

Hitachi Virtual Storage Platform G200, G400, G600, G800 Release Notes Hitachi Virtual Storage Platform F400, F600, F800 Release Notes

SVOS version 6.4.0

VSP G800, VSP F800:

DKCMAIN version 83-03-04-60/00, SVP version 83-03-05-60/00

VSP G400, G600, VSP F400, F600:

DKCMAIN version 83-03-04-40/00, SVP version 83-03-05-40/00

VSP G200:

DKCMAIN version 83-03-04-20/00, SVP version 83-03-05-20/00

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About this document

This document provides information about the Hitachi Virtual Storage Platform G200, G400, G600, G800 and the Hitachi Virtual Storage Platform F400, F600, F800 microcode (DKCMAIN and SVP), including new features and functions and changes.

Revision	Date
RN-830304-M027-00	June 3 rd , 2016

Intended audience

This document is intended for Hitachi Data Systems customers and authorized service providers who install, configure, operate, and maintain the Hitachi Virtual Storage Platform G200, G400, G600, G800 and the Hitachi Virtual Storage Platform F400, F600, F800 storage systems.

Getting help

Hitachi Data Systems Support Connect is the destination for technical support of products and solutions sold by Hitachi Data Systems. To contact technical support, log on to Hitachi Data Systems Support Connect for contact information:

https://support.hds.com/en_us/contact-us.html.

About this release

This document describes the differences between the following versions:

Product	Firmware	New Version	Previous Version
SVOS	-	6.4.0	6.4.0
VSP G800	DKCMAIN	83-03-04-60/00	83-03-03-60/00
VSP F800	SVP	83-03-05-60/00	83-03-02-60/00
VSP G400, G600	DKCMAIN	83-03-04-40/00	83-03-03-40/00
VSP F400, F600	SVP	83-03-05-40/00	83-03-02-40/00
VSP G200	DKCMAIN	83-03-04-20/00	83-03-03-20/00
	SVP	83-03-05-20/00	83-03-02-20/00

Supported features and functions

1	Support for SOM1068
Description	<p>New System Option Mode 1068 is available to detect and report slight delay in response from a drive at an early point of time.</p> <p>Restricted Mode – Restricted-by-Engineering Permission Required to Use</p>
Documented	NewModeList

2	Applied patch for vulnerability of glibc and memory leak
Description	<p>A patch provided from the OS vender is applied to address the following issues.</p> <p>(1) Vulnerability of glibc CVE-2015-7547: glibc getaddrinfo stack-based buffer overflow https://googleonlinesecurity.blogspot.jp/2016/02/</p> <p>(2) Memory leak If the email server is set to the host name for alert notice setting, a memory leak occurs in GUM during alert notice processing run at SIM generation.</p>
Documented	None

3	Support for drive microcode (DKS5H-J)
Description	The DKS5H-JxxxSS drive microcode (version 00-7F-A9) is supported.
Documented	None

Fixed problems

No	Item	Contents
1	Title	DKB/SAS port/drive port blockage at MP freeze
	Symptoms	<p>When a 2-sec freeze occurred in an MP due to an MPU or microcode failure, a time-out was detected in the communication with DKB. In this case, the following failures occurred depending on the access command types at failure threshold exceedance.</p> <ul style="list-style-type: none"> - DKB blockage (SSB=AA3C, F7D5, F7D6, or 1609, SIM=CF10XX) - SAS port blockage (SSB=AB45, AB03, AB06, AB0F, AB10, F7D5, F7D6, or 1609, SIM=CF12XX) - Drive port blockage (SSB=AB0F, AB10, F7D5, F7D6, or 1609, SIM=DF8XXX or DF9XXX)
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) Both controllers are in normal status.</p> <p>(2) A 2-sec or longer freeze occurs in an MP. (an MPU or microcode failure)</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
2	Title	Soft Reset and login failure
	Symptoms	While the internal WWN resource was depleted (SSB=BEAD), if a port was logged in 657 times or more, Soft Reset (SSB=BE83) occurred and login after that was disabled.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) More than the following number of hosts logging into a storage system (including hosts that have logged out).</p> <p>G200: 10240</p> <p>G400, G600, F400, F600: 28672</p> <p>G800, F800: 53248</p> <p>(2) After (1), a port is logged in 657 times or more.</p>

No	Item	Contents
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
3	Title	Unable to release reserve command
	Symptoms	In an iSCSI connection environment, if a reserve command was running on the host, the reserve command could not be released.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) More than the following number of hosts logging into a storage system (including hosts that have logged out). G200: 10240 G400, G600, F400, F600: 28672 G800, F800: 53248 (2) The hosts are logged out from the storage system.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
4	Title	Continuous SIM=EFFEXX report
	Symptoms	<p>While a DB was powered off, if a SAS cable connection was changed and the cable was wrongly connected, SIM=EFFEXX for wrong connection continued to be reported until the wrong connection was corrected.</p> <p>SIM=EFFEXX</p> <p>SSB=AB72</p>
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) A SAS cable connection is changed while a DB is powered off.</p> <p>(2) The SAS cable is connected to a DB that is different from the power off DB but is the same type as the power off DB.</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
5	Title	SAS port blockage at coincidence of DB power outage and SAS-CTL failure
	Symptoms	When a DB power outage and a SAS-CTL failure occurred at the same time, a SAS port on the failed SAS-CTL side was blocked. After the DB power outage was recovered, the SAS port remained blocked. SSB=AB33, AB28, A4B6, AB76, A4B1, and AB29, and 3250, 32FE, or 32FD SIM=AC50XX, CF12XX
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) DB power outage occurs. (2) SAS-CTL failure, CHK1, CHK3, or WCHK1 occurs.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
6	Title	Smaller value displayed in Saving (%)
	Symptoms	The value displayed in Saving (%) of FMC Pool Volumes Capacity in the Pools tab on the Pools window was smaller than the expected value.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) There is a pool in the storage system. (2) The above pool contains LDEVs that belong to a parity group consisting of FMC drives.
	Category	Dynamic Provisioning, Dynamic Tiering
	Products and Versions Affected	DKCMAIN: G800, F800: 83-03-01-60/00 and higher G400, G600, F400, F600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
7	Title	No drive port blockage/no SIM report at low link rate
	Symptoms	<p>Phenomenon1</p> <p>If the link rate of 12G drive dropped to 6G during I/O processing, the drive port was not blocked.</p> <p>Phenomenon2</p> <p>At a maintenance operation (system startup, ADC startup, drive installation, drive replacement, ENC replacement), if a 12G drive linked up at the link rate of 6G, no SIM was reported.</p> <p>Phenomenon3</p> <p>At a maintenance operation (system startup, ADC startup, drive installation, drive replacement, ENC replacement), if a 12G drive linked up at the link rate of 3G, the drive port was not blocked.</p> <p>SSB=AB32</p>
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>Phenomenon1</p> <p>The drive link rate drops from 12G to 6G due to an ENC or drive failure.</p> <p>Phenomenon2</p> <p>(1) System startup, ADC startup, drive installation, drive replacement, or ENC replacement is performed.</p> <p>(2) The 12G drive links up at the link rate of 6G.</p> <p>Phenomenon3</p> <p>(1) System startup, ADC startup, drive installation, drive replacement, or ENC replacement is performed.</p> <p>(2) The 12G drive links up at the link rate of 3G.</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
8	Title	FMC drive port not blocked at ADC activation, DKB replacement, or ENC replacement
	Symptoms	When an FMC drive was linked up with the link speed of 3.0G at ADC activation, DKB replacement, or ENC replacement, the drive port was not blocked but continued to be used with slower link speed. SSB=F775
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) FMC drive (2) ADC activation, DKB replacement, or ENC replacement is performed. (3) The link speed when the drive is linked up is 3.0G.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
9	Title	SI pair failure suspension
	Symptoms	When split copy was performed in a configuration where an SI S-VOL was a DP volume, SSB=2115, 2150, or AF51, and SIM=47DXXX were reported and the pair might be suspended due to failure.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) There is an SI pair that is created while SOM459 is set to ON.</p> <p>(2) A DP volume is used for the S-VOL of the above SI pair.</p> <p>(3) A DP pool where the above DP volume belongs to contains an external volume.</p> <p>(4) The SI pair is split.</p>
	Category	ShadowImage
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
10	Title	Dirty data on cache and failure of PS OFF/maintenance operation
	Symptoms	When a DP volume was formatted or TC, UR, or GAD initial copy was performed, invalid dirty data was generated on the cache and SSB=F47F, AF21, and 89F9 were logged. After the SSBs were logged, PS OFF and maintenance operations failed.
	Conditions of Occurrence	The problem may occur when all the following conditions are met in Case 1 or Case 2. <Case 1> (1) A DP volume is associated with a pool and some pool volumes of the pool are external volumes. (2) Cache mode is set to ON on the external volumes. (3) SOM867 is set to ON. (4) A write I/O is issued to an unformatted area of the DP volume of (1). (5) By the write I/O of (4), the cache write pending rate is not 0%. (6) The DP volume of (1) is formatted. <Case 2> (1) TC, UR, or GAD configuration (2) The S-VOL of the above pair is a DP volume that is associated with a pool, and some pool volumes of the pool are external volumes. (3) Cache mode is set to ON on the external volumes. (4) A write I/O is issued to an unformatted area of the DP volume of (2). (5) By the write I/O of (4), the cache write pending rate is not 0%. (6) Initial copy is performed for the TC, UR, or GAD pair.
	Category	Universal Volume Manager
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
11	Title	Failure of LDEV removal
	Symptoms	Due to repeated de-staging processing, LDEV removal might fail.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) RAID5 or RAID6 configuration (2) One of the following drives is used. (a) SSD drive or FMD/FMC drive (b) SAS drive that is highly loaded
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
12	Title	HDD microcode enhanced to reduce replacements and recovery
	Symptoms	The following phenomena occurred so that frequency of HDD replacement or recovery increased. (1) After continuous Head Health Check errors, a drive always reported an error to 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.
	Conditions of Occurrence	The problem occurs on; DKR5D-J with drive microcode version 00-GC-GC, and DKR5E-J with drive microcode version 00-G7-G7.
	Category	Drive
	Products and Versions Affected	DKR5D-J: 00-GC-GC DKR5E-J: 00-G7-G7

No	Item	Contents
13	Title	Unintentional default setting change
	Symptoms	<p>When a CHB was installed on CHB-2K, one of the following phenomena occurred on CL4-K port.</p> <p>Phenomenon1</p> <p>The default setting of LUN security, which was OFF, changed to ON.</p> <p>Phenomenon2</p> <p>If the installed CHB was DW-F800-2HF16 (16G FC), the default setting of Fabric ON and Point-to-Point connection changed to Fabric OFF and FC-AL.</p> <p>Phenomenon3</p> <p>If the installed CHB was DW-F800-4HF8 (8G FC), the default setting of Fabric OFF and FC-AL changed to Fabric ON and Point-to-Point.</p>
	Conditions of Occurrence	<p>The problem occurs when all the following conditions are met on G800 or F800.</p> <p>Phenomenon1</p> <p>(1) LUN security is set to ON on CL4-K port.</p> <p>(2) The CHB installed on CHB-2K is removed.</p> <p>(3) A CHB is installed on CHB-2K.</p> <p>Phenomenon2</p> <p>(1) Topology on CL4-K port is Fabric OFF and FC-AL.</p> <p>(2) The CHB installed on CHB-2K is removed.</p> <p>(3) A CHB of DW-F800-2HF16 (16G FC) is installed on CHB-2K.</p> <p>Phenomenon3</p> <p>(1) Topology on CL4-K port is Fabric ON and Point-to-Point.</p> <p>(2) The CHB installed on CHB-2K is removed.</p> <p>(3) A CHB of DW-F800-4HF8 (8G FC) is installed on CHB-2K.</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: 83-02-01-60/00 and higher</p>

No	Item	Contents
14	Title	SIM and SSB reported wrongly
	Symptoms	Even though the setting operations, such as alert notification setting, date and time setting, and audit log setting, from Maintenance Utility to GUM were completed successfully, SIM=7D080X and SSB=33D8 were reported.
	Conditions of Occurrence	The problem occurs when setting operations, such as alert notification setting, date and time setting, and audit log setting, are performed from Maintenance Utility to GUM.
	Category	Open
	Products and Versions Affected	GUM: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
15	Title	Communication error on Storage Device List
	Symptoms	A communication error occurred on the Storage Device List window.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) SVP and MPC are connected to GUM. (2) GUM is rebooted. (Firmware exchange, controller replacement, LAN RST switch, GUM reboot on Maintenance Utility)
	Category	Open
	Products and Versions Affected	GUM: G800, F800: 83-01-20/00 and higher G400, G600, F400, F600: 83-01-20/00 and higher G200: 83-01-20/00 and higher

No	Item	Contents
16	Title	I/Os disabled at failure suspension due to LDEV blockage
	Symptoms	When a failure suspension occurred due to LDEV blockage on a GAD pair that belonged to a consistency group, the I/O mode of the volume paired with the blocked volume changed to BLOCK so that I/Os might be disabled to both P-VOL and S-VOL.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) GAD pairs are registered to a consistency group.</p> <p>(2) Volumes whose I/O modes are LOCAL and MIRROR coexist in the CTG.</p> <p>(3) When I/Os are issued to volumes whose I/O mode is MIRROR, LDEVs are blocked and GAD pairs are suspended due to failure.</p>
	Category	Global-active device
	Products and Versions Affected	DKCMAIN: G800: 83-03-01-60/00 and higher G400, G600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
17	Title	SSB=FB15 logged frequently
	Symptoms	When a resync operation was performed while GAD pairs whose volumes had different I/O modes coexisted in a consistency group, SSB=FB15 might be logged frequently until the pair status changed to PAIR.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) GAD pairs are registered to a consistency group. (2) Volumes whose I/O modes are LOCAL and BLOCK coexist in the CTG. (3) A resync operation is performed for the GAD pairs in the CTG.
	Category	Global-active device
	Products and Versions Affected	DKCMAIN: G800: 83-03-01-60/00 and higher G400, G600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
18	Title	WCHK1, MP blockage and Discovery Login failure
	Symptoms	<p>Phenomenon1</p> <p>If a link-down and link-up occurred repeatedly in high load I/O environment, WCHK1 occurred and an MP was blocked.</p> <p>Phenomenon2</p> <p>When HMO80 was set to ON, Discovery Login from a host to HM800 failed with time-out and SSB=1408 and 1410 were logged.</p>
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>Phenomenon1</p> <p>(1) An iSCSI PCB is mounted.</p> <p>(2) Discovery Login or Normal Login is performed.</p> <p>(3) A link tag time-out occurs at CHIP status collection.</p> <p>Phenomenon2</p> <p>(1) An iSCSI PCB is mounted.</p> <p>(2) HMO80 is set to ON.</p> <p>(3) Discovery Login is performed.</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
19	Title	UR pair failure suspension and delta resync with all-data copy
	Symptoms	When a delta resync operation was performed under the condition that a reset occurred continuously for a write I/O in GAD-UR delta configuration, the UR pair between L and R sites was suspended due to failure and a delta resync operation might work with all-data copy. SSB=EBE2
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) GAD-UR delta configuration (2) The DKCMAIN version is 83-02-01-60/00 or higher on all 3 sites (G800 only). (3) A reset occurs for a write I/O. (4) A delta resync operation is performed.
	Category	Universal Replicator
	Products and Versions Affected	DKCMAIN: G800: 83-02-01-60/00 and higher

No	Item	Contents
20	Title	Failure of GUM configuration information recovery with SIM and SSB reported
	Symptoms	After a recovery operation was performed from Maintenance Utility at controller replacement, GUM configuration information recovery failed and SIM=7D080X and SSB=33D8 were reported.
	Conditions of Occurrence	The problem occurs when the following operations take place at the same time. (1) GUM detects Ready of storage system when a new controller is inserted and then it starts at controller replacement (2) The time setting at GUM configuration information restoring in recovery operation from Maintenance Utility.
	Category	Open
	Products and Versions Affected	GUM: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
21	Title	Failure of synchronization with NTP server
	Symptoms	After rebooting GUM, synchronization with the NTP server failed and SIM=7FFA00 and SSB=33CF might be reported.
	Conditions of Occurrence	The problem occurs when all the following conditions are met at time synchronization at GUM reboot. (1) Multi-layer network configuration with using a router, etc. (2) For date and time setting from Maintenance Utility, using the NTP server is specified.
	Category	Open
	Products and Versions Affected	GUM: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
22	Title	High response time
	Symptoms	During host I/O to a GAD pair, 300-msec high response time occurred due to a host reset (SSB=1699) or time-out of data transfer wait caused by a line failure (SSB=DDA1).
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) GAD configuration</p> <p>(2) A write command (including ATS) is issued from a host to one of the following volumes.</p> <p>(a) GAD pair P-VOL and S-VOL</p> <p>(b) GAD pair S-VOL</p> <p>(3) One of the following events takes place for the write command of (2).</p> <p>(a) A host reset is received.</p> <p>(b) Data transfer between the host and the storage system turns to time-out.</p>
	Category	Global-active device
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: 83-01-21-60/00 and higher</p> <p>G400, G600: 83-01-21-40/00 and higher</p> <p>G200: 83-01-21-20/00 and higher</p>

No	Item	Contents
23	Title	GAD I/O mode BLOCK/BLOCK at failure suspension of both MCU and RCU
	Symptoms	When both MCU and RCU were suspended due to failure while paths between MCU and RCU were available only unidirectionally, the I/O mode of GAD pairs belonging to a CTG might become BLOCK/BLOCK. SIM=DD0XYY (X:CU#, YY:LDEV#) was reported.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) Two or more GAD pairs are registered to a consistency group.</p> <p>(2) I/Os are running on both MCU and RCU.</p> <p>(3) All paths between MCU and RCU are blocked in the direction from MCU to RCU.</p> <p>(4) SIM=DD0XYY is reported from MCU.</p> <p>(5) SIM=DD1XYY is reported from RCU.</p>
	Category	Global-active device
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: 83-03-01-60/00 and higher</p> <p>G400, G600: 83-03-01-40/00 and higher</p> <p>G200: 83-03-01-20/00 and higher</p>

No	Item	Contents
24	Title	Temporary link-down due to time-out
	Symptoms	When a failure or reset occurred on a port connected to a host in TC or GAD configuration, if multiple commands that ran on paths between storage systems were stopped at the same time, ABTS processing took time and a wait for ABTS completion turned to time-out, so that paths were temporarily disconnected due to recovery processing. SSB=8906
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) TC or GAD is used. (2) A time out of data transfer or link-down occurs between a host that runs a high load I/O to the TC or GAD pair and a storage system.
	Category	TrueCopy, global-active device
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
25	Title	Small amount page allocation to Tier1 causing performance degradation
	Symptoms	In a DT pool using FMC drives, the amount of page allocation to Tier1 became small in the case of high load I/O, which caused the overall pool performance degradation.
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) A storage system contains a DT or active flash pool. (2) The pool contains LDEVs belonging to a parity group consisting of FMC drives. (3) Tier relocation is performed for the pool.
	Category	Dynamic Tiering, active flash
	Products and Versions Affected	DKCMAIN: G800, F800: 83-02-01-60/00 and higher G400, G600, F400, F600: 83-02-01-40/00 and higher G200: 83-02-01-20/00 and higher

No	Item	Contents
26	Title	SSB=BEA8 logged at logout and then login and reservation release disabled
	Symptoms	In iSCSI configuration, when logging out from multiple hosts and MCUs at the same time and then trying to log in, SSB=BEA8 was logged. In this case, if a host that used a reserved command was used, the reservation could not be released.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) iSCSI connection (2) The storage is in login state from multiple (2 or more) hosts and MCUs. (3) Logout from multiple hosts and MCUs at the same time and then login are performed.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
27	Title	Failure of LDEV format
	Symptoms	When LDEVs in a parity group that consisted of FMC drives and the accelerated compression was enabled were formatted, SSB=98C1 was logged and the format might fail.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) LDEVs in a parity group consisting of FMC drives are formatted. (2) A read I/O is issued to an LDEV.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: 83-03-01-60/00 and higher G400, G600, F400, F600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
28	Title	Unregistered storage system listed on Storage Device List
	Symptoms	After the SVP/MPC software was removed and then installed again, a storage system that was not registered on the Storage Device List was included in the list wrongly and the status of the storage system might become Fatal Error.
	Conditions of Occurrence	The problem may occur if a user or program refers to the files to be deleted when removing SVP software.
	Category	Open
	Products and Versions Affected	SVP/MPC: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
29	Title	RMI API server in warning status after SVP update
	Symptoms	After SVP software update, RMI API server might become in warning status.
	Conditions of Occurrence	The problem may occur if file accesses conflict at SVP update installation.
	Category	Open
	Products and Versions Affected	SVP/MPC: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
30	Title	File for different application deleted unintentionally at SVP software removal
	Symptoms	When the SVP software was removed, files for different applications were deleted.
	Conditions of Occurrence	The problem occurs when one of the following conditions is met. (1) While a different application has been installed in a folder where the SVP software has been installed, the SVP software is removed. (2) If the SVP installation folder is specified for the drive root folder, the SVP software is removed while the drive contains files for different applications.
	Category	Open
	Products and Versions Affected	SVP/MPC: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
31	Title	DKB blockage at CHK1/WCHK1/MP freeze
	Symptoms	When CHK1, WCHK1, or MP freeze for 1 sec or longer occurred, SAS-CTL register was wrongly accessed, CHK3 occurred, the threshold for CHK3 was exceeded, and a DKB was blocked. SSB=32FD, 3250, 32FE, F7D5 or F7D6 SIM=2140XX
	Conditions of Occurrence	The problem may occur when CHK1, WCHK1, or MP freeze for 1 sec or longer occurs every 2 seconds.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
32	Title	WCHK1 during high load I/O
	Symptoms	During high load I/O, WCHK1 might occur. SIM=3073XX, SSB=32FE and 1644
	Conditions of Occurrence	The problem may occur in rare cases when high load I/O runs.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
33	Title	Failure of low-speed format with SSBs logged
	Symptoms	When low-speed format was performed for a DP volume, SSB=7B7D and 7B0A were logged and the format failed.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) One of the following operations is performed. <ul style="list-style-type: none"> - Low-speed format - High-speed format - Shredding - Quick format - PIN erasing tool (2) The target of the above operations is a DP volume or an external volume.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: 83-03-01-60/00 and higher G400, G600, F400, F600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
34	Title	Failure of GAD delta resync or pair creation
	Symptoms	<p>Phenomenon1</p> <p>When a swap suspend operation was performed after offline microcode exchange in GAD-UR delta configuration, delta resync did not work.</p> <p>Phenomenon2</p> <p>After offline microcode exchange, GAD pair creation with a consistency group specified failed. (SSB=FB48)</p>
	Conditions of Occurrence	<p>The problem occurs when all the following conditions are met.</p> <p>Phenomenon1</p> <p>(1) G800 only</p> <p>(2) GAD-UR delta configuration</p> <p>(3) Offline microcode exchange is performed on L site.</p> <p>(4) One of the following events takes place.</p> <p>(a) A swap suspend operation is performed for the GAD pair from L site.</p> <p>(b) A LDEV of the GAD pair is blocked during I/O to P site and the GAD pair is suspended due to failure.</p> <p>Phenomenon2</p> <p>(1) GAD pairs using quorum disks whose ID is not 0 are registered to a consistency group.</p> <p>(2) Offline microcode exchange is performed.</p> <p>(3) A GAD pair is newly created with the consistency group specified or an existing GAD pair is resynchronized while it is added to the consistency group.</p>
	Category	Global-active device
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: 83-03-01-60/00 and higher</p> <p>G400, G600: 83-03-01-40/00 and higher</p> <p>G200: 83-03-01-20/00 and higher</p>

No	Item	Contents
35	Title	Communication between SVP and GUM disabled
	Symptoms	When a management port received a MAC layer jumbo frame, the communication between SVP and GUM was disabled. After that, Pause frame from GUM management port occurred and the Pause frame could not be stopped after the jumbo frame stopped.
	Conditions of Occurrence	The problem may occur when a management port receives a MAC layer jumbo frame.
	Category	Open
	Products and Versions Affected	GUM: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
36	Title	Difference in IOPS between SPM upper limit and total of measured IOPS
	Symptoms	When SPM upper limit was set to 35000 IOPS from an SPM group and then I/Os of 40000 IOPS were issued, the IOPS only reached 22000. (The host whose OS was RHEL used the VERITAS VxVM striping function)
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) The upper limit control of SPM is applied to a WWN. (2) For the WWN with the upper limit set, I/Os exceeding the setting value are issued. (3) The host uses the VxVM striping function. (In such a host configuration, the host does not issue I/Os to different LDEVs if the storage system does not return response due to the SPM upper limit.)
	Category	Server Priority Manager
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
37	Title	Performance degradation due to SEQ# management area depletion
	Symptoms	When UR SEQ# management area depletion and recovery occurred repeatedly, the performance degradation due to the depletion might continue.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) Universal Replicator</p> <p>(2) One of the following volumes receives a write I/O.</p> <p>(a) A UR P-VOL in PAIR or COPY status (Gx00, Fx00 all models)</p> <p>(b) A UR P-VOL while the UR pair is in SUSPEND status and the TC pair is in PAIR status in TC-UR delta configuration (G800, F800 models)</p> <p>(c) A UR P-VOL in PAIR or COPY status in TC-UR delta configuration (G800, F800 models)</p> <p>(d) A UR P-VOL in PAIR or COPY status in TC-UR multi-target configuration (G800, F800 models)</p> <p>(e) A TC P-VOL while the TC pair is in PAIR status and the UR pair is in PAIR or COPY status in TC-UR cascade configuration (G800, F800 models)</p> <p>(f) A GAD P-VOL or S-VOL while the UR pair is in PAIR or COPY status and the UR for delta pair is in HOLD status in GAD-UR delta configuration (G800 model)</p>
	Category	TrueCopy, Universal Replicator
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: 83-03-01-60/00 and higher</p> <p>G400, G600, F400, F600: 83-03-01-40/00 and higher</p> <p>G200: 83-03-01-20/00 and higher</p>

No	Item	Contents
38	Title	MP blockage and WCHK1 at operation with cinder driver
	Symptoms	When an operation, such as volume creation, volume deletion, or volume mapping, was performed using cinder driver, MPs were blocked and WCHK1 occurred (SSB=1644).
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) One of the following operations is performed from CCI.</p> <p>(a) LU deletion</p> <p>(b) Host group deletion</p> <p>(c) LU addition</p> <p>(2) In a short time (*) after the operation of (1) is complete, one of the following operations is performed for the LU of the same port.</p> <p>(a) LU deletion</p> <p>(b) Host group deletion</p> <p>* Depending on the timing but less than 5 seconds</p>
	Category	Command Control Interface
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: 83-01-21-60/00 and higher</p> <p>G400, G600, F400, F600: 83-01-21-40/00 and higher</p> <p>G200: 83-01-21-20/00 and higher</p>

No	Item	Contents
39	Title	Display failure of RAID group in system dump
	Symptoms	When a system dump was output using the Dx-ray tool Analyze function, a hyphen (-) was displayed for all RAID groups.
	Conditions of Occurrence	The problem occurs when a system dump is output using the Dx-ray tool Analyze function.
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: 83-02-01-60/00 and higher</p> <p>G400, G600, F400, F600: 83-02-01-40/00 and higher</p> <p>G200: 83-02-01-20/00 and higher</p>

No	Item	Contents
40	Title	Unable to complete UR pair status change at delta resync failure
	Symptoms	In UR-UR cascade delta configuration or TC-UR multi-target delta configuration, a delta resync operation failed and the pair status change was not complete. (SSB=8E11)
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p><UR-UR cascade delta configuration (G800, F800 models)></p> <p>(1) 83-03-01-x0/00 or higher.</p> <p>(2) One of the following operations is performed.</p> <p>(a) UR-UR cascade configuration is created during host I/O.</p> <p>Due to a factor such as unstable line conditions, a restore operation at R site is delayed at UR delta pair creation is not yet complete.</p> <p>(b) The UR pair between P site and I site is split and then a host I/O is issued to P site.</p> <p>(3) A delta resync operation is performed for the UR pair for delta resync between P site and R site.</p> <p><TC-UR multi-target delta configuration (G800, F800 models)></p> <p>(1) 83-01-22-x0/00 or higher.</p> <p>(2) A host I/O is issued to P site.</p> <p>(3) A swap suspend operation is performed for the TC pair.</p> <p>(4) A host I/O is being issued to L site.</p> <p>(5) A delta resync operation is performed for the UR pair for delta resync between L site and R site.</p>
	Category	Universal Replicator
	Products and Versions Affected	DKCMAIN: G800, F800: 83-01-22-x0/00 and higher

No	Item	Contents
41	Title	Failure of mirror deletion with UR pair specified
	Symptoms	On the UR Pairs tab of Remote Replication window, when UR pairs were specified and then mirror deletion was performed, Storage Navigator message 06505-058040 was displayed and the operation failed.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) On the UR Pairs tab of Remote Replication window, 3 or more UR pairs are specified and mirror deletion is performed. (2) The specified UR pairs have different journal IDs or mirror IDs.
	Category	Universal Replicator
	Products and Versions Affected	SVP/MPC: G800, F800: 83-01-21-60/00 and higher G400, G600, F400, F600: 83-01-21-40/00 and higher G200: 83-01-21-20/00 and higher

No	Item	Contents
42	Title	LOGO wrongly issued as response
	Symptoms	When RLS was received, if an external storage system did not login to the storage system, a LOGO command was issued as a response.
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) A storage system does not receive PLOGI from an external storage system. (2) The storage system receives RLS from the external storage system.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
43	Title	Unintentional GAD pair I/O mode change
	Symptoms	When paths between a quorum disk and RCU and from RCU to MCU were blocked at the same time, or paths between a quorum disk and MCU and from MCU to RCU were blocked at the same time, the I/O mode of GAD pairs belonging to a consistency group might become Block/Block.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) All GAD pairs in a consistency group are in PAIR status.</p> <p>(2) Write I/Os are issued to both DKCs.</p> <p>(3) Paths of (a) or (b) are blocked at the same time.</p> <p>(a) Paths between a quorum disk and RCU and from RCU to MCU</p> <p>(b) Paths between a quorum disk and MCU and from MCU to RCU</p>
	Category	Global-active device
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: 83-03-01-60/00 and higher</p> <p>G400, G600: 83-03-01-40/00 and higher</p> <p>G200: 83-03-01-20/00 and higher</p>

No	Item	Contents
44	Title	Unable to display failure ENC if it is 6th or later from SAS port
	Symptoms	<p>When an ENC failure occurred (SIM=CF12XX, SSB=A4B1), up to 8 parts were displayed in an ACC of SIM in the following order.</p> <ol style="list-style-type: none"> 1. 5 ENCs from the first ENC under an SAS port including the failure ENC 2. 1 DKB 3. 1 SAS cable 4. A section of Maintenance Manual for reference <p>As shown above, 5 ENCs were displayed in an ACC but if a failure occurred in the 6th or later ENC, the failure ENC could not be displayed in the ACC.</p>
	Conditions of Occurrence	<p>The problem may occur when a failure occurs in the 6th or later ENC under a SAS port.</p> <p>The number of drive boxes in each model is as follows.</p> <p>G800, F800: 21 or more drive boxes</p> <p>G400, G600, F400, F600: 11 or more drive boxes</p> <p>G200: 6 or more drive boxes</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
45	Title	Hyphen displayed for TL_RANGE and TD_RANGE
	Symptoms	While there were DP volumes whose tiering policies are ALL and other than ALL, if CCI command, raidcom get dp_pool -key opt, was run, a hyphen (-) was output as the result of TL_RANGE and TD_RANGE.
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) A DP pool with active flash enabled or a DT pool. (2) The pool of (1) contains DP volumes whose tiering policies are ALL and other than ALL. (3) After starting and ending monitoring, CCI command, raidcom get dp_pool -key opt, is run.
	Category	Dynamic Provisioning, active flash
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
46	Title	No display of message 32261-209064 for CFM failure blockage
	Symptoms	At the completion of CFM replacement, even if a CFM on a different controller (not the one where CFM replacement was performed) was in the warning status (failure blockage), message 32261-209064 was not displayed.
	Conditions of Occurrence	The problem occurs when a CFM on a controller where replacement is not performed is in the warning status (failure blockage).
	Category	Open
	Products and Versions Affected	GUM: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
47	Title	Unintentional I/O mode change at failure suspension
	Symptoms	While pairs that used the same quorum disk were in COPY and PAIR status respectively, if all paths between DKCs were blocked and the pairs were suspended due to failure, the P-VOL of the pair in COPY status might change to PSUE (Block) status. After that, the I/O mode of the pair became Block/Block.
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) Pairs that use the same quorum disk are in COPY and PAIR status respectively.</p> <p>(2) There is an LDEV that receives a write I/O.</p> <p>(3) All paths used for write I/O to LDEVs paired with the LDEV of (2) are blocked, and the pairs are suspended due to failure.</p>
	Category	Global-active device
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: 83-03-01-60/00 and higher</p> <p>G400, G600: 83-03-01-40/00 and higher</p> <p>G200: 83-03-01-20/00 and higher</p>

No	Item	Contents
48	Title	Drive blockage at LA error during rebalance processing
	Symptoms	<p>While an ECC/LRC pin existed in a parity slot, an LA error occurred during rebalance processing (*) and a drive might be blocked.</p> <p>SSB=B2FF, A443, SIM=EF1XXX</p> <p>* The rebalance processing works at pool volume addition or deletion, page migration by tier relocation (when DT is used), or zero data page reclamation.</p>
	Conditions of Occurrence	<p>The problem may occur when all the following conditions are met.</p> <p>(1) DP, DT, or TI configuration</p> <p>(2) A pool contains RAID5 or RAID6 configuration.</p> <p>(3) An ECC/LRC error pin exists in a parity slot.</p> <p>(4) Rebalance processing works by performing one of the following operations.</p> <p>(a) Pool volume addition</p> <p>(b) Pool volume deletion</p> <p>(c) Tier relocation</p> <p>(d) Zero data page reclamation</p>
	Category	Dynamic Provisioning, Dynamic Tiering, Thin Image
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800, F800: All</p> <p>G400, G600, F400, F600: All</p> <p>G200: All</p>

No	Item	Contents
49	Title	Delay in write I/O with page allocation
	Symptoms	A write I/O with page allocation was delayed. In the case of high load I/O, SSB=1607 might be logged.
	Conditions of Occurrence	<p>The problem occurs when all the following conditions are met.</p> <p>(1) Multiple LDEVs created in a parity group are added to a DP, DT, or TI pool.</p> <p>(2) One of the following operations is performed.</p> <p>(a) DP/DT pool: zero data page reclamation, TC or UR pair creation with a DP volume specified as S-VOL, or LDEV format (with SOM=867 set to ON)</p> <p>(b) TI pool: TI pair deletion</p> <p>(3) While (2) works, a write I/O with page allocation is issued regardless of whether the I/O is issued to the DP volume or TI pair of (2).</p> <p>(4) The occurrence probability increases if there are many pool volumes. (Approximately 300 pool volumes.)</p> <p>In addition to the above, there is an internal condition that the capacity ratio update processing of (2) and (3) conflict.</p>
	Category	Dynamic Provisioning, Dynamic Tiering, Thin Image
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
50	Title	Delay in response at ATS miscompare
	Symptoms	At ATS miscompare, a response was delayed.
	Conditions of Occurrence	The problem may occur in VMware environment (where ATS is issued).
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
51	Title	Blockage of external path
	Symptoms	When an RNID was received, an external path was blocked. (SIM=21D0XX)
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) There is a UVM path. (2) The port used for the UVM path on VSP Gx00/Fx00 is DW-F800-2HF16. (3) The other end of the UVM path is VSP or HUS VM. (4) The UVM path is in use. (an I/O is running) (5) On the VSP or HUS VM, FCGS works from Hitrack.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
52	Title	Setting change with lock disabled if system/resource lock remains wrongly
	Symptoms	Releasing system lock or resource lock failed so that the lock remained and setting changes that required lock were disabled after that.
	Conditions of Occurrence	<p>The problem occurs when all the following conditions are met.</p> <p><Case 1></p> <p>(1) System lock is obtained from SVP.</p> <p>(2) After (1), obtaining system or resource lock, or releasing system or resource lock is attempted.</p> <p>(3) The processing to release system lock at the completion of (1) conflicts with the operation of (2).</p> <p><Case 2></p> <p>(1) Resource lock is obtained from SVP.</p> <p>(2) After (1), obtaining or releasing system lock, or obtaining or releasing resource lock for the resource group same as (1) is attempted.</p> <p>(3) The processing to release resource lock at the completion of (1) conflicts with the operation of (2).</p>
	Category	Open
	Products and Versions Affected	<p>SVP/MPC:</p> <p>G800, F800: 83-02-01-60/00 and higher</p> <p>G400, G600, F400, F600: 83-02-01-40/00 and higher</p> <p>G200: 83-02-01-20/00 and higher</p>

No	Item	Contents
53	Title	Hitachi Device Manager -Storage Navigator disappeared
	Symptoms	On SVP/MPC, Hitachi Device Manager -Storage Navigator disappeared from the list of Programs and Features in Control Panel.
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) SVP/MPC update installation is performed. (2) One of the following events takes place during (1). (a) "Cancel" is selected for message 21443-200012 or 21443-200013. (b) File copy processing fails.
	Category	Open
	Products and Versions Affected	SVP/MPC: G800, F800: 83-01-25-60/00 and higher, 83-02-04-60/00 and higher, 83-03-01-60/00 and higher G400, G600, F400, F600: 83-01-25-40/00 and higher, 83-02-04-40/00 and higher, 83-03-01-40/00 and higher G200: 83-01-25-20/00 and higher, 83-02-04-20/00 and higher, 83-03-01-20/00 and higher

No	Item	Contents
54	Title	PS OFF unavailable and failure of system start-up after that
	Symptoms	PS OFF could not be performed (SIM=388F00) while CFMs of both controllers were blocked (SIM=307500, SIM=307501, SSB=00A2). After that, if the storage system was forcibly turned off and then PS ON was performed, the storage system did not start up.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) Basic CFMs on both controllers are blocked. (2) PS OFF is performed.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
55	Title	Display failure of drive type in SIM
	Symptoms	<p>When a drive failure occurred, the following phenomena occurred.</p> <p>Phenomenon1 A drive type that should be displayed along with an action code was not displayed in a SIM.</p> <p>Phenomenon2 A wrong drive type might be displayed in a SIM.</p>
	Conditions of Occurrence	<p>Phenomenon1</p> <p>The problem occurs when the following conditions (1) to (3) or (4) to (6) are met.</p> <p>(1) DKCMAIN microcode version is 83-01-01-x0/00 or higher (within 83-01-0x range).</p> <p>(2) Config version is 83-01-22/00 or higher</p> <p>(3) A failure occurs on one of the following drives. (XYZ indicates a location)</p> <ul style="list-style-type: none"> - DKR2G-H4R0SS (64003XYZ, C4003XYZ) - DKR2G-H6R0SS (64011XYZ, C4011XYZ) - DKR5G-J600SS (44073XYZ) - DKS5H-J600SS (44077XYZ) - DKR5G-J1R2SS (440B2XYZ, 640B2XYZ, C40B2XYZ) - DKS5H-J1R2SS (440B6XYZ) - SLB5C-M200SS (440C9XYZ) - SLR5D-M200SS (440D8XYZ) - SLB5C-M400SS (440E9XYZ, 640E9XYZ, C40E9XYZ) <p>(4) DKCMAIN version is 83-01-21-x0/00 or higher (within 83-01-2x range) or 83-02-01-x0/00 or higher (within 83-02-0x range).</p> <p>(5) Config version is 83-03-04/00 or higher.</p> <p>(6) A failure occurs on one of the following drives. (XYZ indicates a location)</p> <ul style="list-style-type: none"> - DKS5H-J600SS (44077XYZ), - DKS5H-J1R2SS (440B6XYZ), - DKS5H-J1R8SS (440C0XYZ), - SLB5C-M200SS (440C9XYZ), - SLB5C-M400SS (440E9XYZ, 640E9XYZ, C40E9XYZ)

		<p>Phenomenon2</p> <p>(1) DKCMAIN version is 83-01-01-x0/00 or higher (within 83-01-0x range).</p> <p>(2) Config version is 83-01-22/00 or higher.</p> <p>(3) A failure occurs on one of the following drives. (XYZ indicates a location)</p> <ul style="list-style-type: none"> - DKS5D-K300SS (NFH1C-P1R6SS is displayed for the drive in 44041XYZ) - DKS5D-K600SS (NFH1B-P3R2SS is displayed for the drive in 44050XYZ) <p>With DKCMAIN microcode version 83-03-01-x0/00 and higher, Phenomenon1 and Phenomenon2 occur when a new drive is supported and a failure occurs on the drive.</p> <p>Note: If Config 83-03-23 or later is applied while the DKCMAIN version is earlier than 83-03-04-x0/00 and a failure occurs on SLB5D-M1R9SD, the drive is displayed as DKS2F-H6R0SS. (A4130XYZ)</p>
	Category	Open
	Products and Versions Affected	<p>DKCMAIN:</p> <p>G800: See ConditionsOfOccurrence</p> <p>G400, G600: See ConditionsOfOccurrence</p> <p>G200: See ConditionsOfOccurrence</p>

No	Item	Contents
56	Title	Remaining lock obtained disabling setting operation
	Symptoms	A lock could not be released so that setting operations that required obtaining a lock were disabled.
	Conditions of Occurrence	The problem may occur when a file access conflict occurs at GUM firmware startup.
	Category	Open
	Products and Versions Affected	<p>GUM:</p> <p>G800, F800: 83-03-02/00 and higher</p> <p>G400, G600, F400, F600: 83-03-02/00 and higher</p> <p>G200: 83-03-02/00 and higher</p>

No	Item	Contents
57	Title	Failure of SI pair creation and MP blockage
	Symptoms	SI pair creation failed and an MP was blocked. SSB=2322
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) G400, G600, F400, F600, G800, or F800 model. (2) No additional control memory is installed (base only). (3) An SI pair is created from CCI. (4) A CTG ID is specified as an option for SI pair creation.
	Category	ShadowImage
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All

No	Item	Contents
58	Title	Unintentional I/O mode change to Block/Block resulting in access loss
	Symptoms	After a quorum disk failure occurred, if all paths from MCU to RCU were disconnected while an I/O was running to GAD pairs belonging to a CTG, and then the pairs were suspended from RCU side, the I/O mode of some GAD pairs in the CTG became Block/Block and accesses were disabled.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) There are GAD pairs that belong to a CTG. (2) Both of the following paths (a) and (b) are disconnected at the same time. (a) All paths between MCU and a quorum disk (b) All paths from MCU to RCU
	Category	Global-active device
	Products and Versions Affected	DKCMAIN: G800: 83-03-01-60/00 and higher G400, G600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
59	Title	Unintentional I/O mode change to Block/Block
	Symptoms	After a quorum disk failure occurred, if all paths from MCU to RCU were disconnected and then GAD pairs were suspended from the RCU side, the I/O mode of some GAD pairs became Block/Block.
	Conditions of Occurrence	The problem may occur when the following paths (a) and (b) are disconnected at the same time. (a) All paths between MCU and a quorum disk (b) All paths from MCU to RCU
	Category	Global-active device
	Products and Versions Affected	DKCMAIN: G800: 83-01-21-60/00 and higher G400, G600: 83-01-21-40/00 and higher G200: 83-01-21-20/00 and higher

No	Item	Contents
60	Title	Suspending operation wrongly performed per CTG
	Symptoms	The suspending processing that worked due to a path failure between storage systems after quorum disk blockage was performed per pair, but the suspending processing that worked when a write I/O was issued to the volume paired with the one where the suspending processing was performed might be performed per CTG.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) GAD pairs belong to a CTG. (2) One of the following failures occurs. (a) Quorum disk blockage due to a path failure between RCU and the quorum disk, disconnection of all paths from RCU to MCU occur at the same time. (b) Quorum disk blockage due to a path failure between MCU and the quorum disk and disconnection of all paths from MCU to RCU occur at the same time. (3) The S-VOL of GAD pair in the CTG managed by the quorum disk receives a write I/O. (4) The P-VOL of GAD pair in the CTG managed by the quorum disk receives a write I/O.

No	Item	Contents
	Category	Global-active device
	Products and Versions Affected	DKCMAIN: G800: 83-03-01-60/00 and higher G400, G600: 83-03-01-40/00 and higher G200: 83-03-01-20/00 and higher

No	Item	Contents
61	Title	Illegal Request returned
	Symptoms	After upgrading the microcode, the storage system returned Illegal Request for an I/O issued to an LDEV that did not support T10 PI. SSB=D095 or D060
	Conditions of Occurrence	The problem occurs when an LDEV that does not support T10 PI receives one of the following commands from a host. (1) A read (10) command with a value other than 0 set to CDB byte 1, bit 7, 6, 5 area (2) A write (10) command with a value other than 0 set to CDB byte 1, bit 7, 6, 5 area (3) A write and verify (10) command with a value other than 0 set to CDB byte 1, bit 7, 6, 5 area (4) A verify (10) command with a value other than 0 set to CDB byte 1, bit 7, 6, 5 area.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: 83-02-01-60/00 and higher G400, G600, F400, F600: 83-02-01-40/00 and higher G200: 83-02-01-20/00 and higher

No	Item	Contents
62	Title	Failure of FCHF microcode exchange and CHB blockage
	Symptoms	FCHF microcode exchange failed. If the FCHF microcode exchange was retried 4 times within 24 hours, a CHB port was blocked. SSB=B3D4, B3D3, B39D, 39AA SIM=2120XX
	Conditions of Occurrence	The problem occurs when all the following conditions are met. (1) TC, UR, GAD, or UVM is used. (2) DW-F800-2HF16 is used as a port on TC, UR, GAD or UVM Initiator side. (3) The microcode exchange is performed from 83-01-2x-x0/00 or earlier to 83-03-02-x0/00 or later. (4) The microcode exchange of (3), which fails, is retried 4 times within 24 hours. (condition for CHB blockage)
	Category	TrueCopy, Universal Replicator, global-active device, Universal Volume Manager
	Products and Versions Affected	DKCMAIN: G800, F800: 83-03-02-60/00 and higher G400, G600, F400, F600: 83-03-02-40/00 and higher G200: 83-03-02-20/00 and higher

No	Item	Contents
63	Title	Failure of CHB replacement after port blockage
	Symptoms	After a port was blocked due to a failure on the 2HF16 port protocol chip, CHB replacement failed with message 30762-208204.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) TC, UR, or GAD is used. (2) DW-F800-2HF16 is used as a port on TC, UR, or GAD Target side. (3) A failure occurs on a port on TC, UR, or GAD Target side and the port is blocked. (4) Dump collection for the port protocol chip ends abnormally for some reason. (SSB=B3C4) (5) A CHB including the blocked port is replaced.

No	Item	Contents
	Category	TrueCopy, Universal Replicator, global-active device
	Products and Versions Affected	DKCMAIN: G800, F800: All G400, G600, F400, F600: All G200: All

No	Item	Contents
64	Title	Firmware update unavailable
	Symptoms	When multiple parity group IDs were specified and parity group deletion was performed, SSB=1831 and 157F were logged and the deletion failed. After that, DKCMAIN could not be selected at firmware update and firmware update could not be performed.
	Conditions of Occurrence	The problem may occur when all the following conditions are met. (1) Multiple parity groups are deleted at the same time. (2) The deletion fails with SSB=1831 and 157F logged. (3) After (2) firmware update is performed.
	Category	Open
	Products and Versions Affected	DKCMAIN: G800, F800: Unknown G400, G600, F400, F600: Unknown G200: Unknown

Acronyms and abbreviations

3DC	three data center
AMS	Hitachi Adaptable Modular Storage
ASP	authorized service provider
BEM	back-end module (also called disk adapter)
CCI	command control interface
CL	cluster
CLI	command line interface
CM	cache memory
CRC	cyclical redundancy checking
CSV	Cluster Shared Volumes
CTG	consistency group
CU	control unit
CUDG	control unit diagnosis
DB	drive box
DF700	factory model number for Hitachi Adaptable Modular Storage 200, 500, 1000
DF800	factory model number for Hitachi Adaptable Modular Storage 2000
DF850	factory model number for Hitachi Unified Storage
DKA	disk adapter (another name for back-end director)
DKAF	DKA firmware
DKC	disk controller (refers to the entire storage system)
DKCMAIN	disk controller main (refers to the microcode/firmware)
DP	Hitachi Dynamic Provisioning
DP-VOL	Dynamic Provisioning V-VOL
DRU	Hitachi Data Retention Utility
DS	dynamic sparing
DT	Hitachi Dynamic Tiering
DW700	factory model number for Hitachi Unified Storage VM
DW800	factory model number for Hitachi Virtual Storage Platform Gx00 and Fx00
ECC	error checking and correction
ECN	engineering change notice
EQC	equipment check
FC	fibre channel
FCoE	fibre channel over ethernet
FEM	front-end module (also called channel adapter)
FMC	flash module compression (another name for the FMD DC2 drives)
FMD	flash module drive
FRS	Feature Release Schedule
GPFS	General Parallel File System
GUM	gateway for unified management (another name for the maintenance utility)
HA	high availability
HAM	Hitachi High Availability Manager

HCS	Hitachi Command Suite
HDD	hard disk drive
HDS	Hitachi Data Systems
HDP	Hitachi Dynamic Provisioning
HDT	Hitachi Dynamic Tiering
HDVM	Hitachi Device Manager
HM700	factory model number for Hitachi Unified Storage VM
HM800	factory model number for Hitachi Virtual Storage Platform Gx00 and Fx00
HMO	host mode option
HNAS	Hitachi Network-Attached Storage
HTI	Hitachi Thin Image
HUS VM	Hitachi Unified Storage VM
JNL	journal
JNLG	journal group
LBA	logical block address
LDEV	logical device
LU	logical unit
LUSE	logical unit size expansion
MCU	main control unit
MP	microprocessor
MPC	maintenance PC
MSCS	Microsoft Cluster Server
NASFW	NAS module firmware
PDEV	physical device
PS, P/S	power supply
P-VOL	primary volume
RAID600	factory model number for Hitachi Universal Storage Platform V/VM
RAID700	factory model number for Hitachi Virtual Storage Platform
RAID800	factory model number for Hitachi Virtual Storage Platform G1000
RC	reference code
RCU	remote control unit
SAS	serial-attached SCSI
SI	Hitachi ShadowImage
SIM	service information message
SMU	system management unit
SOM	system option mode
SPM	Hitachi Server Priority Manager
SSB	sense byte
SSD	solid-state drive (also called flash drive)
S-VOL	secondary volume
SVOS	Storage Virtualization Operating System
SVP	service processor
TC	Hitachi TrueCopy
TI	Hitachi Thin Image
TOV	time-out value

TS	Technical Support
UR	Hitachi Universal Replicator
UVM	Hitachi Universal Volume Manager
VM	Volume Migration
VSP	Hitachi Virtual Storage Platform
VSP Fx00	Hitachi Virtual Storage Platform F400, F600, F800
VSP G1000	Hitachi Virtual Storage Platform G1000
VSP Gx00	Hitachi Virtual Storage Platform G200, G400, G600, G800
V-VOL	virtual volume
WWN	worldwide name

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