bullion S

an atos company

Customer Release Note - TS007.03

Number DEL000906 **Version G.1**

Trademarks and Acknowledgements

Contents

1. Abstract and purpose of the release

This document is the customer release note for **Technical Status 007.03.**

It describes the objects delivered in the Technical Status, and the features of the resources provided on the Resource and Documentation DVDs.

2. Features

The Resources and Documentation DVDs provide the software, firmware and documentation required to install, configure, use and maintain the system:

Documentation: Complete documentation included in a portfolio.

Firmware - Provided for the following components:

BIOSX05	The CIX (system motherboard) BIOS image.
CPLD_MUCM	The flash image file for the CPLD component on the Ultra-Capacitors management board.
CPLD_M_CIX	The flash image file for the CPLD memory component on the CIX board (system motherboard).
CPLD_P_CIX	The flash image file for the CPLD Power component on the CIX board (system motherboard).
CPLD_PM1_CIX	The flash image file for the PM1CPLD component on the CIX board (system motherboard).
CPLD_PM2_CIX	The flash image file for the PM2CPLD component on the CIX board (system motherboard).
DS1600PED_PSU	The flash image file for the DPS1600PED component rated 1600W on the PSU board.
DS750PED_PSU	The flash image file for the DPS750PED component rated 750W on the PSU board.
EMM30_BMC	The software embedded in the server module to implement management functions accessible from the System Hardware Console (SHC) graphical interface.
ESXi_5	The VMware hypervisor.
FPGA_CIX	The firmware to be loaded on the CIX board (system motherboard) FPGA processors.
FPGA_WEO	The flash image file for 1Gb Ethernet switch component included in the connecting box.
LCP	The firmware for the Local Control Panel display.
PM_MUCM	The flash image file for Power Module (PM) component on the Ultra-Capacitor management board.
PM_RM3D3	The flash image file for PM component on the memory blades.
POWERVILLE_CIX	The flash image file for the integrated Ethernet controller on the CIX board (system motherboard).

Adapter Firmware and configuration files - Provided for the following cards:

Emulex PCIe LPe12002-M8

Emulex PCIe LPe15004-M8

Emulex PCIe LPe16002

Emulex PCIe OCe11102-FM/NM/NT

Emulex PCIe OCe14102-UM/NM

Intel Ethernet Server I350-T2 and I350-T4

HGST PCIe Solid-State Accelerator

LSI MegaRAID SAS 9261-8i

LSI MegaRAID SAS 9361-4i

LSI SAS 9200-8e

LSI SAS 9300-8e

Tools:

bmclanpet	The Platform Event Trap definition file. This MIB (Management Information Base) file is used by SNMP (Simple Network Management Protocol) managers to receive server hardware events.
BPM	A WEB application used to display server hardware status and information. It can also be used to get and set hardware configuration parameters. Both Linux and Windows versions are provided.
BSMHW_NG	A set of prompt commands, based on free IPMI open source, used to manage server or device hardware. These commands can be used to return information and status and/ or to remotely control and configure server hardware.
Bull_Admin_Tools_VM_Appliance	An appliance that delivers Bull Administration tools on a Virtual Machine running CentOS system.
iCare	A WEB application used for hardware maintenance. Both Linux and Windows versions are provided.
mc-setup	A Linux Utility used to discover the embedded management board's MAC address and to change the embedded management board's IP address.
psetup	A Windows Utility used to discover the embedded management board's MAC address and to change the embedded management board's IP-address.

3. Release content

This release provides the following items.

3.1. Documentation

Name	Version
bullion S Customer Documentation Portfolio	06

3.2. Platform Firmware

Name	Product Version	Build Number
BIOSX05	5.21.2	015
CPLD_MUCM	1.4	
CPLD_M_CIX	0.1.0	HS9
CPLD_PM1_CIX	0.0.6	HS10
CPLD_PM2_CIX	0.0.6	HS10
CPLD_P_CIX	0.2.8	
DS1600PED_PSU	01.03/01.06	
DS750PED_PSU	01.15.00	
EMM30_BMC	30.18.00	1328
ESXi_5	5.5 update 2 Patch 4	2403361
FPGA_CIX	0.3.3	
FPGA_WEO	0.2.3	HS11
LCP	20	
PM_MUCM	0.4	
PM_RMxD3	0.3	HS11
POWERVILLE_CIX	1.63	

3.3. Adapter Firmware

Name	Product Version	Build Number
Emulex PCIe LPe12002-M8	fw201a12 Universal boot version 513a3	
Emulex PCIe LPe15004-M8	10.4.255.23	
Emulex PCIe LPe16002	10.4.255.23	
Emulex PCIe OCe11102	10.4.255.25	
Emulex PCIe OCe14102	10.4.255.25	
Intel Ethernet Server I350-T2 and I350-T4	1.876.0 preboot 19.3	
HGST PCIe Solid-State Accelerator	FW H0BV - Boot 2.6.28	
LSI MegaRAID SAS 9261-8i	12.15.0-0205	
LSI MegaRAID SAS 9361-4i	24.7.0-0026	
LSI SAS 9200-8e	P20	
LSI SAS 9300-8e	P7	

3.4. Customer Tools

Name	Product Version	Build Number
mc-setup	1.2.1	2
psetup	1.2.4	

3.5. Other Software and Firmware

Name	Product Version	Build Number
Bull_Admin_Tools_VM_Appliance	1.0.3	
bmclanpet_23	2.3-4	
BPM	2.5.1	
BSMHW_NG	1.2.6	
iCare	1.7.1	

4. New features and changes

TS007.03 (April 2015)

- Emulex OCe 14102 adapter support
- LSI SAS 9300-8e adapter support
- Use of fine grain time synchronization between modules (TSC)
- Management of error LEDs in memory blades to help locating the faulty DIMM
- Support of active/passive PSU using the UCM module
- Red Hat 6.6 support
- Windows Server 2012 R2 support on bullion S2 and S4
- Improved error reporting in the SEL (e.g. lack of PCI resources, XQPI errors leading to reduced speed)

See also section 7 *Resolved issues*.

5. Detailed Information

5.1. BIOS

Release identification

5.21.2 build 015 (BIOSX05.021.02.015)

This BIOS can be used for all operating systems (VMware ESXi included) and all server configurations (from bullion S2 to bullion S16)

Component versions

UEFI revision specification 2.3

Intel® Brickland-EX reference code 1.40

Microcodes:

- MED306E7_0000070D (Intel® Xeon® Processor E7 v2 Family D1 stepping)

5.2. EMM

Release Identification

EMM bullion S 30.18.00 Build 1328

Note: EMM release identification is displayed in the following EMM Web page:

Maintenance → Hardware Information → Management Controller

Dependencies

BIOSX05.21.02 or higher

FPGA 0.3.3 or higher

Hardware supported

bullion S2, S4, S8, S16

5.3. VMware ESXi

Supported versions

ESXi 5.5U1 and **5.5U2**

Delivery

VMware ESXi is delivered on a bootable USB flash drive.

Current version: **ESXi 5.5U2P4 build 2403361**

Components

1) Base Image Profile from VMware

VMware ESXi 5.5, Patch ESXi-5.5.0-20150104001-standard (2099271)

Release Date: Jan 27, 2015

http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2099271

2) Additional and updated components

Name	Version	Vendor	Acceptance Level
elxnet	10.2.445.0-1OEM.550.0.0.1331820	Emulex	VMwareCertified
emulex-cim-provider	10.2.348.18-01OEM.550.0.0.1331820	Emulex	VMwareAccepted
lpfc	10.2.455.0-1OEM.550.0.0.1331820	Emulex	VMwareCertified
net-igb	5.2.7-1OEM.550.0.0.1331820	Intel	VMwareCertified
net-ixgbe	3.21.4-1OEM.550.0.0.1331820	Intel	VMwareCertified
lsiprovider	500.04.V0.53-0003	LSI	VMwareAccepted
scsi-stec-s1120	2.2.1.0202-1OEM.550.0.0.1331820	Stec (HGST)	VMwareCertified
scsi-megaraid-sas	6.606.06.00-1OEM.550.0.0.1331820	LSI	VMwareCertified

Emulex CIM Provider is required by the Emulex One Command Manager vCenter plugin, which allows you to update most Emulex firmware on the fly.

LSI CIM provider is needed to remotely manage LSI boards via MegaRAID Storage Manager software.

5.4. Linux Red Hat

Supported version

Red Hat Enterprise Linux Server 6.5 and 6.6.

5.5. Windows Server

Supported version

Windows Server 2012 R2 on bullion S2 and S4

5.6. Supported Adapters

bullion S supports the following adapters.

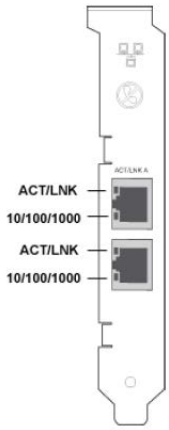
5.6.1. HGST PCIe Solid-State Accelerator

1TB PCIe HH-HL Solution

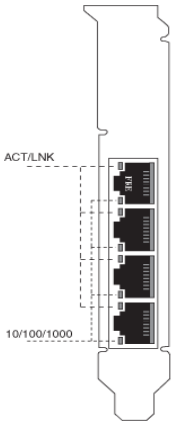
For more information, see http://www.hgst.com

5.6.2. Intel Ethernet Server Adapters

Intel® Ethernet Server Adapter I350-T2
Dual ports - PCIe v2.1 (5.0GT/s) Interface



Intel® Ethernet Server Adapter I350-T4
Quad ports - PCIe v2.1 (5.0GT/s) Interface

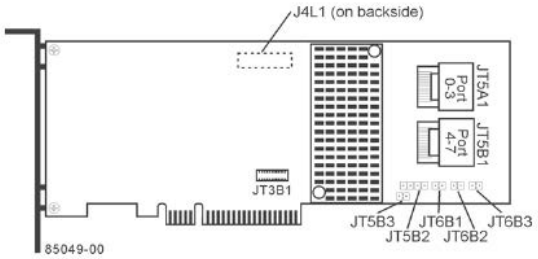


The port numbers depend on OS and drivers. To know the port numbers, you can either unplug cable and check the port status on the console, or set a port to disable and check the LED colors.

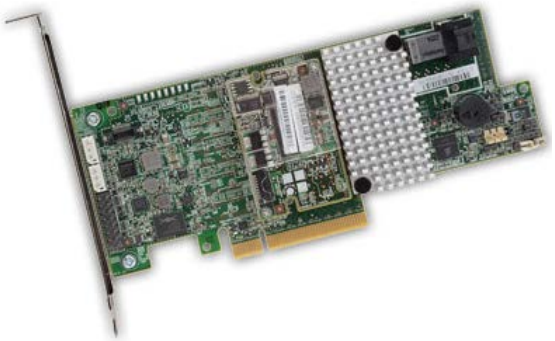
For more information, see http://ark.intel.com

5.6.3. LSI MegaRAID® SAS 9261-8i and 9361-4i

Eight-Port 6Gb/s PCI Express SATA+SAS RAID Controller



Four Port MegaRAID SAS 9361-4i 12Gb/s SAS and SATA RAID Controller

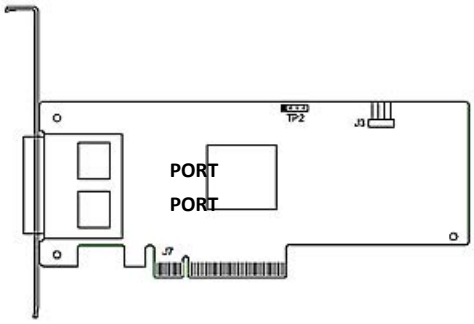


No external connector.

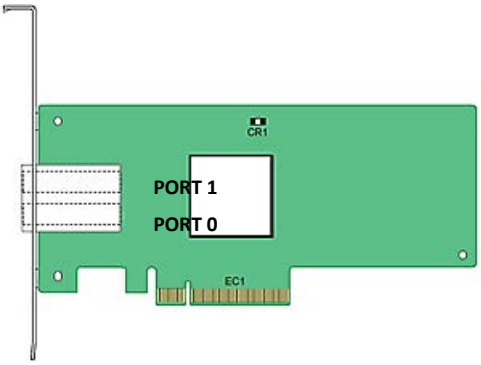
For more information, see http://www.lsi.com

5.6.4. LSI SAS 9200-8e and 9300-8e

LSI SAS 9200-8e
8-Port, 6Gb/s SAS+SATA to PCI Exp HBA



LSI SAS 9300-8e
8-Port 12Gb/s SAS+SATA to PCI Exp HBA



For more information, see http://www.lsi.com

5.6.5. Emulex Adapters

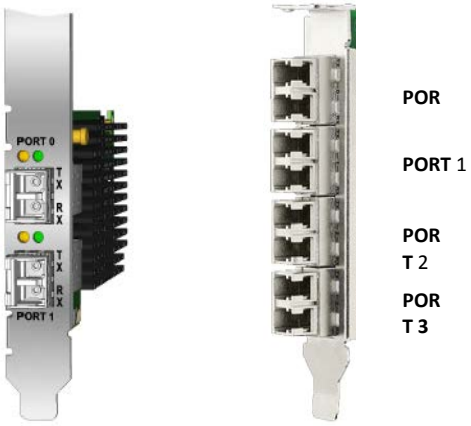
Emulex OneConnect®
OCe11102-FM, OCe11102-NM, OCe11102-NT
dual-port 10Gb Ethernet (10GbE) Adapter

Emulex OneConnect®
OCe14102-UM, OCe14102-NM
dual-port 10Gb Ethernet (10GbE) Adapter

Emulex LightPulse LPe16002B
Gen 5 Fibre Channel PCIe 3.0 Dual-Port HBA

Emulex LightPulse LPe12002
dual-channel Fibre Channel HBA

Emulex LightPulse LPe15004
Advanced-8 8Gb FC (8GFC), quad-port,
low-profile HBA



For more information, see www.emulex.com

6. Dependencies

6.1. Firmware

Technical State firmware is designed to run together. You should not install a firmware image independently of the rest of the technical set without consulting your Customer Service Representative.

6.2. Linux Red Hat

The following prerequisites must be met in order to install RHEL 6.5 or 6.6 on a bullion S:

- a PC with a Web browser and Java installed
- 25 GBs minimum disk storage space available from the server

  Note: If the server is equipped with a hardware RAID and/or a Fiber Channel controller, storage has to be visible from the controller's BIOS
- 4 GBs minimum RAM available on the server.

7. Resolved issues

7.1. Informative messages in the BIOS trace (Platform)

The following misleading message is no longer displayed in the BIOS trace at boot time:

```
BMC Message BIOS Setup parameters are successfully deleted
```

7.2. Updating Main FPGA Firmware (platform)

FPGA programming file is optimized to complete the firmware faster. So, the Server Hardware Console no longer displays time-out message.

8. Recommendations

8.1. Boot time-out setting on bullion S16

For bullion S16, change the key providing the **BIOS boot time-out** (using EMM configuration). This time-out must be set to **30 min** to prevent issues.

1. To display the current value:

```
/opt/BSMHW_NG/sbin/ipmi-raw_bull –D lan –h [IP] –u super –p pass 0 0x3A 0x19 0x00 0x05
```

Output:

```
00 00 xx yy
```

Current value (24 min): xx=C0 yy=0x12

2. To change the current value to 30 min:

```
/opt/BSMHW_NG/sbin/ipmi-raw_bull –D lan –h [IP] –u super –p pass 0 0x3A 0x18 0x00 0x05
0x00 0x00 0x70 0x17
```

New value (30 min): xx=0x70 yy=0x17

8.2. Power consumption optimization on bullion S2

To gain power consumption on bullion S2, it is recommended to disable **BCS2** access using the following BSM CLI commands:

1. To get the current value:

```
bsmGetConfParam.sh –H <host> -u <user> -p <password> -a getDisableBCS
```

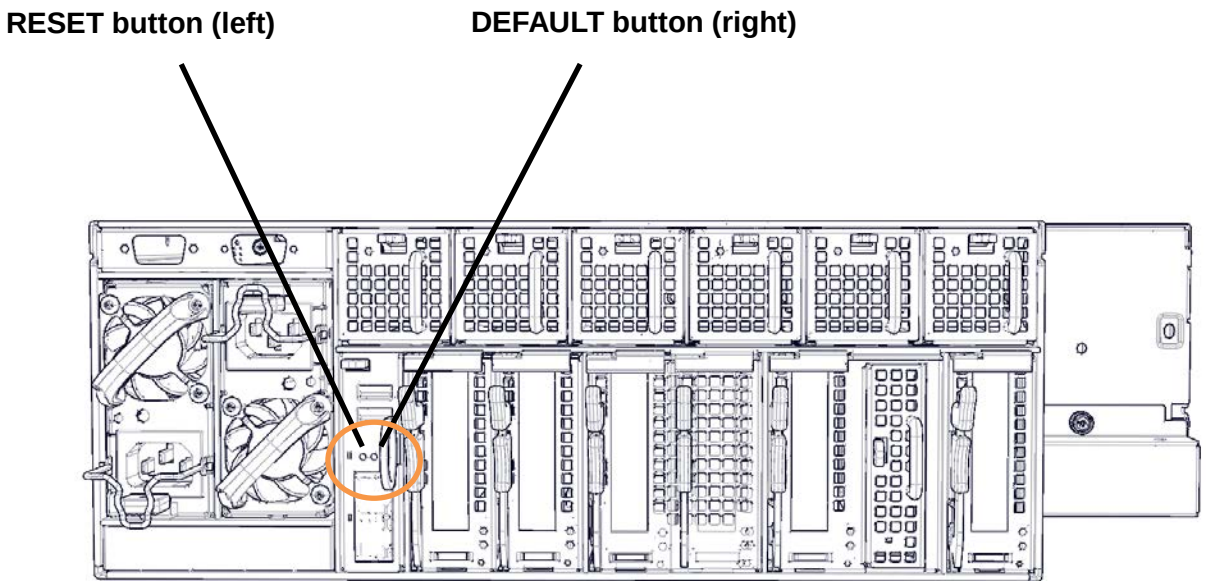
BCS disabling value is '**no**'.

2. To change the current value:

```
bsmSetConfParam.sh -H <host> -u <user> -p <password> -a setDisableBCS -x <yes|no>
```

WARNING
If the module is included later in a partition, do not forget to re-enable BCS2 access.

8.3. Reset and Default buttons



WARNING
The Reset and Default buttons are close together. Be careful to press the appropriate button indicated on the figure to reset the BMC / EMM.

WARNING
Pressing the Default button restores the EMM manufacturing configuration. All EMM specific parameters will be lost.

8.4. Support of the Emulex LPe12002 card (VMware)

8.4.1. Caution

The Emulex LPe12002 card under VMware requires the firmware version **fw2.01a12 - Universal boot version 5.13a3**, as described in Section 3.3.

8.4.2. Upgrading LPe12002

bullion S arrives configured from manufacturing with this firmware version.

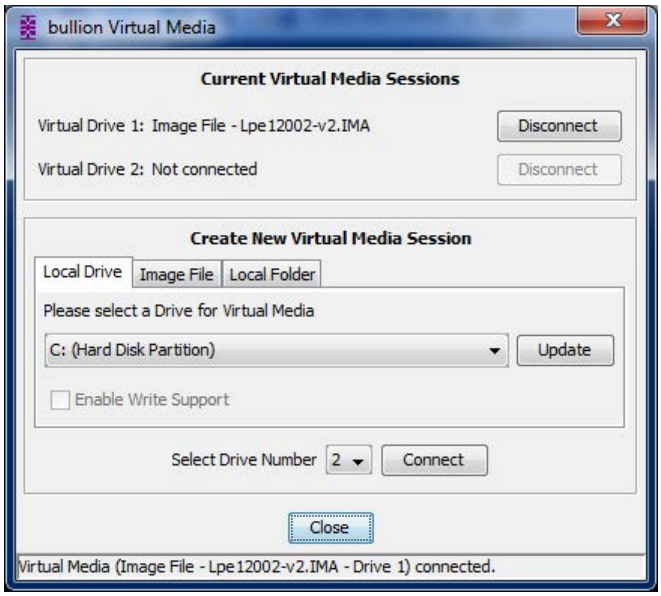
The Emulex LPe12002 update procedure is described below.

The procedure requires BIOS in **Legacy** mode.

Required File: **Lpe12002-v2.ima**
(Contact your Support Representative to get this file).

From bullion S Remote console, connect a virtual drive:

1. For virtual drive 1, select image file, browse to **Lpe12002-v2.ima**, and then click **Connect**.



2. Power on the server, then press ESC to enter the BIOS menu.
3. In the BIOS Boot Manager, select **Raritan** as Boot Device.
4. On the **FreeDOS** starting list, select 5.
5. From the FreeDOS prompt, enter this command to list Emulex HBA:

   doslpcfg listhba

```
A:\>doslpcfg listhba
Command: LISTHBA
adapter 1:   10000090  FA0B9936  Functional FW: US2.01A11   LPe12002-M8
adapter 2:   10000090  FA0B9937  Functional FW: US2.01A11   LPe12002-M8
adapter 3:   10000000  C987BED8  Functional FW: US2.01A11   LPe12002-M8
adapter 4:   10000000  C987BED9  Functional FW: US2.01A12   LPe12002-M8
adapter 5:   10000000  C9B7981A  Functional FW: US2.01A11   LPe12002-M8
adapter 6:   10000000  C9B7981B  Functional FW: US2.01A11   LPe12002-M8
adapter 7:   10000000  C9873154  Functional FW: US2.01A12   LPe12002-M8
adapter 8:   10000000  C9873155  Functional FW: US2.01A12   LPe12002-M8
Command completed, NO Error!
```

Upgrading the Bootcode

1. To update the HBA Bootcode, enter:

   doslpcfg download i=uu513a3.prg n=<HBA number>

```
A:\>doslpcfg download i=uu513a3.prg n=1_

Opening File
...
File Extension .prg
Reading Header
...
Validating Checksum
...
Restarting board via Warmstart => SLI1
...
Erasing Sector(s) In Flash ROM
...

...
Loading Image
...
  4% complete
```

2. Repeat this operation for each LPe12002 HBA

Upgrading the firmware

1. To update the HBA firmware, enter:

   doslpcfg download i=ud201a12.all n=<HBA number>

```
A:\>doslpcfg download i=ud201a12.all n=1
File Extension .all
Opening File...
Validte file type
VPD Style OK T2:78,T3:79,7A,7B,7D,7E,7F,T7:73,TB:73,TFF:78 ff 78
Validte file type
DWC imageID 73
VPD Style OK T2:78,T3:79,7A,7B,7D,7E,7F,T7:73,TB:73,TFF:78 7 73
End Of File
Checksum OK!!!
Reading AIF Header #1...
ImageBase 0 Len 1d888
Download AWC image for adapter f100
Validating Checksum...
```

2. Repeat this operation for each LPe12002 HBA.

Restart the server and set the BIOS to **UEFI** mode.

8.5. VMware installation

8.5.1. Installing VMware from Bull Hypervisor 5 Installer-External USB Flash Drive

Note: the USB flash drive used for this procedure must have been generated as described in section 8.5.2. This is the case for the USB flash drive delivered with your system.

Procedure

1. Plug the USB flash drive in the bullion S Front Panel USB port.
2. Boot the bullion S and Press ESC key to enter the Boot Manager menu. Select the USB device.
3. Install ESXi 5.5 U1 or U2 on your target media (SAN disks for example).
4. Boot your ESXi disk when requested.

8.5.2. Creating a bootable custom USB stick from an ISO image of a supported OS

Pre-Requisites

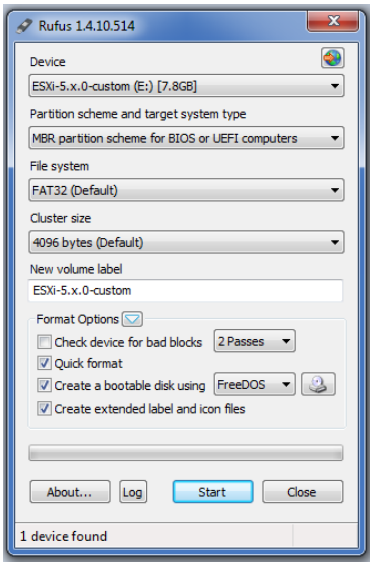
- ISO image of a supported OS
- The **Rufus** software to create a live USB stick:

  http://rufus.akeo.ie/
- 1GB or higher USB stick.

Procedure

1. Execute **Rufus**.
2. Select your USB device and the ESXi .iso image.
3. As a partition scheme, select “MBR partition scheme for BIOS or UEFI computers”.

   CAUTION: make sure you selected this partition scheme since it is not the default one.
4. Start the live USB stick creation. Rufus will ask you to update “**menu.c32**” file version. You have to accept, otherwise the USB live stick won’t work.
5. Once finished, plug the USB stick in the bullion S Front Panel USB port.



6. Install OS on your target media (SAN disks for example).
7. Boot your OS disk.

8.6. kdump over NFS on bullion S8 Requirements (Red Hat)

For **kdump over NFS** to work properly on bullion S8 running RHEL 6.5 or 6.6, do the following:

1. Check that the following updates have been applied to RHEL 6.5 or 6.6 operating system:

   kexec-tools-2.0.0-273.el6_5.1.x86_64.rpm

   kexec-tools-debuginfo-2.0.0-273.el6_5.1.x86_64.rpm

   kernel-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-abi-whitelists-2.6.32-431.37.1.el6.noarch.rpm

   kernel-debug-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-debug-debuginfo-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-debug-devel-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-debuginfo-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-debuginfo-common-x86_64-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-devel-2.6.32-431.37.1.el6.x86_64.rpm

   kernel-doc-2.6.32-431.37.1.el6.noarch.rpm

   kernel-firmware-2.6.32-431.37.1.el6.noarch.rpm

   kernel-headers-2.6.32-431.37.1.el6.x86_64.rpm

   perf-2.6.32-431.37.1.el6.x86_64.rpm

   perf-debuginfo-2.6.32-431.37.1.el6.x86_64.rpm

   python-perf-2.6.32-431.37.1.el6.x86_64.rpm

   python-perf-debuginfo-2.6.32-431.37.1.el6.x86_64.rpm

2. Edit the **/etc/sysconfig/kdump** file, and change the **KDUMP_COMMANDLINE_APPEND=** line, as follows:

   - Change **nr_cpus=1** to **nr_cpus=4**

   - Add: **disable_cpu_apicid=0**

3. Restart the kdump service:

   service kdump restart

8.7. UEFI Mode

The BIOS must always be configured in **UEFI** mode (default mode).

The **legacy** mode should be only used to work around specific configuration issues described in this Release Note.

8.8. Installation of native Windows on bullion S2

To install Windows in native on bullion S2, set the **enable_full_power_cycle** key to "**yes**":

ipmitool –I lan –H [IP] –U super –P pass bulloem setcfg bmc.power.enable_full_power_cycle yes

9. Known restrictions, issues and workarounds

9.1. Restrictions on PCI Hot Plug (platform)

- Hot Plug of Intel Ethernet Server I350-T2 and I350-T4 adapters is not supported under Red Hat, due to Red Hat limitations.
- Hot Plug of Emulex PCIe LPe16002 and Emulex PCIe OCe11102 is not supported under Windows 2012 R2.
- PCI Hot Plug is not supported under ESXi.
- Under Windows 2012 R2 or Red Hat 6.5/6.6, if the number LPe Fibre Channel PCIe boards plus the number OCE network controller PCIe boards exceeds 8, then **IO Resource Denial** should be enabled for the slots containing those board types. Refer to *bullion S Configuration Guide*, Ref. 86 A1 46FL for details on this option.

Refer to *Customer Service Guide*, Ref. 86 A1 34FL, for details on hot plugging PCI adapters.

The guides are available in the *bullion S Customer Documentation Portfolio*.

9.2. Restrictions on Memory Hot Add (platform)

- Memory Hot Add is not operational on bullion S2 under Red Hat, due to Red Hat limitations.
- Memory Hot Add is forbidden on bullion S without memory blade attached to a socket.
- Memory Hot Add is not supported under ESXi.

Refer to *Customer Service Guide*, Ref. 86 A1 34FL, for details on hot adding memory.

This guide is available in the *bullion S Customer Documentation Portfolio*.

9.3. LSI MegaRAID 9261 card (platform)

Issue

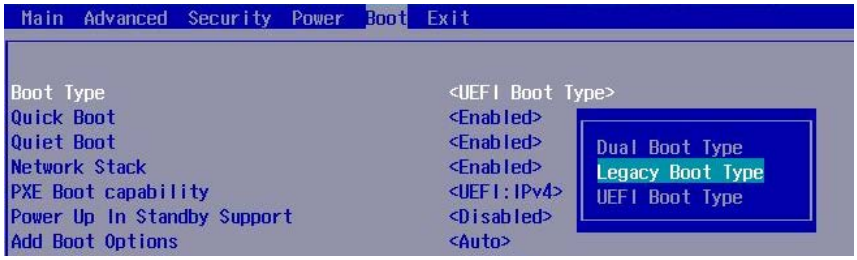
The first configuration of the LSI MegaRAID 9261 must be done in legacy mode (not in UEFI).

Workaround

1. Boot the bullion S to BIOS "**Setup Utility**", by pressing ESC key or using this bsmcli command:
   - From a Linux console:

     /opt/BSMHW_NG/bin/bsmBootDevice.sh -H <host> -u <user> -p <password> -d bios
   - From a Windows console:
     Launch Cygwin:
     bash login -i
     Enter:
     cd /bin
     bsmBootDevice.sh -H <host> -u <user> -p <password> -d bios

2. In the “**Boot**” section, select for Boot type “**Legacy Boot Type**”.
   Save by pressing F10 and reboot the system in Legacy mode.



3. Reconfigure or rebuild the RAID disks under LSI utility
4. When the install is done, let the system reboot and go again to BIOS “**Setup Utility**”, then “**Boot**” section, select for Boot type “**UEFI Boot Type**”.
   Save by pressing F10 and reboot the system in UEFI mode.

9.4. PCIe configuration extension on bullion S16

If you need to upgrade a bullion S16 with PCI-e cards, please contact your Bull representative.

9.5. iSCSI Boot with Emulex OCe11102 card (platform)

Restriction

iSCSI boot through the OCe11102 card is not supported.

In iSCSI, boot is to be performed on bullion S hard disk. Emulex OCe11102 cards are used for data only.

9.6. USB and on board 1Gb/s on slave modules (platform)

Issue

The USB port and on board 1Gb/s Ethernet controller (powerville) are disabled on all the slave modules of a partition.

Workaround

Use USB port and on board 1GB/s Ethernet ports in master module only.

9.7. Update of SHC firmware (platform)

Issue

Update of the SHC firmware is not supported yet at power on state.

Workaround

Do the update when the module is at power off state.

9.8. SAN boot on LPe16002 (platform)

Issue 1

It is not possible to configure a boot LUN from SAN on the LPe16002 adapter if a bootable USB key, previously used to boot, is still present. The "Add Boot Device" of the Emulex adapter configuration cannot discover the boot LUN or the discovered LUN may not be configured as a boot device.

Workaround 1

The USB key must be removed before restarting the bullion S and entering the Device Management menu.

Issue 2

Unable to configure Boot from SAN in Boot Option Device Manager on the LPe16002 adapter.

Workaround 2

1. Boot the system and press <ESC> to stop at Boot Options.
2. Open “Device Manager” and select the desired port for boot.
3. Select “Set Emulex Adapter to Default Settings”, then “Add Boot Device”.
4. Select discovered target.
5. Select desired LUN.
6. “Commit Changes”.
7. “Go to Configuration Menu”.
8. “Set Boot from SAN” to <Enable>.
9. “Back to UEFI Device Manager and RECONNECT DEVICES”.
10. Once back to “devices list”, do a “Force Power Off” from the BMC Power Management then reboot the system.

9.9. Memory holes not supported by VMware 5.5 (VMware)

Issue

VMware 5.5 may generate illegal memory access when memory gaps exist between modules in a multi module server, leading the server to crash.

This problem has been fixed in ESXi version 5.5 update 2 patch 4 (build 2403361 and later), which comes with the server.

Workaround for older ESXi release

If you use an ESXi version prior to build 2403361, you must set the following SHC key:

bmc.BIOS_no_memory_hole yes

9.10. vCenter system health (VMware)

Issue

The system health sensors are not available under vCenter (temperatures, fan sensors, server consumption, etc) on bullion S8.

Workaround

This information is still available through SHC interface.

9.11. 1Gb Ethernet ports under ESXi (VMware)

9.11.1. VMware constraints

VMware ESXi 5.5 U1 and U2 support up to 16x 1Gb/s ports or up to 4x1Gb/s and up to 8x 10Gb/s ports.

According to the number of authorized 1Gb/s Ethernet cards (Intel I350-T2 or I350-T4) in the configuration, the on-board 1Gb/s (powerville) ports may have to be disabled to comply with VMware limits.

9.11.2. Disabling on-board 1Gb/s if needed

bullion S arrives configured from manufacturing with on-board 1Gb/s ports enabled or disabled, depending on the configuration and VMWare constraints.

If a new 1Gb/s PCI-e is installed as add-on, you may need to disable the on-board 1Gb/s ports. Please follow the procedure described below:

1. Boot the bullion S to the BIOS “Setup Utility”, by pressing ESC key or using bsmcli command:
   - From a Linux console:

     /opt/BSMHW_NG/bin/bsmBootDevice.sh -H <host> -u <user> -p <password> -d bios
   - From a Windows console:

     Launch Cygwin: **bash login -i**
     Enter:
     cd /bin
     bsmBootDevice.sh -H <host> -u <user> -p <password> -d bios

2. In the “Advanced” section, go to “Chipset Configuration”, then “PCI Express Configuration”, then “PCI Express root port 1” and select “Disable”.
3. Save by pressing F10 and reboot the system. The 1GbE controller two ports will not be visible in BIOS (PXE boot ports) or OS.

9.12. SR IOV feature (VMware)

SR IOV feature is not supported with Intel Ethernet Server I350-T2 and I350-T4 adapters.

9.13. Red Hat specific (Red Hat)

Issue

There may be some known issues on Red Hat 6.5 or 6.6.

Workaround

In case of problem with the Red Hat Operating System, please see the Red Hat customer portal using your Red Hat account.

9.14. "Add Boot Option" BIOS function fails (platform)

Issue

The “**Boot From File > Add Boot Option**” BIOS function does not work (final save fails).

As a consequence it is not possible to change the name of a boot instance in the BIOS menu. For example, if several instances of the same boot device are installed, the BIOS will show them with the same name.

Workaround

None. This is not a blocking problem.

9.15. Memory blade green light on after OS shutdown (platform)

Issue

After an OS shutdown, the green light on memory blade may stay switched on.

Workaround

Ignore the information.

9.16. Erroneous Memory description using dmidecode (Red Hat)

Issue

The memory description in **smbios** table (using **dmidecode** tool) may be erroneous for empty slots:

- Memory slots may be described twice.
- Slot identifier may be erroneous.

Workaround

Use information provided by the SHC.

9.17. DIMM location for correctable memory errors (Red Hat)

Issue

In case of a correctable error, the information in the MCE log leads to the channel only, not to the DIMM.

Note:
if a RAS feature is triggered (e.g. DDDC, rank sparing, etc), or if the number of corrected errors exceeds the threshold (leaky bucket), then a SEL event is issued.
This event points to the DIMM.

9.18. Emulex LPe15004 does not enable the link to Scan Devices in Device Manager (VMware)

Issue

When trying to configure LPe15004 to boot from SAN thru the Device Manager, the LPe15004 ports may not enable the link to Scan Devices.

Workaround

In Device Manager, go to the LPe15004 port and select "Configure HBA and Boot Parameters". Then toggle "Topology Selection" to "AUTO Loop First - default".

Select "Commit Changes".

The Scan Devices now enables the link and finds the device.

9.19. ESXi sees LPe15004 as an LPe16000 (VMware)

Note

VMware ESXi5.5 sees LPe15004 as LPe16000.

9.20. Emulex PCIe LPe12002 is not bootable (Red Hat)

Restriction

Emulex PCIe LPe12002 is not bootable on Red Hat.

9.21. Reboot on bullion S2

Issue

It may happen that LSI MegaRAID SAS 9261-8i adapters are not detected at reboot on bullion S2.

Workaround

Reboot using a Power cycle from SHC.

10. History of previous releases

10.1. TS006.04 (January 2015)

New Features

- PCIe hot plug (Red Hat 6.5 only as of today)
- Memory hot add (Red Hat 6.5 only as of today)
- Emulex PCIe LPe15004-M8 adapter support
- LSI MegaRAID SAS 9361-4i adapter support
- New disks support:
  - 300GB 2,5" 15Krpm SAS HDD Blade
  - 1.2TB 2,5" 10Krpm SAS HDD Blade
  - 1TB 2,5" 7.2Krpm SATA HDD Blade
  - 256GB 2,5" SATA SSD Blade
  - 512GB 2,5" SATA SSD Blade
  - 600GB 2,5" 15Krpm SAS HDD Blade
- UCM (Ultra Capacitor Module) support and associated BSM CLI commands.
- Memory sparing, scrubbing, device tagging, DDDC (Double Device Data Correction)
- BPM / BSM CLI for enabling/disabling the BCS2 (Bull Coherent Switch)
  - BIOS setting update from EMM (Embedded Management Module)
- Inventory: PCIe board information (VID, DID, SSVID) included
- bullion S8 can be partitioned as 6 socket system + 2 socket system
- bullion S8 with 6 sockets (3 modules) can be upgraded with a 2 socket module, so becoming a full 8 socket system.
- Improved stress diag suite
- UCM firmware upgrade
- PSU firmware upgrade

Resolved issues

- SR IOV feature (VMware) is supported with Emulex OneConnect OCe adapters.
- BIOS settings change is operational on all bullion S server range.
- DHCP configuration (platform)

  After breaker off, the BMC DHCP connection remains available.
- BIOS settings after BIOS upgrade (platform)

  The BIOS settings are no more reverted to their default value after a BIOS upgrade. Changed values are preserved.
- FCoE boot through the OCe11102 card is now supported.

End of document