

# Hitachi Compute Blade 2000 Firmware List & Release Notes

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## Preface

This is a concise reference of all the recommended firmware, drivers, and utilities for the Hitachi Compute Blade 2000 (CB 2000). Relevant release notes for firmware versions are also included.

**Note:**

- Since there are interdependencies, do not simply obtain the latest version and apply it.
- Contact Hitachi Data Systems' (HDS) Global Support Center (GSC) at the phone numbers found at <http://www.hds.com/support/> for guidance.

MK-99BDS2K107-00

# Hitachi Compute Blade 2000 Firmware List & Release Notes

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## Contents

Preface .....	1
Firmware Listing.....	6
Management Module Firmware Release Notes .....	7
Version A0381/00 .....	7
Version A0375/00 .....	7
Version A0371/00 .....	7
Version A0370/02 .....	8
Version A0370/00 .....	8
Version A0366/00 .....	8
Version A0365/00 .....	8
Version A0360/00 .....	9
X57A2 BMC/EFI Firmware Release Notes .....	12
Version 06-28/07-69 .....	12
Version 06-27/07-68 .....	12
Version 06-24/07-61 .....	12
Version 06-22/07-61 .....	12
Version 06-21/07-58 .....	12
Version 06-06/07-56 .....	13
X57A1 BMC/EFI Firmware Release Notes .....	13
Version 04-82/03-34 .....	13
Version 04-81/03-34 .....	13
Version 04-77/03-34 .....	13
Version 04-75/03-32 .....	14
X55x4 BMC/EFI Firmware Release Notes .....	15
Version 07-15/11-51 .....	15
Version 07-15/11-50 .....	15
Version 07-14/11-49 .....	15
Version 07-11/11-33 .....	15
Version 07-07/11-33 .....	15
Version 07-06/11-18 .....	16
Version 07-06/11-17 .....	16
Version 07-06/11-16 .....	16
X55x3 BMC/EFI Firmware Release Notes .....	17
Version 07-15/09-61 .....	17
Version 07-14/09-61 .....	17
Version 07-11/09-61 .....	17

## Hitachi Compute Blade 2000 Firmware List & Release Notes

---

Version 07-07/09-61 .....	17
Version 07-06/09-58 .....	17
Version 05-54/09-56 .....	18
X55A2 BMC/EFI Firmware Release Notes .....	18
Version 03-99/03-58 .....	18
Version 03-98/03-58 .....	18
Version 03-95/03-58 .....	18
BMC Firmware .....	18
Version 03-93 .....	18
Version 03-90 .....	19
EFI Firmware .....	19
Version 03-57 .....	19
X55A1 BMC/EFI Firmware Release Notes .....	19
Version 03-99/03-58 .....	19
Version 03-99/01-65 .....	19
Version 03-98/03-58 .....	20
Version 03-98/01-65 .....	20
Version 03-95/03-58 .....	20
Version 03-95/01-65 .....	20
Version 03-90/03-53 .....	20
Version 03-92/01-64 .....	20
DCB Switch Module Firmware & Accessory Kit Release Notes .....	21
Version V413_01 .....	21
Version V413_00 .....	21
Version V412_03 .....	21
Version V412_01 .....	22
Version V300_dcb3_00 .....	22
Fibre Channel Switch Module Firmware & Accessory DVD Release Notes .....	23
Version v7.2.1/00 .....	23
Version v7.0.2c/01 .....	23
Version v7.0.2c/04-00 .....	23
LAN Switch Module Firmware .....	24
LAN Switch Module Firmware CD .....	24
Version 11.6.C/01-00 .....	24
Version 10.7.K .....	24
PCIe/Mezzanine Firmware Release Notes .....	25
4-Gbps FC PCI Adapter Firmware Release Notes .....	25

## Hitachi Compute Blade 2000 Firmware List & Release Notes

---

Version 26-08-25.....	25
Version 26-08-1F.....	25
8-Gbps FC Adapter Firmware Release Notes.....	25
Version 30-05-08.....	25
Version 30-04-86.....	25
Version 30-04-80.....	25
Version 30-04-7D.....	25
Version 30-04-71.....	25
Version 30-04-6F.....	26
Version 30-04-68.....	26
16-Gbps FC Adapter Firmware Release Notes.....	26
Version 40-03-07.....	26
Version 40-02-00.....	26
Version 40-01-2D.....	27
Version 40-01-2A.....	27
Emulex 8Gbps Fibre Channel adapter firmware.....	27
Version 2.01A12.....	27
Emulex 16Gbps Fibre Channel adapter firmware.....	27
Version 01-00.....	27
10Gb CNA Firmware Release Notes.....	27
Version 01-04.....	27
Version 01-03.....	27
Version 4.2.433.604.....	28
LPAR Manager Firmware Release Notes.....	29
Logical Partitioning Manager Firmware for High Performance Blade.....	29
Version 79-73.....	29
Version 79-72.....	29
Version 79-71.....	29
Version 79-70.....	29
Version 79-52.....	30
Version 79-51.....	30
Version 79-50.....	31
Version 79-42.....	32
Logical Partitioning Manager Firmware for Standard Server Blade.....	33
Version 59-73.....	33
Version 59-72.....	33
Version 59-71.....	33

## Hitachi Compute Blade 2000 Firmware List & Release Notes

---

Version 59-70 .....	33
Version 59-52 .....	34
Version 59-51 .....	34
Version 59-50 .....	35
Version 59-42 .....	36
RAID Firmware Release Notes .....	37
SAS2108 RAID Firmware Update Tool CD Field .....	37
Version 2.120.233-1474 .....	37
SAS2208 RAID Firmware Update Tool CD Field .....	37
Version 3.152.185-3520 .....	37
Version 3.152.155-2153 .....	37
Seagate HDD Firmware Release Notes .....	38
Version A005-00 .....	38
Maintenance Test Program Release Notes .....	39
Maintenance Test Program for Field Engineers (BSTP) Release Notes .....	39
Version 3.2.4 .....	39
Version 3.2.0 .....	39
Version 3.1.21 .....	39
Version 3.1.18 .....	39
I/O Expansion Unit Firmware Release Notes .....	39
Version A0115-A-1819 .....	39
Version A0114-B-1813 .....	40

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Firmware Listing

This table provides a succinct listing of the most recent versions of firmware or drivers that are available for the CB 2000.

Version	Description	Status	eBOM Date
7.2.1/00	Hitachi Compute Blade 2000 Fibre Channel Switch Firmware & Accessory DVD	GA	05/19/14
07-15/11-51	Hitachi Compute Blade 2000 X55x4 BMC/EFI Firmware pack	GA	05/08/15
03-99/01-65	Hitachi Compute Blade 2000 X55A1 BMC/EFI firmware pack (No-IOEU)	GA	03/04/15
03-98/03-58	Hitachi Compute Blade 2000 X55A1 BMC/EFI firmware pack (IOEU)	GA	03/04/15
03-99/03-58	Hitachi Compute Blade 2000 X55A2 BMC/EFI firmware pack	GA	03/04/15
07-15/09-61	Hitachi Compute Blade 2000 X55x3 BMC/EFI Firmware pack	GA	09/05/14
04-82/03-34	Compute Blade 2000 X57A1 BMC/EFI Firmware pack	GA	03/04/15
06-28/07-69	Hitachi Compute Blade 2000 X57A2 BMC/EFI Firmware pack	GA	09/05/14
30-05-08	Hitachi Compute Blade 2000 8Gbps Fibre Channel Adapter Firmware	RGA	01/26/15
40-03-07	Hitachi Compute Blade 2000 16Gbps Fibre Channel Adapter Firmware	GA	05/08/15
01-04	Hitachi Compute Blade 2000 10Gb CNA Firmware	GA	02/14/14
2.01A12	Hitachi Compute Blade 2000 Emulex 8Gbps Fibre Channel adapter firmware	GA	02/18/14
01-00	Hitachi Compute Blade 2000 Emulex 16Gbps FC firmware CD	GA	08/18/14
V413_01	Hitachi Compute Blade 2000 10Gb DCB Switch Firmware & Accessory CD	GA	05/08/15
79-73	Hitachi Compute Blade 2000 Logical Partitioning Manager Firmware for High Performance Blade	GA	05/08/15
59-73	Hitachi Compute Blade 2000 Logical Partitioning Manager Firmware for Standard Server Blade	GA	05/08/15
A0115-A-1819	Hitachi Compute Blade 2000 I/O Expansion Unit Firmware Library CD	MGA	11/04/13
A005-00	Hitachi Compute Blade 2000 Seagate HDD Firmware	GA	03/25/15
11.6.C/01-00	Hitachi Compute Blade 2000 LAN Switch Module Firmware CD	GA	02/03/14
A0381/00	Hitachi Compute Blade 2000 Management Module Firmware Pack	GA	09/05/14
3.2.4	Hitachi Compute Blade 2000 Maintenance Test Program (BSTP)	GA	08/18/14
3.152.185-3520	Hitachi Compute Blade 2000 SAS2208 RAID Firmware	GA	10/06/14
2.120.233-1474	Hitachi Compute Blade 2000 SAS2108 RAID Firmware	GA	02/20/13
26-08-25	Hitachi Compute Blade 2000 4-Gbps FC PCI Adapter Firmware	GA	03/04/15

## Management Module Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

### Version A0381/00

#### 1. Bug Fixes

The following problem is fixed.

- SSL\_MODE\_RELEASE\_BUFFERS session injection or denial of service (CVE-2010-5298)
- DTLS invalid fragment vulnerability (CVE-2014-0195)
- DTLS recursion flaw (CVE-2014-0221)
- SSL/TLS MITM vulnerability (CVE-2014-0224)
- Anonymous ECDH denial of service (CVE-2014-3470)
- SSL\_MODE\_RELEASE\_BUFFERS NULL pointer dereference (CVE-2014-0198)
- HCSM does not indicate alert coming from the management module

### Version A0375/00

#### 1. New Features and Functions

##### 1-1. Management Module firmware

- Supported Hitachi 16Gb 2-port fibre channel adapter.
- Supported plain text MARLOG in management module Dump Log.
- Supported SR-IOV function of LPAR manager.

To manage SR-IOV function of LPAR manager using HCSM, this version or later is required.  
(HCSM version 8.0.1 or higher, LPAR manager 59-70/79-70 or higher)

##### 1-2. SEL Dictionary

- Supported 16G fibre channel.

#### 2. Bug Fixes

The following problem is fixed.

- The ALM lamp and SWM lamp of the chassis front panel remain lighting although Switch Module recovers from failure status automatically.

See Appendix A for bug fix.

### Version A0371/00

#### 1. New Features and Functions

None

#### 2. Bug Fixes

##### Problem Description 1:

The OpenSSL Vulnerability (CVE - 2014 - 0160; Heart bleed) could expose sensitive metadata through incorrect memory handling in the TLS heartbeat extension. For further details about the vulnerability, you may refer to the following public URLs:

- [http://www.openssl.org/news/secadv\\_20140407.txt](http://www.openssl.org/news/secadv_20140407.txt)
- <http://heartbleed.com/>

##### Cause 1:

A bug in the following OpenSSL versions:

- 1.01 through 1.01F
- 1.02B

##### Problem Description 2:

The malfunction of the reception completion judgment of the file upload function of SVP Web servers. When data size to read a buffer at a time becomes smaller than boundary size, the SVP Web server passes through the loop to receive and process.

##### Condition 2:

It is the following operation from web console

- Maintenance > Firmware > Management module firmware

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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- Maintenance > Firmware > SEL Dictionary
  - Maintenance > Firmware > Equipment Parameter
  - Settings > Backing up and restoring the settings > Restoring the management module settings
  - Settings > Backing up and restoring the settings > Restoring the LP settings to the management module
- Switch module web console
- Copy configuration file

Cause 2:

A bug in SVP Web servers.

Countermeasure 2:

Retry operate it from MUI console.

### Version A0370/02

#### 1. New Features and Functions

##### 1-1. Support of NOS 4.1.2 :

Equipment parameter is updated for 10Gb DCB switch module FW NOS 4.1.2

#### 2. Firmware dependency

10Gb DCB switch module FW: NOS 4.1.2

### Version A0370/00

#### 1. New Features and Functions

##### 1-1. Available malicious firmware prevention:

Management module checks the validity of the update files when new firmware is applied.

##### 1-2. Push audit trail to remote server via syslog protocol.

##### 1-3. Revised expression of "description" in MIB for SNMP.

##### 1-4. X55R4 options(CPU/DIMM) release.

CPU:E5-2637v2/2670v2

DIMM:8GB/16GB 1866MHz RDIMM

#### 2. Bug Fixes

##### 2-1. Management module firmware

2-1-1. Fixed the problem that a message of normal end is displayed even in the case of update failure, when a firmware would be updated via web console of Management Module.

#### 3. Firmware dependency

"1-2" requires a syslog server to receive a transferred audit trail from Management Module.

### Version A0366/00

#### 1. New Features and Functions

None

#### 2. Bug Fixes

##### 2-1. Management module firmware

2-1-1. N+M cold standby failover may be failed when the following conditions are all met.

(1) IPMI over LAN Time out occurs between Management Module and BMC when Pre-configure for N+M.

(2) Pre-configure Method of Partition is Inline.

#### 3. Firmware dependency

None

### Version A0365/00

#### 1. New Features and Functions

1-1. Management module firmware provides the following features:

1-1-1. Supported Compute blade model X55R4.

1-1-2. Supported HCSM7.6.



## Hitachi Compute Blade 2000 Firmware List & Release Notes

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- 1-1-3. Supported the security strength set-up function.
- 1-1-4. Supported CNA config backup/restore function.
  
- 1-2. Equipment parameter
  - 1-2-1. Supported Server Blade X55R4.
  
- 1-3. SEL Dictionary:
  - 1-3-1. Supported the security strength set-up function.
  
- 2. Bug Fixes
  - 2-1. Management module firmware
    - 2-1-1. N+M cold standby failover may be failed when the following conditions are all met.
      - (1)CNA is installed in the IOEU.
      - (2)IOEU's operating mode is 1:4 mode.
      - (3)The active partition's server chassis connection port number is different from standby partition.
      - (4)CB2000 Management Module firmware Version:A0330 to A0360.
    - 2-1-2. If the CNA is installed after PCI physical slot number 8 of IOEU, the PCI physical slot number display of original MAC or current MAC on MAC command would be wrong.  
This problem occur on CB2000 Management Module firmware Version:A0330 to A0360.
    - 2-1-3. N+M cold standby failover may be failed, and the active partition and standby partition of multiple LPAR's vfcWWN are duplicated when the following conditions are all met.
      - (1) N+M cold standby using HCSM.
      - (2)The active partition's LP mode is different from standby partition.
      - (3) CB2000 Management Module firmware Version:A0360.
    - 2-1-4. A part of WWN display of a Web console is not displayed at the time of IOEU connection.  
This problem occur on CB2000 Management Module firmware Version:A0360.
    - 2-1-5. Selected E-mail is not transmitted by E-mail notification retransmission function on Web console.  
But Another E-mail which is not selected is transmitted.  
A problem can be prevented, on the operation of MI command of system console.
    - 2-1-6. Management module cannot connect to LDAP server, when the bind password is unchanged in the operation of LDAP command of system console.  
A problem can be prevented, if a bind password is specified by the LDAP command or it is operated from a Web console.
  - 2-2. SEL Dictionary:
    - 2-2-1. When a schedule shut down function worked in a Poff state, SEL NOT HIT is recorded.
    - 2-2-2. Added the information of spare parts to the SEL "IOH PCI Express port Quiet".
  
- 3. Firmware dependency
  - "1-1-2" requires the following in addition to the Management Module firmware pack version A0365/00.  
HCSM: 7.6 or higher

### Version A0360/00

- 1. New Features and Functions
  - 1-1. Management module firmware provides the following features:
    - 1-1-1. Support of HCSM7.5.1.
    - 1-1-2. HCSM supports N+M cold standby takeover function with CNA FCoE configuration.
    - 1-1-3. Change terminology about N+M cold standby feature.
  
  - 1-2. Equipment parameter

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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- 1-2-1.Supported the connection between 1Gb LAN SW module and 10Gb CNA/LAN mezzanine.
- 1-2-2.Supported the connection between 1Gb/10Gb LAN SW module and 10Gb CNA/LAN mezzanine.

The newly supported combinations mentioned above are listed as follows.

#	Switch Module	Blade	Mezzanine	
1	1Gb LAN SW module	DPS3	10Gb CNA 4port	
2			10Gb CNA 2port	
3			10Gb LAN 4port	
4			10Gb LAN 2port	
5		DPR3	10Gb CNA 4port	
6			10Gb CNA 2port	
7			10Gb LAN 4port	
8			10Gb LAN 2port	
9		MPA2	10Gb CNA 4port	
10			10Gb CNA 2port	
11			10Gb LAN 4port	
12			10Gb LAN 2port	
13	1Gb/10Gb LAN SW module		DPS3	10Gb CNA 4port
14				10Gb CNA 2port
15				10Gb LAN 4port
16				10Gb LAN 2port
17		DPR3	10Gb CNA 4port	
18			10Gb CNA 2port	
19			10Gb LAN 4port	
20			10Gb LAN 2port	
21	MPA2	10Gb CNA 4port		
22		10Gb CNA 2port		
23		10Gb LAN 4port		
24		10Gb LAN 2port		

### 2. Improvement

#### 2-1. Management module firmware

- 2-1-1. Management Module may incorporate any file instead of Management Module firmware, SEL dictionary, and Equipment parameter.

See the Appendix A for the detail of the improvement.

### 3. Bug Fixes

#### 3-1. Management module firmware

- 3-1-1. Guest role is assigned when logged in even if any role is assigned to the account registered in a LDAP.
- 3-1-2. Fixed the problem that server blade may not power on by failing automatic power on at AC recovery when the following conditions are all met;
  - (1)N+M cold standby is enabled.
  - (2)The AC recovery function is enabled.
- 3-1-3. Not only permitted SNMP manager, but also not permitted SNMP manager can access the management module if one of the following conditions is met.
  - (1) SNMP manager hostname is set 0.0.0.0 by web console.
  - (2) SNMP manager hostname is set 0.0.0.0 by system console.
  - (3) Delete SNMP manager setting by system console.

### 4. Firmware dependency

- "1-1-1" and "1-1-2" require the following in addition to the Management Module firmware pack version A0360/00.
  - HCSM: 7.5.1 or later



## Hitachi Compute Blade 2000 Firmware List & Release Notes

### X57A2 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version 06-28/07-69

##### 1. New Features

Support N+M Cold Standby with the following new devices:

- Hitachi 16Gb 1-port fibre channel adapter
- Hitachi 16Gb 2-port fibre channel adapter
- Emulex 16Gb 2-port fibre channel adapter

##### 2. Bug-fixes

- 2-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update 55
- 2-2. Open SSL/TLS MITM vulnerability known as CCS injection vulnerability(CVE-2014-0224)

#### Version 06-27/07-68

##### 1. New Features

Support N+M Cold Standby with the following new devices:

- Hitachi 16Gb 1-port fibre channel adapter
- Hitachi 16Gb 2-port fibre channel adapter
- Emulex 16Gb 2-port fibre channel adapter

##### 2. Improvements

Change the signing certificate for the Remote Console Application from self-signed to the signed one by Certificate Authorities to follow new security policy of Java Runtime Environment version 7 update 25 or higher.

##### 3. Bug-fixes

- 3-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update 55
- Please refer Appendix A for bug fixes.

#### Version 06-24/07-61

##### 1. Bug-Fixes

Problem Description:

The heartbeat extension of OpenSSL allows anyone on the network to read the contents of memory of the BMC via TLS or DLTS connection.

Cause:

A bug in OpenSSL Versions from 1.0.1 to 1.0.1f.

Countermeasure:

Update BMC firmware to fixed version.

#### Version 06-22/07-61

##### 1. New Features and Functions

- 1-1. Supported Syslog transfer function.
- 1-2. Supported CNA card of backup/Restore.

##### 2. Improvements

- 2-1. Added communication protocol Start TLS for LDAP.
- 2-2. Changed total memory capacity up to 4T byte.

#### Version 06-21/07-58

##### 1. New Features and Functions

- 1-1. Supported TLS1.2 with the following functions:
  - (1) Web Console
  - (2) Remote KVM
  - (3) LDAP

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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2. Improvement
  - 2-1. Intel MicroCode Update. Version: M05206F2\_00000036 to M05206F2\_00000037.
3. Bug Fixes
  - 3-1. Fixed for the problem that IPMI over LAN has security risks.  
*See Appendix A for the detail of this problem.*
4. Firmware dependency  
None.

### Version 06-06/07-56

1. New Features and Functions
  - 1-1. Supported for N+M Cold Standby function using FCoE boot path with the following devices:
    - (1)10Gb LAN/CNA network adapter
    - (2)10Gb LAN/CNA Mezzanine card.
2. Bug Fixes
  - 3-1. Fixed for the problem that the role setting in LDAP authentication does not affect the BMC user roles in a certain condition.  
See Appendix A for the detail of this problem.(EN-BS2KSVF-0009-000)
  - 3-2. Fixed for incorrect memory size displayed in BSM when the partition has 3 CPUs.
3. Firmware dependency  
None

## X57A1 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

### Version 04-82/03-34

1. Improvements

BMC firmware is updated for corresponding to the revised version of OpenSSL and OpenLDAP.  
With the updating above, the Server Blade Web Console is modified as below.

  - 1) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for HTTPS Web console connection. They are configured via Web Console (HTTPS) item on "Service Settings" screen. See the description of Web Console (HTTPS) item on "Security and Service Settings" screen in the latest user's guide for detail, since they are equivalent.
  - 2) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for LDAP server connection. They are configured via TLS Version item on "LDAP" screen. See the description of the item in the latest user's guide for detail.

### Version 04-81/03-34

1. Bug-fixes
  - Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update 55.
  - Management Module in standby state reports false-positive Path Diagnosis Failure.

### Version 04-77/03-34

1. New Features and Functions  
None.
2. Improvements  
Intel MicroCode Update. Version: M04206E6\_00000009 to M04206E6\_0000000a.
3. Bug Fixes  
Fixed for the problem that IPMI over LAN has security risks.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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*See Appendix A for the detail of this problem.*

4. Firmware dependency  
None.

### Version 04-75/03-32

1. New Features and Functions

1-1. Supported Serial over LAN.

2. Improvements

Intel MicroCode Update. Version: M04206E6\_00000009.

3. Bug Fixes

When the partition has 3 CPUs, BMC records a SEL indicating unsupported configuration.

4. Firmware dependency

The following firmware are required for the support of the new feature listed in section 2-1.

- SEL Dictionary : 00285 or later.
- Management Module Firmware version : A0355-D-7333 or later
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## Hitachi Compute Blade 2000 Firmware List & Release Notes

### X55x4 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version 07-15/11-51

##### 1. Improvements

Red Hat Linux 6 and 7 series have a risk of unstable CPU time if the boot option for Linux kernel includes “tsc=reliable”.

To avoid this risk, a procedure of initialize TSC was removed from EFI and changed the initializing TSC to be executed on the hardware-reset process.

#### Version 07-15/11-50

##### 1. New Features

Support N+M Cold Standby with the following new devices:

Hitachi 16Gb 1-port fibre channel adapter

Hitachi 16Gb 2-port fibre channel adapter

Emulex 16Gb 2-port fibre channel adapter

##### 2. Improvements

2-1. Apply Intel MicroCode Update. Version: MED306E4\_00000428

2-2. Apply Intel Memory Reference Code Update. Version: 2.00.00.05

##### 3. Bug-fixes

3-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update 55

3-2. Open SSL/TLS MITM vulnerability known as CCS injection vulnerability(CVE-2014-0224)

#### Version 07-14/11-49

##### 1. New Features

Support N+M Cold Standby with the following new devices:

Hitachi 16Gb 1-port fibre channel adapter

Hitachi 16Gb 2-port fibre channel adapter

Emulex 16Gb 2-port fibre channel adapter

##### 2. Improvements

2-1. Apply Intel MicroCode Update. Version: MED306E4\_00000427

2-2. Apply Intel Memory Reference Code Update. Version: 2.00.00.05

2-3. Change the signing certificate for the Remote Console Application from self-signed to the signed one by Certificate Authorities to follow new security policy of Java Runtime Environment version 7 update 25 or higher.

##### 3. Bug-fixes

3-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update 55

Please refer Appendix A for bug fixes.

#### Version 07-11/11-33

##### 1. Bug-Fixes

Problem Description:

The heartbeat extension of OpenSSL allows anyone on the network to read the contents of memory of the BMC via TLS or DLTS connection.

Cause:

A bug in OpenSSL Versions from 1.0.1 to 1.0.1f.

Countermeasure:

Update BMC firmware to fixed version.

#### Version 07-07/11-33

##### 1. New Features and Functions

1-1. Supported SR-IOV of CNA card.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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### Version 07-06/11-18

1. Improvements
  - 1-1. Apply the CPU errata (Sightings:3875843).  
*See Appendix A for the detail of this Improvement.*

### Version 07-06/11-17

1. New Features and Functions
  - 1-1. Supported mixed environments of CNA card FW 4.6 and 4.2.
2. Firmware dependency  
None.

### Version 07-06/11-16

1. New Features and Functions  
Initial release.



## Hitachi Compute Blade 2000 Firmware List & Release Notes

### X55x3 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version 07-15/09-61

##### 1. Bug-fixes

1-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update

55

1-2. Open SSL/TLS MITM vulnerability known as CCS injection vulnerability(CVE-2014-0224)

#### Version 07-14/09-61

##### 1. Improvements

Change the signing certificate for the Remote Console Application from self-signed to the signed one by Certificate Authorities to follow new security policy of Java Runtime Environment version 7 update 25 or higher.

##### 2. Bug-fixes

2-1. Remote Console boot time is longer when a Client PC is using Java Runtime Environment version 7 update

55

Please refer Appendix A for bug fixes.

#### Version 07-11/09-61

##### 1. Bug-Fixes

Problem Description:

The heartbeat extension of OpenSSL allows anyone on the network to read the contents of memory of the BMC via TLS or DLTS connection.

Cause:

A bug in OpenSSL Versions from 1.0.1 to 1.0.1f.

Countermeasure:

Update BMC firmware to fixed version.

#### Version 07-07/09-61

##### 1. New Features and Functions

1-1. SYSLOG transfer feature.

##### 2. Improvements

2-1. Restoring CNA setting of port bifurcation and personality

#### Version 07-06/09-58

##### 1. New Features and Functions

1-1. Supported a new HCSM feature: RAID card information.

1-2. Supported TLS1.2 with the following functions

(1) Web Console

(2) Remote KVM

(3) LDAP

##### 2. Improvements

2-1. .Intel MicroCode Update. Version: M6D206D7\_0000070D to M6D206D7\_00000710

##### 3. Bug Fixes

3-1. Fixed for the problem that IPMI over LAN has security risks.

See Appendix A for the detail of this problem.

##### 4. Firmware dependency

None

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Version 05-54/09-56

1. New Features and Functions
  - 1-1. Supported for N+M Cold Standby using FCoE boot path with the following devices:
    - (1)10Gb LAN/CNA network adapter
    - (2)10Gb LAN/CNA Mezzanine card.
2. Bug Fixes
  - 2-1. Fixed for the problem that the role setting in LDAP authentication does not affect the BMC user roles in a certain condition.  
See Appendix A for the detail of this problem.(EN-BS2KSVF-0009-000)
3. Firmware dependency  
None

### X55A2 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version 03-99/03-58

1. Improvements

BMC firmware is updated for corresponding to the revised version of OpenSSL and OpenLDAP.  
With the updating above, the Server Blade Web Console is modified as below.

  - 1) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for HTTPS Web console connection. They are configured via Web Console (HTTPS) item on “Service Settings” screen. See the description of Web Console (HTTPS) item on “Security and Service Settings” screen in the latest user’s guide for detail, since they are equivalent.
  - 2) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for LDAP server connection. They are configured via TLS Version item on “LDAP” screen. See the description of the item in the latest user’s guide for detail.

#### Version 03-98/03-58

1. Bug-fixes

Fixed the problem that BMC causes the SEL (Management module detected the path diagnosis failure) to be recorded incorrectly.

#### Version 03-95/03-58

1. New Features and Functions  
None.
2. Improvements
  - 2-1. Intel MicroCode Update. Version: M03106A5\_00000011 to M03106A5\_00000019, and M03206C2\_00000013 to M03206C2\_0000001A.
3. Bug Fixes
  - 3-1. Fixed for the problem that IPMI over LAN has security risks.  
*See ECN for the detail of this problem.*
4. Firmware dependency  
None.

### BMC Firmware

#### Version 03-93

##### 1. HW/FW/SW/Document-dependencies

- Management module firmware : A0195 or later
- EFI firmware: 03-57 or later

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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### 2.New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [ v ]Factory )

- New Functions:
  - Interoperability support  
This function enables optimized PCIe card parameter setting by using Interop files.  
See an ECN-BSK2VF-0024-00 for details.

#### Version 03-90

### 1.New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [ v ]Factory )

- New Functions:  
BMC firmware is updated to add a log transfer functionality which enables Management modules to collect BMC logs

### 2.Firmware dependency

- To use the new feature, Management module firmware must be updated to A0175 or later

## EFI Firmware

#### Version 03-57

### 1.New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [ v ]Factory )

- New Functions:  
Interoperability function.  
This function enables to set the optimized PCIe card parameters to the system by using Interop file.  
See a ECN-BS2KSVF-0024-00 for details.
- Improvements:
  - The PCIe link initialization sequence is modified to support QLE2562.
  - Added to support Redhat 6.x.
- Otherchanges:  
PCIe link speed is fixed to Gen1(2.5GT/S), except following.
  - ESD product cards.
  - The card registered in the Interop file.

## X55A1 BMC/EFI Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version 03-99/03-58

### 1. Improvements

BMC firmware is updated for corresponding to the revised version of OpenSSL and OpenLDAP.

With the updating above, the Server Blade Web Console is modified as below.

- 1) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for HTTPS Web console connection. They are configured via Web Console (HTTPS) item on “Service Settings” screen. See the description of Web Console (HTTPS) item on “Security and Service Settings” screen in the latest user’s guide for detail, since they are equivalent.
- 2) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for LDAP server connection. They are configured via TLS Version item on “LDAP” screen. See the description of the item in the latest user’s guide for detail.

#### Version 03-99/01-65

### 1. Improvements

BMC firmware is updated for corresponding to the revised version of OpenSSL and OpenLDAP.

With the updating above, the Server Blade Web Console is modified as below.

- 1) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for HTTPS Web console connection.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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They are configured via Web Console (HTTPS) item on “Service Settings” screen. See the description of Web Console (HTTPS) item on “Security and Service Settings” screen in the latest user’s guide for detail, since they are equivalent.

2) Supported to enable or disable SSL3.0, TLS1.0, 1.1 and 1.2 which are used for LDAP server connection. They are configured via TLS Version item on “LDAP” screen. See the description of the item in the latest user’s guide for detail.

### Version 03-98/03-58

1. Bug-fixes

Fixed the problem that BMC causes the SEL (Management module detected the path diagnosis failure) to be recorded incorrectly.

### Version 03-98/01-65

1. Bug-fixes

Fixed the problem that BMC causes the SEL (Management module detected the path diagnosis failure) to be recorded incorrectly.

### Version 03-95/03-58

This version should be used when an I/O expansion module is used.

1. New Features and Functions

None.

2. Improvements

2-1. Intel MicroCode Update. Version: M03106A5\_00000011 to M03106A5\_00000019.

3. Bug Fixes

3-1. Fixed for the problem that IPMI over LAN has security risks.

*See Appendix A for the detail of this problem.*

4. Firmware dependency

None.

### Version 03-95/01-65

This version should be used when an I/O expansion module is not used.

1. New Features and Functions

None.

2. Improvements

2-1. Intel MicroCode Update. Version: M03106A5\_00000011 to M03106A5\_00000019.

3. Bug Fixes

3-1. Fixed for the problem that IPMI over LAN has security risks.

*See Appendix A for the detail of this problem.*

4. Firmware dependency

None.

### Version 03-90/03-53

This version should be used when an I/O expansion module is used.

### Version 03-92/01-64

This version should be used when an I/O expansion module is not used.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### DCB Switch Module Firmware & Accessory Kit Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

#### Version V413\_01

##### 1. New Features

None

##### 2. Improvements

2-1 Improved the vulnerability of Shell shock issue with BASH shell (CVE-2014-6271).

##### 3. Bug Fixes

The following defects as critical issues had fixed between Network OS v4.1.3 and v4.1.3a.

For the details and another defect, please refer to Appendix-A and Release Notes of Network OS v4.1.3a for Brocade VDX at <http://my.brocade.com/>.

3-1 Excessive port level interrupts might disable the port.

3-2 Changing VCS id could result in switch reload.

3-3 Under certain configuration combinations, two primary members may be selected for a vLAG.

3-4 SNMP query is displaying with low warning.

3-5 Storage becomes inaccessible.

3-6 ALL switches in fabric are stuck in high CPU state.

3-7 The VDX switch may undergo an unexpected reload.

3-8 Configuring 'bpdu-drop enable all' on an interface might reload a switch.

3-9 "show ip dhcp relay gateway" does not display configured gateway address after reload.

##### 4. Firmware dependency

CB2000 Equipment Parameter revision A012 or later is required to upgrade DCB Switch firmware to the Network OS v4.1.3a.

Please refer Appendix-B Restrictions for the upgrading Network OS.

#### Version V413\_00

##### 1. New Features and Improvements

Network OS v4.1.3 contains following features and improvements.

###### NOS Mixed-Version support

A mixed-version Fabric Cluster is a group of fabric cluster nodes running Network OS v4.1.3 and Network OS v5.0.x. This allows legacy hardware to continue to function running v4.1.3 image along and co-exist with newer hardware running Network OS v5.0.x in the same cluster. For support scope of mixed-version, refer to Readme for Network OS v4.1.3 that is included in Compute Blade 2000 DCB Switch Firmware & Accessory DVD V413\_00.

###### Logical chassis cluster mode support

Logical chassis cluster mode is supported on DCB switch. For details of logical chassis cluster mode, refer to Network OS Administrator's Guide Supporting Network OS v4.1.x that is included in Compute Blade 2000 DCB Switch Firmware & Accessory DVD V413\_00.

###### Connectivity improvement with Cisco Nexus 7k series

When DCB switch connects to Cisco Nexus 7000 10Gb Ethernet module (N7K-M132XP-12), the link may become unstable. Network OS v4.1.3 improves connectivity with Cisco Nexus 7k series.

##### 2. Firmware dependency

CB2000 Equipment Parameter revision A012 or later is required to upgrade DCB Switch firmware to the Network OS v4.1.3. Please refer Restrictions written in this ECN for detailed procedure of Network OS upgrade.

#### Version V412\_03

##### 1. Bug Fixes

Network OS 4.1.2a contains bug-fixes that address new or pending issues since the release of Network OS 4.1.2.

A main fix is following.

Brocade's Defect ID : DEFECT000508625

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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Removal of an unused vlan (“no interface vlanX”) stops all traffic flows in a VCS both for Layer 2 and routed traffic.

See Appendix A for bug fixes.

### 2. Firmware dependency

CB2000 Equipment Parameter revision A012 or later is required to upgrade DCB Switch firmware to the Network OS v.4.1.2a. Please refer Restrictions written in this ECN for detailed procedure of Network OS upgrade.

## Version V412\_01

### 1. New Features and Functions

The Network OS v4.1.2 includes the following features.

Please refer to “Network OS Administrator’s Guide” for the details.

- (1) xSTP over VCS
- (2) Private VLAN
- (3) vLAG Default Up
- (4) UDLD
- (5) DHCP IP Helper
- (6) DHCP Automatic Deployment (DAD)
- (7) VRRP-E across VCS fabrics
- (8) Policy-based Routing (PBR)
- (9) Packet capture utility
- (10) CLI Port Range

In addition, the Network OS v4.1.2 can configure a VCS fabric without VCS license. On the Network OS v3.0.0\_dcb3 or lower, VCS license was required for each of DCB switches to configure a VCS fabric with three or more DCB switches. On the Network OS v4.1.2, DCB switches can configure a VCS fabric with three or more DCB switches without VCS license. Please refer to “Hitachi Compute Blade 2000 Series Product Ordering Guide” for the details.

### 2. Bug Fixes

None

### 3. Firmware dependency

CB2000 Equipment Parameter revision A012 is needed to upgrade DCB Switch firmware to the Network OS v.4.1.2. Please refer Restrictions of this document for detailed procedure of Network OS upgrade.

## Version V300\_dcb3\_00

### 1. New Features

None

Please refer to “Network OS Administrator’s Guide Appendix for 3.0.0\_dcb” for the details.

### 2. Bug Fixes

- (1) DCB Switches using NOS version 3.0.0\_dcb may exhibit login failures if non-management ports are used.
- (2) DCB Switches may not link-up with server blades.

Please refer to “Appendix A” and “Readme for Network OS v.3.0.0\_dcb3” for the details.

### 3. Firmware dependency

The following firmware is required for the support of 1G connectivity with 1G Mezzanine cards.

- Equipment Parameter : A009 or later

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Fibre Channel Switch Module Firmware & Accessory DVD Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of Fibre Channel switch firmware & accessory DVD.

#### Version v7.2.1/00

##### 1. New Features and Functions

QoS zone-based traffic prioritization is supported on CB2000 embedded Fibre Channel Switch with FOS v7.2.1.

Note:

Starting in Fabric OS 7.2.1, QoS does not require the Adaptive Networking license to be explicitly installed. This license is automatically enabled for new switches and for existing switches that are upgraded to Fabric OS 7.2.1 or higher.

##### 2. Bug Fixes

See Appendix A and B for bug fixes.

##### 3. Firmware dependency

FOS version v7.2.1 requires "ComputeBlade 2000 Management Module Firmware" A0345 or higher.

#### Version v7.0.2c/01

##### 1. New Features and Functions

SNMPv3 is supported on BS2000 embedded Fibre Channel Switch with FOS v7.0.2c.

Note: SNMPv3 function had been limited in readme file as unsupported functions.

Because SNMPv3 is going to be supported with FOS v7.0.2c, readme file is updated to eliminate the words for limitation of SNMPv3 .

##### 2. Bug Fixes

None

##### 3. Firmware dependency

FOS version v7.0.2c requires "ComputeBlade 2000 Management Module Firmware" A0345 or higher.

#### Version v7.0.2c/04-00

##### 3. New Features and Functions

New Features and Functions on FOS v7.0.2c are the following.

2-1. AccessGateway(AG)mode with "Hitachi 8Gbps Fibre Channel Mezzanine card" is supported.

2-2. Disruptive upgrades to Fabric OS 7.0 are allowed and supported from FOS 6.3 (up to a two-level migration) using the optional "-s" parameter with the *firmwaredownload* command.

##### 4. Bug Fixes

None

##### 5. Firmware dependency

4-1. FOS version v7.0.2c requires "ComputeBlade 2000 Management Module Firmware" A0345 or later.

# Hitachi Compute Blade 2000 Firmware List & Release Notes

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## LAN Switch Module Firmware

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of LAN switch module Firmware or Accessory CD.

### LAN Switch Module Firmware CD

#### *Version 11.6.C/01-00*

##### 1. New Features and Functions

Please refer to "Appendix A" for the details.

##### 2. Improvements

At the previous firmware version, when the LAN controller LSI in the module gets Chip-level soft-error (\*1), the firmware reboots the LAN switch module to recover itself. During the rebooting, all the operating systems on the blades lose the link to the switch module and lost the connection of Ethernet. The new firmware improves the recovery process. When it gets the error, the firmware rewrites only the memory area where the error occurs and recovers the data without rebooting the switch module. Therefore, the operating systems do not lose the connection of Ethernet.

(\*1) These errors occur when the radioactive atoms in the chip's material decay and release alpha particles into the chip. It does not damage the hardware but corrupts the data.

#### *Version 10.7.K*

##### 1. New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [ ]Factory )

###### - Improvements:

(1) The use of same version for CB500 as the common part

LAN switch module for CB500 uses ver. 10.7.K. As the LAN switch module is common part to both CB500 and CB2000, the same firmware version is used for CB2000.

Added new function: Single Sign On feature of SVP for CB500, but this is not used on CB2000.



# Hitachi Compute Blade 2000 Firmware List & Release Notes

## PCIe/Mezzanine Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

### 4-Gbps FC PCI Adapter Firmware Release Notes

#### Version 26-08-25

##### 1. New Functions/Improvements/Bug-fixes

###### 1-1. Bug-fixes

- (1) In VMware environment, operation of getting snapshots for the guest OS may fail.
- (2) Fibre channel adapter machine check may occur when all the cache in the fibre channel adapter become busy status due to multiple write commands of the large transfer size are issued.
- (3) SCSI timeout may occur if the load balancing option of Access Gateway mode on FCSW is enabled.

#### Version 26-08-1F

##### 1.HW/FW/SW/Document-dependencies

None

##### 2.New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [v]Factory )

Fixes the following problem.

- When one port of 2 port adapter changes into the state where continue auto negotiation of link speed negotiation by failure or setting mistake, SCSI timeout may be occurred in another port. It has improved so that influence on other ports may be made small.

### 8-Gbps FC Adapter Firmware Release Notes

#### Version 30-05-08

##### 1. New Functions/Improvements/Bug-fixes

###### 1-1. Bug-fixes

- (1) Improvement to recognize connected devices which upper 2 bytes of PORT\_ID are same as Fibre Channel adapter's PORT\_ID according to the instruction by the driver at FC switch connection.
- (2) Fibre channel adapter machine check may occur when all the cache in the fibre channel adapter become busy status due to multiple write commands of the large transfer size are issued.
- (3) SCSI timeout may occur if the load balancing option of Access Gateway mode on FCSW is enabled.

#### Version 30-04-86

##### 1. New Functions/Improvements/Bug-fixes

###### 2-1. New Functions

- (1) Supported Cisco Nexus series.

###### 2-2. Improvements

- (1) Improved Boot Driver(HBA-BIOS and EFI driver) not to disconnect any FC links after the SetBootPriority setting display is closed. Therefore after that all ports' WWN on the Fibre Channel Adapter can be confirmed on the connected FC-switch.

#### Version 30-04-80

##### 1. New Functions/Improvements/Bug-fixes

###### 1-1. Bug-fixes

In VMware environment, if you take multiple snapshots of the guest OS at the same time, the operation may fail.

#### Version 30-04-7D

##### 1. New Functions/Improvements/Bug-fixes

###### 1-1. Bug-fixes

See Appendix A for bug fixes.

#### Version 30-04-71

##### 1. New Functions/Improvements/Bug-fixes

###### 1-1. Bug-fixes

Fixed the following problems. Please see the Appendix A for the detail.

[Problem]

SAN boot may fail when using the Fibre Channel Switch in the Access Gateway mode or without zoning.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Version 30-04-6F

1. New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [v]Factory )

- Improvements:

- #1 Fixed the following problems. Please see the Appendix A for the detail.

[Problem]

The OS or the application may hang up when the SCSI command timeout and the SCSI reset command timeout occurs together.

### Version 30-04-68

1. New Functions/Improvements/Countermeasures (Problems found at [ ]Field or [v]Factory )

- Improvements:

- #1 Fixed the following problems. Please see the Appendix A for the detail.

[Problem No.1]

When power on the server blade, Hitachi fibre channel adapter may detect a hardware machine check intermittently.

When this problem happens, machine check event be logged in the system event log.

[Problem No.2]

When power on the server blade, link up process of Hitachi fibre channel adapter may fail intermittently and it may result OS losing a connection to LUN.

[Problem No.3]

When execute the I/O operation between the connection devices, it may be in a condition that a Hitachi fibre channel adapter cannot transmit the frame intermittently. When this problem happens, link-error or SCSI time-out event be logged in the system event log.

## 16-Gbps FC Adapter Firmware Release Notes

### Version 40-03-07

1. New Functions

1-1. 16Gbps Fibre Channel on LPAR manager. (Only Windows and RHEL are available as a guest OS.)

2. Improvements

None

3. Bug Fixes

3-1. FC adapter machine check may occur if the FC link is down while the guest OS boot under following configuration.

- Fibre Channel port shared configuration.
- Under virtualization environment.

3-2. FC adapter machine check may occur if the FC link is down when FC adapter cancel IO operation against the IO error caused by the FC interface problem.

3-3. If frequent link up/down occur within a short period under the following configuration, status of the FC adapter port on guest OS may stay link down.

- Direct connection (FC-AL).
- Fibre Channel port shared configuration.
- Under virtualization environment.

See Appendix A for bug fixes.

4. Firmware dependency

None

### Version 40-02-00

1. New Functions/Improvements/Bug-fixes

1-1. Bug-fixes

## Hitachi Compute Blade 2000 Firmware List & Release Notes

(1) Fibre channel adapter machine check may occur when all the cache in the fibre channel adapter become busy status due to multiple write commands of the large transfer size are issued.

### Version 40-01-2D

#### 1. New Functions/Improvements/Bug-fixes

##### 1-1. Improvements

(1) Improved Boot Driver(HBA-BIOS and EFI driver) not to disconnect any FC links after the SetBootPriority setting display is closed. Therefore after that all ports' WWN on the Fibre Channel Adapter can be confirmed on the connected FC-switch.

### Version 40-01-2A

#### 1-1. New Functions

16Gbps Fibre Channel Adapter support.

## Emulex 8Gbps Fibre Channel adapter firmware

### Version 2.01A12

#### 1. New Features and Functions

##### 1-1. Supported Windows 2012R2

#### 2. Dependency

- The new FC firmware ver. 2.01a12 and Boot Code ver.5.13a1 requires the new drivers and utilities listed as following.

These drivers and utilities are in CD media "Hitachi Compute Blade 2000 Series Server installation and monitoring tool DVD ver.03-00-E" and "CB2000 X57x2/X55x4 Driver & Utility DVD for Windows 2012R2 ver.03-00".

## Emulex 16Gbps Fibre Channel adapter firmware

### Version 01-00

#### 1. New functions and features

Initial release of 16Gb Fibre Channel firmware.

## 10Gb CNA Firmware Release Notes

### Version 01-04

#### 1. New Features and Functions

The new firmware ver. 4.6.348.0 (file name : G5\*\*\_4\_6\_348\_0.ufi) is added for the Windows Server 2012 R2 drivers.

#### 2. Dependency

- The new CNA firmware ver. 4.6.348.0 requires HVM firmware listed as follows.

CNA firmware version	HVM firmware version	
	CB2000 X55** model	CB2000 X57** model
4.6.348.0	59-41 or higher	79-41 or higher

- The new firmware ver. 4.6.348.0 requires the new drivers and utilities listed below.

These driver and utilities are included in CD media "CB2000 10Gb CNA Driver CD version 01-05".

### Version 01-03

#### 1. Released firmware

No	Released Firmware	Previous ver.	New ver.	File Name
1	10Gb CNA firmware CD	4.2.433.604	01-03	CB2k_CNA_FW_01-03.iso (zipped as CB2k_CNA_FW_01-03.zip)

The contents of this firmware CD ver.01-03 are listed as follow.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

No	Released CD media	Contents (File name)	Remarks (Applied System Model)
1	10Gb CNA firmware CD 01-03	G553_4_2_433_604.ufi	CB2000 Standard Server Blade X55R3/X55S3 model
		G554_4_2_433_604.ufi	CB2000 Standard Server Blade X55R4 model
		G572_4_2_433_604.ufi	CB2000 High performance Server Blade X57A2 model

In order to identify whether the firmware can apply to the system model, the system model name is added to the firmware file name. The file name is "G553\_4\_2\_433\_604.ufi" for example. In the file name, "G553" is the system model, and "4\_2\_433\_604" is the firmware version. The file name to which the system model name is added is used when updating the firmware by BSTP.

### 2. Dependency

#### 2-1. BSTP ver.3.1.20

The BSTP ver.3.1.20 or higher is recommended to use this firmware CD 01-03, although the previous BSTP can be used for this firmware CD 01-03.

### **Version 4.2.433.604**

#### 1. New Features and Functions

1-1. Supported connection to 1Gb switch

1-2. Supported SLB for NIC function

#### 2. Dependency

2-1. CB2000 10Gb CNA Driver CD version 01-04

2-2. BSTP ver.3.1.20

The BSTP ver.3.1.20 or higher is recommended to use this firmware CD 01-03, although the previous BSTP can be used for this firmware CD 01-03.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### LPAR Manager Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of firmware.

**Note:** This applies to both the version provided to customers as well as for the version provided for maintenance personnel.

#### Logical Partitioning Manager Firmware for High Performance Blade

##### Version 79-73

###### 1. New Features

None

###### 2. Improvements

- Resolved the following vulnerability problems of OpenSSL: CVE-2014-3567, CVE-2015-0204, CVE-2015-0205, CVE-2014-8275, and CVE-2014-3570.

- Terminated the support of SSL v3.0 due to SSL v3.0 vulnerability (CVE-2014-3566 dubbed POODLE).

###### 3. Bug Fixes

The following problems are fixed.

- No performance data of NICs or HBAs is shown after deleting LPAR.

- No alert is send from LPAR manager to ServerConductor/Blade Server Manager(BSM) after executing HvmSh.

See Appendix A for Detail of Bug Fixes.

##### Version 79-72

###### 1. New Features

None

###### 2. Bug Fixes

The following problems are fixed.

- Vulnerability for Bash Code Injection and Open SSL

- An FC HBA interrupt MCK occurs during LPAR migration in concurrent maintenance mode after booting a guest OS.

- A failure occurs when a server blade is turned off through the power control schedule of ServerConductor/Blade Server Manager while activating LPARs.

##### Version 79-71

###### 1. New Features

None

###### 2. Bug Fixes

- Took countermeasures to the vulnerabilities (including CVE-2014-0224) of OpenSSL.

##### Version 79-70

###### 1. New Features

- LPAR manager supported the SR-IOV function as the hardware function of physical NIC.

For details of target card type, blade type, and guest OS, see Hitachi Compute Blade 2000 USER'S GUIDE R33 or higher.

- LPAR manager supported RHEL 6.5 (x86/ AMD64 & Intel EM64T).

- Improved processing performance of shared NIC when using NIC2 (Intel 82576).

###### 2. Bug Fixes

The following problems are fixed.

- Port numbers may be displayed incorrectly for the management path of LPAR manager.

- LPAR manager rarely detects a link-down of Intel 1G NIC in shared-mode improperly, and the NIC communications stop for a few seconds.

- A NIC rarely cannot be used after several activations of LPAR assigned a shared NIC or virtual NIC, which is set to NIC2.

- Port numbers of the NIC or FC may not be displayed correctly on a non-primary blade in 2 blade or 4 blade SMP configuration.

See Appendix A for bug fixes.

# Hitachi Compute Blade 2000 Firmware List & Release Notes

## Version 79-52

### 1. Change history

No	Firmware version	Description
1	79-52	Supported Windows Server 2012 R2. For the supported blades, see Hitachi Compute Blade 2000 User's Guide R30 or higher.
2		Corrected the failure that the blade reboot with the SEL of hardware failure may happen when all of the following conditions are met:  a. Using Emulex 10Gb LAN mezzanine card (2-port/4-port) in dedicated mode. b. Deactivating an assigned LPAR.
3		Corrected the failure that the following messages are rarely indicated in LP System Logs when a USB device is attached while a guest OS is being shut down.  [ERROR] HVM damage occurred.(due to H/W error) / Too many unknown PCI-INTX interrupts were detected(vector=XX, gsi=XX).

79-51

Version

### 2. Change history

No	Firmware version	Description
1	79-51	Corrected the failure that the error of code 0X00090106 might occur depending on the number of the devices registered to the boot order and the system network environment when performing the boot order setting by HvmSh command in which the tcp protocol was specified or HVM navigator version 03-02 or higher.
2		Corrected the failure that the wrong value is set as the default MAC address on an LPAR on the LPAR manager, where the VNIC System No is set to a value 129 or more, when the shared NIC and the virtual NIC are assigned using BSM.
3		Took countermeasures to the RHEL6 problem that RHEL6 (x86 or x64) hang up on the LPAR when starting OS after the physical server had operated for 208.5 days or more.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Version 79-50

#### 1. Change history

No	Firmware version	Description
1	79-50	Had the OS installation time shorter because the loading time of CD/DVD image file had been shorter.
2		Improved the inter-processor interrupt (IPI) performance between logical processors to execute inter-processor communication.
3		Corrected the failure that LPAR manager rarely fails to issue an alert to the management server by a failure occurs on the LPAR manager assist when updating the management module.
4		Corrected the failure that the OS booting time is too long or the I/O performance is too low on an LPAR, when PhyCPU C-State ( $\geq$ C3) is enabled and the load of CPUs in shared mode assigned to the LPAR is low.
5		Corrected the failure that the LPAR idle time might be reported the value about ten percent less than the actual time in the performance statistical information output when the I/O load for network or FC is heavy.
6		Corrected the failure that blue screen error (stop code 101) might occur on Windows OS of the LPAR which processors in dedicated mode are assigned when the shared NIC or virtual NIC load is heavy.
7		Corrected the failure that LPAR manager might not be able to shut down due to the timeout for the automatic saving function of LP configuration information when the load of management module is heavy while Save Time Config is enabled.
8		Corrected the failure that the number of "Activated Cores" in "Processor Information" is displayed as "0" even if the LPAR manager is running when executing "DF" command of management module.
9		Corrected the failure that the LPAR manager system log might be collected illegally if a communication failure occurred when transmitting an alert to HCSM from LPAR manager.

# Hitachi Compute Blade 2000 Firmware List & Release Notes

## Version 79-42

### 1. Change history

No	Firmware version	Description
1	79-42	Supported Hitachi Compute Systems Manager (HCSM) v7.5.1 or higher. For details, see Hitachi Command Suite Compute Systems Manager Software User Guide R06 or higher.
2		Corrected the failure a guest OS might be down when a timeout occurs during LPAR migration in Concurrent Maintenance mode due to the high load of resources on the guest OS.
3		Corrected the failure that a guest OS might boot too slowly on an LPAR to which processors in dedicated mode are assigned.
4		Corrected the failure that the I/O performance might lower on the LPARs with the following conditions.  (a) Assigned more than 17 logical CPUs. (b) Assigned Emulex 10Gb LAN mezzanine cards, 10Gb LAN adapters, or Fusionio Flash Drives which are set in dedicated mode.



## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Logical Partitioning Manager Firmware for Standard Server Blade

#### Version 59-73

##### 1. New Features

None

##### 2. Improvements

- Resolved the following vulnerability problems of OpenSSL: CVE-2014-3567, CVE-2015-0204, CVE-2015-0205, CVE-2014-8275, and CVE-2014-3570.
- Terminated the support of SSL v3.0 due to SSL v3.0 vulnerability (CVE-2014-3566 dubbed POODLE).

##### 3. Bug Fixes

The following problems are fixed.

- No performance data of NICs or HBAs is shown after deleting LPAR.
  - No alert is send from LPAR manager to ServerConductor/Blade Server Manager(BSM) after executing HvmSh.
- See Appendix A for Detail of Bug Fixes.

#### Version 59-72

##### 1. New Features

None

##### 2. Bug Fixes

The following problems are fixed.

- Vulnerability for Bash Code Injection and Open SSL
- An FC HBA interrupt MCK occurs during LPAR migration in concurrent maintenance mode after booting a guest OS.
- A failure occurs when a server blade is turned off through the power control schedule of ServerConductor/Blade Server Manager while activating LPARs.

#### Version 59-71

##### 1. New Features

None

##### 2. Bug Fixes

- Took countermeasures to the vulnerabilities (including CVE-2014-0224) of OpenSSL.

#### Version 59-70

##### 1. New Features

- LPAR manager supported the SR-IOV function as the hardware function of physical NIC.

For details of target card type, blade type, and guest OS, see Hitachi Compute Blade 2000 USER'S GUIDE R33 or higher.

- LPAR manager supported RHEL 6.5 (x86/ AMD64 & Intel EM64T).
- Improved processing performance of shared NIC when using NIC2 (Intel 82576).

##### 2. Bug Fixes

The following problems are fixed.

- Operations with saving LPAR manager configuration and updating LPAR manager firmware take more time than usual.
- Port numbers may be displayed incorrectly for the management path of LPAR manager.
- LPAR manager rarely detects a link-down of Intel 1G NIC in shared-mode improperly, and the NIC communications stop for a few seconds.
- A NIC rarely cannot be used after several activations of LPAR assigned a shared NIC or virtual NIC, which is set to NIC2.

See Appendix A for bug fixes.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Version 59-52

#### 1. Change history

No	Firmware version	Description
1	59-52	Supported Windows Server 2012 R2. For the supported blades, see Hitachi Compute Blade 2000 User's Guide R30 or higher.
2		Corrected the failure that the blade reboot with the SEL of hardware failure may happen when all of the following conditions are met:  a. Using Emulex 10Gb LAN mezzanine card (2-port/4-port) in dedicated mode. b. Deactivating an assigned LPAR.
3		Corrected the failure that the following messages are rarely indicated in LP System Logs when a USB device is attached while a guest OS is being shut down.  [ERROR] HVM damage occurred.(due to H/W error) / Too many unknown PCI-INTX interrupts were detected(vector=XX, gsi=XX).

### Version 59-51

#### 1. Change history

No	Firmware version	Description
1	59-51	Supported the new blade as GVAX55R4.
2		Corrected the failure that the error of code 0X00090106 might occur depending on the number of the devices registered to the boot order and the system network environment when performing the boot order setting by HvmSh command in which the tcp protocol was specified or HVM navigator version 03-02 or higher.
3		Corrected the failure that the wrong value is set as the default MAC address on an LPAR on the LPAR manager, where the VNIC System No is set to a value 129 or more, when the shared NIC and the virtual NIC are assigned using BSM.
4		Took countermeasures to the RHEL6 problem that RHEL6 (x86 or x64) hang up on the LPAR when starting OS after the physical server had operated for 208.5 days or more.

# Hitachi Compute Blade 2000 Firmware List & Release Notes

## Version 59-50

### 1. Change history

No	Firmware version	Description
1	59-50	Increased the maximum number of logical processors from 16 to 32.
2		Had the OS installation time shorter because the loading time of CD/DVD image file had been shorter.
3		Improved the inter-processor interrupt (IPI) performance between logical processors to execute inter-processor communication.
4		Corrected the failure that LPAR manager rarely fails to issue an alert to the management server by a failure occurs on the LPAR manager assist when updating the management module.
5		Corrected the failure that the OS booting time is too long or the I/O performance is too low on an LPAR, when PhyCPU C-State ( $\geq$ C3) is enabled and the load of CPUs in shared mode assigned to the LPAR is low.
6		Corrected the failure that the LPAR idle time might be reported the value about ten percent less than the actual time in the performance statistical information output when the I/O load for network or FC is heavy.
7		Corrected the failure that blue screen error (stop code 101) might occur on Windows OS of the LPAR which processors in dedicated mode are assigned when the shared NIC or virtual NIC load is heavy.
8		Corrected the failure that LPAR manager might not be able to shut down due to the timeout for the automatic saving function of LP configuration information when the load of management module is heavy while Save Time Config is enabled.
9		Corrected the failure that the LPAR manager system log might be collected illegally if a network failure occurred when transmitting an alert to HCSM from LPAR manager.
10		Supported Oracle Solaris version 10 (Update 10) and version 11 (Update 11) based on Appendix A: HVM Specifications for Solaris Support. When using Oracle Solaris, see the following guide. <i>Installation Guide for Oracle Solaris Logical partitioning manager OS Installation Guide (ESD-99COM118-00)</i>

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Version 59-42

#### 1. Change history

No	Firmware version	Description
1	59-42	Supported Hitachi Compute Systems Manager (HCSM) v7.5.1 or higher. For details, see Hitachi Command Suite Compute Systems Manager Software User Guide R06 or higher.
2		Corrected the failure a guest OS might be down when a timeout occurs during LPAR migration in Concurrent Maintenance mode due to the high load of resources on the guest OS.
3		Corrected the failure that a guest OS might boot too slowly on an LPAR to which processors in dedicated mode are assigned.
4		Corrected the failure that the I/O performance might lower on the LPARs with the following conditions.  (a) Assigned more than 17 logical CPUs. (b) Assigned Emulex 10Gb LAN mezzanine cards, 10Gb LAN adapters, or Fusionio Flash Drives which are set in dedicated mode.

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### RAID Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of RAID Firmware.

#### SAS2108 RAID Firmware Update Tool CD Field

##### *Version 2.120.233-1474*

##### 1.HW/FW/SW/Document-dependencies

None

##### 2.New Functions/Improvements/Countermeasures (Problems found at [ V ]Field or [ ]Factory )

Improvements:

Fix the following phenomenon.

- Multibit ECC error occurred and the system broke down in VMware ESXi 5.0 environment.
- It take a long time to initialize RAID board and OS cannot boot.

New Functions:

- Micro Reboot Functions(\*1) supported

\*1: This function is to continue the system operation by rebooting the system of RAID board when a temporary error (cache parity error or something) is occurred.

When enabling the above function in Red Hat Enterprise Linux 5 or Red Hat Enterprise Linux Server 6 environment, RAID driver version must be updated to "00.00.06.12" or later.

- Added the function that register the error disk using the self-diagnostic function of HDD/SSD.

#### SAS2208 RAID Firmware Update Tool CD Field

##### *Version 3.152.185-3520*

##### 1. Bug Fixes

The following problem is fixed.

- Consistency Check may cause a data corruption in Hitachi Compute Blade 2000 using an Internal RAID Controller.

##### 2. Firmware dependency

None

##### *Version 3.152.155-2153*

##### 3. New Features and Functions

None.

##### 4. Bug Fixes

2-1. Improved on the problem that an error event is occurred when the system recognized a full discharged cache backup module.

##### 5. Firmware dependency

None.

### Seagate HDD Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of RAID Firmware.

#### Version A005-00

1. New Features and Functions

None

2. Bug Fixes

Fix the problem that an HDD may become 'not-ready' and then switch to a "degraded" state while Read/Write commands are being executed.

See Appendix-A, Detail of Bug Fixes.

3. HDD Firmware Version Up Procedure

See Appendix-B, HDD Firmware Version Up Procedure

## Hitachi Compute Blade 2000 Firmware List & Release Notes

### Maintenance Test Program Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of maintenance test programs.

### Maintenance Test Program for Field Engineers (BSTP) Release Notes

#### Version 3.2.4

##### 1. New Features

Supported FIVE-FX (Hitachi 16G FC) and Emulex 16G FC on CB2000.

GV-CC2N161X1-Y/R Hitachi 16Gb 1-port FC adapter for 2000 chassis

GV-CC2N162X1-Y/R Hitachi 16Gb 2-port FC adapter for 2000 chassis

GV-CC2D161X1-Y/R Hitachi 16Gb 1-port FC adapter for I/O Slot expansion Unit

GV-CC2D162X1-Y/R Hitachi 16Gb 2-port FC adapter for I/O Slot expansion Unit

GV-CC2N163X1-Y/R Emulex 16Gb 2-port FC adapter for 2000 chassis

##### 2. Improvements

Updated the Driver for Broadcom 1G NIC(\*) used in the BSTP, the LAN test not to be interrupted by a data compare error due to errata of the NIC .

(\*) It is an onboard NIC on the following models :

- Standard server blade x3 model : GVAX55x3-xNNX14X

- Standard server blade R4 model : GVAX55R4-xNNX14X

#### Version 3.2.0

##### New Features

2-1. Supported following CPUs and DIMM on CB2000 Standard server blade R4 model.

CPUs : E5-2670v2, E5-2637v2, E5-2630Lv2

DIMM : 1866MHz RDIMM

2-2. Updated Power consumption table

The new power consumption calculation feature for 1600MHz and 1333MHz DIMM-Mixed-installation is supported. This feature is added to support installing these 2 kinds of DIMMs together on the same blade.

(Related ECNs : ECN-BS2KSVH-0071 and ECN-BS2KSVH-0072)

At the previous version, BSTP reports an error when these 2 DIMMs are mixed in the same blade.

#### Version 3.1.21

##### 1. New Features and Functions

1.1 Supported CB2000 DPR4 blade model.

##### 2. Improvement

2-1. Improved to choose only the firmware which adapted to target blade in an Emulex CNA firmware update function.

2-2. Added a function to check disappearance of the MAC address of the NIC in BMC.

##### 3. Bug Fixes

3-1. The problem that memory test stopped for several seconds occurred. Therefore changed the THP (Transparent Huge Page) function of RHEL6 to the disable.

#### Version 3.1.18

##### 1. New Features and Functions

2-1. Supported 4TB memory on CB2000 MPx2 Blades.

### I/O Expansion Unit Firmware Release Notes

The following is a listing of the relevant fixes or new features that were implemented in the noted levels of I/O expansion unit firmware.

#### Version A0115-A-1819

##### 1. New Features and Functions

None

## Hitachi Compute Blade 2000 Firmware List & Release Notes

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### 2. Improvement

None

### 3. Bug Fixes

Fix of incorrect detection of AC Lost SEL(\*1).

(\*1) System Event Log of Alternating Current input failure

### 4. Firmware dependency

None

## Version A0114-B-1813

### 1. HW/FW/SW/Document-dependencies

FW: SEL dictionary 00261 or later.

### 2. New Functions/Improvements/Countermeasures (Problems found at [V]Field or [ ]Factory )

Improvement:

May occur the console deadlock conditions of I/O slot expansion unit.

See Appendix for details.