



# Engineering Change Notice

## Hitachi Unified Storage VM

ECN # ECN DW700-M064  
 Rev # 00  
 FCB # n/a  
 Date 2016.03.01

Classification	S/W or F/W Changes	Application	S/W or F/W Code Type
Hardware <input type="checkbox"/>	New Features <input type="checkbox"/>	Mandatory <input type="checkbox"/>	Q-Code (GA) <input checked="" type="checkbox"/>
Firmware <input checked="" type="checkbox"/>	Improvements <input checked="" type="checkbox"/>	Recommended <input checked="" type="checkbox"/>	T-Code (Test) <input type="checkbox"/>
Software / Maintenance Tool <input type="checkbox"/>	Bug-Fixes <input checked="" type="checkbox"/>	Optional <input type="checkbox"/>	I-Code (ICS) <input type="checkbox"/>
Documentation <input checked="" type="checkbox"/>	n/a <input type="checkbox"/>		n/a (H/W) <input type="checkbox"/>
<i>(check all that apply)</i>	<i>(check all that apply)</i>	<i>(check only one)</i>	<i>(check only one)</i>

### Title

V03 Q-Code update  
 DBX: DKCMAIN Ver. 73-03-47-00/00, SVP Ver. 73-03-43/00  
 DB60: DKCMAIN Ver. 73-03-47-10/00, SVP Ver. 75-03-43/00

### Purpose

This document is notification about a microcode update to V03.

### Description of Release

New microcode for DKC is composed of the following versions.

No.	Program	Model	New Version	Previous Version notified by ECN-M063 (Rev.0)
1	DKCMAIN	DBX	73-03-47-00/00	73-03-46-00/00
		DB60	73-03-47-10/00	73-03-46-10/00
2	DKB		73-15-16	Same as left
3	SVP	DBX	73-03-43/00	73-03-42/00
		DB60	75-03-43/00	75-03-42/00
4	CUDG4		73-03-03	Same as left
5	CMBK		73-01-09	Same as left
6	Expander	DBX	80-00-11	Same as left
		DB60	82-00-09	Same as left
7	Expander (DBF)	DBX	C0-00-18	Same as left
		DB60	C2-00-06	Same as left
8	Expander (DB6A)	DB60	83-04-2C	Same as left
9	BOOT(ROM)		-	Same as left
10	BOOT(RAM)		73-00-05	Same as left
11	Drive	DKS5D-J	00-6F-0D	Same as left
		DKS5C-K	00-6F-58	Same as left
		SLR5B-M	00-00-AB	Same as left
		DKS2D-H	00-6F-B0	Same as left
		DKR5C-J	00-00-G0	Same as left
		DKR2D-H	00-00-FJ	Same as left
		NFH1A-P	00-K1-30	Same as left
		SLB5A-M	00-T1-F7	Same as left
		DKR5D-J	00-00-GH	00-00-GC
		DKS2E-H	00-7F-A6	Same as left
		NFH1B-P	00-K1-30	Same as left
		DKS5E-J	00-7F-0A	Same as left
		DKR5E-J	00-00-GB	00-00-G7
		NFH1C-P	00-K1-30	Same as left
		DKS5F-J	00-7F-08	Same as left
DKS5D-K	00-7F-05	-		
12	CFM	CSAA20	00-06-00-00	Same as left
		CSAA21	00-06-00-00	Same as left
		CSAA40	02-25-00-00	Same as left
		CSAA42	02-25-00-00	Same as left
		CSAA50	J3-HT-01-04	Same as left
		CSAA52	J3-HT-01-04	Same as left



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No.	Program	Model	New Version	Previous Version notified by ECN-M063 (Rev.0)
13	CONFIG (DW700)	DBX	73-03-38/00	73-03-37/00
		DB60	75-03-38/00	75-03-37/00
14	OSS		73-03-09/00	Same as left
	JRE		Default: 1.6.0_12/ Option: 1.6.0_45	Same as left
	Apache with SSL		2.2.29 (openssl 1.0.1p)	Same as left
	Perl		5.10	Same as left
	Apache Tomcat		6.0.41	Same as left
	Flash		10.1	Same as left
Program Management Number			H7-03-47	H7-03-46

\*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.
  - Micro-Program Exchange Procedure Rev.17
  - Micro Exchange Wizard Tool Rev.33
  - Support and Interoperability Document Rev.30

**Related Part #s or Products**

None

**Field Changes**

None

**Factory Shipment / Effective Date**

None

**Restrictions**

- (1) Restriction on CMBK micro-program exchange
  - When CMBK is upgraded from Ver. 73-00-15 or lower to Ver. 73-00-18 or higher, the micro-program exchange is not implemented but ends normally.
  - For CMBK with Ver. 73-00-15 or lower, replace the MAIN Blade.
  - Do not downgrade CMBK from Ver. 73-00-18 or higher to Ver. 73-00-15 or lower.

**Export Regulation**

Refer to “The ECCN of the Program Product and Manual for RAID Series” as follows.  
 For microcode: HM700 P.P sheet  
 For Maintenance Manual and User Guide: HM700 manual sheet



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**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
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	No

**ECN Revision History**

Revision	Date	Written/Revised By	Description
0	2016.03.01	-	Initial Release

## Appendix-A Supported Features and Functions

1	<b>Support for compatible drives</b>
<b>Description</b>	<p>The following drives are supported as compatible drives.</p> <p>(1) DKR5F-J600SS (DB60) (2) DKR5F-J900SS (DB60)</p> <p>RAID level: RAID5 (3D+1P, 7D+1P (*1)), RAID1 (2D+2D (*2)), RAID6 (6D+2P, 14D+2P)</p> <p>*1: Two and four-parity group concatenations are supported. *2: Two-parity group concatenation is supported.</p> <p>Note: 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.</p>
<b>Changed Part</b>	Config
<b>Note</b>	None
<b>Documented</b>	Maintenance Manual (04 THEORY OF OPERATION, 06 INSTALLATION, 10 ACC (ACTION CODE))
2	<b>Support for management information collection from dump</b>
<b>Description</b>	Collecting management information of device group and copy group from dump is supported.
<b>Changed Part</b>	SVP
<b>Note</b>	None
<b>Documented</b>	None
3	<b>Support for Command Control Interface Ver. 01-36-03/04</b>
<b>Description</b>	<p>Revisions from Ver. 01-35-03/05</p> <ul style="list-style-type: none"> <li>- Fixed the problem in which the pairsyncwait command continued to display the "Changed" state for pairs in extended consistency groups whose resync operation had already completed. (R800-58447)</li> <li>- Fixed the problem in which CCI halted when the horctakeoff command was executed with inconsistent configuration files in 3DC configurations. (R700-39153)</li> <li>- Fixed the problem where the pairsplit command failed when the command was issued to virtual command devices which were connected to storage systems with Fibre Channel.</li> </ul>
<b>Changed Part</b>	Command Control Interface
<b>Note</b>	None
<b>Documented</b>	None
4	<b>Support for drive microcode (DKS5D-K)</b>
<b>Description</b>	DKS5D-KxxxSS drive microcode version 00-7F-05 is supported.

<b>Changed Part</b>	Drive
<b>Note</b>	None
<b>Documented</b>	None

<b>5</b>	<b>Control class change for SOM833</b>
<b>Description</b>	The control class of system option mode 833 is changed from RBE to TS.  Restricted Mode – Technical Support Permission Required to Use
<b>Changed Part</b>	Config
<b>Note</b>	None
<b>Documented</b>	NewModeList

	Document Title	V03		Remark
		PDF	Online Help	
1	Storage Navigator User Guide	stnHM7e034a.pdf	Available	FSD process
2	Provisioning User Guide (Open System)	pvoHM7e034c.pdf	Available	FSD process
	DP	-	Available	
	LUSE	-	Available	
	VLL	-	Available	
	LUNM	-	Available	
	DRU	-	Available	
	Dynamic Tiering	-	Available	
3	Performance Manager User Guide	perHM7e034a.pdf	Available	FSD process
	CRM	-	Available	
	VPM	-	Available	
4	Volume Migration	vmiHM7e034c.pdf	Available	
5	Volume Shredder User Guide	vshHM7e030b.pdf	Available	FSD process
6	ShadowImage User Guide	sioHM7e034b.pdf	Available	FSD process
7	SNMP Agent User Guide	snmHM7e034c.pdf	Available	FSD process
8	Storage Navigator Messages	msgHM7e033c.pdf	-	No need for OLH.
9	Universal Volume Manager User Guide	uvmHM7e034b.pdf	Available	FSD process
10	Thin Image User Guide	htiHM7e034c.pdf	Available	FSD process
11	TrueCopy User Guide	tcoHM7e034c.pdf	Available	FSD process
12	Audit Log User and Reference Guide	audHM7e034b.pdf	Available	
13	Spreadsheet Operation Guide	sprHM7e030a.pdf	Available	FSD process
14	Universal Replicator User Guide	uroHM7e034d.pdf	Available	FSD process
15	CCI Installation & Configuration User Guide	cccHM7e034c.pdf	-	No need for OLH.
16	CCI User's Guide	cciHM7e034d.pdf	-	No need for OLH.
17	CCI Reference Guide	cmrHM7e034d.pdf	-	No need for OLH.
18	Document Map	mapHM7e030a.pdf	-	
19	Hitachi Unified Storage VM OPEN Data Migration Operation Manual	odmHM7e033a.pdf	-	No need for OLH.
20	Encryption License Key User Guide	darHM7e034b.pdf	Available	FSD process
21	High Availability Manager User Guide	hamHM7e034a.pdf	Available	FSD process

**Maintenance Manual**

**Rev. 4.9g for DW700 Maintenance Manual**

No.	1
Product Name	HUS VM
BugID	HM700-1043
Title	System down at MP Blade replacement
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	If an MP Blade is replaced after replacement of a MAIN Blade stops due to failure, the system goes down.
Symptoms	After replacement of a MAIN Blade stopped due to a failure, if an MP Blade was replaced, the storage system went down. After forcible power OFF and then power ON, SIM=3080XX was reported.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A failure occurs during one MAIN Blade replacement and then the replacement stops. (The MAIN Blade is blocked.) (2) An MP Blade is blocked. (3) The blocked MP Blade is replaced.
CauseForFailure	A failure of specification at MPB failure in failure recovery processing
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	Failure-processing failure
RecoveryFromProblem	<The microcode version is earlier than 73-03-40> After system down, remove the MP Blade that had been replaced just before system down, and then perform PS ON. <The microcode version is 73-03-40 or later> After system down, perform PS ON.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
ESC_CTSC_APSC_LOG_ID	HM700-38373
HDS_SupportCaseID	HDS02205361
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.	2
Product Name	HUS VM
BugID	HM700-1044
Title	Inadequate message of SSB=2E22 and 2202
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	<p>The message of SSB=2E22 and 2202 that are logged when a resource group containing a resource is deleted is not adequate.</p> <p>The SSB message is modified as follows: The specified resource group is not empty.</p>
Symptoms	When a resource group that contained a resource was deleted from Command Control Interface, SSB=2E22 and 2202 (The resource belongs to the resource group.) were logged but the message was not adequate.
ConditionsOfOccurrence	<p>The problem occurs when a resource group is deleted from CCI while one of the following resources is registered to the resource group.</p> <ul style="list-style-type: none"> <li>- Parity group</li> <li>- External volume group</li> <li>- LDEV</li> <li>- Port</li> <li>- Host group</li> </ul>
CauseForFailure	A failure of error message at resource group deletion from CCI
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Evaluation
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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	<p>(1) Restriction of micro-program exchange None</p> <p>(2) Which one has this problem, MCU or RCU or Both MCU and RCU ? None</p> <p>(3) Recommendation of installing the modified code for TC. None</p>

No.	3
Product Name	HUS VM
BugID	HM700-1045
Title	DMA blockage due to frequent CHK2 at TC pair creation
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	CHK2 occurs frequently and DMA is blocked at TC pair creation after chip reset during online microcode exchange.
Symptoms	When a TC pair was created using a port where HMO51 was set to ON after a chip reset occurred during online microcode exchange, CHK2 occurred frequently and DMA was blocked. SSB=B672, B67F, B2FF, B2C8, B5D5 SIM=CF83XX
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) HMO51 is set to ON. (2) TC configuration (3) A reset occurs on a protocol chip during online microcode exchange or recovery in MPB replacement.
CauseForFailure	A failure of internal management table processing at maintenance operation with remote copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Performance degradation
RecoveryFromProblem	Dummy replace the MAIN Blade containing the blocked DMA.
TemporaryCircumvention	Set HMO51 to OFF.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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	HUS VM
BugID	HM700-1046
Title	Increase in the number of I/Os and traffic amount and copy performance degradation
Products_and_Versions_Affected	DKCMAIN: 73-03-39-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	<p>When a host that does not support ODX runs copy processing, the ODX function does not work so that the number of I/Os between the host and storage system and amount of traffic increase, and the copy performance may degrade.</p> <p>If a host does not support ODX, the host issues a POPULATE TOKEN command but may not a WRITE USING TOKEN command. In this case, the TOKEN information registered to the storage system is not cleared so that the TOKEN resource of the storage system is depleted. It causes SLEEP waiting for TOKEN resource release to be repeated, leading to read/write response degradation and command time-out.</p> <p>The microcode is modified to log SSB=D47B (not displayed) as an information enhancement in this case, indicating that the host does not support ODX when TOKEN resource is depleted.</p>
Symptoms	<p>In an environment where the host did not support ODX, if the host ran copy processing with ODX, the ODX function did not work so that the number of I/Os between the host and storage system and amount of traffic increased, and the copy performance might degrade.</p> <p>Because the troubleshooting information was insufficient, it took time to identify the root cause.</p>
ConditionsOfOccurrence	<p>The problem occurs when all the following conditions are met.</p> <p>(1) HMO73 is set to ON.</p> <p>(2) In an environment where a host does not support ODX, the host does not issue a WRITE USING TOKEN command.</p> <p>(3) The TOKEN registration resource is depleted.</p>
CauseForFailure	A failure of interface between host and storage system at maintenance operation during Open I/O processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	Performance degradation
RecoveryFromProblem	Change the environment to the one where the host supports ODX, or disable the ODX function of the host.
TemporaryCircumvention	Change the environment to the one where the host supports ODX, or disable the ODX function of the host.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	5
Product Name	HUS VM
BugID	HM700-1047
Title	TI pair suspension
Products_and_Versions_Affected	DKCMAIN: 73-01-38-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	A TI pair is suspended due to failure.
Symptoms	After a write I/O to a P-VOL of TI pair in PSUS status, SSB=E610 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 write I/O is issued to a P-VOL of TI pair in PSUS status. (2) There is a slot with an ECC/LRC error (such as hardware failure (CM/CHB/DKB) in cache PCB on cluster1 or cluster 2.
CauseForFailure	A failure of internal processing sequence at cache failure with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Delete the suspended TI pair and then create it again. If a pinned slot occurs, first restore it in accordance with the Maintenance Manual, and then take the above operation.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	6
Product Name	HUS VM
BugID	HM700-1048
Title	Inadequate SN message 01005-002010 and SVP message SEC2144W displayed
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	Storage Navigator message 01005-002010 and SVP message SVP2144W that are displayed when an LU is deleted while host reserve remains and no I/O runs are inadequate.  The microcode is modified to display Storage Navigator message 01005-002082 and SVP message SEC3335E instead of 01005-002010 and SVP2144W respectively.
Symptoms	When an LU was deleted while host reserve remained and no I/O ran, an error occurred and Storage Navigator message 01005-002010 and SVP message SEC2144W were displayed but the messages were inadequate.
ConditionsOfOccurrence	The problem occurs when one of the following operations is performed while host reserve remains. - Host group deletion - Host mode change - LU path deletion - Host parameter (AL-PA) setting change - LDEV attribute (Cmd Dev) setting
CauseForFailure	A failure of internal processing sequence at maintenance operation with LUN Management function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Message failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	7
Product Name	HUS VM
BugID	HM700-1049
Title	Pinned slot during low-speed formatting/shredding
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	A pinned slot occurs during low-speed formatting or shredding.
Symptoms	When a failure reset occurred during low-speed formatting or shredding, a pinned slot occurred and SIM=FF4XXX might be reported.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Low-speed formatting or shredding takes place. (2) During (1), a failure reset (CHK1B, CHK3, CHK4, or WCHK1) occurs.
CauseForFailure	A failure of reset processing at maintenance operation in OPEN I/O processing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Retry the low-speed format or shredding.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	8
Product Name	HUS VM
BugID	HM700-1050
Title	Failure of pair status change at Swap Suspend
Products_and_Versions_Affected	DKCMAIN: 73-03-39-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	When Swap Suspend is performed for a TC pair consisting of HM800 (MCU) and HM700 (RCU), the pair status does not become PSUS/SSWS, but remains PAIR/SSWS.
Symptoms	When Swap Suspend was performed for a TC pair consisting of HM800 (MCU) and HM700 (RCU), the pair status did not become PSUS/SSWS, but remained PAIR/SSWS.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) A TC pair that consists of HM800 (MCU) and HM700 (RCU) (2) The last 5 digits of HM800 serial number is 65536 or greater. (3) Swap Suspend is performed or a failure suspension occurs on RCU.
CauseForFailure	A failure of pair status change with remote copy function
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	Perform Swap Resync or suspend the pair volumes on MCU. (Or issue a write I/O to the pair volumes on MCU.)
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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.	9
Product Name	HUS VM
BugID	HM700-1051
Title	No TOKEN information collected
Products_and_Versions_Affected	DKCMAIN: 73-03-07-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	For the ODX function, the information at TOKEN operation is not collected.  The microcode is modified to collect the TOKEN information in a trace when; (1) TOKEN registration or deletion is performed, and (2) Check is returned because no TOKEN is detected.
Symptoms	For the ODX function, the information at TOKEN operation was not collected so that the analysis might be difficult in some cases.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) HMO73 is set to ON. (2) An ODX command is received.
CauseForFailure	A failure of internal processing conflict in high load I/O environment in Open I/O processing
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	10
Product Name	HUS VM
BugID	HM700-1052
Title	Data transfer time-out/CHK2 at reset
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	Data transfer time-out and CHK2 occur when a reset is received in high load environment.
Symptoms	When a reset was received in high load environment, data transfer time-out (SSB=DDA1) and CHK2 (SSB=3287) occurred.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) HF8G is used as a port. (2) In high load environment, a reset is issued immediately after a command is run from a host or an Initiator port between storage systems. (3) One or more of the following conditions are met. (a) A host that issues SCSI resets, such as an LU reset, and ABTS resets is connected. (b) FC_GS3 is used.
CauseForFailure	A failure of reset processing in high load I/O environment on front-end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	11
Product Name	HUS VM
BugID	HM700-1053
Title	Repeated staging and Check Condition report to host
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	When a pinned slot receives a read I/O, staging is repeated and Check Condition is returned to the host.
Symptoms	In a high load I/O environment, segments (cache) could not be reserved temporarily. When a pinned slot (write error) received a read I/O, if a segment could not be reserved, staging was repeated so that SSB=9C1D was logged frequently, and eventually Check Condition was returned to the host.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) High load I/O environment (2) A read command is received. (3) A pinned slot (write error) exists.
CauseForFailure	A failure of internal processing sequence in high load I/O environment in failure recovery processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	12
Product Name	HUS VM
BugID	HM700-1054
Title	Apache Commons Collections library deserialization processing related vulnerability
Products_and_Versions_Affected	SVP: All
Products_and_Versions_Fixed	SVP: 73-03-43/00 / 75-03-43/00
ProblemDescription	Any code can be run remotely by attackers due to vulnerability.
Symptoms	There was vulnerability (VU#576313) relating to deserialization processing of Apache Commons Collections library, so that any code could be run remotely by attackers.
ConditionsOfOccurrence	The problem occurs when a specific TCP port on SVP receives such data that runs any command.
CauseForFailure	A failure of communication processing at maintenance operation on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	High
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Change the firewall setting to disable the access to the specific TCP receiving port on SVP from unreliable sources. For details about the TCP receiving port, see the Storage Navigator User Guide.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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	Storage Navigator
AreaChangedInFirmware	SVP
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	HUS VM
BugID	HM700-1055
Title	Lower copy speed of XCOPY and ODX
Products_and_Versions_Affected	DKCMAIN: 73-03-07-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	The speed of XCOPY and ODX copy may be slower than that of the copy by read/write.
Symptoms	In a concatenated parity group configuration consisting of LDEVs that were not DP volumes, the speed of XCOPY and ODX copy might be slower than that of the copy by read/write.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) LDEVs that are not DP VOL (2) The LDEVs constitute concatenated parity groups. RAID levels that the concatenated parity groups can be set are as follows. - 2D+2D 2 parity groups - 7D+1P 2 parity groups - 7D+1P 4 parity groups (3) Using the above LDEVs as a copy source, XCOPY or ODX copy processing is performed.
CauseForFailure	A failure of specification of LDEV configuration in OPEN I/O processing
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Performance degradation
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	14
Product Name	HUS VM
BugID	HM700-1056
Title	Unintentional forcible SVP reboot
Products_and_Versions_Affected	SVP: 73-01-33/00 and higher
Products_and_Versions_Fixed	SVP: 73-03-43/00 / 75-03-43/00
ProblemDescription	When SMI-S Provider works, forcible SVP reboot occurs.
Symptoms	When SMI-S Provider worked, forcible SVP reboot occurred about every six months after SVP startup.
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) The service of Embedded SMI-S Provider is in "Running" status. (2) About half a year has passed after SVP startup.
CauseForFailure	A failure of internal processing sequence at maintenance operation on SVP
SeverityOfFailure	Low
ProbabilityOfFailure	Medium
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Manually reboot SVP in a time slot when maintenance operations of SVP are not required.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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	HUS VM
BugID	HM700-1057
Title	Delay in response to command from CCI
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	Returning a response to raidcom get ldev -ldev_list <ldev list option> -resource <resource_grp_id> takes time.
Symptoms	When raidcom get ldev -ldev_list <ldev list option> with a resource group specified ([-resource <resource_grp_id>...]) was run from Command Control Interface, the response took time. (It might be longer than 100 minutes in the worst case.)
ConditionsOfOccurrence	The problem occurs when all the following conditions are met. (1) raidcom get ldev -ldev_list <ldev list option> -resource <resource_grp_id> is run from CCI. (2) There is a resource group other than the one specified in the above command, and LDEVs are assigned to the resource group.
CauseForFailure	A failure of sequence at display on CCI
SeverityOfFailure	Low
ProbabilityOfFailure	High
BugImpact	Performance degradation
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Evaluation
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	16
Product Name	HUS VM
BugID	HM700-1058
Title	Drive/LDEV blockage after removing and installing drive box in power outage
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	After removing and installing drive boxes in power outage, drive or LDEV blockage may occur.
Symptoms	When power outage occurred in multiple drive boxes, if drive boxes in power outage were removed and then installed with one or more drive boxes left in power outage, the power outage information remained in the installed drive boxes, but it did not cause any problem. However, when the remaining drive boxes in power outage were restored, the drive boxes with the power outage information were restored too, causing drive blockage or LDEV blockage.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Power outage occurs in multiple drive boxes. (2) Drive boxes in power outage are removed with one or more drive boxes left in power outage. (3) Drive boxes are installed on locations of the removed drive boxes. (4) An I/O is issued to drives in the installed drive boxes. (5) The remaining drive boxes in power outage are restored.
CauseForFailure	A failure of internal processing sequence at maintenance operation on back-end control
SeverityOfFailure	Low
ProbabilityOfFailure	Low
BugImpact	Maintenance failure
RecoveryFromProblem	Dummy replace the blocked part.
TemporaryCircumvention	Before performing occurrence condition (4), restore all drive boxes in power outage and then install drive boxes.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	17
Product Name	HUS VM
BugID	HM700-1059
Title	TI pair failure suspension
Products_and_Versions_Affected	DKCMAIN: 73-01-38-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	When forcible power OFF and then non-volatile PS ON are performed, a TI pair is suspended due to failure.
Symptoms	After a write I/O was issued to P-VOL of a TI pair (PSUS status), if forcible power OFF and then non-volatile PS ON were performed, the TI pair was suspended due to failure.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A write I/O is issued to P-VOL of a TI pair in PSUS status. (2) There is dirty data in cache. (3) Forcible power OFF and then non-volatile PS ON are performed.
CauseForFailure	A failure of internal processing sequence at maintenance operation with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Delete the suspended TI pair, and then create it.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	18
Product Name	HUS VM
BugID	HM700-1060
Title	CHK2 at I/O or pair resync to TI pair
Products_and_Versions_Affected	DKCMAIN: 73-01-32-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	CHK2 may occur when an I/O is issued to a TI in PSUS status, or the TI pair is resynchronized.
Symptoms	When an I/O was issued to a TI pair in PSUS status, or the TI pair was resynchronized, CHK2 (SSB=3280) might occur.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) An operation from CCI or HCS but not Storage Navigator to a TC or UR pair is removed due to a time-out, CHK1/CHK3/CHK4, or host reset. (2) One of the following operations is performed. (a) In TI configuration, after TI pair creation, a write I/O is issued to the P-VOL or S-VOL of the TI pair in PSUS status. (b) The TI pair in PSUS status is restored while there is differential data between the P-VOL and S-VOL of the pair.
CauseForFailure	A failure of internal processing check at I/O to or resync of TI pair or in TI configuration
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	19
Product Name	HUS VM
BugID	HM700-1061
Title	HDD microcode enhanced to reduce replacements and recovery
Products_and_Versions_Affected	DKR5D-J: 00-00-GC and higher DKR5E-J: 00-00-G7 and higher
Products_and_Versions_Fixed	DKR5D-J: 00-00-GH and higher DKR5E-J: 00-00-GB and higher
ProblemDescription	Frequency of HDD replacement or recovery increases.
Symptoms	(1) After continuous Head Health Check errors, a drive always reported an error for any command. (2) An HDD might be blocked suddenly due to continuous "Write & Verify" even though the data was still available to be read. (3) A temporary error could result in unnecessary running of Dynamic Sparing. (4) The probability of weak write might increase.
ConditionsOfOccurrence	The problem may occur on; DKR5D-J with HDD microcode Rev. 00-00-GC, and DKR5E-J with HDD microcode Rev. 00-00-G7.
CauseForFailure	A failure of hardware due to long-term operation with HDD
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Failure rate elevation
RecoveryFromProblem	None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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	Drive
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.	20
Product Name	HUS VM
BugID	HM700-1062
Title	Abend of resync command to SI pair
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	A resync command that is run from CCI to an SI pair in PSUE status ends abnormally with SSB and CCI message reported.
Symptoms	When a resync command was issued from CCI to an SI pair in PSUE status, SSB=2310 was output and the operation might end abnormally. In this case, CCI message [EX_CMDRJE] "An order to the control/command device was rejected" was displayed.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) CCI issues a resync command to an SI pair in PSUE status. (2) Resync processing runs normally. (3) Normal end of the resync processing is reported to the host but the host cannot receive it due to a failure such as a line problem, so that the host issues the command again.
CauseForFailure	A failure of internal processing sequence at host command retry with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Perform SI pair operations from Storage Navigator instead of CCI.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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.	21
Product Name	HUS VM
BugID	HM700-1063
Title	Abend of L1 SI pair deletion from CCI
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	Deleting L1 SI pair from CCI may end abnormally.
Symptoms	When a command to delete L1 SI pair in cascade configuration was run from CCI, SSB=2344 was logged and the operation might end abnormally.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) An L1 SI pair in cascade configuration is deleted from CCI. (2) The deletion processing works normally. (3) Normal end of deletion is reported to a host, but the host cannot receive the report due to line failure, etc., so that the host retries the command.
CauseForFailure	A failure of internal processing sequence at host command retry with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Perform SI pair operation from Storage Navigator instead of CCI.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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.	22
Product Name	HUS VM
BugID	HM700-1064
Title	Abend of SI pair operation/VM operation from CCI
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	SI pair operation and VM operation from CCI may end abnormally.
Symptoms	When one of the following operations is performed from CCI, SSB=2310 was logged and the operation might end abnormally. - SI pair split - Quick restore - Volume migration - Volume migration cancel
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) One of the following operations is performed from CCI. - SI pair split - Quick restore - Volume migration - Volume migration cancel (2) The above operations work normally. (3) Normal end of operations is reported to a host, but the host cannot receive the report due to line failure, etc., so that the host retries the command.
CauseForFailure	A failure of internal processing sequence at host command retry with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Perform SI pair operation and volume migration from Storage Navigator instead of CCI.
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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.	23
Product Name	HUS VM
BugID	HM700-1065
Title	Abend of SI pair operation from CCI
Products_and_Versions_Affected	DKCMAIN: All
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	An SI pair operation from CCI may end abnormally in an environment where CCI and storage system are connected using In-band.
Symptoms	In an environment where CCI and storage system are connected using In-band, an SI pair operation from CCI might end abnormally with SSB=2310 logged.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) CCI and storage system are connected using In-band. (2) An SI pair operation is performed from CCI. (3) The SI pair operation works normally. (4) Normal end of operation is reported to a host, but the host cannot receive the report due to line failure, etc., so that the host retries the command.
CauseForFailure	A failure of internal processing sequence at host command retry with local copy function
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	None
TemporaryCircumvention	Connect CCI and storage system using Out-band.
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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.	24
Product Name	HUS VM
BugID	HM700-1066
Title	Memory leak and disabled other operations
Products_and_Versions_Affected	SVP: All
Products_and_Versions_Fixed	SVP: 73-03-43/00 / 75-03-43/00
ProblemDescription	Memory leak occurs and other operations may fail when a lock is forcibly released.
Symptoms	When a lock with a maintenance operation from SVP was forcibly released, memory leak occurred and other operations might fail.
ConditionsOfOccurrence	The problem may occur when a lock is forcibly released from SVP.  The operation to forcibly release the lock can be done by clicking [Unlock All] on the Resource Lock Properties window that can be opened from the operation lock button on the toolbar on Storage Navigator.
CauseForFailure	A failure of memory release omission at maintenance operation on SVP
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Restart SVP.
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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
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.	25
Product Name	HUS VM
BugID	HM700-1067
Title	UR pair failure suspension or SSB=B2FF during I/O
Products_and_Versions_Affected	DKCMAIN: 73-01-32-00/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	During I/O to a UR pair, the UR pair is suspended due to failure, or during I/O to TI pair, SSB=B2FF is logged frequently.
Symptoms	Phenomenon1 During I/O to a UR pair, the UR pair might be suspended due to failure. (SSB=BB52) Phenomenon2 During I/O to a TI pair, SSB=B2FF was logged frequently.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) A UR P-VOL is defined (Phenomenon1) or a TI pair (PSUS status) is defined (Phenomenon2). (2) SSB=DD84 is logged because a drive is overloaded.
CauseForFailure	A failure of incorrect condition at reboot event detection in I/O processing
SeverityOfFailure	Medium
ProbabilityOfFailure	Low
BugImpact	Functional failure
RecoveryFromProblem	Phenomenon1: Resynchronize the UR pair. Phenomenon2: None
TemporaryCircumvention	None
WhereFailureWasIdentified	Factory
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
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, 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 ? MCU (3) Recommendation of installing the modified code for TC. None

No.	26
Product Name	HUS VM
BugID	HM700-1068
Title	MP blockage and WCHK1
Products_and_Versions_Affected	DKCMAIN: 73-03-44-00/00 / 73-03-44-10/00 and higher
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00
ProblemDescription	An MP is blocked and WCHK1 occurs with SIM=3073XX, 3080XX and SSB=1644 reported.
Symptoms	An MP was blocked and WCHK1 occurred with SIM=3073XX, 3080XX and SSB=1644 reported.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Target or RCU Target Port (2) A read command (transfer length is 256KB or more, or data is transferred to an address across slots) is received from a host or an Initiator port. (3) A reset is received before the data transfer is complete.
CauseForFailure	A failure of invalid memory access at host reset in front end control
SeverityOfFailure	Medium
ProbabilityOfFailure	Medium
BugImpact	MP blockage
RecoveryFromProblem	Dummy replace the MPB containing the blocked MP
TemporaryCircumvention	Downgrade the microcode to version 73-03-42-00/00 or earlier
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
ESC_CTSC_APSC_LOG_ID	HM700-58557
HDS_SupportCaseID	HDS02920799
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.	27
Product Name	HUS VM
BugID	HM700-1069
Title	System down due to failures on 2 paths
Products_and_Versions_Affected	DKCMAIN: 73-03-01-00/00 and higher (LRPFW: 00-00-00-74 and higher)
Products_and_Versions_Fixed	DKCMAIN: 73-03-47-00/00 / 73-03-47-10/00 (LRPFW: 00-00-00-83)
ProblemDescription	When failures occur on 2 paths, all MPs are blocked and the storage system may go down.
Symptoms	When failures occurred on paths between MAIN Blade #0 and MAIN Blade #1 and between a MAIN Blade and a CHB, or between MAIN Blade #0 and MAIN Blade #1 and between a MAIN Blade and a DKB, SIM=2130XX or 2140XX was reported. In addition, SSB=3250 was logged repeatedly and the storage system might go down.
ConditionsOfOccurrence	The problem may occur when all the following conditions are met. (1) Failures occur on paths; (a) Between MAIN Blade #0 and MAIN Blade #1 and between a MAIN Blade and a CHB, or (b) Between MAIN Blade #0 and MAIN Blade #1 and between a MAIN Blade and a DKB. (2) A failure does not occur on a different path between MAIN Blade #0 and MAIN Blade #1. (3) A failure does not occur on a path between a MAIN Blade and MPB.
CauseForFailure	A failure of reset processing at MAIN Blade failure in failure-blocking process
SeverityOfFailure	High
ProbabilityOfFailure	Low
BugImpact	System down
RecoveryFromProblem	Forcibly turn the power OFF and perform non-volatile PS ON for the storage system or DB.
TemporaryCircumvention	None
WhereFailureWasIdentified	Customer
ECN_Number	ECN DW700-M064
ECN_Revision	0
ECN_ReleaseDate	03/01/2016
ESC_CTSC_APSC_LOG_ID	HM800-83915
HDS_SupportCaseID	HDS02933369
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 (LRPFW)
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

### HM700 Function Release Q-code

Release Number	Microcode Version	Date of issue	ECN #	Comments
V01	73-01-01-00/00	July 31st, 2012	M001	Q-code
V01	73-01-02-00/00	Sep. 26th, 2012	M002	Q-code update
V01	73-01-03-00/00	Nov. 19th, 2012	M004	Q-code update
V01+1	73-01-32-00/00	Dec. 18th, 2012	M006	Q-code - Support for 3.5-inch DBL - Support for Host Mode Option 72 - Support for TC and UR pair creation between HM700 and RAID700 - Support for Get LBA Status command - Support for HMO68 - Support for 16GB DIMM and BM256 - Improvement for initial copy and resync copy in UR configuration using multiple HM700s with CCI - Support for Thin Image - I/O performance improvement - Improvement for rebalance processing - Improvement for migration page calculation logic - Support for Non-disruptive Migration - Support for SSB=B771, B772 and 8BD7 - RMAPI enhancement - Improvement for dump files collection with FD dump tool - Support for new and successor compatible HDDs - RAID Manager/LIB Ver 01-17-03/01 - CCI (RAID Manager) 01-29-03/06 - CCI enhancement - Program product name of Disaster Recovery Extended changed
V01+1	73-01-33-00/00	Feb. 1st, 2013	M009	Q-code update
V01+1	73-01-35-00/00	Apr. 10th, 2013	M011	Q-code update
V01+1	73-01-36-00/00	Apr. 26th, 2013	M012	Q-code update
V02	73-02-01-00/00	Apr. 26th, 2013	M013	Q-code - Enhancements for CCI - Enhancements for MLC SSDs - Enhancements for NDM - Support for NDM with HCS (Hicommand Suites) - Support for Generic Profile and Load Balance Mode - Support for SSB=A4CE and SIM=DFXYZ without SOM144 and 887 setting - Support for data inconsistency guard logic in UVM configuration - Support for System Option Mode 927 - Support for zero data page reclamation for DP-VOL - Improvement for V-VOL expansion operations - Improvement for status display on Storage Navigator - Support for rebalance of usage rate among parity groups with pool volumes defined (SOM917) - Support for tiering of external drive - Improvement for Performance Utilization per tier - Tiering Policy expansion and improvement for data pages relocation - Improvements to ease restrictions on maintenance - Improvement for configuration recovery function - Support for displays and settings of Copy Back mode on SVP - Support for HMO073 - Support for UNMAP command with PP combination - Support for I/O buffer counter - Support for Flash Acceleration - Support for Flash Module Drive - Support for multiple path group IDs setting - Information enhancement for cause analysis of RIO delay - Support for PDEV failure information collection by Auto Dump - Support for SOM956 - Support for new storage system connection
V02	73-02-02-00/00	June 10th, 2013	M015	Q-code update
V02	73-02-03-00/00	July 4th, 2013	M017	Q-code update
V02	73-02-04-00/00	Aug. 8th, 2013	M018	Q-code update

V03	73-03-01-00/00	Oct. 7th, 2013	M022	<ul style="list-style-type: none"> <li>Q-code</li> <li>- Support for Encryption License Key</li> <li>- CCI enhancement</li> <li>- Modification for DT tier configuration condition</li> <li>- Support for per-page allocation policy setting</li> <li>- Monitoring of pages without Dynamic Tiering license (SOM937)</li> <li>- Support for System Option Mode784</li> <li>- HAM support</li> <li>- Support for BOS flash optimization</li> <li>- Support for Extended Round-robin Mode</li> <li>- Support for SMI-S</li> <li>- Support for compatible 3 TB/4 TB NL_SAS drive</li> <li>- Support for new 1.2 TB SAS drive</li> <li>- Support for Apache 2.2.24 update</li> <li>- Addition of Access Attribute column to tables of Storage Navigator</li> <li>- Support for pool volume format via Logical Devices window of Web Console</li> <li>- Support for DKU microcode of DKS2E-H</li> <li>- CCI (RAID Manager) 01-30-03/03</li> </ul>
V03	73-03-01-00/00 (Config: 73-03-03/00)	Oct. 31st, 2013	M025	Q-code update
V03	73-03-02-00/00	Nov. 29th, 2013	M026	Q-code update
V03	73-03-03-00/00	Dec. 13th, 2013	M029	Q-code update
V03	73-03-04-00/00	Jan. 15th, 2014	M032	Q-code update
V03	73-03-06-00/00	Mar. 5th, 2014	M037	Q-code update
V03	73-03-07-00/00	Apr. 7th, 2014	M039	Q-code update
V03	73-03-08-00/00	Apr. 24th, 2014	M042	Q-code update
V03	73-03-09-00/00	May 30th, 2014	M044	Q-code update
V03	73-03-31-00/00 (DBX) 73-03-31-10/00 (DB60)	July 28th, 2014	M045	<ul style="list-style-type: none"> <li>Q-code update</li> <li>- Support for 4U 60 dense HUS VM</li> <li>- Support for new external storage ETERNUS S3 series</li> </ul>
V03	73-03-32-00/00 (DBX) 73-03-32-10/00 (DB60)	Aug. 29th, 2014	M046	Q-code update
V03	73-03-33-00/00 (DBX) 73-03-33-10/00 (DB60)	Oct. 6th, 2014	M047	Q-code update
V03	73-03-34-00/00 (DBX) 73-03-34-10/00 (DB60)	Dec. 1st, 2014	M049	Q-code update
V03	73-03-35-00/00 (DBX) 73-03-35-10/00 (DB60)	Dec. 26th, 2014	M050	Q-code update
V03	73-03-36-00/00 (DBX) 73-03-36-10/00 (DB60)	Feb. 27th, 2015	M051	Q-code update
V03	73-03-37-00/00 (DBX) 73-03-37-10/00 (DB60)	Apr. 28th, 2015	M053	Q-code update
V03	73-03-38-00/00 (DBX) 73-03-38-10/00 (DB60)	May 29th, 2015	M054	Q-code update
V03	73-03-39-00/00 (DBX) 73-03-39-10/00 (DB60)	July 3rd, 2015	M056	Q-code update
V03	73-03-40-00/00 (DBX) 73-03-40-10/00 (DB60)	Aug. 28th, 2015	M057	Q-code update
V03	73-03-42-00/00 (DBX) 73-03-42-10/00 (DB60)	Sep. 30th, 2015	M058	Q-code update
V03	73-03-42-00/00 (DBX) 73-03-42-10/00 (DB60)	Nov. 11th, 2015	M059	Q-code update (Expander Ver.80-00-11 (DBX), 82-00-09(DB60))
V03	73-03-44-00/00 (DBX) 73-03-44-10/00 (DB60)	Jan. 15th, 2016	M060	Q-code update
V03	73-03-46-00/00 (DBX) 73-03-46-10/00 (DB60)	Feb. 19th, 2016	M063	Q-code update
V03	73-03-47-00/00 (DBX) 73-03-47-10/00 (DB60)	Mar. 1st, 2016	M064	Q-code update

## Appendix-G Related Program Versions

## (1) RAID Manager

NO	Product Name	New Version	Previous Version
1	RAID Manager for HP-UX	01-36-03/04	01-35-03/05
2	RAID Manager for Windows NT *	01-36-03/04	01-35-03/05
3	RAID Manager for Solaris	01-36-03/04	01-35-03/05
4	RAID Manager for AIX	01-36-03/04	01-35-03/05
5	RAID Manager for Tru64 UNIX	01-36-03/04	01-35-03/05
6	RAID Manager for DYNIX	01-19-03/04	Same as left
7	RAID Manager for Linux	01-36-03/04	01-35-03/05
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	01-36-03/04	01-35-03/05
11	RAID Manager for Solaris/x86	01-36-03/04	01-35-03/05
12	RAID Manager for Open VMS/IA	01-36-03/04	01-35-03/05
13	RAID Manager for Linux/IA64	01-36-03/04	01-35-03/05
14	RAID Manager for Windows NT/x64	01-36-03/04	01-35-03/05
15	RAID Manager for Linux/x64	01-36-03/04	01-35-03/05

\* Windows2000/2003/2008 are also supported.

## (2) RAID Manager Library (RL)

NO	Product Name	New Version	Previous Version
1	RL for Solaris	01-19-03/02	Same as left
2	RL for Solaris/x86	01-19-03/02	Same as left
3	RL for HP-UX	01-19-03/02	Same as left
4	RL for Windows NT *	01-19-03/02	Same as left
5	RL for Windows/IA64	01-19-03/02	Same as left
6	RL for Windows/x64	01-19-03/02	Same as left
7	RL for AIX	01-19-03/02	Same as left
8	RL for Linux(x86)	01-19-03/02	Same as left
9	RL for Linux(IA64)	01-19-03/02	Same as left
10	RL for Linux(x64)	01-19-03/02	Same as left
11	RL for IRIX	01-19-03/02	Same as left
12	RL for Tru64 UNIX	01-19-03/02	Same as left
13	RL for zLinux	01-19-03/02	Same as left
14	RL for Open VMS	01-17-03/01	Same as left
15	RL for Open VMS/IA	01-19-03/02	Same as left

\* Windows2000/2003/2008 are also supported.

## (3) ODM

NO	Program name	New Version	Previous Version
1	HTC_ODM	5.0.52.3	Same as left
2	HTC_MPIO_ODM	5.4.0.5	Same as left

\* Hatched indicates the changed items from the previous release.

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

NO	Program name	New Version	Previous Version
1	off_report	73-03-43/00	73-03-42/00
2	Off_svp	DBX	73-03-43/00
		DB60	75-03-43/00
3	Off_tool	DBX	73-03-43/00
		DB60	75-03-43/00

(5) Monitor

NO	Program name	New Version	Previous Version
1	Export Tool	73-03-43/00	73-03-42/00

(6) Configuration File Loader CLI Tool

NO	Program name	New Version	Previous Version
1	CFL CLI Tool	73-03-43/00	73-03-42/00

(7) FC Wizard (for micro-program exchange)

NO	Program name	New Version	Previous Version
1	FC Wizard	1.0	Same as left

(8) SNMP

NO	Program name	New Version	Previous Version
1	SNMP MIB File	5.0	Same as left

(9) SVP RDP Connect Utility

NO	Program name	New Version	Previous Version
1	SVP RDP Connect Utility	73-00-00	Same as left

(10) Config Report CLI

NO	Program name	New Version	Previous Version
1	Config Report CLI	01-00-03/02	Same as left

\* Hatched indicates the changed items from the previous release.

**Appendix-S Antivirus Software Support****Installation Procedure**

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

**(For the detailed information for each operation of SVP, refer to Maintenance Manual.)**

- (1) Log into the SVP.**
- (2) Change the mode into [Modify Mode] on the SVP window.  
(In order to limit other maintenance operations such as Storage Navigator.)**
- (3) Install the antivirus software.**
- (4) 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.**
- (5) Confirm that the mode is [View Mode] on the SVP window.**
- (6) Open the Maintenance window to confirm that there is no failure part.**
- (7) Installation is completed.**

**In the case that the SVP is duplicated, perform the above procedure for both of the Master SVP and the Standby SVP.**

**Note**

- 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. Trend Micro OfficeScan Corporate Edition**

Trend Micro OfficeScan Corporate Edition has been supported as follows:

**(1) Software version:**

Trend Micro OfficeScan Corporate Edition 10.6

**(2) Conditions:**

- DKC model: HUS VM (all SVP versions)

- Procedure required to applying the support:

Scan Options: Select "Real-time scan Settings"

Scan Target: Select "Scan incoming and outgoing file" (default) and

"Scan files with the following extensions (use commas to separate entries)"

Please exclude the following extensions from the extension list: ".CLASS", ".DAT", ".JAR", ".TAR"

**(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.

**2. Symantec Endpoint Protection**

Symantec Endpoint Protection has been supported as follows:

**(1) Software version:**

Symantec Endpoint Protection 11.0 / 12.1 / 12.1.2 / 12.1.3<sup>(\*1)</sup> / 12.1.6

(\*1) The following definition files should be installed before rebooting SVP.

Virus and Spyware Protection: Wednesday, October 30, 2013 r17 or later

Proactive Threat Protection: Thursday, October 24, 2013 r11 or later

**(2) Conditions:**

- DKC model: HUS VM (all SVP versions)

- Procedure required to 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 Option block.

- In Exception, select "Configure Settings", select "Add...", and select "Security

**Risk Exception** - "Folder",

- Input "C:¥DKC200¥TMP" in "Folder:", and select "Auto-Protect" in "Exception Type:", then select "OK".
- Make sure there is "C:¥DKC200¥TMP" 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.

### 3. McAfee VirusScan Enterprise

McAfee VirusScan Enterprise has been supported as follows:

**(1) Software version:**

McAfee VirusScan Enterprise 8.8

**(2) Preparation:**

- Before installing McAfee VirusScan, execute a batch file as follows;
- Obtain a batch file "appinfo.bat0"
- Copy attached "appinfo.bat0" as "appinfo.bat" under the folder "c:¥dkc200¥" of the SVP
- Right click the "appinfo.bat" and then click "Run as Administrator" to execute the file.

**(3) Conditions:**

- DKC model: HUS VM (all SVP versions)
- Procedure required to 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 file type (can include wildcards \* or ?): " for "What to exclude" in the "Add Exclusion Item" window, and then click "Select...",
- Select "DAT" Extension from the list in the "Select File Type" window, and then click [OK],
- Click [OK] in the "Add Exclusion Item" window,
- Click [OK] in the "Set Exclusions" window,
- Click [OK] in the "On-Access Scan Properties" windows,
  
- Right click the "Access Protection" in "Task" in the "VirusScan Console" window, and open the menu, then select "Properties",
- Select "Access Protection" tab in the "Access Protection Properties" window,
- Select the "Anti-Virus Standard Protection" in "Categories",
- Remove the check mark of "Block" and "Report" for "Prevent IRC communication" and "Prevent mass mailing worms from sending mail", and then click [OK],
  
- Close "VirusScan Console" window.

#### 4. Sophos Endpoint Security and Control

Sophos Endpoint Security and Control has been supported as follows:

(1) Software version:

Sophos Endpoint Security and Control 10 / 10.2 / 10.3

(2) Conditions:

- DKC model: HUS VM (all SVP versions)
- Procedure required to applying the support:
  - Right click the Sophos icon on Task Bar, and open the menu, then select "Open Sophos Endpoint Security and Control",
  - Select the "Configure anti-virus and HIPS",
  - Select "Authorization",
  - Select "New entry..." in "Suspicious Files" tab,
  - Input "c:\jdkc200\mp\pc\Svp\_admin.exe" into File name: and select "Open",
  - Make sure there is "Svp\_admin.exe" in Authorized suspicious files,
  - Select "New entry..." in "Suspicious behavior" tab,
  - Input "c:\jdkc200\mp\pc\Svp\_admin.exe" into File name: and select "Open",
  - Make sure there is "Svp\_admin.exe" in Authorized applications, and select "OK",
  - Select "On-access scanning",
  - Select "Add" in "Exclusions" tab,
  - Select "Folder" into Item type : and input "C:\jdkc200\TMP" into Item name: and select "OK",
  - Make sure there is "C:\jdkc200\TMP" in Excluded item, and select "OK",

- **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.**