



novascale bullion

## System Release Bulletin

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■ **Number : 86 A2 82EJ**

■ **Version : 05**

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# Table of Contents

<b>1. General Information.....</b>	<b>5</b>
1.1 PASSWORDS to access the novascale bullion services.....	5
1.2 Enabling hyperthreading.....	5
1.3 BOOT ORDER.....	6
1.3.1 Entering the boot maintenance manager.....	6
1.3.2 Boot Maintenance Manager.....	7
1.3.3 Boot Order for Legacy Devices.....	9
1.3.4 Set the Legacy Hard-Disk drive.....	10
1.4 Change Boot Order.....	12
<b>2. Restrictions, Known Problems and Workarounds.....</b>	<b>14</b>
<b>3. LSI Megaraid 9261-8i SAS controller configuration.....</b>	<b>15</b>
3.1 Downloading the LSI Megaraid MegaCli tool.....	15
3.2 How to configure the LSI Megaraid SAS controller.....	15
3.4 Configuring the LSI Megaraid SAS controller using WEBBIOS.....	16
3.5 Using MegaCli (Command Line Interface).....	16
<b>4. Upgrading or reinstalling VMware ESXi 4 or later.....</b>	<b>17</b>
4.1 Important Remarks.....	17
4.2 Installation Process.....	17
4.3 Installing VMware ESXi 4 on USB storage device.....	17
4.3.1 Boot the server using a CDROM Drive.....	17
4.3.2 Install ESXi.....	19
4.4 Setting up the server to boot on USB device.....	22
4.4.1 Setting up USB storage device as as first boot device in legacy Hard Disk Drive Order.....	22
4.4.2 Setting up USB storage device as the first item in the boot order list.....	23
4.5 Configuring VMware ESXi 4.....	25



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# 1. General Information

The SRB provides release-specific information and instructions related to software installation and configuration.

For Bull novascale bullion systems three items need to be known:

- How to change the boot order
- How to configure the LSI adapter for RAID purpose.
- How to install ESXi4 on the internal USB key (if needed)

## 1.1 PASSWORDS to access the novascale bullion services

To log into the VMware console:

**user = root ; password = bullion**

To log into the hardware console:

**user = super ; password = pass**

## 1.2 Enabling hyperthreading

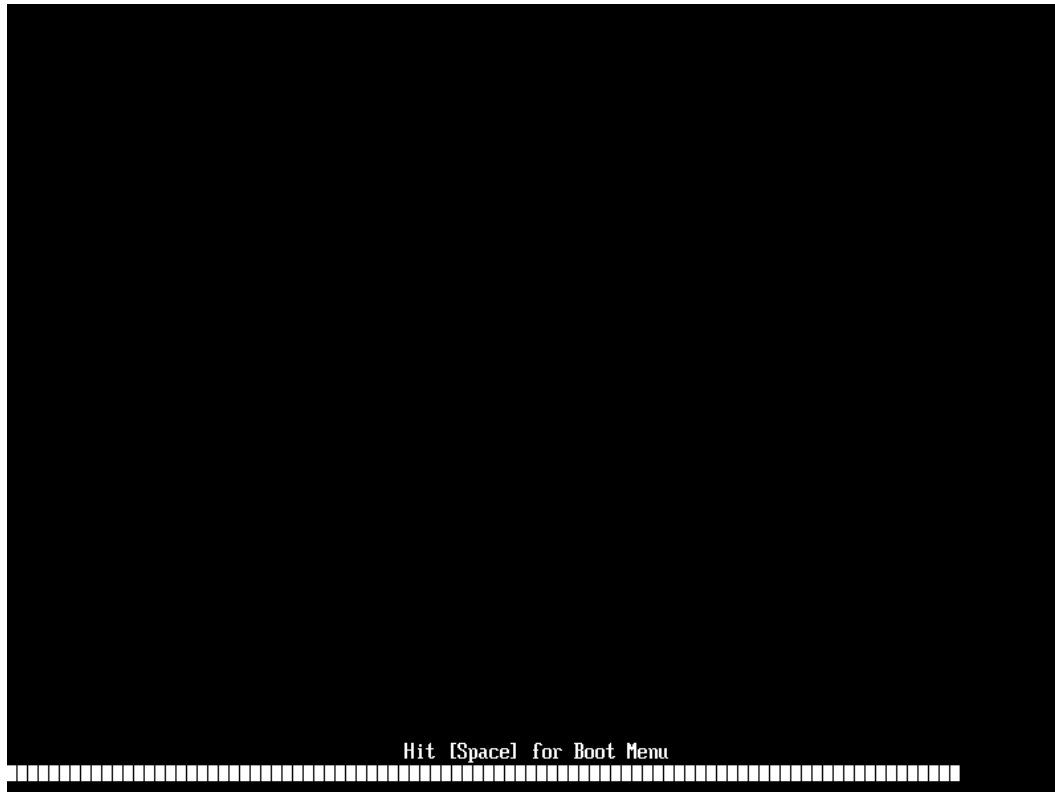
Hyperthreading mode is activated by default. If you wish to disable the hyperthreading mode, change the relevant BIOS default setting, as follows:

**Device manager → Advanced → Processor configuration → Hyper-Threading → enable**

## 1.3 BOOT ORDER

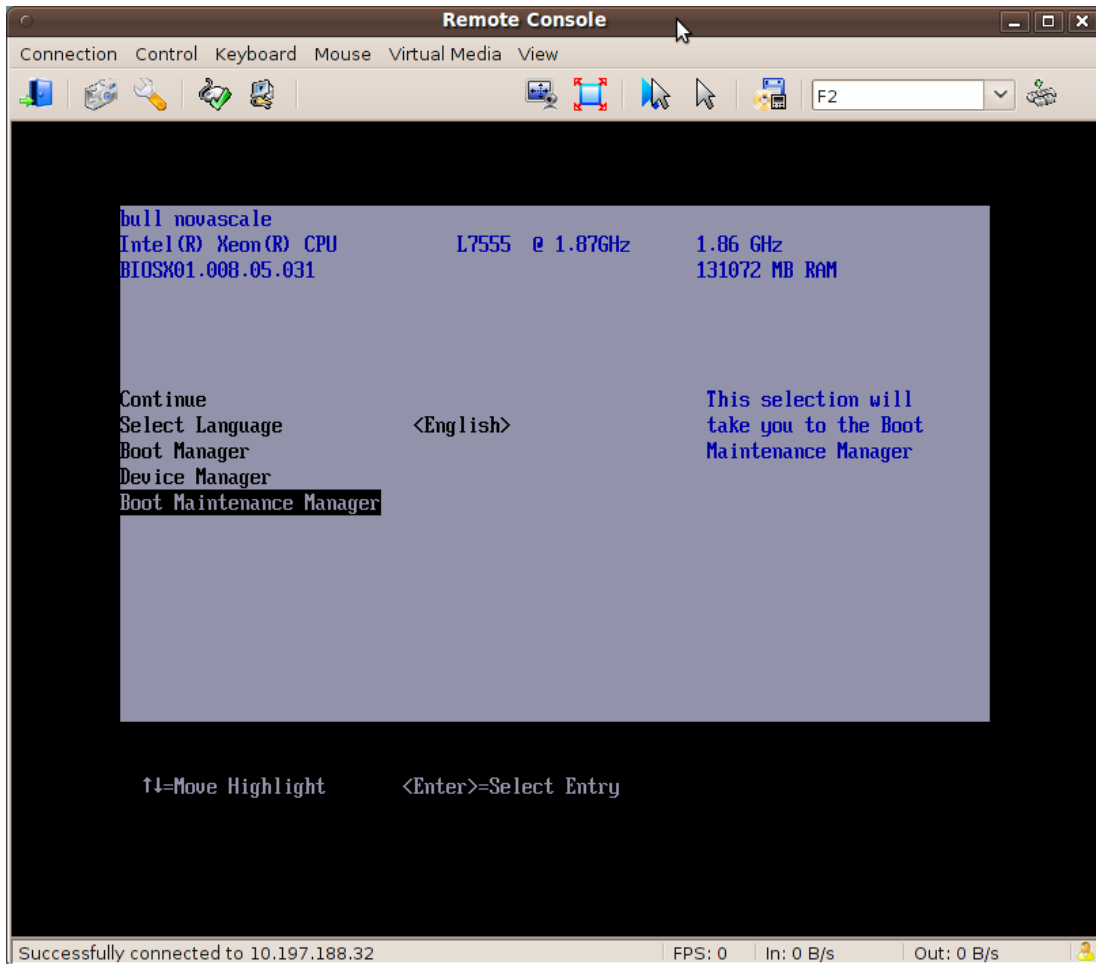
### 1.3.1 Entering the boot maintenance manager

- Power on the machine using the **Power Management** menu in the *Server Hardware Console*.
- In the remote console window, enter the BIOS by hitting **Space** on the keyboard when this message is displayed:

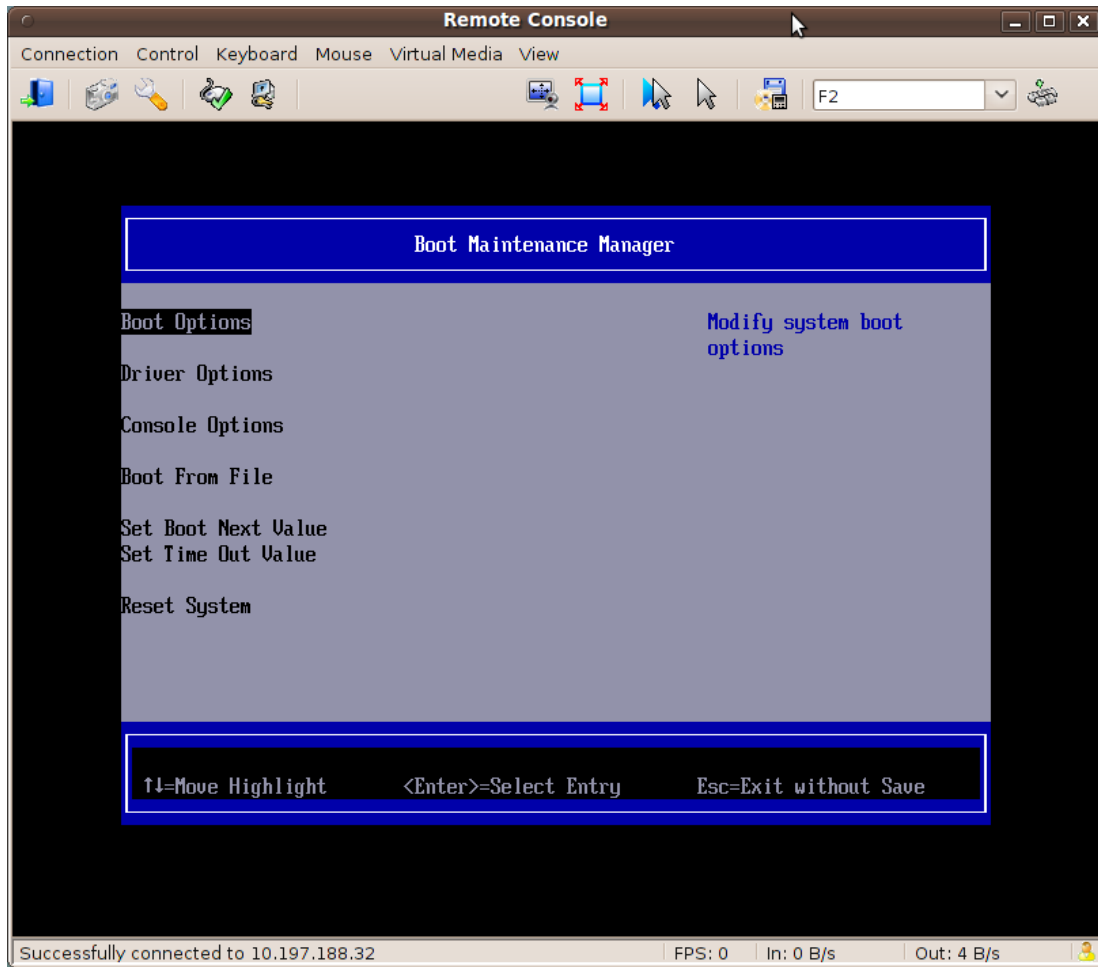


## 1.3.2 Boot Maintenance Manager

Access to the **Boot Maintenance Manager**:



Select **Boot Options**:



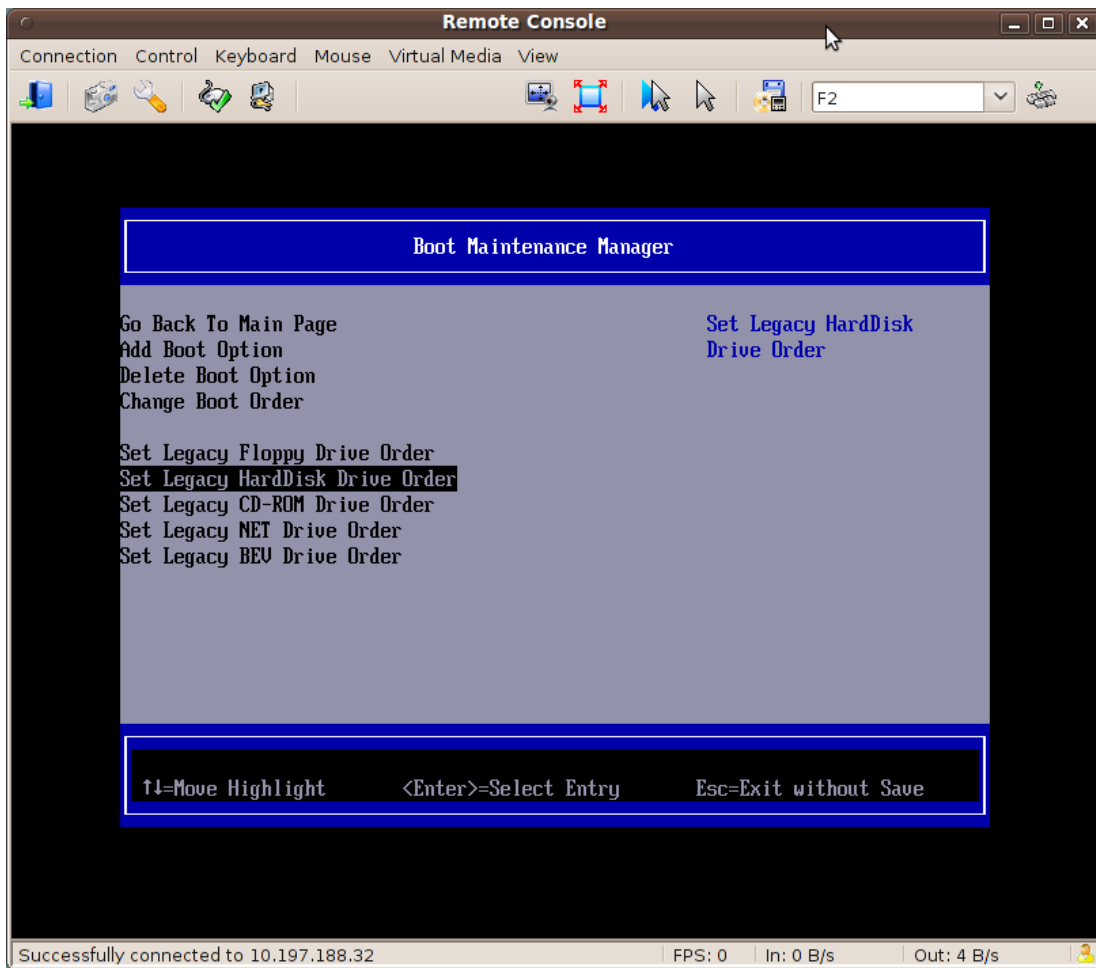


### 1.3.3 Boot Order for Legacy Devices

Set the boot order for each kind of Legacy Device:

- floppy drives
- hard-disk drives (includes the internal USB key)
- CD-ROM drives
- NET drives
- BEV drives (network/PXE)

Select **Set Legacy HardDisk Drive Order**:

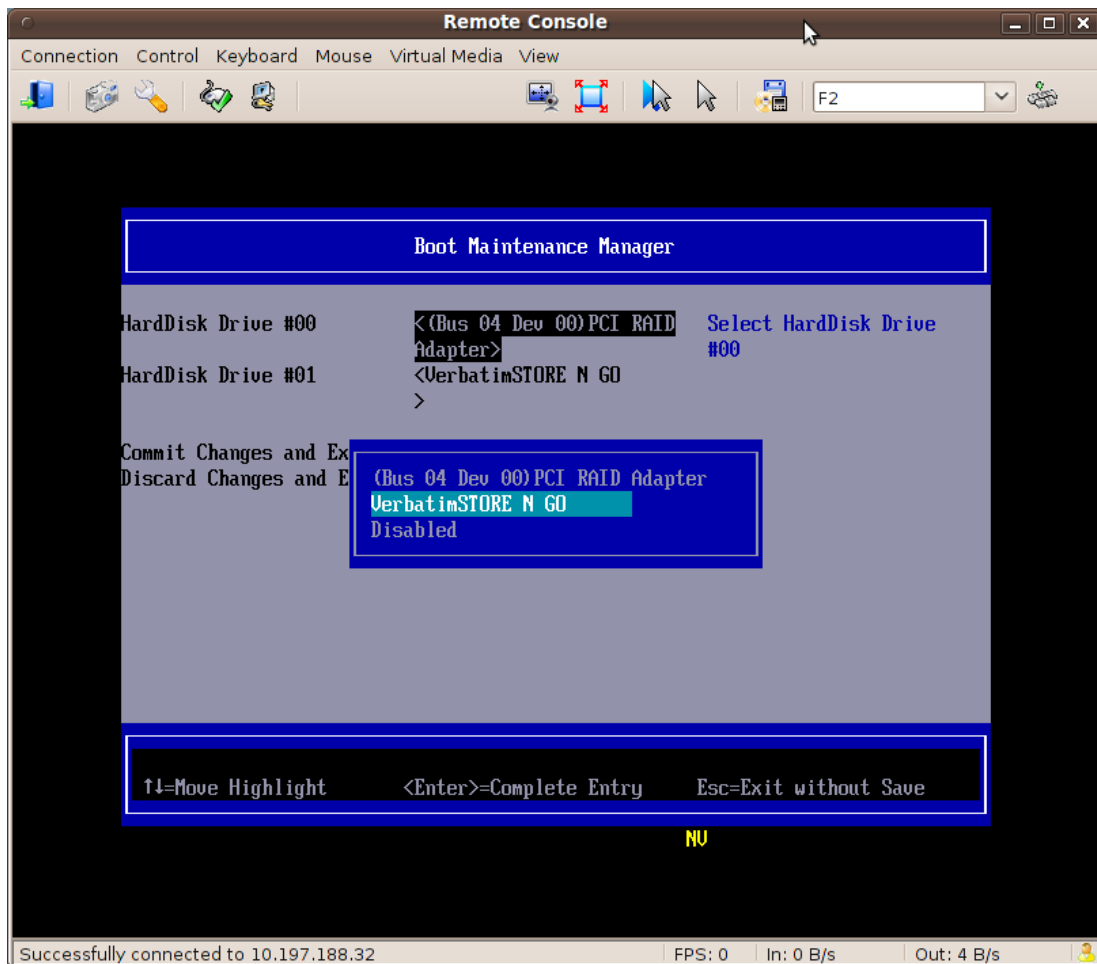


## 1.3.4 Set the Legacy Hard-Disk drive

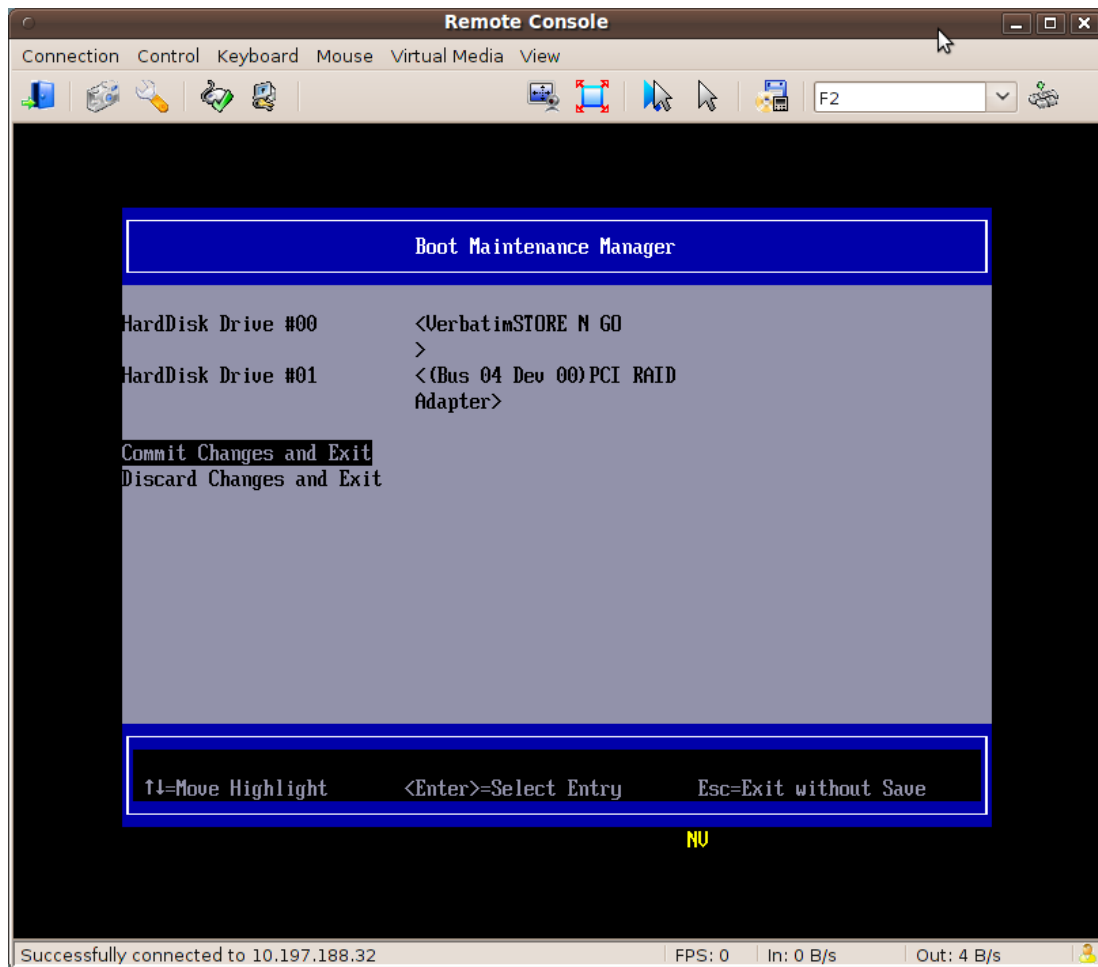
In this example, for HardDisk Drive #00, we have to choose between:

- Bus 04 Dev 00 PCI RAID Adapter
- VerbatimSTORE N GO (internal USB Key with ESXi 4 pre-loaded)

**Important note:** the ESXi 4 is pre-loaded in the internal USB key, so you must select "VerbatimSTORE N GO" as HardDisk Drive #00 boot device instead of the internal disk or internal RAID disks:



Apply the changes using "Commit Changes and Exit":



## 1.4 Change Boot Order

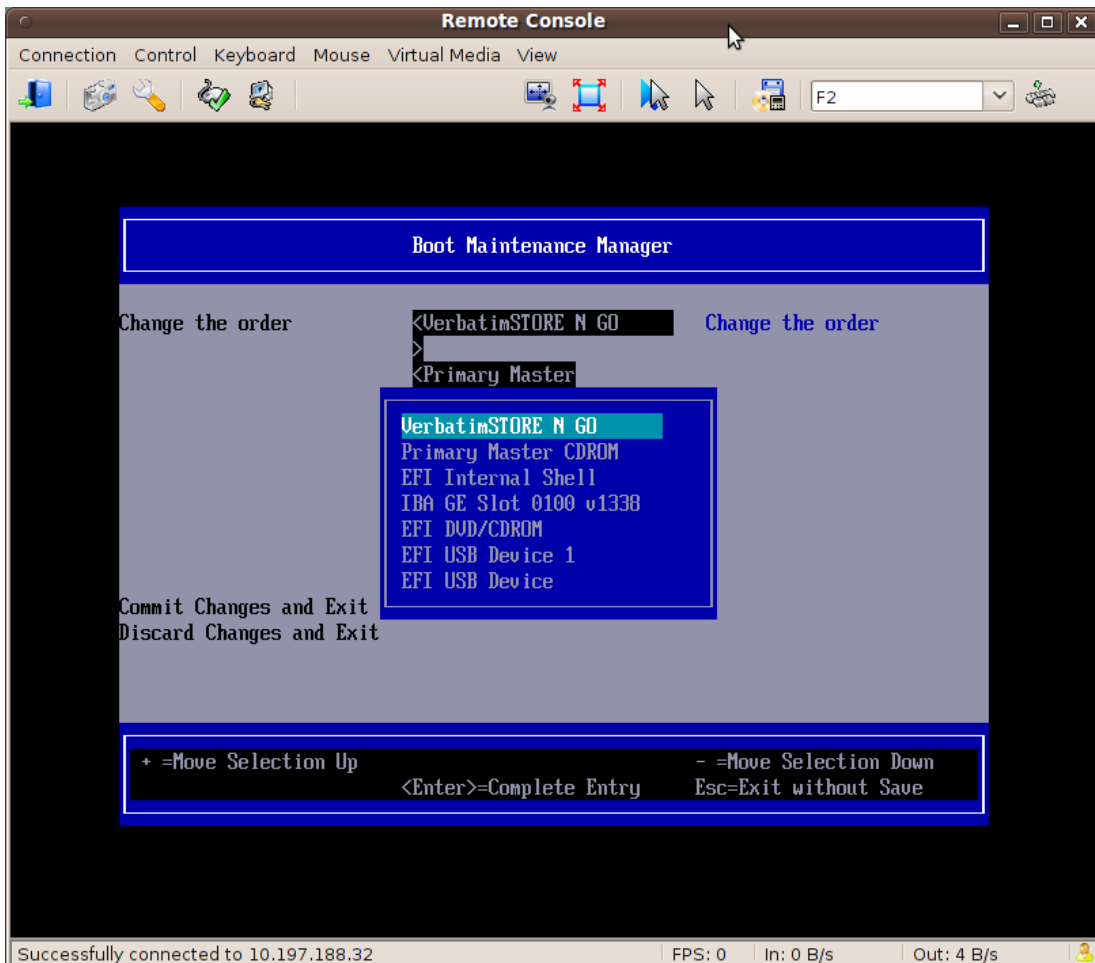
From the "Boot Maintenance Manager", "Boot Options", select the "Change Boot Order" item.

From the interface, the boot order can be set using a list with:

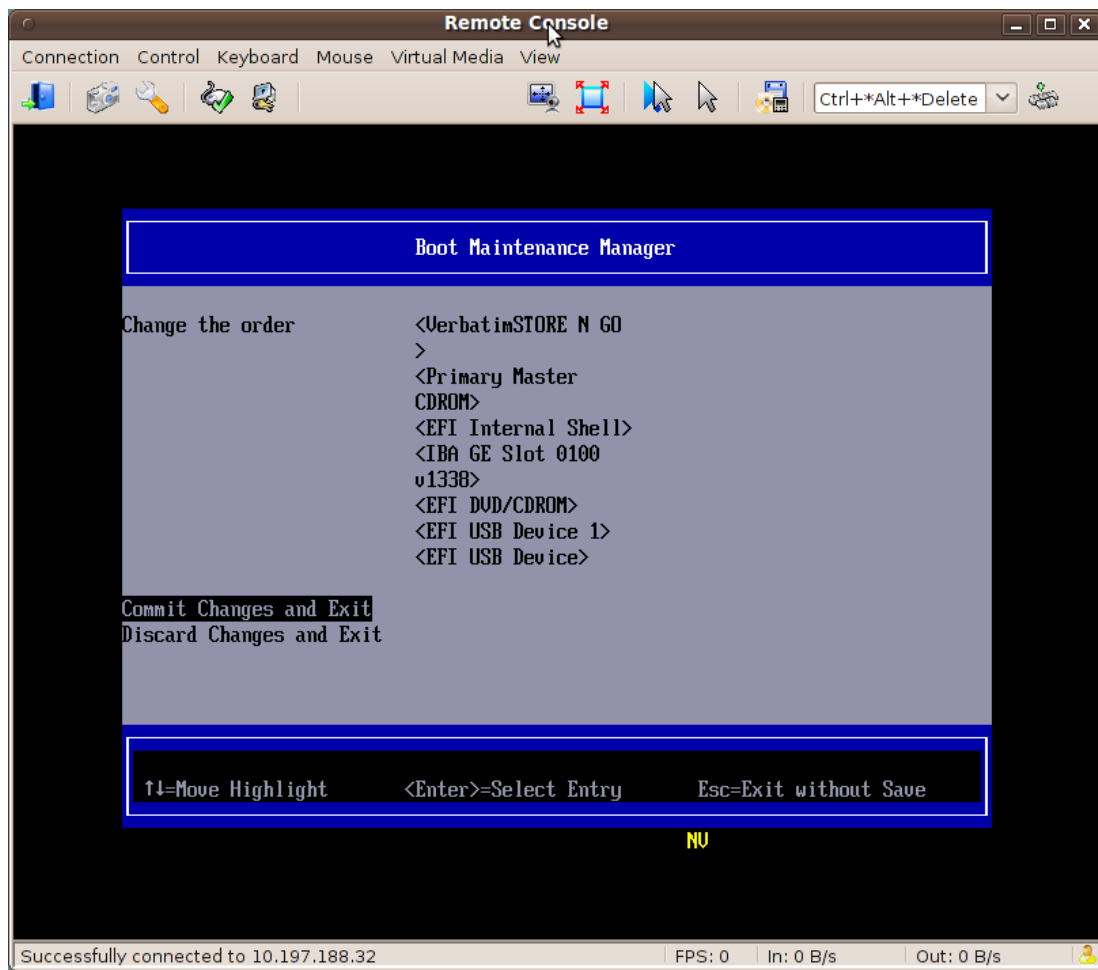
- EFI devices
- only the selected item for each kind of legacy device

In the boot order list, there is no way to have two devices from the same kind of legacy.

Press Enter and move "VerbatimSTORE N GO" selection up to the first place:



Apply the changes using "Commit Changes and Exit":



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## 2. Restrictions, Known Problems and Workarounds

- The virtual media is not reliable and may not work or generate IO errors when used. If this occurs, use an external USB DVD Player connected to one of the system USB slot.
- VMware ESXi is not able to mount ISO image files inside own physical host, neither CD/DVD.
- In the **vCenter vSphere** client application, information about the bullion server is limited; for example, fan speed, temperature cannot be displayed. A future version of **vCenter** from **VMware** will correct this problem.

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## 3. LSI Megaraid 9261-8i SAS controller configuration

### 3.1 Downloading the LSI Megaraid MegaCli tool

In order to configure your **LSI Megaraid SAS 9261-8i SAS** controller, you must download the latest **MegaCli** tool from the LSI support web site ; this tool is down-loadable from :

[http://www.lsi.com/storage\\_home/products\\_home/internal\\_raid/megaraid\\_sas/value\\_line/megaraid\\_sas\\_9261-8i/index.html](http://www.lsi.com/storage_home/products_home/internal_raid/megaraid_sas/value_line/megaraid_sas_9261-8i/index.html)

Click the “**support and downloads**” tab, scroll the window until “**miscellaneous**” and click the **MegaCli-VMware** item. Accept the license agreement and start the download.

### 3.2 How to configure the LSI Megaraid SAS controller

There are two ways to manage the LSI adapter's configuration:

- Using the WEB based interface in the BIOS (WEBBIOS through CTRL-H)
- Using the Command Line Interface (CLI through CTRL-Y in the BIOS).

The normal way to create a RAID managed system is to use the WEBBIOS Interface (CTRL-H). Just follow the configuration wizard to adjust your configuration to your needs.

Then see section 3.4.

If you want to manage the RAID from your running system, you first need to install **MegaCli** (downloaded from LSI Web site, see section 3.1) on your running system .

Then you can manage your RAID configuration using the MegaCli command line (see section 3.5 )

### 3.3

## 3.4 Configuring the LSI Megaraid SAS controller using WEBBIOS

The simplest way to configure Raid Groups is using the WEBBIOS utility.

To enter in the WEBBIOS utility, proceed as follow:

- At the start of the novascale bullion server, press [Ctrl]+[H] when this message is displayed.
- Press the [Space] key when the message "Hit [Space] for Boot Menu" is displayed.
- In the BIOS interface, go to "**Boot Maintenance Manager**" then [Enter],  
on "**Boot Options**", press [Enter],

go down to "**Set Legacy BEV Drive Order**" and press [Enter]

On the line "**BEV Drive #0**", press [Enter] to modify,  
then select "<LEGACY PCI DEVICE>" and validate by [Enter].

Save the changes using "**Commit Changes and Exit**" and press [Enter].  
Press [Esc] to go back to the main menu.

- Go down to "**Boot Manager**" and press [Enter],
- Select the line "**LEGACY PCI DEVICE**", press [Enter] to display the interface of the WEBBIOS utility allowing to configure the LSI MegaRaid SAS adapter.

NOTE: It is recommended to configure the mouse in "**Single cursor mode** ", inside the **Remote Console** window.

## 3.5 Using MegaCli (Command Line Interface)

From the **MegaCli** package downloaded from the LSI web site, unzip the MegaCli command.

Type **MegaCli -h** to view all possible options with the help menu.



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## 4. Upgrading or reinstalling VMware ESXi 4 or later

This section describes how to upgrade or install VMware ESXi 4 or later on the USB storage device embedded in Bull novascale bullion

It is your responsibility to make sure that all currently running software will still run after upgrading or patching your system.

If you intend to apply patches or updates to your server installed with VMware ESXi, please contact the Bull Support team before making any change.

### 4.1 Important Remarks

The novascale bullion is preloaded with VMware ESXi 4.

The novascale bullion is delivered with an embedded USB storage device preloaded with VMware ESXi 4.

**The following procedure needs to be executed only when upgrading an already installed VMware.version**

This section describes the installation of VMware ESXi 4 on the novascale bullion server embedded USB storage. This embedded USB storage device has been certified with VMware ESXi 4 to ensure proper operation of the server.

The installation process requires familiarity with administration of bullion server, and its *Server Hardware Console* and remote console.

As VMware ESXi 4 is going to be installed, VMware ESXi 4 installation ISO image file is also required. Download it from VMware website if necessary, and burn it onto a CD-ROM.

### 4.2 Installation Process

Phase 1: Installing VMware ESXi 4 on USB storage device

Phase 2: Setting up the server to boot on USB device

Phase 3: Configuring VMware ESXi 4

### 4.3 Installing VMware ESXi 4 on USB storage device

This section covers the following tasks:

- Boot the server using the CDROM Drive
- Install ESXi

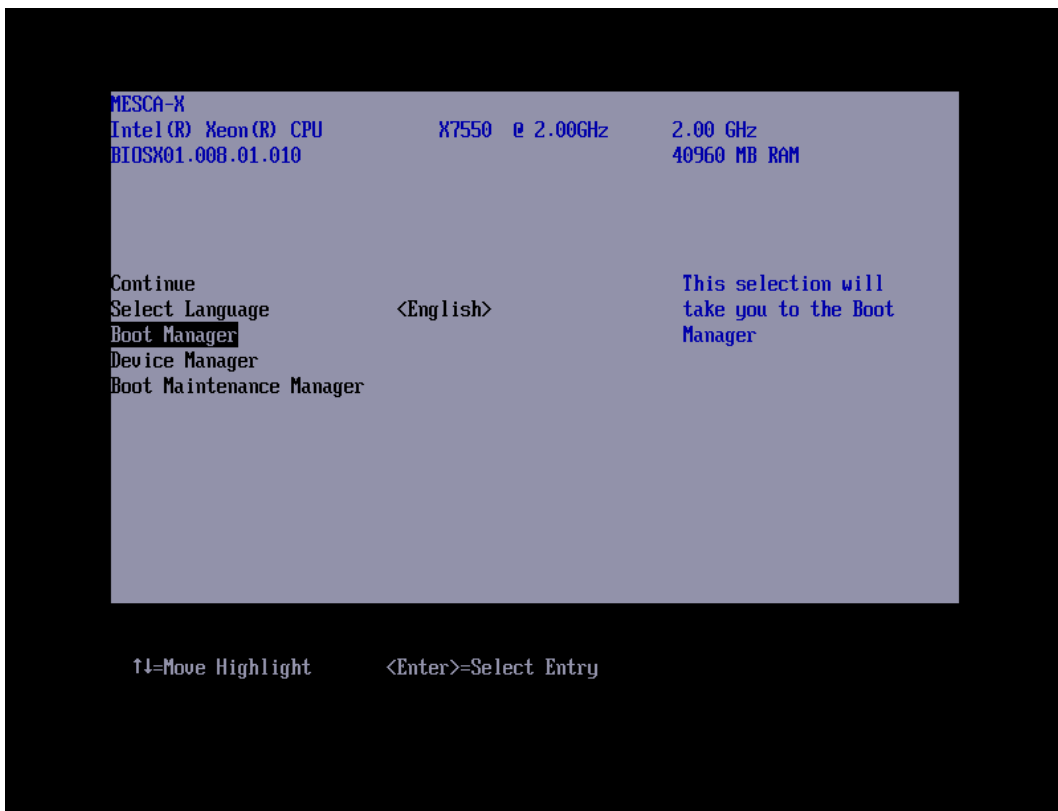
#### 4.3.1 Boot the server using a CDROM Drive

It is now possible to boot the server with a CDROM drive (external or internal) containing a CD-R burned with the VMware ESXi ISO file.

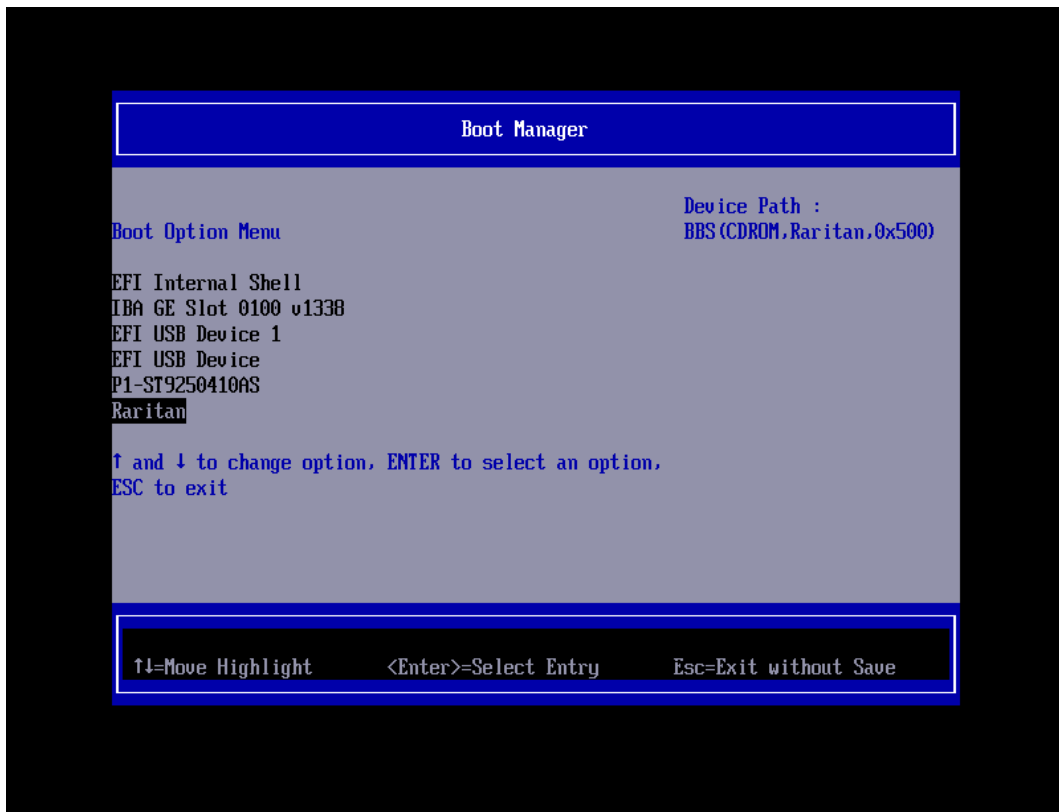
- Power on the machine using the Power Management menu in the *Server Hardware Console*.
- In the remote console window, enter the BIOS by hitting **Space** on the keyboard when this message is displayed:



- In the BIOS menu, enter the **Boot Manager** entry:

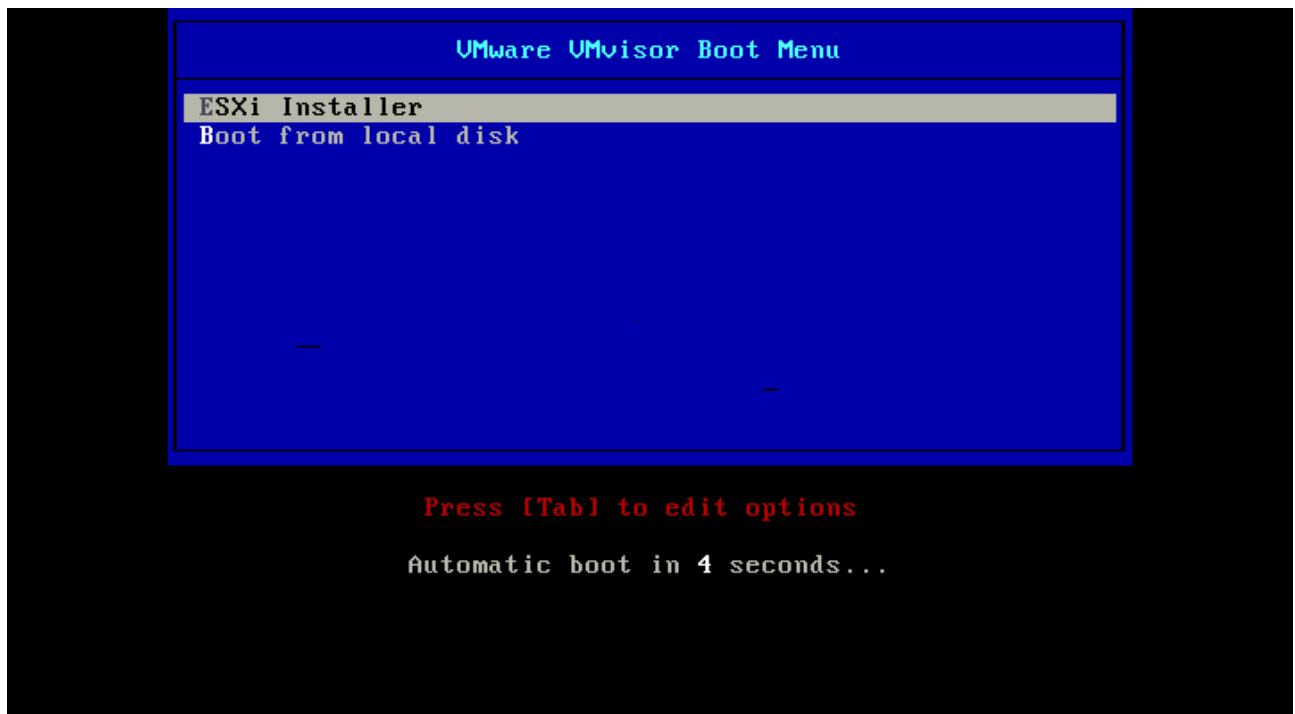


- The Boot Manager screen displays configured devices which may be used to boot the server. Select the entry corresponding to your CDROM drive to boot the **VMware ESXi 4** ISO file:



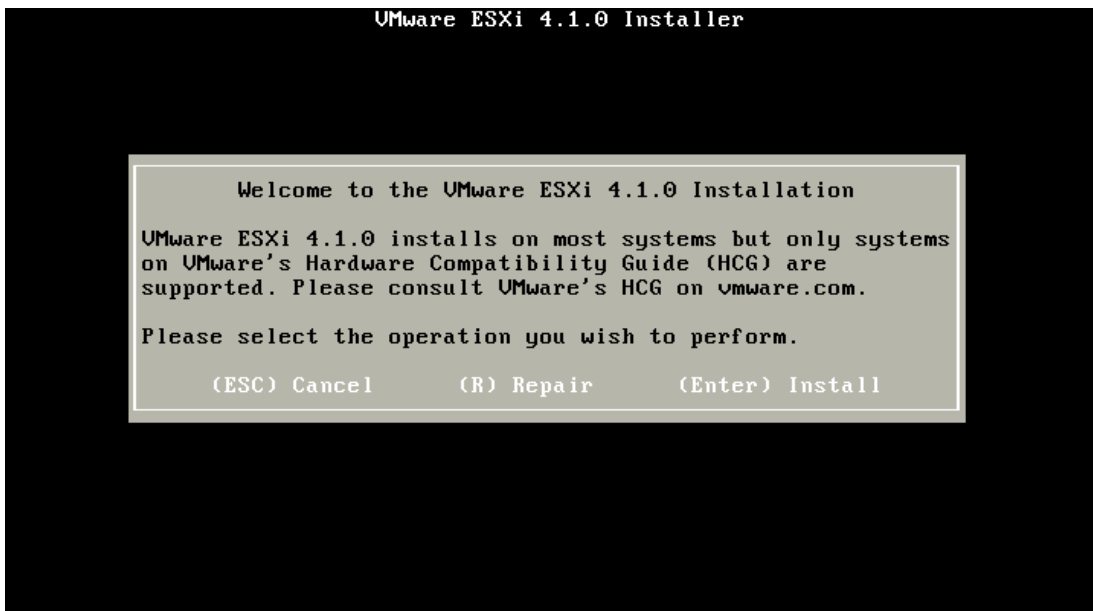
### 4.3.2 Install ESXi

- The first **VMware ESXi** screen is displayed, let the countdown expires to boot the **ESXi installer**:

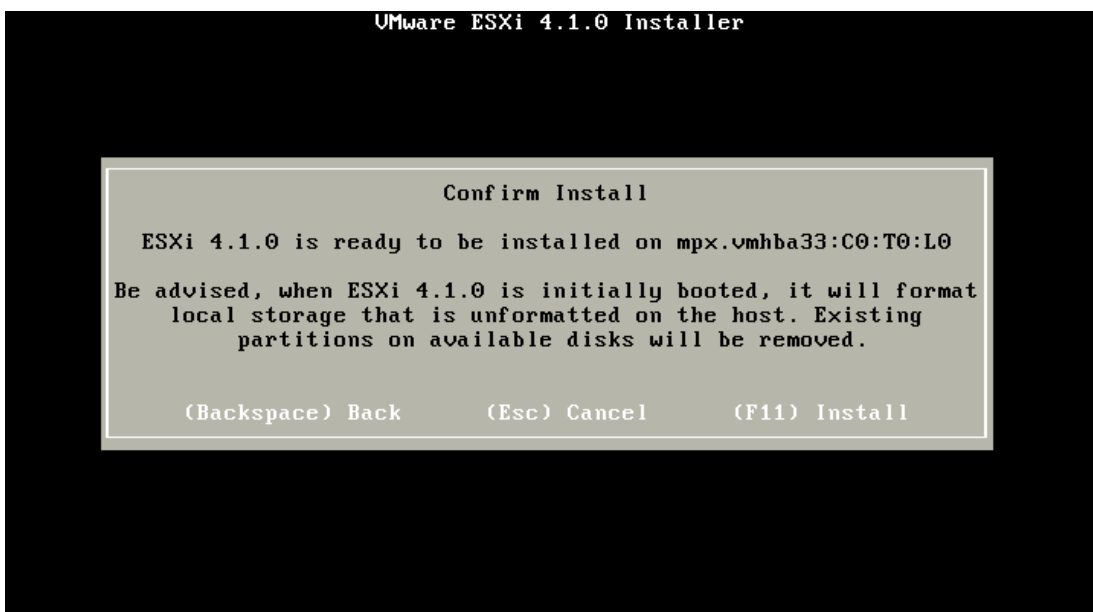


- **VMware ESXi** installer is now booting on the server, stepping through various screens. The boot process may take up to ten minutes, depending of your network speed between the machine executing the remote console and the **novascale bullion**:





- A warning dialog box may appear depending of the partitioning already present on the device. In this case confirm the disk selection by pressing **Enter**.
- Confirm the installation by pressing **F11**.
- After installation completes (it should take about 5 minutes), remove the installation disc and hit **Enter** to reboot the server:



## 4.4 Setting up the server to boot on USB device

This section describes how to configure BIOS of the **novascale bullion** server to boot on USB storage device.

Two steps in the BIOS are necessary to perform this operation :

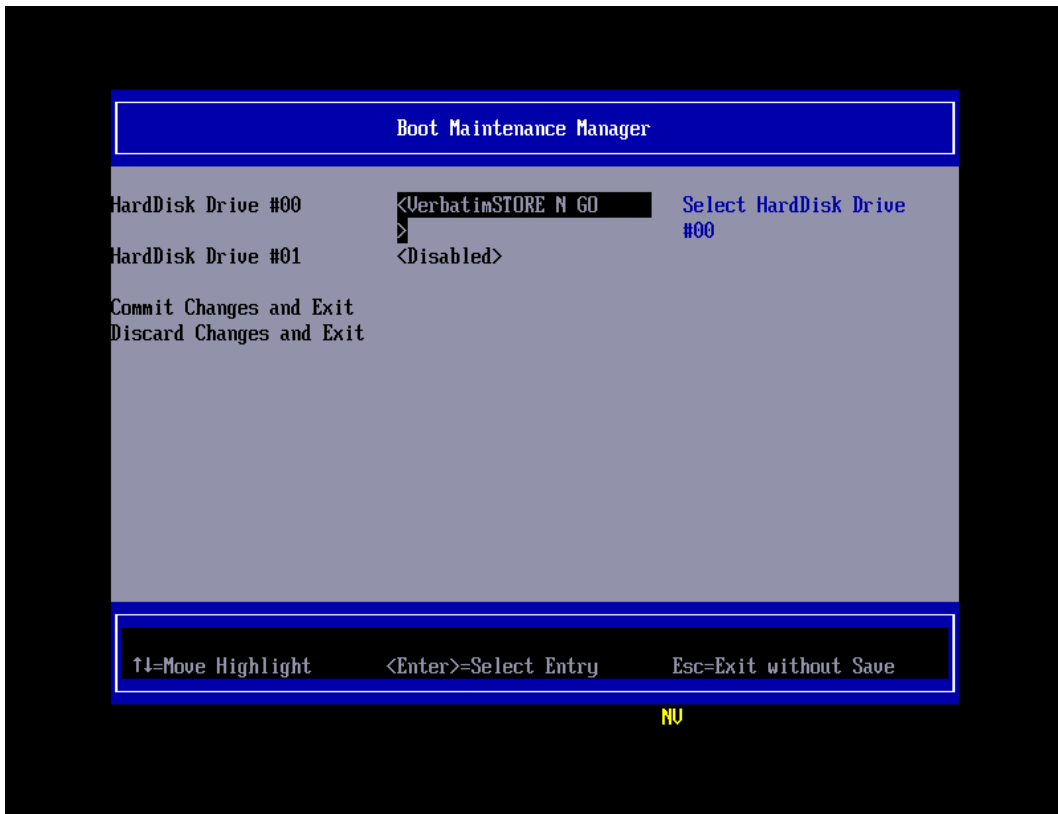
1. Setting up USB storage device as as first boot device in legacy **Hard Disk Drive Order**
2. Setting up USB storage device as the first item in the boot order list.

### 4.4.1 Setting up USB storage device as as first boot device in legacy Hard Disk Drive Order

- Enter the BIOS of **novascale bullion** by pressing **Enter** key during reboot when prompted.



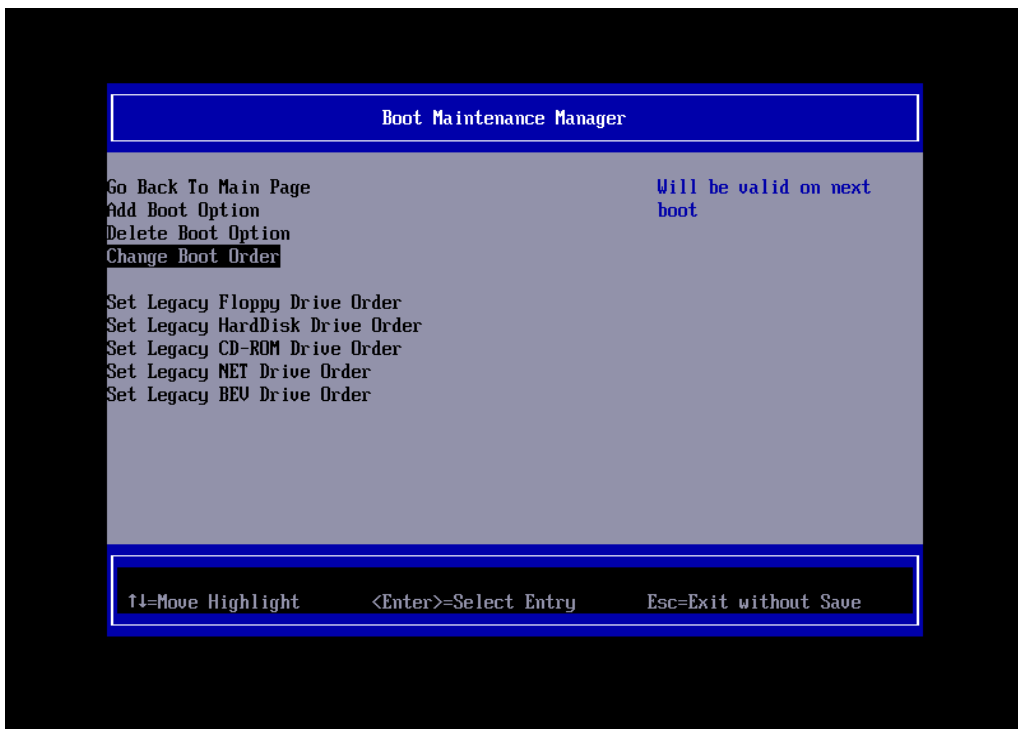
- In the BIOS menu, select the **Boot Maintenance Manager** item.
- In the next screen enter **Boot Options**, then **Set Legacy HardDisk drive Order** menu. Select the USB storage device as **Hard Drive #00** (should be *Verbatim Store'n'go*)

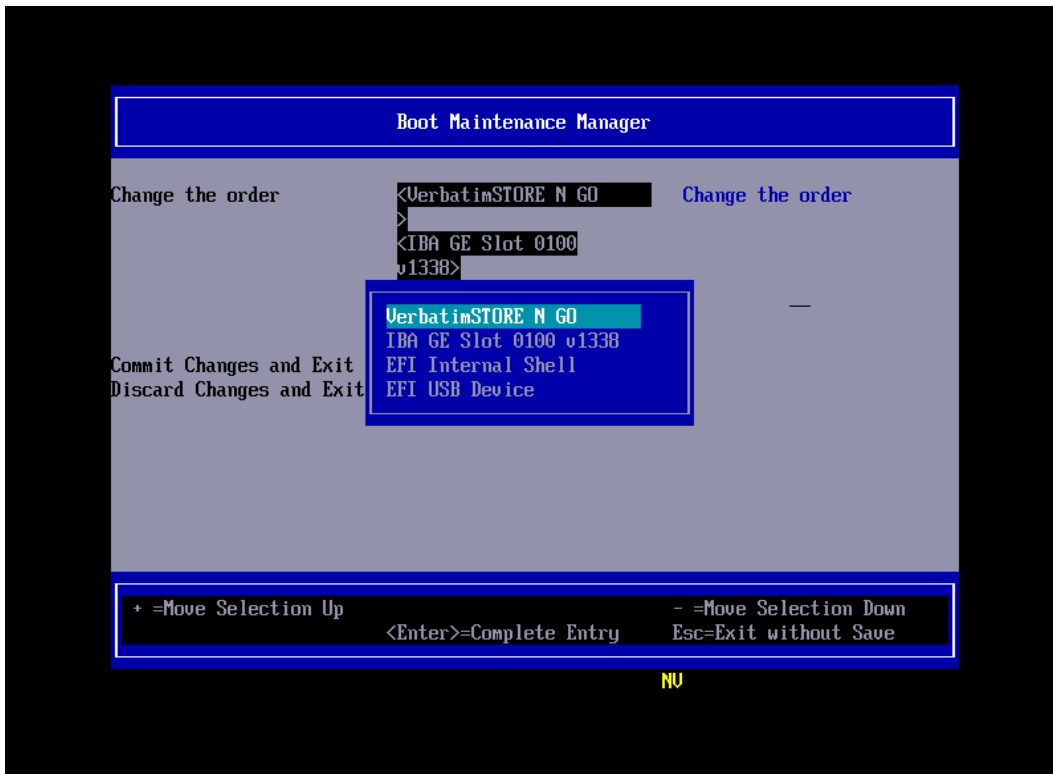


- Exit the previous menu by selecting **Commit changes and Exit** to save your modifications.

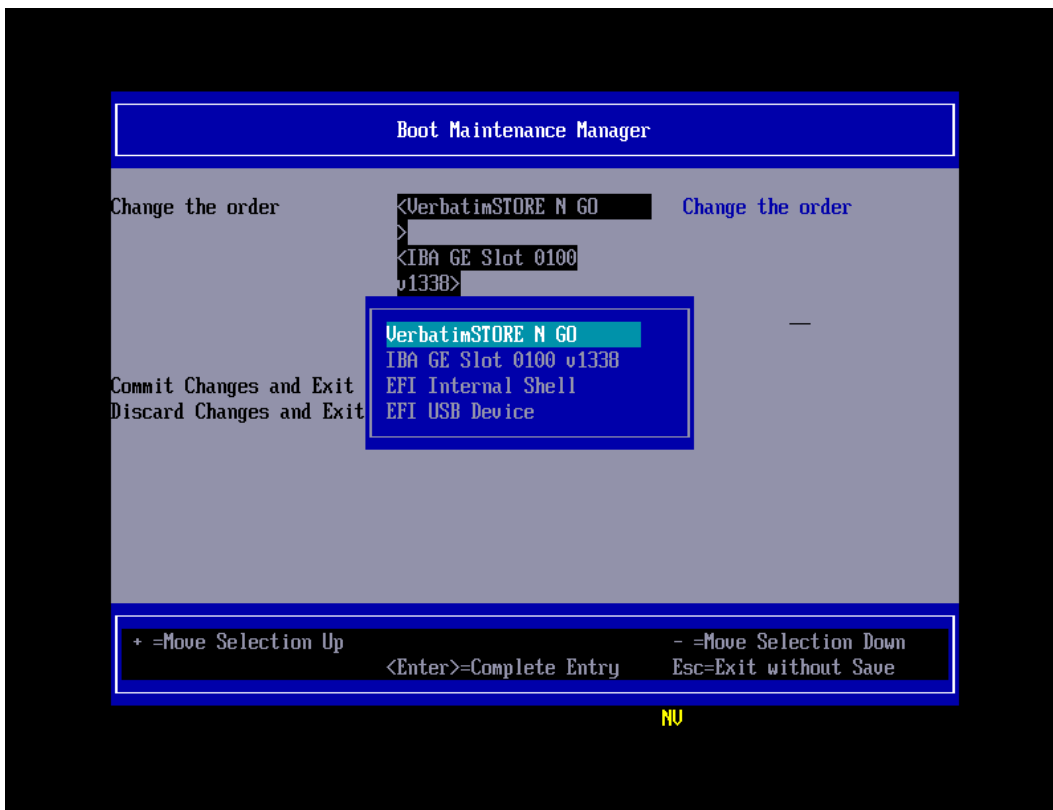
#### 4.4.2 Setting up USB storage device as the first item in the boot order list

- Once again enter the **Boot Maintenance Manager** menu, then enter **Boot Options** and select **Change Boot Order**:





- Update the boot order by moving **Verbatim Store'n'Go** device at the top of the list by using the '+' key:



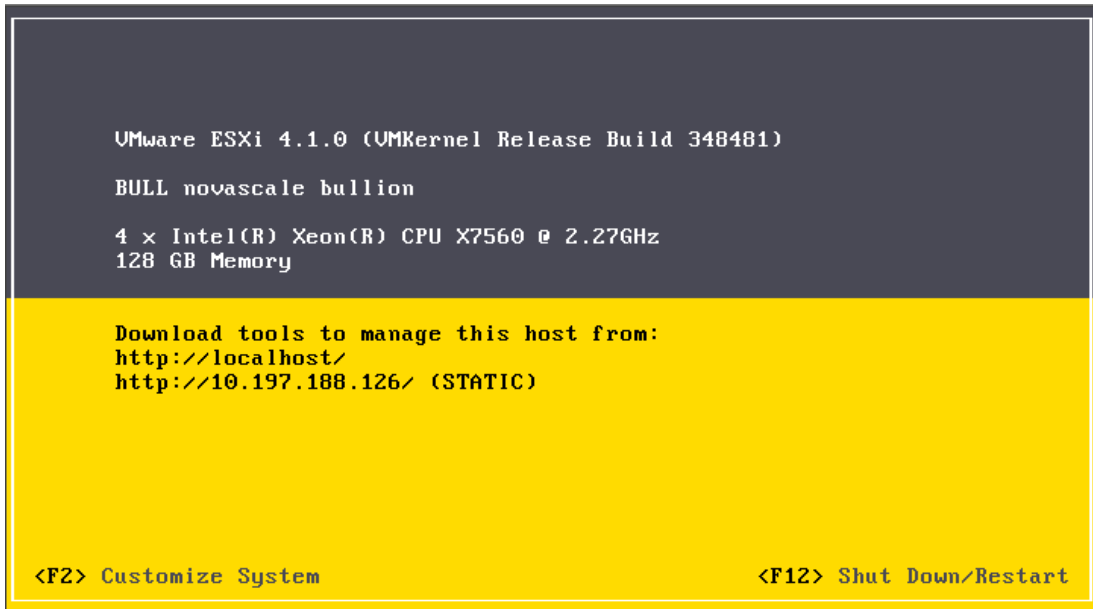


## 4.5 Configuring VMware ESXi 4

After booting into **VMware ESXi**, the last step is to set up some parameters such as keyboard layout, root password, or IP address.

Once VMware ESXi has finished booting, a screen displaying some information about server configuration is displayed. At this time there is no password configured at all, so settings may be modified by anyone having access to the console.

To enter the System Customization menu, hit **F2** (color of the screen may change from black to yellow):



```
VMware ESXi 4.1.0 (VMKernel Release Build 348481)

BULL novascale bullion

4 x Intel(R) Xeon(R) CPU X7560 @ 2.27GHz
128 GB Memory

Download tools to manage this host from:
http://localhost/
http://10.197.188.126/ (STATIC)

<F2> Customize System                <F12> Shut Down/Restart
```

First change your keyboard layout if you are not using an English / US layout. Select the **Configure Keyboard** item and choose appropriate layout according to your keyboard.



```
System Customization              Configure Keyboard

Configure Keyboard
If you are having difficulty using your keyboard, choose a layout that
matches your keyboard from the options below.

( ) Default
(o) French
( ) German
( ) Japanese
( ) Russian

<Up/Down> Select  <Space> Toggle Selected  <Enter> OK  <Esc> Cancel

<Up/Down> Select              <Enter> More              <Esc> Log Out

VMware ESXi 4.1.0 (VMKernel Release Build 260247)
```

Then it is highly recommended to set up a new password by selecting **Configure Password** entry. Enter your password twice as required.

Now it could be necessary to configure the system's IP address for management: enter the **Configure Management Network** menu to set up various configuration parameters such as IP address, DNS, etc.