has run for a long time (about 6 months). (2) The information collection is periodically performed by running the export tool every few minutes.
CauseForFailure	A failure of specification at maintenance operation on Storage Navigator
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Reboot the SVP PC.
TemporaryCircumvention	Restart the service of the storage system or reboot the SVP PC periodically.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	17
Product Name	VSP Gx00
BugID	HM800-2065
Title	Failure of controller replacement
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Controller replacement during high load write I/O fails.
Symptoms	When a controller replacement was performed on a storage system containing a virtual volume with capacity saving enabled during high load write I/O, blocking the controller failed, but the replacement was successfully completed by a retry.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A virtual volume with capacity saving enabled is defined. (2) A high load write I/O is issued. (3) Controller replacement is performed.
CauseForFailure	A failure of specification at maintenance operation with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Maintenance failure
RecoveryFromProblem	Retry the controller replacement.
TemporaryCircumvention	Reduce the write I/O load.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	18
Product Name	VSP Gx00
BugID	HM800-2073
Title	Taking longer time of Correction Copy/Drive Copy/Copy Back
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Correction Copy, Drive Copy, or Copy Back for a physical drive takes longer time then usual if performed while I/O or copy processing is being performed for virtual volumes belonging to the drive.
Symptoms	While one of the following operations was performed for virtual volumes with capacity saving enable, if Correction Copy, Drive Copy, or Copy Back was performed for a physical drive containing the virtual volumes, the operation took longer time than usual. - I/O - Remote copy (TC, GAD, UR) or local copy (SI, TI) processing
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) An I/O, or remote copy (TC, GAD, UR) or local copy (SI, TI) processing is performed for virtual volumes with capacity saving enabled. (2) During (1), Correction Copy, Drive Copy, or Copy Back is performed for a physical drive containing the virtual volumes.
CauseForFailure	A failure of internal processing sequence at Correction Copy, Drive Copy, or Copy Back with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Maintenance failure
RecoveryFromProblem	To perform Correction Copy, Drive Copy, or Copy Back for a physical drive, reduce the amount of I/Os or stop I/Os for the virtual volumes belonging to the physical drive. If remote copy or local copy processing is being performed, stop the processing.
TemporaryCircumvention	To perform Correction Copy, Drive Copy, or Copy Back for a physical drive, reduce the amount of I/Os or stop I/Os for the virtual volumes belonging to the physical drive. If remote copy or local copy processing is being performed, stop the processing.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	19
Product Name	VSP Gx00
BugID	HM800-2085
Title	Failure of Storage Device List password change except last specified one
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-05-21-60/00 and later G400, G600, F400, F600: 83-05-21-40/00 and later G200: 83-05-21-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	When the Storage Device List password is changed from CM REST for multiple storage systems at a time, the change for those other than the last specified one fails.
Symptoms	While multiple storage systems were added to the Storage Device List, when the Storage Device List password was changed from CM REST for multiple storage systems at a time, the changes for those other than the last specified one failed (21041-007014).
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Multiple storage systems are added to the Storage Device List. (2) The Storage Device List password is changed from CM REST for multiple storage systems at a time.
CauseForFailure	A failure of internal processing sequence at maintenance operation on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	For storage systems whose password change fails, change the password one by one.
TemporaryCircumvention	Change the password one by one.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	20
Product Name	VSP Gx00
BugID	HM800-2098
Title	Unnecessary event log output for temporary authentication error
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	An event log is created for a temporary error and the error is reported to maintenance personnel.
Symptoms	When the communication path between SVP and GUM was cut off, the processing to automatically recover the path worked. In the authentication processing at that time, even if a temporary processing failure, such as a file reading error, occurred, an event log was created and the error was reported to maintenance personnel.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) The connection with GUM is cut off. (2) During reconnection, reading a file containing the user information fails.
CauseForFailure	A failure of internal processing sequence at network error on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	21
Product Name	VSP Gx00
BugID	HM800-2099
Title	Wrong increase in memory usage
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	When the connection to GUM is continuously cut, the memory usage wrongly increased about tens of megabytes.
Symptoms	When the connection to GUM was cut off intermittently, the memory usage of MpcL7Comm.exe wrongly increased about tens of megabytes.
ConditionsOfOccurrence	The problem occurs when the connection to GUM is cut off intermittently.
CauseForFailure	A failure of internal processing sequence at network error on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Performance degradation
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	22
Product Name	VSP Gx00
BugID	HM800-2107
Title	Check Condition returned at PS OFF on MCU
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a storage system on the MCU side is powered off during I/O on the RCU side, Check Conditions is returned.
Symptoms	During I/O on the RCU side while the GAD pair was in the swap suspend status, if the storage system on the MCU side was powered off, Check Condition (SSB=D53C) was returned.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Open Reserve (SCSI2 Reserve,PGR) environment (2) GAD pair volumes are used. (3) A pair split operation is performed. (4) The communication between storage systems is disabled (one of the storage system is powered off).
CauseForFailure	A failure of internal processing sequence at maintenance operation with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Resynchronize the GAD pair. If a resync operation cannot be performed, forcibly delete the GAD pair.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	23
Product Name	VSP Gx00
BugID	HM800-2125
Title	Failure of process detection
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-04-61-60/00 and later G400, G600, F400, F600: 83-04-61-40/00 and later G200: 83-04-61-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	The tool (DllsCheck bat) to forcibly stop process cannot detect a process loading DLL under the SVP installation directory.
Symptoms	At SVP software update, the tool (DllsCheck.bat) that could detect a process on SVP that was loading EXE or DLL for SVP software and forcibly stop the process was not be able to detect the process that was loading DLL included in the SVP software.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The SVP or MPC uses 64Bit OS. (2) A process of EXE that is not included in the SVP software, which is not stored under the SVP installation directory (default: C:\Mapp), such as Hi-Track, loads DLL of the SVP software stored under the SVP installation directory.
CauseForFailure	A failure of specification at maintenance operation on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Reboot the SVP PC.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	24
Product Name	VSP Gx00
BugID	HM800-2054
Title	Increase in journal usage and failure of UR pair suspension
Products_and_Versions_Affected	DKCMAIN
	G800, F800: All
	G400, G600, F400, F600: All
	G200: All
Products_and_Versions_Fixed	DKCMAIN
	G800, F800: 83-05-26-60/00
	G400, G600, F400, F600: 83-05-26-40/00
	G200: 83-05-26-20/00
ProblemDescription	When resynchronizing or adding a UR pair, the journal usage increases and a suspend command does not work for a UR pair.
Symptoms	When resynchronizing or adding a UR pair, the journal usage increased and a suspend command for the UR pair did not work.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met.
	(1) RCU is VSP F350, F370, F700, F900, or VSP G350, G370, G700, G900.
	(2) An operation, such as pair resync and addition, by which the journal status changes from Stop to Active is performed.
	The phenomenon is more likely to occur if the status changes from Stop to Active in a short time frame (about within one second), or if a job is delayed due to journal owner controller being overloaded.
CauseForFailure	A failure of internal processing sequence with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Forcibly delete all pairs and then create them again.
TemporaryCircumvention	After the UR pair suspension is complete (journal status changes to Stop), wait for 10 seconds or longer, and then perform pair resync or addition.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	RCU
	(3) Recommendation of installing the modified code for TC.
	None

No.	25
Product Name	VSP Gx00
BugID	HM800-2057
Title	Export Tool unavailable until Storage Navigator restart
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-03-01-60/00 and later G400, G600, F400, F600: 83-03-01-40/00 and later G200: 83-03-01-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	The Export Tool is disabled until Storage Navigator is restarted.
Symptoms	The Export Tool was disabled (error code: 1.5400) until Storage Navigator was restarted.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A communication error occurs on Storage Navigator and the recovery processing by the failure monitoring part works. (2) A communication error occurs on Storage Navigator and the recovery processing by RMI communication processing part works concurrently with the processing of (1).
CauseForFailure	A failure of internal process conflict at maintenance operation on Storage Navigator
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Stop and then start the service of the storage system on the Storage Device List.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	26
Product_Name	VSP Gx00
BugID	HM800-2059
Title	HDD microcode enhanced to reduce replacements and recovery (1/3)
Products_and_Versions_Affected	DKR2E-H: 00-GG-GG
Products_and_Versions_Fixed	DKR2E-H: 00-GH-GH
ProblemDescription	Frequency of HDD replacement or recovery increases.
Symptoms	(1) Due to logic contradiction caused by a command manager failure in a drive, Not Ready occurred and an HDD might be blocked. (2) ORM detected all of continuous read errors due to Weak Write so that a recoverable HDD might be blocked.
ConditionsOfOccurrence	The problem may occur on DKR2E-H with HDD microcode version 00-GG-GG.
CauseForFailure	HDDs may experience Head Health Check errors that can occur over time.
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure rate elevation
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	Drive
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	27
Product Name	VSP Gx00
BugID	HM800-2060
Title	Failure of operation after MP failure
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Controller replacement, planned PS OFF, offline microcode replacement, or I/O fails after continuous MP failures following pinned slot occurrence.
Symptoms	If MP failures occurred continuously after a pinned slot occurred, the following controller replacement, planned PS OFF, and offline microcode replacement might fail. Also, an I/O might turn to time-out. (SSB=14DC)
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A pinned slot occurs. (2) An MP failure occurs. (CHK3, CHK1B, WCHK1 without all-MP blockage in controller) (3) One of the following operations is performed. - Controller replacement, planned PS OFF, offline microcode replacement, I/O
CauseForFailure	A failure of reset processing at controller failure in failure recovery processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Blockage
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	28
Product Name	VSP Gx00
BugID	HM800-2061
Title	Failure of planned PS OFF from CCI (Out-of-Band)
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A planned PS OFF from CCI (Out-of-Band) is disabled and SIM=388F00 is reported.
Symptoms	When a planned PS OFF was performed after an MP failure occurred during an operation from CCI (Out-of-Band), the planned PS OFF was disabled and SIM=388F00 might be reported.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A command is run by an operation from CCI (Out-of-Band). (2) During the operation of (1), an MP failure without MP blockage occurs (such as CHK3, CHK1B, hang-up). (3) After (2), a planned PS OFF or offline microcode replacement is performed.
CauseForFailure	A failure of reset processing at controller failure in failure recovery processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	If possible, perform the operation from CCI (In-Band) or Storage Navigator instead of CCI (Out-of-Band).
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	29
Product Name	VSP Gx00
BugID	HM800-2064
Title	Failure of data copy processing at pair creation/resync or snapshot restore
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a pair creation, pair resync, or snapshot restore operation is performed for a pair or snapshot group containing a virtual volume with capacity saving enabled, the data copy processing may fail.
Symptoms	For a UR, TC, or GAD pair or a snapshot group, which contained a virtual volume with capacity saving enabled, if a pair creation, pair resync, or snapshot restore was performed, SSB=F497 (detailed code: B601 or B603) was logged and the data copy processing might fail with the pair suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) There is a UR, TC, or GAD pair or a snapshot group, which contains a virtual volume with capacity saving enabled. (2) While specifying the above virtual volume as an operation target (specified as a volume to write data on), a UR, TC, or GAD pair creation or resync operation, or a snapshot data restore operation is performed. * The phenomenon is more likely to occur when the load of an I/O to a pool containing the virtual volume is high.
CauseForFailure	A failure of internal processing sequence of pair function with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Take the recovery action in accordance with the procedure corresponding to the program product of the suspended pair or snapshot group in Maintenance Manual.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	30
Product Name	VSP Gx00
BugID	HM800-2068
Title	Failure suspension of mirror
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-03-01-60/00 and later G400, G600, F400, F600: 83-03-01-40/00 and later G200: 83-03-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	At P site in a UR-UR multi-target configuration, SSB=EC17 and EC0B are logged and a mirror is suspended due to failure.
Symptoms	At P site in a UR-UR multi-target configuration, when JNCB was transferred from CM to PM and then JNCB was read from PM, a CRC error occurred and SSB=EC17 and EC0B were logged. Reading JNCB from PM was retried but the error occurred again and the mirror was suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Universal Replicator (2) The microcode version of UR MCU is 83-03-01-x0/00 or later. (3) UR-UR multi-target configuration (4) An update I/O is issued to a volume in the PAIR status.
CauseForFailure	A failure of internal processing sequence at data transfer with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Resynchronize the suspended UR pair.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800/R700-103270
HDS_SupportCaseID	00273932
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? MCU (3) Recommendation of installing the modified code for TC. None

No.	31
Product Name	VSP Gx00
BugID	HM800-2071
Title	Taking longer time of Correction Copy/Drive Copy/Copy Back
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Correction Copy, Drive Copy, or Copy Back works on a physical drive containing a journal volume during I/O to UR pairs takes a longer time than usual.
Symptoms	When Correction Copy, Drive Copy, or Copy Back worked on a physical drive containing a journal volume during I/O to UR pairs, the processing took a longer time than usual to complete.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) UR P site or L site (2) The total amount of write I/Os to all UR P-VOLs is less than 21MB per second. (3) Correction Copy, Drive Copy, or Copy Back works on a physical drive containing a journal volume.
CauseForFailure	A failure of internal processing sequence at Correction Copy, Drive Copy, or Copy Back with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	If Correction Copy, Drive Copy, or Copy Back is necessary to work on a drive containing a journal volume, stop I/Os or suspend the pair with group specified.
TemporaryCircumvention	If Correction Copy, Drive Copy, or Copy Back is necessary to work on a drive containing a journal volume, stop I/Os or suspend the pair with group specified.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? MCU (3) Recommendation of installing the modified code for TC. None

No.	32
Product_Name	VSP Gx00
BugID	HM800-2076
Title	Failure suspension of SI/VM pair at write I/O time-out
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	If a write I/O turns to time-out during SI/VM copy processing while system option mode 15, 797, or 862 is set to ON, the SI/VM pair may be suspended due to failure.
Symptoms	During SI/VM copy processing while system option mode 15, 797, or 862 was set to ON, if a write I/O turned to time-out (SSB=A4C7, A4C8, A4C9, ABA0, 981B), the SI/VM pair might be suspended due to failure (SSB=21E1).
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) System option mode 15, 797, or 862 is set to ON. (2) A write I/O turns to time-out. (3) An SI pair primary volume or VM pair source volume
CauseForFailure	A failure of specification at drive failure on back-end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	Replace the drive where the failure occurs, and then resynchronize the suspended SI/VM pair.
TemporaryCircumvention	Set system option mode 15, 797, or 861 to OFF.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	ShadowImage, Volume Migration
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	33
Product_Name	VSP Gx00
BugID	HM800-2078
Title	Port blockage on storage system with 2HF16 CHB mounted
Products_and_Versions_Affected	CHB(FC16G): All
Products_and_Versions_Fixed	CHB(FC16G): 83-00-01-34
ProblemDescription	On a storage system with a 2HF16 CHB mounted, a chip system error (SIM=2120XX, SSB=B3D3 or B3D4) occurs, and a port may be blocked.
Symptoms	On a storage system with a 2HF16 CHB mounted, a chip system error (SIM=2120XX, SSB=B3D3 or B3D4) occurred and a port might be blocked.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A 2HF16 CHB is mounted. (2) A port of the CHB is directly connected with a host server, or is connected via a switch. (3) On the CHB port, SSB=B358 is logged. (4) On the CHB port, SSB=B6C0 is logged.
CauseForFailure	A failure of protocol chip firmware at link event processing on front-end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Dummy replace the CHB.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103436
HDS_SupportCaseID	00340815
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	CHB(FC16G)
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	34
Product Name	VSP Gx00
BugID	HM800-2079
Title	Failure of controller replacement
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Controller replacement may fail.
Symptoms	After starting controller replacement on a storage system containing a virtual volume with capacity saving enabled, the garbage collection processing occupied the LDEV resource for an hour and a half, SSB=E400 was logged, and the LDEV ownership could not be migrated, so that the controller replacement might fail.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A virtual volume with capacity saving enabled (2) A write I/O is issued to the virtual volume. (3) WCHK1 occurs. (4) Controller replacement, blocking a controller, ownership migration, SI pair creation, or volume migration is performed.
CauseForFailure	A failure of specification at garbage collection with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	After an hour and a half, retry the controller replacement.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	35
Product Name	VSP Gx00
BugID	HM800-2082
Title	SAS-CTL abnormal response and PIN at LUN reset
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When an LUN rest is performed for a drive of a parity group in the correction access state, a SAS-CTL abnormal response is detected and a PIN occurs.
Symptoms	When an LUN reset was performed for a drive of a parity group in the correction access state, a SAS-CTL abnormal response (*) was detected, and a PIN that could be restored by a retry occurred (SIM=FF4XYY). * SSB=AA4B, AA50, or F708
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) System option mode 15 or 862 is set to ON. (2) A parity group is in the correction access state or in Correction Copy process (3) An LUN reset is performed for a drive in the above parity group.
CauseForFailure	A failure of specification at DKA failure on back-end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Erase the PIN in accordance with the procedure in the TROUBLE SHOOTING section of Maintenance Manual.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	36
Product Name	VSP Gx00
BugID	HM800-2088
Title	Path blockage and GAD pair failure suspension
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-01-21-60/00 and later G400, G600, F400, F600: 83-01-21-40/00 and later G200: 83-01-21-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A path between storage systems is blocked and a GAD pair is suspended due to failure.
Symptoms	Due to host I/O overload and a delay in processing on a path between storage systems or on the RCU side in a GAD configuration, the Exchange resource of the Initiator port might be depleted. If an SCSI reset occurred under the condition, the Initiator port might be linked down, causing the path between storage systems to be blocked and the GAD pair to be suspended due to failure. SSB=D030, 16FF, and D374 STM=2180XY and DDXYZZ
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) An I/O is issued to a GAD pair. (2) The host I/O is overloaded. (3) A delay in processing occurs on a path between storage systems or on the RCU side.
CauseForFailure	A failure of reset processing with overload in GAD configuration
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Resynchronize the GAD pair.
TemporaryCircumvention	Reduce the load and verify the path between storage systems.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	XP7-102345
HDS_SupportCaseID	SIE136668
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	37
Product Name	VSP Gx00
BugID	HM800-2091
Title	Time-out error on normal path side with SSB logged
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-03-04-60/00 and later G400, G600, F400, F600: 83-03-04-40/00 and later G200: 83-03-04-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	At path recovery after pairresync for a GAD pair, SSB=D22B is logged many times and a time-out error occurs on the normal path side.
Symptoms	At path recovery after pairresync for a GAD pair, SSB=D22B was logged many times and a time-out error occurred on the normal path side.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Global-active device (2) The channel board of a port connected to a host is 2HF16 or 4HF32R (3) pairresync is performed. (4) A host reset occurs for a write I/O to the GAD pair.
CauseForFailure	A failure of internal processing sequence at maintenance operation with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	38
Product Name	VSP Gx00
BugID	HM800-2092
Title	Failure of host retry with continuous SSB=D203 logged
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When an LA error occurs and SSB=D203 is logged at host read I/O, host retries cannot solve the error and the SSB is logged continuously.
Symptoms	At read I/O from a host, an LA error occurred and SSB=D203 was logged. Host retries could not solve the error and the SSB was logged continuously.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A host issues a read I/O. (2) A PIN (ECC/LRC error PIN) occurs.
CauseForFailure	A failure of internal processing sequence at cache failure in open I/O processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Erase the PIN in accordance with the troubleshooting.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	39
Product Name	VSP Gx00
BugID	HM800-2094
Title	No display of PIN on Maintenance window
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a PIN occurs on a virtual volume with capacity saving enabled, the PIN is not displayed on the Maintenance window.
Symptoms	A PIN occurred on a virtual volume with capacity saving enabled, but the PIN was not displayed on the Maintenance window. At PIN occurrence, SIM=EF4XYY, FF4XYY, EF5XYY, and FF5XYY were reported.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The capacity saving function is used. (2) A PIN occurs.
CauseForFailure	A failure of specification for PIN occurrence with capacity saving function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Display failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	40
Product Name	VSP Gx00
BugID	HM800-2097
Title	GAD pair failure suspension
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When I/Os are issued continuously in highly loaded environment in GAD configuration, the GAD pair is suspended due to failure.
Symptoms	When I/Os were issued continuously in highly loaded environment in GAD configuration, a path between storage systems was blocked (SSB=CA31 or AD08) and the GAD pair was suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The channel board type is 4HF8. (2) Fabric OFF/FC-AL (3) TrueCopy, Universal Replicator, global-active device, or Universal Volume Manager (4) The port is used as an Initiator. (5) A link-down occurs (caused by frequent resets due to high load).
CauseForFailure	A failure of internal processing sequence in high load I/O environment on front-end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Restore the path, and then resynchronize the pair.
TemporaryCircumvention	Solve the high load condition.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	TrueCopy, Universal Replicator, global-active device, or Universal Volume Manager
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	41
Product Name	VSP Gx00
BugID	HM800-2102
Title	Unable to block controller during controller replacement
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Controller blockage at controller replacement continuously fails.
Symptoms	At controller replacement as a recovery after shared memory installation or removal failed, the controller blockage processing continuously failed. Maintenance Utility message: 30762-208330 SSB=E400
ConditionsOfOccurrence	The problem may occur when controller replacement is performed as a recovery after shared memory installation or removal fails.
CauseForFailure	A failure of interface between internal functions at cache failure on cache control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Replace the blocked controller with a maintenance part.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	42
Product Name	VSP Gx00
BugID	HM800-2108
Title	Continuous SSB=8E21 log and UR pair failure suspension
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	SSB=8E21 is logged continuously on the UR MCU and the UR pair is suspended due to failure.
Symptoms	SSB=8E21 was logged continuously on the UR MCU side and a data update could not be applied to RCU, so that SIM=DC0XYY and DC1XYY were reported and the UR pair might be suspended due to failure. SIM=DCF2XX and DCF3XX were also reported on RCU.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) UR MCU is VSP F400, F600, F800, or VSP G200, G400, G600, G800. (2) UR RCU is HUS VM. (3) SSB=8E21 is logged on the UR MCU side due to a failure, such as cache failure.
CauseForFailure	A failure of internal processing sequence at cache failure with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Forcibly delete and then create the UR pair.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800-103747
HDS_SupportCaseID	00459578
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? MCU (3) Recommendation of installing the modified code for TC. None

No.	43
Product Name	VSP Gx00
BugID	HM800-2115
Title	Failure of controller recovery and blockage of all parts in controller
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00
ProblemDescription	Controller recovery in replacement fails even when the replacement target controller and the other controller do not have any hardware problem, and all parts of the replacement target controller are blocked.
Symptoms	During controller replacement with a maintenance part following an I path failure, the controller and the other controller did not have any hardware failures, but controller recovery in the replacement failed (SSB=39B4 with Byte43=0x23 was logged), and all parts of the replacement target controller were blocked.
ConditionsOfOccurrence	The problem may occur in rare cases when all the following conditions are met. (1) VSP F400, F600, F800, VSP G400, G600, G800 (2) An I path failure is detected (SSB=32FD with Byte28=0x43 or 0x44 is logged), and MPs on both controllers are blocked (SIM=3073XX). (3) Under the condition of (2), one controller with the failure is replaced with a maintenance part.
CauseForFailure	A failure of internal processing sequence at controller failure in failure recovery processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Dummy replace the controller. (The phenomenon may not occur when the replacement is retried.)
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	44
Product Name	VSP Gx00
BugID	HM800-2117
Title	Failure of PS OFF performed during LDEV formatting
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	PS OFF performed after LDEV formatting is performed fails with SIM reported.
Symptoms	When PS OFF was performed from Maintenance Utility after performing LDEV formatting from CCI, SIM=388F00 was reported and the PS OFF failed.
ConditionsOfOccurrence	The problem may occur when PS OFF is performed during normal LDEV formatting from CCI.
CauseForFailure	A failure of internal processing sequence at LDEV format on CCI
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	45
Product Name	VSP Gx00
BugID	HM800-2118
Title	Failure of PS OFF
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	PS OFF during processing of a raidcom command from CCI fails.
Symptoms	When PS OFF was performed during processing of a raidcom command from CCI, the operation failed.
ConditionsOfOccurrence	The problem may occur when PS OFF is performed after one of the following commands is run from CCI and before the command is complete. raidcom add ldev raidcom delete ldev raidcom modify ldev -quorum_enable/-quorum_disable radicom add dp_pool raidcom add snap_pool raidcom delete pool raidcom initialize pool raidcom modify pool -powersave raidcom modify drivebox raidcom add external_grp raidcom delete external_grp raidcom add parity_grp raidcom delete parity_grp raidcom modfiy drive -spare enable/disable
CauseForFailure	A failure of internal processing sequence at maintenance operation on CCI
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	46
Product Name	VSP Gx00
BugID	HM800-2126
Title	HDD microcode enhanced to reduce replacements and recovery (2/3)
Products_and_Versions_Affected	DKR5C-K: 00-GK-GK
Products_and_Versions_Fixed	DKR5C-K: 00-GL-GL
ProblemDescription	Frequency of HDD replacement or recovery increases.
Symptoms	(1) Due to logic contradiction caused by a command manager failure in a drive, Not Ready occurred and an HDD might be blocked. (2) When a recovered error occurred for a look-ahead reading, the data was not transferred and an invalid recovered error response was returned.
ConditionsOfOccurrence	The problem may occur on DKR5C-K with HDD microcode version 00-GK-GK.
CauseForFailure	HDDs may experience Head Health Check errors that can occur over time.
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure rate elevation
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	Drive
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	47
Product_Name	VSP Gx00
BugID	HM800-2127
Title	HDD microcode enhanced to reduce replacements and recovery (3/3)
Products_and_Versions_Affected	DKR2G-H: 00-HA-HA
Products_and_Versions_Fixed	DKR2G-H: 00-HC-HC
ProblemDescription	Frequency of HDD replacement or recovery increases.
Symptoms	When a recovered error occurred for a look-ahead reading, the data was not transferred and an invalid recovered error response was returned.
ConditionsOfOccurrence	The problem may occur on DKR2G-H with HDD microcode version 00-HA-HA.
CauseForFailure	HDDs may experience Head Health Check errors that can occur over time.
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure rate elevation
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	Drive
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	48
Product Name	VSP Gx00
BugID	HM800-2130
Title	FMD DC2 blocked at correctable error
Products_and_Versions_Affected	NFHAH-Q: All NFHAJ-Q: All
Products_and_Versions_Fixed	NFHAH-Q: 00-J1-10 NFHAJ-Q: 00-J1-10
ProblemDescription	When a correctable error occurs and then Dynamic Sparing works, an FMD DC2 drive is blocked.
Symptoms	When a correctable error occurred in a RAM on a controller in an FMD DC2 drive, Dynamic Sparing worked and the FMD DC2 drive might be blocked. SIM=501XXX
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) An FMD DC2 drive (NFHAH-Q, NFHAJ-Q) is used. (2) A failure occurs on a part in the FMD DC2 drive.
CauseForFailure	A failure of internal processing sequence at internal part failure on FMD DC2
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Blockage
RecoveryFromProblem	Replace the FMD DC2 drive with a maintenance part.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	Drive
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	49
Product Name	VSP Gx00
BugID	HM800-2051
Title	Target set before iSCSI CHB removal wrongly displayed
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-41-60/00 and later G400, G600, F400, F600: 83-04-41-40/00 and later G200: 83-04-41-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	After removing an iSCSI CHB, if the iSCSI CHB is reinstalled and then raidcom get host_grp is run, a Target that was set before the removal is displayed wrongly.
Symptoms	After an iSCSI CHB was removed, if the iSCSI CHB was installed in the same slot again and then raidcom get host_grp was run, the Target that had been set before the iSCSI CHB removal was displayed wrongly. * If -port option was set, the Target was not displayed.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) An iSCSI CHB for which a Target and host group that are not the top Target and the top host group are set is removed. (2) The iSCSI CHB is reinstalled in the same slot. (3) raidcom get host_grp (without -port option) is run from CCI. (4) Get <base URL>/v1/objects/host-groups (without specifying port number and host group number) is run using REST API.
CauseForFailure	A failure of internal management table processing at maintenance operation on CHB
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Display failure
RecoveryFromProblem	Add the Target that is wrongly displayed, and then remove the Target.
TemporaryCircumvention	Before removing the iSCSI CHB, delete the Targets and host groups that are not the top ones.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	50
Product_Name	VSP Gx00
BugID	HM800-2052
Title	No warning for version downgrade and display failure of drive firmware version
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A warning that should be displayed at firmware replacement resulting in version downgrade is not displayed, and the current version does not change after the replacement.
Symptoms	Phenomenon 1 At drive firmware replacement that resulted in version downgrade, a warning that should have been displayed in this case was not displayed. Phenomenon 2 After the above firmware downgrade, the current version displayed on MPC was not updated but was the same as the one before the replacement.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) A new drive that the current CONFIG does not support is mounted as a compatible drive. (2) Drive firmware replacement, which results in version downgrade, is performed.
CauseForFailure	A failure of specification of operation target window display at drive firmware replacement
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Maintenance failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Replace CONFIG with a version that supports the drive, and then replace the drive firmware.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	51
Product Name	VSP Gx00
BugID	HM800-2055
Title	Shared memory installation failure during data backup to spare drive
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Shared memory installation is disabled with Maintenance Utility message 30762-208180
Symptoms	During data backup to a spare drive, shared memory could not be installed and Maintenance Utility message 30762-208180 was displayed.
ConditionsOfOccurrence	The problem occurs when one of the following operations is performed during data backup to a spare drive. - Shared memory installation/removal - Cache memory installation/removal - CHB installation/removal - DKB installation/removal - PDEV removal
CauseForFailure	A failure of internal processing sequence at maintenance operation on GUM
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Maintenance failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Perform the operation after the blocked PDEV is recovered.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103462
HDS_SupportCaseID	00342736
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	52
Product Name	VSP Gx00
BugID	HM800-2069
Title	Inappropriate messages displayed at controller/channel board maintenance operation
Products_and_Versions_Affected	GUM: All
Products_and_Versions_Fixed	GUM: 83-05-24/00
ProblemDescription	When a controller or channel board maintenance operation is performed while remote copy is in used and a remote path is set, messages for path deletion request are displayed. The recommended action of the messages are modified to be appropriate as follows. "Forcibly block the specified parts by referring to the REPLACEMENT section in the Maintenance Manual, and then retry the operation."
Symptoms	When a maintenance operation for controller or channel board was performed on a storage system while remote copy (TC, UR, or GAD) was in use and a remote path was set, any of the following messages (path deletion request) were displayed. 30762-208204, 30762-208205, 30762-208206, 30762-208207, 30762-208208, 30762-208209, 30762-208213, 30762-208363, 30762-208364, 30762-208365, 30762-208366
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Remote copy (TC, UR, GAD) is used. (2) A remote path is set. (3) A controller or channel board maintenance operation is performed.
CauseForFailure	A failure of message at maintenance operation on GUM
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	Block the part for which the maintenance operation is performed by referring to the REPLACEMENT section in Maintenance Manual, and then retry the maintenance operation.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	GUM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	53
Product Name	VSP Gx00
BugID	HM800-2070
Title	Inadequate message when entering prohibited character
Products_and_Versions_Affected	GUM: All
Products_and_Versions_Fixed	GUM: 83-05-24/00
ProblemDescription	Message 30762-207002 is displayed when a prohibited character is entered on the Set Up System Information window but the user cannot know that the entry of the prohibited character causes the error. The microcode is modified to display a tool tip indicating prohibited characters being used instead of displaying message 30762-207002.
Symptoms	When a prohibited character was entered for an item on the Set Up System Information windows of Maintenance Utility, message 30762-207002 was displayed, but the user could not know that the error was caused by the entry of the prohibited character.
ConditionsOfOccurrence	The problem occurs when a prohibited character is entered on the Set Up System Information window of Maintenance Utility.
CauseForFailure	A failure of message at maintenance operation on GUM
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Do not use prohibited characters.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-102327
HDS_SupportCaseID	HDS04601166
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	GUM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	54
Product Name	VSP Gx00
BugID	HM800-2087
Title	SVP operation unavailable due to frequent SSB=CDEC
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-03-21-60/01 and later G400, G600, F400, F600: 83-03-21-40/01 and later G200: 83-03-21-20/01 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	After non-volatile power on following forcible power off, SSB=CDEC is logged frequently, and then operations from SVP become unavailable.
Symptoms	After non-volatile power on following forcible power off, SSB=CDEC was logged frequently, and then operations from SVP became unavailable.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Universal Replicator (2) MCU is VSP F400, F600, F800, or VSP G200, G400, G600, G800. (3) Forcible power off and non-volatile power on take place at P or L site. (4) The journal before the forcible power off of (3) is Active. (5) At the power on of (3), a journal volume is blocked.
CauseForFailure	A failure of internal processing sequence at drive failure with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Forcibly delete and then create the UR pair.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800-104004
HDS_SupportCaseID	00493958
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? MCU (3) Recommendation of installing the modified code for TC. None

No.	55
Product Name	VSP Gx00
BugID	HM800-2096
Title	Display failure of setting change on confirmation window
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-04-41-60/00 and later G400, G600, F400, F600: 83-04-41-40/00 and later G200: 83-04-41-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	A setting change made on the Edit LDEVs or Edit Parity Groups window is not displayed on the confirmation window.
Symptoms	When the following operations were performed in the listed order on the Edit LDEVs window or Edit Parity Groups window, the setting change of (2) was not displayed on the confirmation window. (1) [Back] was clicked on the confirmation window, and the window turned back to the setting window. (2) A setting was changed. (3) [Finish] was clicked. (4) For a warning message displayed, [OK] was clicked and the window changed to the setting confirmation window.
ConditionsOfOccurrence	The problem occurs when the following operations are performed in the listed order. (1) [Back] is clicked on the confirmation window, and the window turns back to the setting window. (2) A setting is changed. (3) [Finish] is clicked. (4) For a warning message displayed, [OK] is clicked, and the window changes to the setting confirmation window.
CauseForFailure	A failure of internal processing sequence at maintenance operation on Storage Navigator
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Close and then open the Edit LDEVs or Edit Parity Groups window.
TemporaryCircumvention	Do not go back to the Edit LDEVs or Edit Parity Groups window from the confirmation window.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	56
Product_Name	VSP Gx00
BugID	HM800-2100
Title	Failure of setting operation on GUM
Products_and_Versions_Affected	GUM: All
Products_and_Versions_Fixed	GUM: 83-05-24/00
ProblemDescription	A setting operation that causes a change in the GUM configuration information fails with time-out.
Symptoms	A setting operation that caused a change in the GUM configuration information (such as date and time setting, network setting, and controller replacement) failed with time-out.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) A setting operation (such as date and time setting, network setting, and controller replacement) that causes a change in the GUM configuration information is performed. (2) Writing the change in the configuration information file and the backup processing by OS take place at the same time.
CauseForFailure	A failure of data transfer processing at maintenance operation on GUM
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-102836
HDS_SupportCaseID	00158212
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	GUM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	57
Product Name	VSP Gx00
BugID	HM800-2101
Title	GUM dump backed up based on a wrong calculation condition
Products_and_Versions_Affected	GUM: All
Products_and_Versions_Fixed	GUM: 83-05-24/00
ProblemDescription	Dump of a GUM is backed up in a non-volatile area based on a wrong calculation condition.
Symptoms	When the usable memory of a GUM is less than 50 MB, dump (trace information) of the GUM is backed up in a non-volatile area per the specifications. However, because the memory used by cache, etc. was not counted as usable memory, the dump was backed up when the usable memory was over 50 MB.
ConditionsOfOccurrence	None
CauseForFailure	A failure of internal processing sequence at maintenance operation on GUM
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	GUM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	58
Product Name	VSP Gx00
BugID	HM800-2109
Title	Specifying unsupported storage system wrongly enabled
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-01-21-60/00 and later G400, G600, F400, F600: 83-01-21-40/00 and later G200: 83-01-21-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A storage system that is not supported can be specified as a paired storage system at quorum disk setting. After that, GAD pair creation using the quorum disk fails. The microcode is modified to disable this setting with the following SSB output. SSB=0x2E00, 0x8000 The specified product ID is invalid.
Symptoms	When running the command below for a quorum disk setting from CCI, a storage system that was not supported could be specified as a paired storage system. After that, GAD pair creation using the quorum disk failed. raidcom modify ldev -ldev_id <LDEV#> -quorum_enable <serial#> <id> -quorum_id <quorum_id>
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Global-active device (2) A raidcom command for quorum disk setting is run from CCI. (3) One of the following storage systems is specified as a paired storage system. - USP/NSC, USP V/VM, VSP, HUS VM
CauseForFailure	A failure of interface between internal function at quorum disk setting with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Cancel the wrongly made quorum disk setting, and then perform the quorum disk setting again with a correct storage system specified.
TemporaryCircumvention	Specify a supported storage system as a remote storage system.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	59
Product Name	VSP Gx00
BugID	HM800-2114
Title	Inadequate action in SN messages
Products_and_Versions_Affected	SVP/MPC G800, F800: G400, G600, F400, F600: G200:
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	Actions in the Storage Navigator messages below are not adequate. 07005-058356 03505-058356 The microcode is modified to correct the actions in the above messages.
Symptoms	While TC, UR, and SI pairs were combined by an operation of Storage Navigator, when Recovery Copy or Quick Restore was performed for the SI pair, one of the following messages was displayed but the action of the message was not adequate. 07005-058356 03505-058356
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) TC, UR, and SI pairs are in PAIR, PSUS, and PSUS status respectively. (2) Recovery Copy or Quick Restore is performed for the SI pair.
CauseForFailure	A failure of specification at maintenance operation on Storage Navigator
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	60
Product Name	VSP Gx00
BugID	HM800-2116
Title	Wrong journal ID display in audit log
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	After a UR creation fails, when the creation is retried and then the audit log for the UR pair is checked, the journal ID different from the specified ID is displayed.
Symptoms	After a UR creation operation from CCI failed, when the creation was retried and then the audit log for the UR pair was checked, the journal ID different from the specified ID was displayed.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. <Case 1> (1) From In-Band CCI, a pair operation (pair creation, resync, suspend, deletion) of remote copy (TC, UR, or GAD) or local copy (SI or TI) is performed and the operation fails. (2) From the same CCI, the same operation is performed again. <Case 2> (1) From In-Band CCI, a pair operation (pair creation, resync, suspend, deletion) of remote copy (TC, UR, or GAD) or local copy (SI or TI) is performed and it is complete normally. (2) On Storage Navigator, the pair status is changed so that the operation same as (1) can be performed. (3) From the same CCI of (1), the same operation is performed again.
CauseForFailure	A failure of internal processing sequence at command retry on CCI
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Command Control Interface
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	61
Product Name	VSP Gx00
BugID	HM800-2122
Title	Failure of displaying online help
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-04-23-60/00 and later G400, G600, F400, F600: 83-04-23-40/00 and later G200: 83-04-23-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	When the online help button is clicked on the Ports/Host Groups/iSCSI Targets window on Storage Navigator activated from HDvM GUI, HTTP ERROR 404 is displayed.
Symptoms	When the online help button ("?" button on the upper right corner) was clicked on the Ports/Host Groups/iSCSI Targets window on Storage Navigator activated from HDvM GUI, the help was not displayed but HTTP ERROR 404 was displayed.
ConditionsOfOccurrence	The problem occurs when Storage Navigator is opened using Link & Launch from HDvM GUI.
CauseForFailure	A failure of specification at maintenance operation on Storage Navigator
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Display failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Access Storage Navigator directly and open the help.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HDVM-103807
HDS_SupportCaseID	00469069
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	62
Product Name	VSP Gx00
BugID	HM800-2123
Title	Inadequate error level of SIM=627XXX/628XXX
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00 SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	The error level of SIM=627XXX and 628XXX are not adequate. The error level of the SIMs is changed as follows. 627XXX: from Moderate to Serious 628XXX: from Service to Serious
Symptoms	SIM=627XXX and 628XXX indicated pool volume blockage and read and write protect by DRU attribute respectively, but the error level of both SIMs was not Serious so that users might determined that the urgency of the SIMs were low.
ConditionsOfOccurrence	The problem occurs when one of the following conditions is met. (1) A pool volume in a DP pool is blocked and SIM=627XXX is reported. (2) Read & Write Protect of the DRU attribute is set to a DP volume associated with a DP pool and SIM=628XXX is reported.
CauseForFailure	A failure of specification at drive failure with DP/DT function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Evaluation
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800-102831
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN, SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	63
Product Name	VSP Gx00
BugID	HM800-2124
Title	Wrong TI pair status returned
Products_and_Versions_Affected	SVP/MPC G800, F800: 83-04-41-60/00 and later G400, G600, F400, F600: 83-04-41-40/00 and later G200: 83-04-41-20/00 and later
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	When an RMI API is run for a TI pair for which storing snapshot data has been performed, SMPL was returned as the status of the target TI pair.
Symptoms	When the RMI API below was run for a TI pair for which storing snapshot data had been performed, the status of the target TI pair was returned as SMPL. - MRCFreadSnapshotTreePairs - MRCFreadTiPairOfSecondaryVolumes
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) DKCMAIN microcode version is earlier than 83-04-41-x0/00. (2) SVP microcode version is 83-04-41-x0/00 or later. (3) There is a TI pair for which storing snapshot data has been performed.
CauseForFailure	A failure of internal processing sequence at maintenance operation with local copy function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Thin Image
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	64
Product Name	VSP Gx00
BugID	HM800-2048
Title	SSBs logged wrongly
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a read I/O is issued to a virtual volume with capacity saving enabled, or the virtual volume is combined with a TC, UR, GAD, SI, or TI P-VOL, SSBs may be logged wrongly.
Symptoms	When a read I/O was issued to a virtual volume with capacity saving enabled, or the virtual volume was paired with a TC, UR, GAD, SI, or TI P-VOL, the following SSBs might be logged wrongly. SSB= 01FF, B285, B2A9, D20D
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A virtual volume with capacity saving enabled is defined. (2) A read I/O is issued to the volume, or the volume is combined with a TC, UR, GAD, SI, or TI P-VOL. (3) Controller maintenance or LDEV ownership migration is performed.
CauseForFailure	A failure of specification at maintenance operation with capacity saving function
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	65
Product Name	VSP Gx00
BugID	HM800-2077
Title	SSB=0100 logged when using virtual volume with capacity saving enabled
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a virtual volume with capacity saving enabled is used, SSB=0100 may be logged.
Symptoms	When a virtual volume with capacity saving enabled was used, SSB=0100 might be logged.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) There is a virtual volume with capacity saving enabled. (2) A write I/O is issued to the virtual volume.
CauseForFailure	A failure of internal management table processing at page conversion processing of periodical processing
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	Do not use a virtual volume with capacity saving enabled.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	66
Product Name	VSP Gx00
BugID	HM800-2089
Title	Failure of SVP software update
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	SVP software update may fail.
Symptoms	SVP software update might fail.
ConditionsOfOccurrence	The problem may occur when SVP software update is performed while a program (*.exe) under the SVP installation folder is running.
CauseForFailure	A failure of file access conflict at maintenance operation on SVP
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Maintenance failure
RecoveryFromProblem	Stop the auto startup for service of each storage system, restart the PC, and then update the software by running the setup exe.
TemporaryCircumvention	Stop the auto startup for service of each storage system, restart the PC, and then update the software by running the setup exe.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	67
Product_Name	VSP Gx00
BugID	HM800-2106
Title	No CCI configuration change reflected in Storage Navigator configuration report
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	A configuration change done from CCI is not reflected in a configuration report output from Storage Navigator.
Symptoms	When a configuration report was output from Storage Navigator, the configuration change done from CCI before might not be reflected in the report.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) LDEV or parity group creation is performed from CCI. (2) After (1), a configuration report is output from Storage Navigator without performing Refresh All.
CauseForFailure	A failure of specification at maintenance operation on Storage Navigator
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	Perform Refresh All, and then retry the configuration report output.
TemporaryCircumvention	When the configuration is changed from CCI, perform Refresh All before outputting a configuration report.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103777
HDS_SupportCaseID	00465138
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	68
Product Name	VSP Gx00
BugID	HM800-2111
Title	Frequent SSB=F488 logged at cache failure
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	SSB=F488 is logged frequently when a cache failure occurs while the capacity saving function is in use.
Symptoms	When a cache failure occurred while the capacity saving function was in use, SSB=F488 might be logged frequently.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The capacity saving function is used. (2) A cache failure occurs.
CauseForFailure	A failure of specification at cache failure on hierarchical memory control
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	69
Product_Name	VSP Gx00
BugID	HM800-2047
Title	SSB=F47F logged at volume migration
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	SSB=F47F may be logged at volume migration for DP or DT volumes.
Symptoms	When volume migration was performed for DP or DT volumes, SSB=F47F might be logged.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Volume migration, or SI Quick Restore is performed. (2) The migration target or/and migration source are DP or DT volumes.
CauseForFailure	A failure of internal management table processing at volume migration with DP/DT function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	70
Product Name	VSP Gx00
BugID	HM800-2053
Title	Insufficient information in dump
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	The information collected when a cache failure occurs is not sufficient. The microcode is modified to add SSB=F488 (extended code: 0X0137AA) for information enhancement in this case.
Symptoms	When a cache failure occurred, the information that was sufficient for cause analysis was not collected.
ConditionsOfOccurrence	The problem may occur when a cache failure occurs and dump is collected.
CauseForFailure	A failure of specification of dump collection at investigation for failure
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	71
Product Name	VSP Gx00
BugID	HM800-2067
Title	SSBs irregularly logged after controller maintenance
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-01-03-60/00 and later G400, G600, F400, F600: 83-01-03-40/00 and later G200: 83-01-03-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	After a controller maintenance operation on UR RCU during I/O, SSBs are logged on an irregular base.
Symptoms	After a controller maintenance operation on UR RCU during I/O, a wrong reuse of cache slot was detected on UR RCU and SSB=1470, 1480, and EF66 were logged on an irregular base (several times in an hour).
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Universal Replicator (2) The microcode version of RCU is 83-01-03-x0/00 or later. (3) An update I/O is issued to a volume in the PAIR status. (4) A controller maintenance operation (such as dummy replacement and failure recovery) is performed on UR RCU. (5) The write pending rate of UR RCU is 65% or higher.
CauseForFailure	A failure of internal management table processing in high load I/O environment with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? RCU (3) Recommendation of installing the modified code for TC. None

No.	72
Product Name	VSP Gx00
BugID	HM800-2074
Title	Performance degradation with SSB=F497/9280 logged at Correction Copy/Drive Copy/Copy Back
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When Correction Copy, Drive Copy, or Copy Back is performed while I/O, remote copy, or local copy processing runs, SSBs may be logged and the performance may degrade.
Symptoms	During I/O, remote copy (TC, GAD, UR), or local copy (SI) processing for a virtual volume with Deduplication and Compression set, when Correction Copy, Drive Copy, or Copy Back was performed for a physical drive containing the virtual volume, SSB=F497 and 9280 might be logged and the performance might degrade.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) I/O, remote copy (TC, GAD, UR), or local copy (SI) processing is performed for a virtual volume with Deduplication and Compression set. (2) Correction Copy, Drive Copy, or Copy Back is performed for a physical drive containing the virtual volume while the processing of (1) is running.
CauseForFailure	A failure of internal processing sequence at Correction Copy/Drive Copy/Copy Back with capacity saving function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	73
Product Name	VSP Gx00
BugID	HM800-2075
Title	Failure of pool capacity shrinking
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-04-01-60/00 and later G400, G600, F400, F600: 83-04-01-40/00 and later G200: 83-04-01-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	During I/O, remote copy, or local copy processing for a virtual volume with capacity saving enabled, if a pool capacity shrinking is performed for a pool containing the virtual volume, the shrinking may fail.
Symptoms	During I/O, remote copy (TC, GAD, UR), or local copy (SI, TI) processing for a virtual volume with capacity saving enabled, when pool capacity shrinking was performed for a pool that contained the virtual volume, the following messages were reported and the shrinking might fail. Storage Navigator message: 03005-078044 SSB=2C05, 2C12, or AF0D
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) An I/O is issued to, or remote copy (TC, GAD, UR) or local copy (SI, TI) is performed for a virtual volume with capacity saving enabled. (2) During the processing of (1), pool capacity shrinking is performed for a pool that contains the virtual volume.
CauseForFailure	A failure of internal processing sequence at pool capacity shrinking with capacity saving function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Dedupe and compression
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	74
Product Name	VSP Gx00
BugID	HM800-2080
Title	SVP_CHK.exe detected as virus program
Products_and_Versions_Affected	SVP/MPC G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	SVP/MPC G800, F800: 83-05-25-60/00 G400, G600, F400, F600: 83-05-25-40/00 G200: 83-05-25-20/00
ProblemDescription	Symantec Endpoint Protection detects SVP_CHK.exe as a virus program.
Symptoms	After the data in a media for the SVP or MPC software was copied to a local drive, when Symantec Endpoint Protection scanned the data, SVP_CHK.exe was wrongly detected as a virus program.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) The data in a media for the SVP or MPC software is copied to a local drive. (2) Symantec Endpoint Protection 14x is installed on the PC. (3) The time stamp of the Symantec Endpoint Protection definition file is earlier than May, 2018. (4) The data of the SVP or MPC software is scanned by Symantec Endpoint Protection.
CauseForFailure	A failure of internal processing sequence at maintenance operation on SVP
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Display failure
RecoveryFromProblem	Copy the data from the media for the SVP or MPC software again.
TemporaryCircumvention	Take one of the following actions. (1) Do not copy the data in the media for the SVP or MPC software to a local drive. (2) Exclude the location where the data is stored from the target for virus scan.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	SVP/MPC
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	75
Product Name	VSP Gx00
BugID	HM800-2084
Title	PIN at CHK2 due to temporary cache failure
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A PIN occurs at CHK2 due to a temporary cache failure.
Symptoms	When CHK2 occurred (SSB=A443) due to a temporary cache failure, a PIN (ECC/LRC) occurred. (SIM=FF4XXX)
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Drive read transfer takes place. (2) SOM15 or SOM862 is set to ON. (3) CHK2 occurs due to a temporary cache failure.
CauseForFailure	A failure of specification at cache failure on back-end control
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	Replace the part where the problem occurs (controller/cache), and then dummy replace the drive with PIN.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	76
Product Name	VSP Gx00
BugID	HM800-2086
Title	Repeated unintentional SNMP activation and termination
Products_and_Versions_Affected	GUM: Unknown
Products_and_Versions_Fixed	GUM: 83-05-24/00
ProblemDescription	ColdStart trap of SNMP is reported to SNMP client every 10 seconds. On the Storage Navigator window, the alert icon status may not be updated. As an interim measure, the microcode is modified for information enhancement to collect system dump when the problem occurs so as to be able to find the cause for the wrong SNMP termination.
Symptoms	ColdStart trap of SNMP was reported to SNMP client every 10 seconds. On the Storage Navigator window, the alert icon status might not be updated.
ConditionsOfOccurrence	The occurrence condition is not yet clarified, but when the problem occurred at a customer site, drive copy was running due to a disk failure.
CauseForFailure	Unknown
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Display failure
RecoveryFromProblem	None (because the root cause is unknown)
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	GUM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	77
Product Name	VSP Gx00
BugID	HM800-2090
Title	Failure suspension of different pair at pair deletion
Products_and_Versions_Affected	DKCMAIN
	G800, F800: 83-01-03-60/00 and later
	G400, G600, F400, F600: 83-01-03-40/00 and later
	G200: 83-01-03-20/00 and later
Products_and_Versions_Fixed	DKCMAIN
	G800, F800: 83-05-26-60/00
	G400, G600, F400, F600: 83-05-26-40/00
	G200: 83-05-26-20/00
ProblemDescription	When UR pairs are deleted per volume, SSBs are logged on RCU and a different pair in the same journal is suspended due to failure.
Symptoms	When UR pairs in host I/O process were deleted per volume, SSB=E565 and EF15 were logged on RCU, and a different pair in the same journal was suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met.
	(1) Universal Replicator
	(2) The microcode version of RCU is 83-01-03-x0/00 or later.
	(3) UR pairs are deleted per volume while the pair status is COPY or PAIR.
	(4) A host I/O is issued to the deletion target pairs.
CauseForFailure	A failure of internal processing sequence at pair operation with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	If the suspended pairs are deletion targets, retry the pair deletion. If the suspended pairs are not deletion targets, resynchronize the pairs.
TemporaryCircumvention	Suspend, and then delete the pairs. If all pairs in a journal are deletion targets, delete pairs per journal.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800-103929
HDS_SupportCaseID	00512968
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Universal Replicator
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange
	None
	(2) Which one has this problem, MCU or RCU or Both MCU and RCU ?
	RCU
	(3) Recommendation of installing the modified code for TC.
	None

No.	78
Product Name	VSP Gx00
BugID	HM800-2093
Title	Pinned slot not recovered automatically
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a pinned slot occurred due to a spare drive failure during dynamic sparing and then the copy processing ended abnormally or was interrupted, the pinned slot was not recovered automatically.
Symptoms	When a pinned slot occurred due to a spare drive failure during dynamic sparing and then the copy processing ended abnormally or was interrupted, the pinned slot was not recovered automatically.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) Dynamic sparing runs. (SIM=461XYY) (2) A failure occurs during data writing to a spare drive of copy target, and a pinned slot occurs. (SSB=9F81, 9F91, 9FA1, 9FB1, 9FC1) (3) Dynamic sparing ends abnormally (SIM=463XYY) or is interrupted (SIM=464XYY).
CauseForFailure	A failure of internal processing sequence at failure of data writing to spare drive in dynamic sparing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	Replace the spare drive and retry the drive copy to recover the pinned slot. The pinned slot can also be recovered if the slot is accessed from a host.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	79
Product Name	VSP Gx00
BugID	HM800-2103
Title	DKCMAIN version unknown at MP blockage
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	The DKCMAIN microcode version is unknown at MP blockage so that analyzing the cause may take a long time. The microcode is modified to log the DKCMAIN version in a dump file collected at MP blockage.
Symptoms	When an MP blockage occurred, the DKCMAIN microcode version was unknown so that analyzing the cause took a long time.
ConditionsOfOccurrence	The problem may occur when the DKCMAIN microcode version at MP blockage is different from that at dump collection.
CauseForFailure	A failure of specification in failure recovery processing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	R800-102533
HDS_SupportCaseID	HDS00037945
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	80
Product Name	VSP Gx00
BugID	HM800-2104
Title	Delay in detection of a battery pack cell failure
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All Environment Moni: All Environment BKM: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00 Environment Moni: 80-01-10-EB Environment BKM: 0D
ProblemDescription	Detection of a battery pack cell failure is delayed.
Symptoms	When a battery pack cell failure occurred, auxiliary charge was repeated, so that it took a long time to exceed the threshold for the number of battery charges (SIM=FFFA0X, SSB=EC45) and the failure detection was delayed.
ConditionsOfOccurrence	The problem may occur when a battery pack cell failure occurs.
CauseForFailure	A failure of specification at part failure
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Delay in failure detection
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN, Environment Moni, Environment BKM
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	81
Product Name	VSP Gx00
BugID	HM800-2105
Title	Display failure of SIM action code
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	The action code of SIM=2130XX or 2140XX that is reported at CHB or DKB blockage is not displayed.
Symptoms	When a CHB or DKB was blocked due to a hardware failure, SIM=2130XX or 2140XX was reported, but the action code of the SIM was not displayed. (SSB=34E2 was logged with the SIM)
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A data transfer error occurs between a controller and a CHB or DKB due to a hardware failure. (2) The number of the above errors exceeds the threshold (512) and the CHB or DKB is blocked.
CauseForFailure	A failure of internal processing sequence at CHB/DKB failure in failure recovery processing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	For the action code display failure, apply the modified microcode. For the CHB or DKB blockage, replace the CHB or DKB and then the controller.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM800-103631
HDS_SupportCaseID	00401379
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	82
Product Name	VSP Gx00
BugID	HM800-2110
Title	Failure of storage system recovery by replacing part specified in SIM
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	A storage system cannot be recovered even when a controller or DIMM specified in SIM=CF88XX is replaced. The microcode is modified to add BKM and BKMF to the parts specified in SIM=CF88XX.
Symptoms	When a controller or DIMM specified in SIM=CF88XX was replaced, the storage system might not be recovered.
ConditionsOfOccurrence	The problem may occur when SIM=CF88XX is reported and a part specified in the SIM is replaced.
CauseForFailure	A failure of specification at controller failure in failure recovery processing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Replace all BKMs or BKMFs on the cluster same as the specified controller.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	HM8UN-102728
HDS_SupportCaseID	00139710
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	83
Product Name	VSP Gx00
BugID	HM800-2113
Title	Failure of quorum disk creation
Products_and_Versions_Affected	DKCMAIN G800, F800: 83-01-21-60/00 and later G400, G600, F400, F600: 83-01-21-40/00 and later G200: 83-01-21-20/00 and later
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	Quorum disk creation fails in rare cases.
Symptoms	A quorum disk creation failed in rare cases and one of the following messages was displayed. When the operation was performed on Storage Navigator: 06205-068882 When the operation was performed from CCI: SSB1=2E10, SSB2=A007. In addition. SSB=2A9F was logged.
ConditionsOfOccurrence	The problem may occur at quorum disk creation.
CauseForFailure	A failure of internal processing sequence at quorum disk creation with GAD
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Retry the quorum disk creation.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	84
Product Name	VSP Gx00
BugID	HM800-2119
Title	Frequent SSB=DE1A and DE34 logs
Products_and_Versions_Affected	DKCMAIN G800, F800: All G400, G600, F400, F600: All G200: All
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	If a GAD pair is suspended after path reserve is set for an LUN of the GAD pair, SSB=DE1A and DE34 are logged many times.
Symptoms	If a GAD pair was suspended after path reserve was set for an LUN of the GAD pair from a host, SSB=DE1A and DE34 were logged many times.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A GAD pair is created. (2) Path reserve is set for the GAD pair from a host. (3) The GAD pair is suspended.
CauseForFailure	A failure of lock processing at maintenance operation with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Global-active device
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? Both (3) Recommendation of installing the modified code for TC. None

No.	85
Product Name	VSP Gx00
BugID	HM800-2120
Title	SSB=B650 logged when FCP_CMD payload of 64 bytes or more received
Products_and_Versions_Affected	DKCMAIN G800, F800: G400, G600, F400, F600: G200:
Products_and_Versions_Fixed	DKCMAIN G800, F800: 83-05-26-60/00 G400, G600, F400, F600: 83-05-26-40/00 G200: 83-05-26-20/00
ProblemDescription	When a protocol chip receives FCP_CMD payload with length of 64 bytes or more from a host, SSB=B650 is logged.
Symptoms	When a protocol chip received FCP_CMD payload with length of 64 bytes or more from a host, SSB=B650 was logged.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Channel board type is 2H16, 4HF32A, 4HF32B, or 4HF32R. (2) A protocol chip receives FCP_CMD payload with length of 64 bytes or more from a host.
CauseForFailure	A failure of internal processing sequence when receiving FCP_CMD of 64 bytes or more on front-end control
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Message failure
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	DKCMAIN
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

No.	86
Product Name	VSP Gx00
BugID	HM800-2128
Title	Wrong count up of Used Endurance Indicator
Products_and_Versions_Affected	SLB5E-M: All
Products_and_Versions_Fixed	SLB5E-M: 00-T4-07
ProblemDescription	Used Endurance Indicator is counted up wrongly.
Symptoms	Used Endurance Indicator that showed SSD life time was wrongly counted up.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Write I/Os are rarely issued for 4 hours. (2) Read accesses to the same area occur 300 times or more, during which no write I/O is issued.
CauseForFailure	A failure of drive at background task processing on SSD
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Performance degradation
RecoveryFromProblem	Apply the modified microcode.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW800-M093
ECN_Revision	0
ECN_ReleaseDate	10/12/2018
ESC_CTSC_APSC_LOG_ID	None
HDS_SupportCaseID	-
RelatedOS	N/A
RelatedEarlyNoticeNumber	None
RelatedECN	None
OS_Name	
OS_Version	
HostServerHardware	
StorageSubSystemHardware	
FiberSwitchHardware	
HostBusAdapterHardware	
OthersHardware	
OtherSoftware	
HDS_ChangeRequest	
SSD_ChangeRequest	
Category	Open
AreaChangedInFirmware	Drive
SpecialInstructionsForApplyingFix	(1) Restriction of micro-program exchange None (2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None (3) Recommendation of installing the modified code for TC. None

Program Versions Summary

HM800 Function Release Q-code

Release Number	Microcode Version	Date of issue	ECN #	Comments
V01	83-01-01-40/00(G400, G600) 83-01-01-20/00(G200)	Feb. 27th, 2015	M001	Q-code
V01a	83-01-03-40/00(G400, G600) 83-01-03-20/00(G200)	Apr. 3rd, 2015	M002	Q-code - Support for JRE 1.8.0_31 for SVP and MPC programs - Improvement for completion notice of CTL replacement - Support for time zone list based on Windows Zones.xml (2015a) - Support for AIX ODM - Support for display of ongoing maintenance operation in message box - Improvement for Main reset request - Support for summer time for time zone of Santiago - Support for offline firmware downgrade - Support for HMO94 - Support for HMO93 - Support for closing unnecessary IPv6 ports - Improvement for condition of spare drive assignment maintenance
V01a	83-01-04-40/00(G400, G600) 83-01-04-20/00(G200)	May 15th, 2015	M003	Q-code update
V01a	83-01-04-40/00(G400, G600) 83-01-04-20/00(G200)	May 28th, 2015	M005	MM update
V01a	83-01-20-40/00(G400, G600) 83-01-20-20/00(G200)	Jun. 18th, 2015	M006	MM update

V01+1	83-01-21-60/00(G800) 83-01-21-40/00(G400, G600) 83-01-21-20/00(G200)	July 3rd, 2015	M007	Q-code - Support for global active device - Support for SMI-S provider - Support for TC/UR pair creation between HM800/HM700 - Support for Command Control Interface version 01-34-03/04 - Support for iSCSI connection for TC, UR, UVM, and GAD - Support for CHB HT-F40SB-2HS10C - Support for multiple-DKC management from SVP/MPC - Support for pair creation using volumes of over 4 TB - Support for active flash - Support for SNMP v3 - Support for LVDC and NEBS - Support for forced skip of system status check - Support for simplified firmware/ software exchange tool - Support for power and temperature display/report/output/collection - Support for per-pool setting from CCI or SN - Enhancement for data encryption function - Support for Offload Data Transfer of Window Server 2012 - Modification for behavior when SOM729 and HMO63 or HMO73 are ON - Support for Windows Server 2012 Thin Provisioning for GAD - Improvement for DKCMAIN microcode exchange - Improvement for CCI performance - Support for backup of 100-generation configuration information - Support for AutoDump function - Support for restarting tier location after pool VOL deletion - Support for list of OSS version output on SVP/MPC - Support for port WWN confirmation - Improvement for operability at TI pair operation - Support for ALUA mode - Support for Oracle storage as external storage system - Support for 3 data center multi-target configuration - Support for coexisting external VOLs with cache mode enabled/disabled - Support for Full Allocation setting from Storage Navigator and CCI - Improvement for behavior when all even-numbered MPs are blocked - Support for guard logic to disable operators other than maintenance personnel to update firmware - Support for maintenance personnel mode on the microcode exchange window - Support for new and compatible drives - Support for new Initial Startup window size - Support for displaying and entering IPv4-mapped IPv6 address - Update interval change of WARNING LED status window - Change of message managing method - Support for Performance Monitor on maintenance PC - Support for Round Trip reduction with DW-F800-2HF16 - Support for firmware update check - Support for GUM diagnosis function processed in one-minute cycle - Added hardware location names in hardware images - Support for automatic PS OFF following ADC setting - Improvement for Storage Navigator specification to correctly display monitoring data - Support for VSP G800 model - Support for SIM=468XXX report - Support for confirmation window display - Support for reading image files at a time - Support for serial number display on Update Firmware window - Support for specifying dump file name - Support for new API - Support for message indicating status of ongoing maintenance operation - Support for user account management function on VSP G200 - Improvement to display specification on window - Support for CCI in IPv6 environment - Support for outputting information of result of multi-connection attempt and IP address of already-connected SVP/MAP - Support for SOM update check and SVP message [INS4587E] display - Support for Command Control Interface Ver.01-20-03/02 - Support for new GUM messages 1/2 - Support for new GUM message 2/2 - Elimination of GUM firmware update at shipping settings - Support for new method to indicate storage system status - Change of target area to output error trace - Improvement for wordings in Storage Navigator messages - Improvement for wordings in Replace ENC window on Maintenance Utility - Improvement for performance limitation of data allocation to SSD/FMD

				- Support for release lock without restarting storage system service **- Support for running replication command by unauthenticated user** **- Control class change of SOM1000**

V01+1	83-01-22-60/00(G800) 83-01-22-40/00(G400, G600) 83-01-22-20/00(G200)	July 24th, 2015	M008	Q-code update
V01+1	83-01-23-60/00(G800) 83-01-23-40/00(G400, G600) 83-01-23-20/00(G200)	Aug. 28th, 2015	M009	Q-code update
V01+1	83-01-24-60/00(G800) 83-01-24-40/00(G400, G600) 83-01-24-20/00(G200)	Sep. 29th, 2015	M010	Q-code update
SVOS6.3.1	83-02-01-60/00(G800, F800) 83-02-01-40/00(G400, G600, F400, F600) 83-02-01-20/00(G200)	Nov. 2nd, 2015	M011	Q-code - Support for encryption status display for DP/DT volumes - Support for API as IOPH propagation - Support for UVM volume creation of over 4 TB - Support for 256 TB DP volume - Support for New Flash Module Drive and SOM1078 - Support for CHBB in G800 and F800 - Support for new port information displayed on CCI - Support for CHB installation in slots E to G in G400, G600, F400, F600 - Support for T10 PI for connection with Oracle Linux - Support for HMO 97 - Support for LDEV operations on Host Groups/iSCSI Targets window - Support for drive status report by SMI-S - Support for Command Control Interface Ver.01-35-03/04 - Support for Export Tool download - Support for collecting analysis information in dump file - Change for random number generation method - Improvement of process priority of lighttpd - Change for font in image data displayed on GUI - Support for I/F to collect detailed information of cache - Support for flow control (pause control) with GUM microcode - Support for skipping LDEV format - Change for condition to disable PDEV installation maintenance - Support for SIM=FFD400 report - Improvement for MP Unit ID assignment - Improvement for performance limitation of data allocation - Support for display of used capacity for each pool volume - Improvement for used memory of GUM Linux - Support for port check - Support for operations performed exclusively between GUM/ SVP and CCI - Support for Storage Navigator messages - Improvement for Offline Configuration Definition Tool - Support for monitoring receiving process in GUM - Support for alert information output in Windows event log - Support for fixing vulnerability in Net-SNMP - Support for dump collection from Maintenance Utility - Improvement for firmware update retry - Support for status information collection via RMI API - Changes for HTTPS and L7sw to address vulnerabilities in SSL/TLS - Support for JSON APIs - Support for compatible drives - Improvement for cooling during maintenance replacement of DBF PS - Support for SIM information collection via RMI API - Support for port type filtering and attribute column display - Change for setting from Maintenance Utility - Support for Apache 2.4.16, OpenSSL 1.0.1p, JRE 1.8.0_51, and Flash 18 - Support for function and tool for China rebranding - Support for disabling RC4 during RMI server SSL communication - Support for drive blockage prevention (SOM1008) - Support for HTML format for messages displayed by SVP service programs - Support for RAID Manager LIB 01-20-03/03 - Improvement for wording in audit log - Support for HDD microcode SLR5D-M - Support for Hitachi Virtual Storage Platform F400/F60/F800 - Control class change of HMO025

SVOS6.3.1	83-02-03-60/00(G800, F800) 83-02-03-40/000(G400, G600, F400, F600) 83-02-03-20/00(G200)	Dec. 28th, 2015	M012	Q-code update
SVOS6.3.1	83-02-04-60/00(G800, F800) 83-02-04-40/000(G400, G600, F400, F600) 83-02-04-20/00(G200)	Jan. 15th, 2016	M016	Q-code update
SVOS6.4.0	83-03-01-60/00(G800, F800) 83-03-01-40/000(G400, G600, F400, F600) 83-03-01-20/00(G200)	Jan. 31st, 2016	M017	Q-code - Improvement for SI background copy performance - Support for Temperature Monitor window - Support for ALUA function - Support for UR 3DC multi target/cascade configuration - Support for NDM in combination with different RAID models - Support for Accelerated Compression - Support for consistency group function for GAD - Support for normal VOL as GAD pair VOL - Improvement for behavior at GAD quorum disk blockage - Support for GAD+HUR delta - Support for TC-UR connection between HM800 and RAID800 - Support for SOM1069 - Support for using TLS1.2 as default in SSL/TLS communication - Support for NDM data consistency option - Enhancement for LDEV operations on Storage Navigator - Support for parameter of resource group - Support for external consistency group - Support for encryption on G200 - Support for help button on Maintenance Utility window - Improvement for analysis information collection in dump - Support for NDM port consolidation - Enhancement for VSP F400, F600 - No-brand wording for China rebranding - Support for iSCSI error information on MPC monitoring - Support for periodical performance data storing on SVP - Support for EMC VNX ALUA connection - Change for window display of HP storage from HP to HPE - Improvement for wordings of messages on GUI - Support for preceding JNL data staging - Support for TC-UR delta resync without changing to COPY status - Change for unavailable characters used for DNS domain name and suffix - Support for Storage Device List on web browser - Support for Command Control Interface Ver. 01-36-03/03 - Support for FMD capacity expansion function - Support for compatible drives - Improvement for GUM security - Support for RAID Manager Library Ver. 01-21-03/01 - Support for display of up to 16 factors disabling maintenance operation - Support for message corresponding to error part - Support for HDD microcode of SLB5C-MxxxSS and DKR5G-JxxxSS - Support for Linux file restoring - Improvement for status display on Storage Device List
SVOS6.4.0	83-03-01-60/00(G800, F800) 83-03-01-40/000(G400, G600, F400, F600) 83-03-01-20/00(G200)	Feb. 22nd, 2016	M021	Drive update（NFHAE-Q Ver. 00-C1-20）
SVOS6.4.0	83-03-02-60/00(G800, F800) 83-03-02-40/000(G400, G600, F400, F600) 83-03-02-20/00(G200)	Mar. 2nd, 2016	M020	Q-code update
SVOS6.4.0	83-03-03-60/00(G800, F800) 83-03-03-40/000(G400, G600, F400, F600) 83-03-03-20/00(G200)	Mar. 28th, 2016	M022	Q-code update

SVOS6.4.1	83-03-21-60/01(G800, F800) 83-03-21-40/01(G400, G600, F400, F600) 83-03-21-20/01(G200)	Apr. 28th, 2016	M024	Q-code - Support for NAS module - Support for relocation log export from CCI - Support for Tiering Policy in increments of 1 percent - Support for iSCSI connection between RAID800 and HM800 for TC/ UR - Support for tiering policy name setting function - Support for setting SPM information from CCI and RAID Manager Library - Support for Force Delete for GAD pair - Support for new drive box and expander buffering off for AFA - Support for remaining battery lifetime display on Maintenance Utility - Support for SOM1097 - Support for Google Chrome - Improvement for messages displayed at GUM/HUB reboot - Support for unread alert indication - Improvement for wording in audit log - Support for error code 21841-007008 - Support for Supervisor software version display - Change to one time password for maintenance login - Support for warning message at firmware update with media without NASFW - Change for program product name of Remote Replication Extended - Support for new chip equipped FMC - Patch available for vulnerability of Bug 8411 - Support for Openssl 1.0.1r, JRE 1.8.0_74, and Flash 20 - Support for RAID Manager/ LIB Ver. 01-22-03/00 - Support for Command Control Interface Ver. 01-37-03/04 - Support for SOM1021 - Addition of Normal End (Optimization remains) to Result Status - Support for drive microcode (DKS5H-J) - Enhancement for storage model display on SMI-S Provider - Support for new warning messages and icon - Support for encryption communication with HCS REST API
SVOS6.4.1a	83-03-22-60/00(G800, F800) 83-03-22-40/00(G400, G600, F400, F600) 83-03-22-20/00(G200)	May 31st, 2016	M028	Q-code - SSD 1.9 TB drive support for VSP G200 - Support for SOM1068 - Control class change of system option mode 833 - Improvement for SVP availability - Control class change of host mode option 93 - Control class change of host mode option 94 - Support for Report Configuration Tool on RHEL6 and RHEL7
SVOS6.4.1a	83-03-23-60/00(G800, F800) 83-03-23-40/00(G400, G600, F400, F600) 83-03-23-20/00(G200)	June 10th, 2016	M031	Q-code update
SVOS6.4.1a	83-03-24-60/00(G800, F800) 83-03-24-40/00(G400, G600, F400, F600) 83-03-24-20/00(G200)	June 30th, 2016	M033	Q-code update
SVOS6.4.1a	83-03-25-60/00(G800, F800) 83-03-25-40/00(G400, G600, F400, F600) 83-03-25-20/00(G200)	Sep. 1st, 2016	M036	Q-code update
SVOS7.0.0	83-04-01-60/00(G800, F800) 83-04-01-40/00(G400, G600, F400, F600) 83-04-01-20/00(G200)	Oct. 3rd, 2016	M038	Q-code - Improvement for microcode exchange performance - Support for Task Set Full response - Update for SMI-S Provider - Support for GAD Active-Active at quorum disk blockage - Support for capacity saving (data deduplication and compression) - Improvement for audit log - Support for requirement for iSCSI UNH IPv6 certification - Support for 4HF32R CHB - Removal of restriction on NAS module for Fx00 models - Support for Quick Format for over 8TB drives - Support for external storage systems - Support for 10TB NL-SAS drive - Support for new FMC drives - Message update due to reduction in time for SN initial startup - Support for Widows Server 2012 - Support for packet transfer to port #202 of NAS module - Change to NAS platform login condition - Support for new flash module drive - Support for Command Control Interface Ver. 01-39-03/04 - Enhancement for combining HCS REST API with VSP Gx00, Fx00 - Improvement for TI CTG ID reservation method - Support for OpenSSL 1.02h - Support for RAID Manager Library Ver. 01-22-03/01 - Support for shortest_queue attribute - Support for storage management software installation in CCI environment

SVOS7.0.0	83-04-01-60/00(G800, F800) 83-04-01-40/00(G400, G600, F400, F600) 83-04-01-20/00(G200)	Nov.7th, 2016	M042	Q-code update (GUM Ver. 83-04-01/10)
SVOS7.0.0	83-04-02-60/00(G800, F800) 83-04-02-40/00(G400, G600, F400, F600) 83-04-02-20/00(G200)	Nov. 29th, 2016	M044	Q-code update
SVOS7.0.0	83-04-02-60/02(G800, F800) 83-04-02-40/02(G400, G600, F400, F600) 83-04-02-20/02(G200)	Dec. 28th, 2016	M045	Q-code update
SVOS7.0.0	83-04-03-60/00(G800, F800) 83-04-03-40/00(G400, G600, F400, F600) 83-04-03-20/00(G200)	Feb. 21st, 2017	M047	Q-code update
SVOS7.1.0	83-04-23-60/01(G800, F800) 83-04-23-40/01(G400, G600, F400, F600) 83-04-23-20/01(G200)	Mar. 17th, 2017	M050	Q-code update - Support for cascade and clone attribute TI pairs - Support for Hi-Track RMI API to collect capacity saving rate - Improvement for deleting virtual volume with Compression/Deduplication and Compression - Support for MSA 1020/2040 as external storage - Support for TI snapshot group name change - Improvement for read/write I/O performance while capacity saving enabled - Support for BlazeDS Ver. 4.7 and Flex SDK Ver. 3.6 - Support for new RMI API commands - Support for remote firmware update - Support for starting SN service before completion of firmware update - Support for Windows Server 2012 iSCSI Target as external storage - Increasing free capacity by compressing GUM firmware - Support for ENC reuse function and SOM1118 - Support for compatible drives - Improvement for usage accuracy of parity group - Control class change of host mode option 91 - Support for SIM=641XXX - Support for Command Control Interface Ver. 01-40-03/03 - Update for SMI-S Provider - Addressing DoS vulnerability of Apache Commons FileUpload - Support for drive firmware of SLB5E-M - Control class change of system option mode 1043 - Control class change of system option mode 1105 - Support for using host disk as quorum disk - Improvement for processing at DRAM error - Improvement for drive firmware to prevent I/O performance degradation - Improvement for processing at memory error in controller - Support for display of Capacity Saving and Capacity Saving Status columns - Control class change of system option mode 1108
SVOS7.1.0	83-04-24-60/00(G800, F800) 83-04-24-40/00(G400, G600, F400, F600) 83-04-24-20/00(G200)	Mar. 30th, 2017	M052	Q-code update
SVOS7.1.0	83-04-26-60/00(G800, F800) 83-04-26-40/00(G400, G600, F400, F600) 83-04-26-20/00(G200)	Apr. 24th, 2017	M054	Q-code update

SVOS7.2.0	83-04-41-60/00(G800, F800) 83-04-41-40/00(G400, G600, F400, F600) 83-04-41-20/00(G200)	Apr. 28th, 2017	M055	Q-code - Support for iSCSI virtual port mode - Support for SAN Boot in Point-to-Point connection - Improvement for quorum disk replacement from CCI - Support for parallel online firmware update - Support for RMI API to collect usable physical capacity - Update for SMI-S Provider - Support for SSDs - Improvement for capacity saving function - Measure for CVE-1999-0524 - Support for Command Control Interface Ver. 01-41-03/03 - Specification improvement for the case of quorum path failure - Support for CentOS iSCSI Enterprise Target as external storage - Support for SI option (#26) - Control class change of system option mode 1015 - Support for GAD long distance connection in cross-path configuration - Improvement for message displayed when installing or updating Device Manager - Storage Navigator - Support for concurrent firmware update - Easing requirement for RAM capacity of maintenance PC and SVP - Support for terminating Storage Navigator service on maintenance PC - Support for storing monitoring data on SVP
SVOS7.2.0	83-04-42-60/00(G800, F800) 83-04-42-40/00(G400, G600, F400, F600) 83-04-42-20/00(G200)	May 17th, 2017	M056	Q-code update
SVOS7.2.0	83-04-42-60/00(G800, F800) 83-04-42-40/00(G400, G600, F400, F600) 83-04-42-20/00(G200)	June 2nd, 2017	M057	Q-code update (SVP Ver. 83-40-42-x0/10)
SVOS7.2.0	83-04-44-60/00(G800, F800) 83-04-44-40/00(G400, G600, F400, F600) 83-04-44-20/00(G200)	June 30th, 2017	M058	Q-code update
SVOS7.2.0	83-04-45-60/00(G800, F800) 83-04-45-40/00(G400, G600, F400, F600) 83-04-45-20/00(G200)	July 31st, 2017	M062	Q-code update
SVOS7.2.0	83-04-47-60/00(G800, F800) 83-04-47-40/00(G400, G600, F400, F600) 83-04-47-20/00(G200)	Aug. 30th, 2017	M064	Q-code update
SVOS7.3.0	83-04-61-60/00(G800, F800) 83-04-61-40/00(G400, G600, F400, F600) 83-04-61-20/00(G200)	Oct. 6th, 2017	M065	Q-code - Improvement for TC/GAD pair initial copy performance - Support for Windows Server 2016 - Support for JRE 1.8.0_144 - Support for CCI for 32-bit MPC - Support for storing monitoring information on SVP - Control class change of system option mode 1098 - Support for host mode option 115 - Support for drive microcode (DKR2G-H and DKS5E-K) - Disabling DH key exchange
SVOS7.3.0	83-04-62-60/00(G800, F800) 83-04-62-40/00(G400, G600, F400, F600) 83-04-62-20/00(G200)	Nov. 8th, 2017	M069	Q-code update
SVOS7.3.1	83-05-01-60/00(G800, F800) 83-05-01-40/00(G400, G600, F400, F600) 83-05-01-20/00(G200)	Dec. 4th, 2017	M072	Q-code - Support for Command Control Interface Ver. 01-44-03/01 - Disabling TLSv1.0/1.1 on SVP and GUM - Support for compatible FMC drives - Upgrading Apache to Blaze DS 4.7.3 - Support for new SSD drives (SLR5E-M) - Changes to host mode names on Storage Navigator - Support for new HDD drives (DKS5K-J)

SVOS7.3.1	83-05-02-60/00(G800, F800) 83-05-02-40/00(G400, G600, F400, F600) 83-05-02-20/00(G200)	Dec. 27th, 2017	M073	Q-code update
SVOS7.4.0	83-05-21-60/00(G800, F800) 83-05-21-40/00(G400, G600, F400, F600) 83-05-21-20/00(G200)	Feb. 28th, 2018	M076	Q-code - Disabling addition of VSP G350/G370/G700/G900/F350/F370/F700/F900 on Storage Device List - Support for new HDD (DKS2J-H) - Support for Command Control Interface Ver. 01-46-03/02 - Support for CFM SM863a - Support for Flash Player 28.0.0.161 - Support for system option mode 1149 - Support for update of account password stored on SVP - Support for new SSDs (SLB5G-M) - Improvement for decompressing microcode zip file - Support for new drive firmware (NFHAH-Q) - Support for new drive firmware (DKS5K-J)
SVOS7.4.0	83-05-22-60/00(G800, F800) 83-05-22-40/00(G400, G600, F400, F600) 83-05-22-20/00(G200)	Apr. 6th, 2018	M080	Q-code update
SVOS7.4.0	83-05-23-60/00(G800, F800) 83-05-23-40/00(G400, G600, F400, F600) 83-05-23-20/00(G200)	May 31st, 2018	M085	Q-code update
SVOS7.4.0	83-05-24-60/00(G800, F800) 83-05-24-40/00(G400, G600, F400, F600) 83-05-24-20/00(G200)	July 31st, 2018	M088	Q-code update
SVOS7.4.0	83-05-26-60/00(G800, F800) 83-05-26-40/00(G400, G600, F400, F600) 83-05-26-20/00(G200)	Oct. 12th, 2018	M093	Q-code update

Appendix-G   Related Program Versions

(1) RAID Manager

NO	Product Name	New Version	Previous Version
1	RAID Manager for HP-UX	01-48-03/03	01-47-03/05
2	RAID Manager for Windows server	01-48-03/03	01-47-03/05
3	RAID Manager for Solaris	01-48-03/03	01-47-03/05
4	RAID Manager for AIX	01-48-03/03	01-47-03/05
5	RAID Manager for Tru64 UNIX	01-48-03/03	01-47-03/05
6	RAID Manager for DYNIX	01-19-03/04	Same as left
7	RAID Manager for Linux	01-48-03/03	01-47-03/05
8	RAID Manager for IRIX	01-34-03/04	Same as left
9	RAID Manager for Open VMS	01-30-03/03	Same as left
10	RAID Manager for zLinux	01-48-03/03	01-47-03/05
11	RAID Manager for Solaris/x86	01-48-03/03	01-47-03/05
12	RAID Manager for Open VMS/IA	01-48-03/03	01-47-03/05
13	RAID Manager for Linux/IA64	01-48-03/03	01-47-03/05
14	RAID Manager for Linux/x64	01-48-03/03	01-47-03/05

(2) RAID Manager Library (RL)

NO	Product Name	New Version	Previous Version
1	RL for Solaris	01-25-03/00	Same as left
2	RL for Solaris/x86	01-25-03/00	Same as left
3	RL for HP-UX	01-25-03/00	Same as left
4	RL for Windows server	01-25-03/00	Same as left
6	RL for AIX	01-25-03/00	Same as left
7	RL for Linux(x86)	01-25-03/00	Same as left
8	RL for Linux(IA64)	01-25-03/00	Same as left
9	RL for Linux(x64)	01-25-03/00	Same as left
10	RL for IRIX	01-20-03/02	Same as left
11	RL for Tru64 UNIX	01-25-03/00	Same as left
12	RL for zLinux	01-25-03/00	Same as left
13	RL for Open VMS	01-17-03/01	Same as left
14	RL for Open VMS/IA	01-25-03/00	Same as left

* Hatched indicates the changed items from the previous release.

(3) Off-Line Configuration and Print Out Tools: Special Tool for CE

NO	Program name		New Version	Previous Version
1	Off_def_conf	G800, F800	83-05-25-60/00	83-05-23-60/00
		G400, G600, F400, F600	83-05-25-40/00	83-05-23-40/00
		G200	83-05-25-20/00	83-05-23-20/00
2	Off_tool	G800, F800	83-05-25-60/00	83-05-23-60/00
		G400, G600, F400, F600	83-05-25-40/00	83-05-23-40/00
		G200	83-05-25-20/00	83-05-23-20/00

(4) Monitor

NO	Program name	New Version	Previous Version
1	Export Tool	83-05-25-FF/00	83-05-23-FF/00

(5) SNMP

NO	Program name	New Version	Previous Version
1	SNMP MIB File	6.2	Same as left

(6) RMI PS ON/OFF TOOL

NO	Program name	New Version	Previous Version
1	rmtpstool	83-00-00-FF/00	Same as left

(7) ODM

NO	Program name	New Version	Previous Version
1	HTC_ODM	5.0.52.3	Same as left
2	HTC_MPIO_ODM	5.4.1.2	Same as left

(8) Config Report CLI

NO	Program name	New Version	Previous Version
1	Config Report CLI	01-02-03/10	01-02-03/05

(9) NAS

NO	Program name	New Version	Previous Version
1	HNAS specific tools	13.4.4911.01	13.4.4911.00
2	NAS sources	13.4.4911.01	13.4.4911.00

* Hatched indicates the changed items from the previous release.

Appendix-S   Antivirus Software Support

<u>Installation Procedure</u>

Installing antivirus software may affect SVP performance. Therefore, make sure to install the antivirus software according to the following procedures.

> **(1) Log into the SVP.**
>
> **(2) Install the antivirus software.**
>
> **(3) During installation of the antivirus software, as the SVP is rebooted, log into SVP again. If the SVP is not rebooted, log into the SVP after the SVP is manually rebooted.**
>
> **(4) Open the Maintenance Utility window to confirm that there is no failure part.**
>
> **(5) Installation is completed.**

<u>Note</u>

- **Do not perform any other maintenance operations during installation. It may cause a delay in processing or an error.**

- **Do not make access or perform operations from remote site such as Storage Navigator during installation. It may cause a delay in processing or an error.**

- **As SVP is rebooted during installation, monitoring data and/or logs such as SIM/SSB generated during installation may be partially lost.**

Setting for each antivirus software

1. **Symantec Endpoint Protection**

    Symantec Endpoint Protection has been supported as follows:

    (1) Software version:

    Symantec Endpoint Protection 12.1.5 / 12.1.6 / 14.0.0

    (2) Conditions:

    - DKC model: VSP Gx00 models and VSP Fx00 models (all SVP versions)

    - Procedure required for applying the support:

    - Right click the Symantec Endpoint Protection icon on Task Bar and select "Open Symantec Endpoint Protection", open the menu, then select "Change Settings",

    - In Virus and Spyware Protection, select "Configure Settings", next select "Selected:" in "Auto-Protect" tab, and then check "Determine file types by examining file contents" in the "File Types" block in the "File System Auto-Protect" and uncheck "Scan files on remote computers" in "Options" block.

    - In Exceptions, select "Configure Settings", select "Add…", and select "Security Risk Exception"-"Folder",

    - Input "<Storage Navigator install folder>\wk" in "Folder:", and select "Auto-Protect" in "Exception Type:", and check "Include Subfolders", then select "OK".
    Memo: <Storage Navigator install folder>: "C:\Mapp", etc.

    - Make sure there is "<Storage Navigator install folder>\wk" folder in "Exception Item", and select "Close".

    - Click "LiveUpdate"

    - After the completion of LiveUpdate, confirm if the definition files have been updated successfully.

    - Reboot SVP.

    - Disable all scheduled scans.

    (3) Update:

    By default, "Symantec Endpoint Protection" definition files are updated via a push to the SVP. (Symantec Endpoint Protection Managers update the clients (SVP) that they manage.)

    (4) Uninstallation:

    - At the end of the uninstallation procedure, the software pops up a dialog window to choose reboot the software automatically (Yes) or manually (No). Choose "No" and then manually reboot the software.

2.   **Sophos Endpoint Security and Control**

Sophos Endpoint Security and Control has been supported as follows:

(1) **Software version:**

Sophos Endpoint Security and Control 10.3 / 10.6

(2) **Conditions:**

- **DKC model: VSP Gx00 models and VSP Fx00 models (all SVP versions)**

- **Procedure required for applying the support:**

- **Right click the Sophos icon on Task Bar, and open the menu, then select "Open Sophos Endpoint Security and Control",**

- **Select "On-access scanning",**

- **Select "Add" in "Exclusions" tab,**

- **Select "Folder" in Item type and input "<Storage Navigator install folder>\wk" in Item name and select "OK",**

Memo: <Storage Navigator install folder>: "C:\Mapp", etc.

- **Close the window.**

- **Use default security policy.**

- **Do not install except Anti-Virus (e.g. Firewall or NAC).**

- **Use manual installation if you install Sophos Anti-Virus from Enterprise Console.**

3.   **Trend Micro OfficeScan Corporate Edition**

Trend Micro OfficeScan Corporate Edition has been supported as follows:

(1) **Software version:**

Trend Micro OfficeScan Corporate Edition 11.0 / 11.0 SP1 / XG

(2) **Conditions:**

- **DKC model: VSP Gx00 models and VSP Fx00 models (all SVP versions)**

- **Don't reboot SVP before the completion of the following settings.**

- **Procedure required for applying the support:**

-**Right click the TREND MICRO icon on Task Bar and select "Open OfficeScan Agent Console".**

-**Unlock Settings window, and then select "Settings" - "Real-time Scan".**

- **Select "Exclusions", and then check "Enable exclusion", and input "<Storage Navigator install folder>\wk" in "Directories", then select "Add".**

Memo: <Storage Navigator install folder>: "C:\Mapp", etc.

- **Make sure that "<Storage Navigator install folder>\wk" folder is listed.**

- **Select "OK" in "Settings" window.**

- **Select "Exit" in "OfficeScan Agent Console" window.**

- **Reboot SVP**

(3) **Creation of Client Package:**

If you use Client Packager to create a client package, create the package with Prescan disabled.

If Prescan is enabled, Prescan is executed first at installation. If the Prescan processing takes time, the installation may fail.

- Procedure required for applying the support:
    - Select "Disable Prescan (only for fresh install)" in "Options" in the "Client Packager" window.

4. McAfee VirusScan Enterprise

McAfee VirusScan Enterprise has been supported as follows:

(1) Software version:

McAfee VirusScan Enterprise 8.8

(2) Conditions:

- DKC model: VSP Gx00 models and VSP Fx00 models (all SVP versions)
- Recommend un-checking "Run On-Demand Scan" in the installation procedure. Since it requires several hours, the pre-execution of the following settings is recommended.
- Don't reboot SVP before the completion of the following settings.
- Procedure required for applying the support:
    - Right click the Virus Scan icon on Task Bar, and open the menu, then select "VirusScan Console ...",
    - Right click the "On-Access Scanner" in "Task", and open the menu, then select "Properties",
    - Select the "Scan Items" tab from "All Processes",
    - Select "Default+Additional file types[0]" for "What to scan",
    - Select "Exclusions..." in "What not to scan" on the "Exclusions" tab,
    - Select "Add..." in the "Set Exclusions" window,
    - Select " By name/location(can include wildcards * or ?):" for "What to exclude" in the "Add Exclusion Item" window, and then type "<Storage Navigator install folder>\wk",
      Memo: <Storage Navigator install folder>: "C:\Mapp", etc.
    -Select "Also exclude subfolders" for "What to exclude" in the "Add Exclusion Item" window,
    - Click [OK] in the "Add Exclusion Item" window,
    - Confirm that "<Storage Navigator install folder>\wk" is added in the "Set Exclusions" window, and then Click [OK] in the "Set Exclusions" window,
    - Click [OK] in the "On-Access Scan Properties" windows,
    - Close "VirusScan Console" window.
    - Reboot SVP if needed.

5. McAfee Endpoint Security

McAfee Endpoint Security been supported as follows:

(1) Software version:

McAfee Endpoint Security 10.5.3

Do not install modules for "Firewall" and "Web Control".

(2) Conditions:

- DKC model: VSP Gx00 models and VSP Fx00 models (all SVP versions)

- Procedure required to applying the support:

- Select [Start]-[All Programs]-[McAfee]-[McAfee Endpoint Security],

- Click [Threat Prevention] on the main "Status" page,

- Click [Show Advanced],

- Click [On-Access Scan],

- In the "Process Settings" section, select "What to scan: Default and specified file type" for Process type,

- In the "Exclusions" section, click [Add] to add folder to exclude from rules,

- In the "What to exclude" section, select "File name or path" and click [Browse] on the "Add Exclusion page",

- Select "C:\DKC200\TMP" and click [OK], then check "Also exclude subfolders",

- Click [OK] on the "Add Exclusion page",

- In the "Exclusions" section, click [Add] to add folder to exclude from rules again,

- In the "What to exclude" section, select "File type" and input "DAT",

- Click [OK] on the "Add Exclusion page",

- Make sure there are "All files of type DAT" and "C:\DKC200\TMP" in the exclusions list.

- Click [Apply] to save settings.

- From the "Action" menu ⌄, select [Exit].

- Reboot SVP.