Dear Inspur server users:

Sincerely thank you for selection of Inspur server!

This manual introduces the technical characteristics and the system installation and setup of the server, and helps you to particularly understand and expediently use this server.

Please deliver the package of our product to the waste recycling station for recycling, in favor of pollution prevent and benefit the humankind.

This manual is the property of the Inspur Group Co., Ltd.

This User Manual is not to be copied by any group or person in any manner without the consent of Inspur Group Co., Ltd. The Inspur Group Co., Ltd. reserves the right of revise this manual momentarily.

Any alteration about the content of this manual will be noticed.

Please contact Inspur Group Co., Ltd., if you have any questions or advice about this manual.

Inspur Group Co., Ltd.

Jan. 2013

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1

Statement

Please read the following statement before you use this server formally. Only when you have read this statement hereinafter and agreed the following terms, you can formally use this server. If you have any questions about the following terms, please contact our supplier or us directly. If you have no questions about these terms and start to use this server, it acquiesces that you have agreed *the following terms.*

1. We must call your attention that you must not alter any other parameters in the main board BIOS of this server at any time, except for the parameters which we promote that you can alter.

2. If there are any hardware problems when you use this server, or you wish to upgrade the hardware, please feed back the detail hardware configuration of your computer to our Customer Service. Don't disassemble the server case or any hardware components in the case by yourself.

3. In this server, the MEMORY, CPU, CPU Fan and Fan are in given standard. Please don't use them with the corresponding components of any other computers confusedly.

4. When you have any software problems during the application of this server, we hope that you firstly contact the corresponding software supplier and then he will contact us in favor of communication so as to solve your problem together, especially the software problems about the database, the installation and running of the network management software or other networking product.

5. Please firstly read the accompany Brief User Guide, when you install this server. Please contact our Customer Service Center, if you have any questions about the application.

6. We must call your attention that in the application process, you should pay attention to do necessary backup of your file.

7. The copyrights of the markers and names of the software and hardware product referred in this manual are the property of corresponding companies.

8. In the above statement, "us" indicates the Inspur Group Co., Ltd. The Inspur Group Co., Ltd. holds the right of final explanation about the above statement.

Safety Information

In order to guarantee your personal safety, avoid any risk of damaging system and usage environment, please make sure to read this part carefully, and execute according to this strictly, before installing and using this product.

Note: In order to help you use the equipment, the following considerations can help avoid the occurrence of problems that may damage the components or cause data loss etc.

1. In case of the following cases, please unplug the power line plug of products from the power socket and contact customer service department of Inspur:

—The power cables, extended cables or power plugs are damaged.

—The products get wet by water.

—The products have fallen off or been damaged.

—Objects fall into the products.

—When operating according to the operation instructions, the products cannot function

normally.

2. If the system becomes damp, please dispose according to the following steps:

—Switch off the power supplies of the system and the equipment, disconnect them with the

power socket, wait for 10 to 20 minutes, and then open the cover of the host.

—Move the equipment to the ventilation place to dry the system at least for 24 hours and

make sure that the system is fully dried.

—Close the cover of the host, re-connect the system to the power socket, and then start the

equipment.

—In case of operation failure or abnormal situation, please contact Inspur and get technical

support.

3. Pay attention to the position of the system cables and power cables, wire them in places not to be stepped on or knocked down and ensure not to place other objectives on the cables.

4. Before dismounting the cover of host or contacting the internal components, you shall cool down the equipment first; to avoid damaging the main-board, please power off the system and wait for 5 seconds, and then dismount the components from the main-board or disconnect the connection of peripheral equipment of the system.

5. If there are modulator-demodulator, telecommunication or local area network options in the

equipment, please pay attention to the following matters:

—In case of thunder and lightning weather, please do not connect or use the

modulator-demodulator. Otherwise, it may be subject to lightning strike.

—Never connect or use modulator-demodulator in moist environment.

—Never insert the modulator-demodulator or telephone cables to the socket of network

interface controller (NIC).

—Before unpacking the product package, contacting or installing internal components or

contacting un-insulated cables or jacks of the modulator-demodulator, please
disconnect the modulator-demodulator cables.

6. In order to prevent the electrostatic discharge from damaging the electronic components in
the equipment, please pay attention to the following matters:

—You shall conduct off the static electricity on the body before dismounting or contacting

any electronic component in the equipment. You can conduct off the static electricity
on the body by contacting the metal earthing objects (such as the unpainted metal
surface on the chassis) to prevent the static electricity on the body from conducting
itself to the sensitive components.

—For electrostatic sensitive components not ready to be installed for application, please do

not take them out from the antistatic package materials.

—During the work, please touch the earthing conductor or the unpainted metal surface on

the cabinet regularly to conduct off the static electricity on the body that may damage
the internal components.

7. When dismounting the internal components with the approval of Inspur, please pay
attention to the following matters:

—Switch off the system power supply and disconnect the cables, including disconnecting

any connection of the system. When disconnecting the cables, please grab the
connector of cables and plug it out, and never pull the cables.

—Before dismounting the cover of cabinet or touching the internal components, the

products need to be cooled down.

—Before dismounting and touching any electronic component in the equipment, you shall

conduct off the static electricity on the body by touching the metal earthing objectives.

—During the dismounting process, the operation shall not be too big, so as to prevent

damage to the components or scratching of the arms.
—Carefully deal with the components and plug-in cards, and please never touch, the
components or connection points on the plug-in cards. When taking the plug-in cards or

components, you should grab the edges of the plug-in cards or components or their metal fixed supports.

8. During the process of cabinet installation and application, please pay attention to the following matters:

—After the installation of cabinet is finished, please ensure that the supporting feet have been fixed to the rack and supported to the ground, and all weight of the rack have been fell onto the ground.

—It shall install into the cabinet according to the sequences from the bottom to the top, and first install the heaviest component.

—When pulling out the components from the cabinet, it shall apply force slightly to ensure the cabinet to keep balance and stabilization.

—When pressing down the release latch of the sliding rail of components and sliding in or out, please be careful, as the sliding rail may hurt your figures.

—Never make the AC power branch circuit in the cabinet overload. The sum of cabinet load shall not exceed 80% of the ratings of branch circuits.

—Ensure that components in the cabinet have good ventilation.

— When repairing components in the cabinet, never step on any other components.

Warning: the following warnings show that there are potential dangers that may cause property loss, personal injury or death:

Warning 1: The power supply equipment in the system may generate high voltage and dangerous electrical energy and thus cause personal injury. Please do not dismount the cover of the host or to dismount and replace any component in the system by yourself, unless otherwise informed by Inspur; only maintenance technicians trained by Inspur have the right to disassemble the cover of the host, dismount and replace the internal components.

Warning 2: Please connect the equipment to appropriate power supply, and the power should be supplied by external power supply which is indicated on the rated input label. To prevent your equipment from damages caused by momentary spike or plunge of the voltage, please use relevant voltage stabilizing equipment or uninterruptible power supply equipment.

Warning 3: If extended cables are needed, please use the three-core cables matched with correct earthed plug, and check the ratings of the extended cables to make sure that the sum of rated current of all products inserted into the extended cables do not exceed 80% of the limits of the rated currents of the extended cables.

Warning 4: Please be sure to use the supplied power supply component, such as power lines, power socket (if supplied with the equipment) etc. For the safety of equipment and the user, do not replace randomly power cables or plugs.

Warning 5: To prevent electric shock dangers caused by leakage in the system, please make sure that the power cables of the system and peripheral equipment are correctly connected to the

earthed power socket. Please connect the three-core power line plug to the three-core AC power socket that is well earthed and easy to access, be sure to use the earthing pin of power lines and do not use the patch plug or the earthing pin unplugged with cables. In case of the earthing conductors not installed and it is uncertain whether there are appropriate earthing protections, please do not operate or use the equipment. Contact and consult with the electrician.

Warning 6: To avoid short circuit of internal components and fire or electric shock hazards, please do not fill any object into the open pores of the system.

Warning 7: Please place the system far away from the cooling plate and at the place with heat sources, and be sure not to block the air vents.

Warning 8: Be sure not to scatter food or liquid in the system or on other components, and do not use the product in humid and dusty environment.

Warning 9: The replacement of batteries with those of another model may cause explosion. When replacement of batteries is required, please consult first the manufacturer and choose batteries of the same or a similar model recommended by the manufacturer. Do not dismount, extrude and pink the batteries or make the external connection point short circuit, and do not expose them in the environment over 60°C. Never throw them into fire or water. Please do not try to open or repair the batteries, and be sure to reasonably deal with the flat batteries and do not put the fl at batteries, the circuit boards that may include the batteries and other components with other wastes. For relevant battery recovery, please contact the local waste recovery and treatment mechanism.

If what you bought is the chassis, besides carefully read the installation description attached with the cabinet products and get known about the special warning notices and installation process, you must abide by the following preventive measures to guarantee the cabinet to be stable and safe:

Warning 10: Before installing equipment in the chassis, please install front and side supporting feet on the independent chassis; for cabinet connecting with other chassis, it shall install the front supporting foot first. If you fail to install correspondingly the supporting foot before installing equipment in the chassis, it may cause the cabinet to turn over in some cases, and thus may cause personal injury. Therefore, it is necessary to install supporting feet before installing equipment in the chassis. After installing the equipment and other components in the chassis, it can only pull out one component from the cabinet through its sliding component at one time. Pulling out several components at the same time may lead the cabinet to turn over and cause serious personal injury.

Warning 11: Please do not move the chassis independently. Considering the height and weight of the chassis, at least two people are needed to complete its movement.

Warning 12: Declaration

The product is Grade A product, and in the living environment, it may cause radio interference. In such case, it may need the user to take feasible measures for the interference.

Regarding the Manual

● **Product Description**

● **System BIOS**

● **Operating System Installation**

● **Integrated Raid Systems**

● **Common Problem and Trouble-shooting**

We suggest you read this manual seriously before you use this server for fear the unnecessary faults in your operation.

Technical Service Tel.: 86-531-88546554

Address: No.1036 Inspur Road, Jinan City, China（Inspur Group Co., Ltd.）

Postcode: 250101

Chapter One NX5760M3 Computer Blade Overview

1.1 NX5760M3 Computer Blade Technical Specification

Processor	
Processor Type	1~2 Intel® Xeon® processor E5-2600 series processors
Memory	
Memory Type	DDR3-1600/1333/1066/800 ECC Registered
Memory Slot Qty.	16（8DIMM/CPU）
Memory Volume	Supports maximum 512GB
Display Controller	
Controller Type	Mainboard integrated display card
Hard Disk Controller	
SATA Controller	Supports 2 25-inch hot plug SATA and SAS hard disks.
Extension Card	
PCIE Controller	Supports 1 half-height and half-length PCIE

1.2 NX5760M3 Computer Blade View

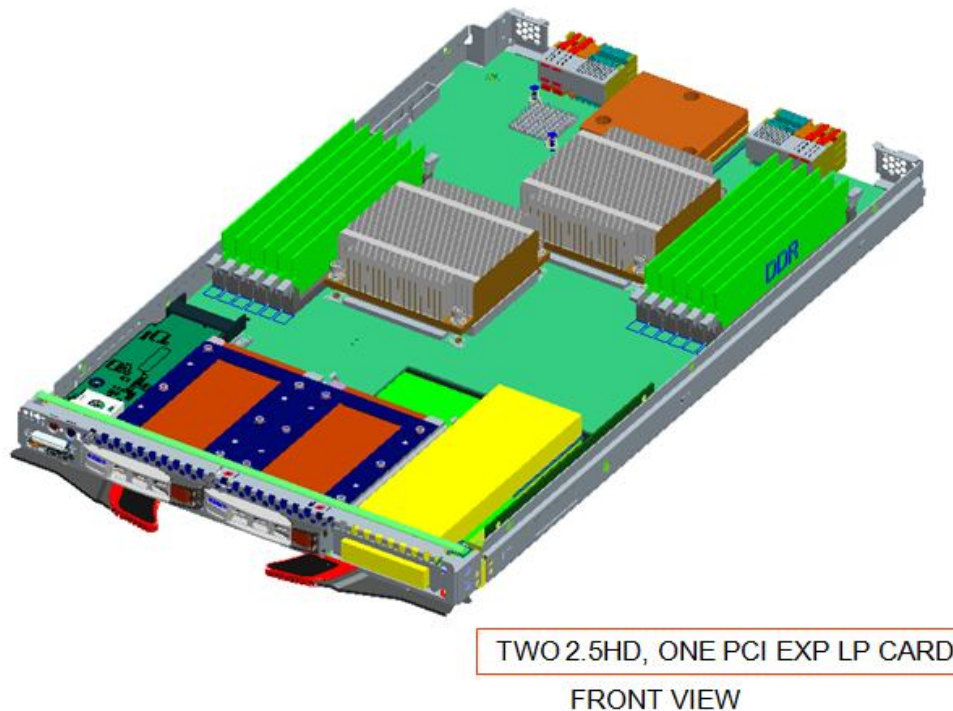NX5760M3 computer blade view is as shown in the following Figure 1-1:

TWO 2.5HD, ONE PCI EXP LP CARD

FRONT VIEW

Figure 1-1 NX5760M3 View

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1.3 NX5760M3 Computer Blade Unit Interface and Indicator Introduction

Figure 1-2 Blade Unit Interface and Indicator

Number	Name	Status/Function
1	Blade unit power indicator	Green light indicates ON, yellow indicates OFF
2	Blade unit KVM status indicator	Blue indicates KVM of this blade is activated, blue flashing indicates UID is on
3	Network indicator	Green flashing indicates direct connection to internet
4	Blade unit system fault indicator	Red indicates blade unit system fault
5	Blade unit power switch	To open blade unit power
6	KVM connection interface	To connect KVM wire, could connect CD drivers, floppy drivers and monitors etc.
7	KVM switch	To open KVM function

1.4 Usage of NX5760M3 Computer Blade

NX5760M3 computer blade shall use with Inspur I500 server, and computer blade could only be used when installed in I5000 server system, about how to install NX5760M3 blade onto an I5000 server, please refer to related parts in I5000 server use manual or illustration on chassis of I5000 blade server host, which is not repeated here.

1.5 Open upper panel of the chassis

Methods to open upper cover of the chassis are as follows:

1. Shut down the system, pull out blade module, and press unlock spring;

2. Push outwards according to directions shown by arrows, remove upper cover of the chassis.
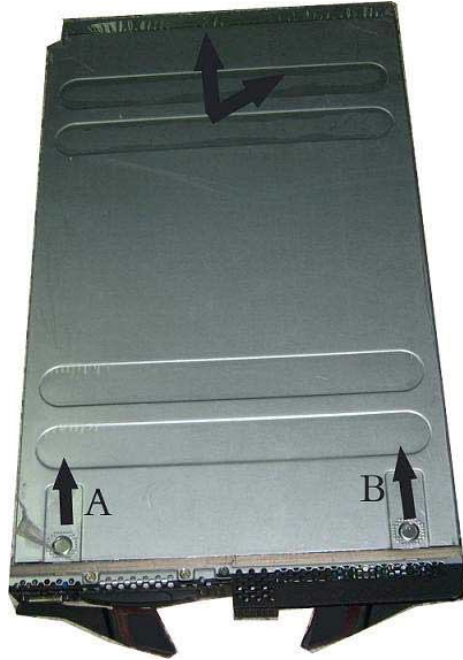
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Figure 1-4 Illustration for Opening Chassis Upper Cover

Chapter Two System BIOS

2.1 How to Enter the BIOS Setup

Power on the server, system starts to boot, when the following content appears at the bottom of the screen:

"Press <DEL> to SETUP or <TAB> to POST", press [DEL] key, wait to enter system BIOS Setup.

If system fails to enter configuration program according to the above operation, please press [Ctrl]-[Alt]-[Del] to restart system, repeat the above operation (if [DEL] key is pressed after seeing the above content, complete the press action immediately).

Note: Some items in BIOS are unable to be configured, i.e. some system auto-detection and configuration information. There's a right indicator in front of some items, indicating that if this item is selected,, press [Enter] key, cascade menu of it (which is sub-menu) will display on the screen.

2.2 BIOS System Menu Introduction

This chapter mainly introduces the following main function menus, as well as notes in BIOS.

Function Menu:

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Menu Name	Menu Function
Main	To configure basic system settings, i.e. system time, system date, BIOS, Memory information display etc.
Advanced	To configure advanced features of CPU, integrated SATA controller and SAS controller etc.
Event Logs	To configure system event log recording and clearing methods
IPMI	To configure system smart platform management interface
Boot	To configure boot sequence of all devices of the system.
Security	To configure system administrator and user passwords.
Save & Exit	To save BIOS Setup, and to exit BIOS Setup etc.

Operation key instructions:

Press Key	Description
↑ (Up Key)	To select the previous menu or value.
↓(Down Key)	To select the next menu or value.
← (Left Key)	To select the left menu or value.
→ (Right Key)	To select the right menu or value.
Esc Key	To exit or return to the previous menu or return to the main menu.
+ Key	To change option value. To change the current option value in menu to the previous option value. This key only displays values related to the selected option, rather than values of all options.
- Key	To change option value. To change the current option value in menu to the next option value. This key only displays values related to the selected option, rather than values of all options.
F1 Function Key	Help hotkey, able to display related instructions on the current menu.
F2 Function Key	To restore to previous default settings.
F9 Function Key	To restore to default settings for system optimal performance.
F10 Function Key	To save settings and to exit.
Enter Function Key	To execute current command or enter sub-menu.

Declaration:

We only explain some common options in BIOS, and it is not required to set during usage, or suggested that users shall set options by themselves, which is not repeated here.

2.2.1 Main Menu

Enter BIOS setup, main menu displays first, user could view BIOS version and memory volume in this menu, and could set system time and date etc.

```
                    Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                              Set the Date. Use Tab to
                                                              switch between Data elements.
  System Date                        [Wed 01/30/2013]
  System Time                        [15:14:54]

  Inspur B9DRP
  Version                            1.0c
  Build Date                         01/17/2013

  Memory Information
  Total Memory                       32 GB (DDR3)

                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit


                    Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.     B4
```
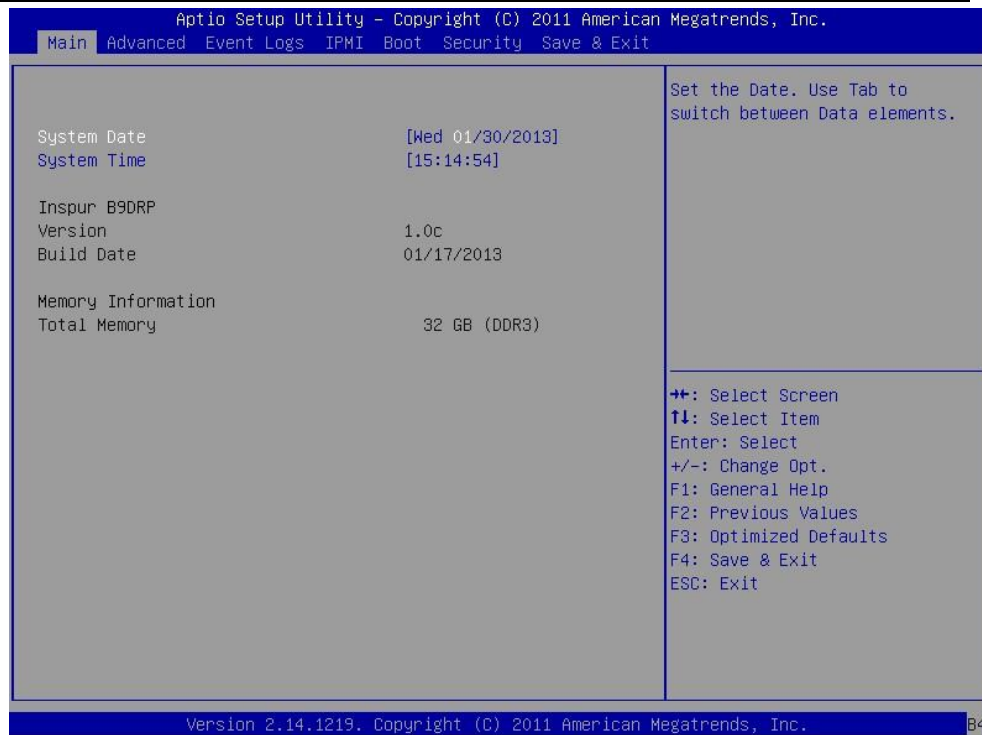
Figure 2-1

- **System Date**

Sets system date, the format is [Week Day/Month/Year]

- **System Time**

Sets system time, adopting 24-hour system, and the format is [Hour/Minute/Second].

- **Memory Information**

Displays system memory volume.

- **Inspur B9DRP Version & Build Date**

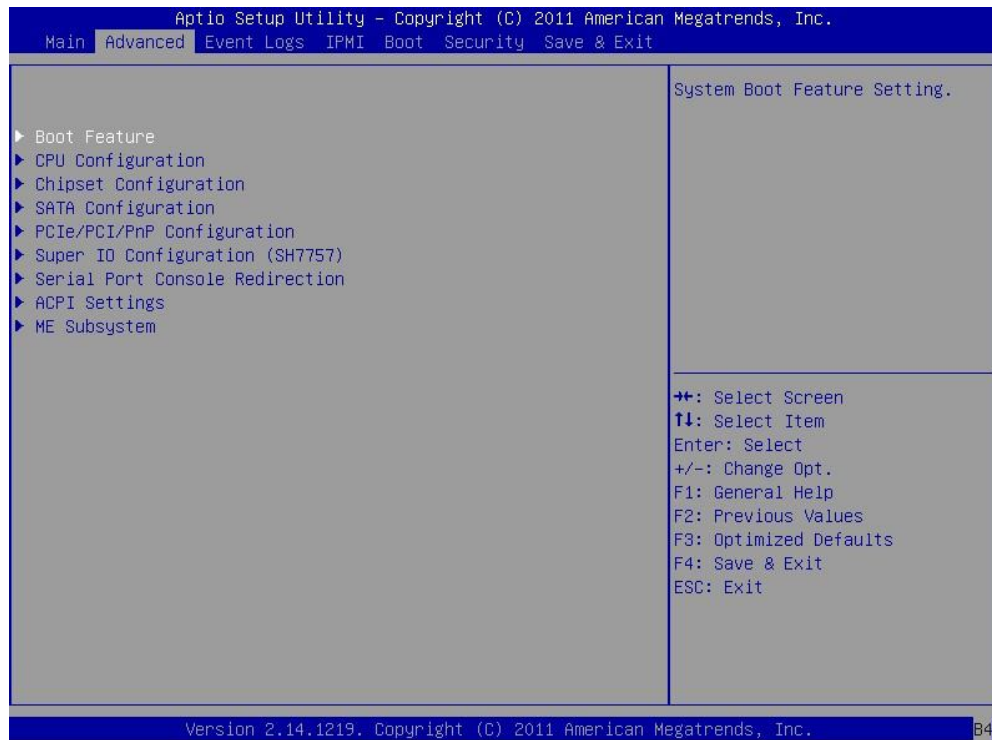Displays system BIOS version, BIOS modification time.

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2.2.2 Advanced Menu

Figure 2-2

Advanced menu options mainly contain the following sub-menus or setup options:

Boot Feature
CPU Configuration
Chipset Configuration
SATA Configuration
PCIe/PCI/PnP Configuration
Serial Port Console Redirection
ACPI Settings
ME Subsystem

Main and common options will be introduced in the following.

● Boot Feature

Boot function configuration

*Quiet Boot

Select POST self-check information and OEM logo boot screen display. Options: "Disabled" displays POST self-check information, "Enabled" displays OEM symbol but not self-check information.

*AddOn ROM Display Mode

Optional ROM setting display mode. Options: Force BIOS (default), Keep Current.

*Bootup Num-Lock

Select number key work status setting after boot. Options: ON (turn on), OFF (turn off).

*Wait For "F1"If Error

If there's any error during boot, whether to wait and press "F1" to continue boot. Options:

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Enabled, Disabled.

*Interrupt 19 Cspture

This option is used to set enable status of interrupt 19, which is Enabled by default. If there's a system configured external card, this option shall be set to Enabled. Options: Enabled, Disabled.

Power Configuration

*Watch Dog Timmer

Whether to enable power configuration watch dog timmer automatically. If enabled, no signal will be detected within 5 minutes, and server will restart. Options: Enabled, Disabled.

*Power Button Function

Power button function setting, if this function is set to Instant Off, if user press power button, system will power off immediately. If this function is set to 4_Second_Override, system will power off, when user presses down power button for 4 seconds or longer time. Options: Instant Off and 4 Second Override.

*Restore on AC Power Loss

Machine status setting when restoring on power loss. Select "Stay off" to stay at off status. Select "Power On" to open system power automatically. Select "Last State", to make system restore status before power-off. Options: Stay off, Power On, Last State.

● **CPU Configuration**

* Socket 1 CPU Information/Socket 2 CPU Information

Related CPU information, including CPU model, symbol, step-in, the highest and lowest operation speeds, core, whether supports super thread, virtual technology, safety mode extension technology and cache sizes on all levels etc.

*CPU Speed

Displays speed of CPU installed in CPU socket 1 or socket 2.

*64-bit

64-bit technology, sets whether CPU installed in socket 1 or 2 supports this technology.

*Clock Spread Spectrum

CPU clock frequency setting. When there's serious electromagnetic interference, this option could be set to Enabled to reduce interference. To exceed frequency, it could be set to Disabled. Options: Enabled, Disabled.

* Active Processor Cores

Active processor core setting. If not enabled, use the second core and above of the processor. Options: ALL, 1, 2, 4 and 6.

*Limit CPUID Maximum

Whether to limit the setting of the maximum CPUID. Options: Enabled, Disabled.

*Execute-Disable Bit

Whether to enable hardware anti-virus technology. Options: Enabled, Disabled.

*DCU Streamer Prefetcher

Data high-speed cache unit prefetch stream setting. If set to Enabled, it will prefetch stream and send to its level 1 cache, to improve data transaction and system performance, so it is suggested to select Enabled. Options: Enabled, Disabled.

*DCU IP Prefether

Data high-speed cache unit prefetch IP setting. If set to Enabled, it will prefetch IP address to

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improve network connection and system performance, so it is suggested to select Enabled. Options: Enabled, Disabled.

* Intel® Virtualization Technology

Intel CPU virtualization technology setting. If set to Enabled, it will allow multiple independent partitions on one platform to operate different operation systems. Options: Enabled, Disabled. Note: To change this setting, it is required to restart system to validate.

*CPU   Power Management Configuration

- Power Technology

Power type control selection. If Disable is selected, it supports energy efficient mode. Select Energy Efficient to be disabled, and select Custom to be user defined mode. Options: Disable, Energy Efficient, Custom.

-Energy Performance

Energy and performance management mode. Select performance to guarantee CPU performance to the greatest extent, select Balanced Performance to guarantee CPU performance on the basis of guaranteeing normal work, select Balanced Energy to guarantee energy efficient on the basis of normal work, and select Energy Efficient to save energy to the greatest extent. Options: Performance, Balanced Performance, Balance Energy, Energy Efficient.

-Factory Long Duration Power Limit

Max. long duration power able to be undertaken by CPU.

-Long duration power limit

To set the max. long duration power, if not exceeded, and it is 0, the default is the max. value.

-Recommended Short Duration Power

The longest period of CPU power adjustment.

-Long Duration Maintained

Set period of power adjustment, if the max. period is not exceeded, and it is 0, the default is the longest period.

-Recommended Short Duration Power

Recommended short duration power setting.

- Short Duration Power Limit

Set the max. power for short duration, it is recommended to set to 1.2 times of long duration working power.

●Chipset Configuration

Chipset configuration.

* North Bridge

North bridge configuration

&Integrated IO Configuration

Integrated IO configuration

-Inter(R) VT-d

Intel chipset virtualization memory technology setting. Options: Enabled, Disabled.

-Data Direct I/O

I/O accelerating technology setting, technology used to transmit large blocks of data focusing on speed. Options: Enabled, Disabled.

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-DCA Support

Dynamic channel distribution technology setting. Options: Enabled, Disabled.

- IIO 1 PCIe Port Bifuracation Control

Under this menu are options allowed by IIO 1 PCIe to be set by users.

- IOU1-PCIe Port

IOU1-PCIe bus speed setting. Options: "x4x4", "x8".

-PCH Upstream Link Speed

PCH upstream speed setting. Options: "GEN1", "GEN2", "GEN3".

-i350 Lan Link Speed

i350 speed setting. Options: "GEN1", "GEN2", "GEN3".

-IOU2-PCIe Port

IOU2-PCIe bus speed setting. Options: "x4x4x4x4", "x4x4x8", "x8x4x4", "x8x8", "x16" and "AUTO".

-SXB1 Link Speed

SXB1 link speed. Options: "GEN1", "GEN2", "GEN3".

-IOU3-PCIe Port

IOU2-PCIe bus speed setting. Options: "x4x4x4x4", "x4x4x8", "x8x4x4", "x8x8" and "x16".

-SXB2 Link Speed

SXB2 link speed. Options: "GEN1", "GEN2", "GEN3".

-Onboard IB Link Speed

IB link speed. Options: "GEN1", "GEN2", "GEN3".

- IIO 2 PCIe Port Bifuracation Control

Under this menu are options allowed by IIO 2 PCIe to be set by users.

- IOU2-PCIe Port

IOU2-PCIe bus speed setting. Options: "x4x4x4x4", "x4x4x8", "x8x4x4", "x8x8" and "x16".

-SXB3 Link Speed

SXB3 link speed. Options: "GEN1", "GEN2", "GEN3".

-IOU3-PCIe Port

IOU2-PCIe bus speed setting. Options: "x4x4x4x4", "x4x4x8", "x8x4x4", "x8x8", "x16" and "AUTO".

-SXB4 Link Speed

SXB4 link speed. Options: "GEN1", "GEN2", "GEN3".

&QPI Configuration

Quick passage interconnection setting

-Current QPI Link Speed

QPI link speed mode.

-Current QPI Link Freq

QPI link speed.

-Isoc

Synchronous support setting. Select Enabled to enable synchronous support, to meet service quality requirement. Options: Enabled, Disabled.

- QPI Link Speed Mode

QPI link speed mode setting. Options: "Slow", "Fast".

- QPI Link Frequency Select

QPI link speed setting. Options: "Auto", "6.4 GT/s", "7.2 GT/s" and "8.0 GT/s".

●SATA Configuration

　　* SATA Configuration

　　SATA configuration

　　-SATA Configuration

　　Status of each port during BIOS self-checking.

　　-SATA Mode

　　SATA mode setting. Options: Disabled, IDE Mode, AHCI Mode and RAID Mode.

　　Status of SCU port.

● PCIe/PCI/PnP　　Configuration

　　-PCI ROM Priority

　　PCI ROM setting. Options: EFI Compatible ROM, Legacy ROM.

　　- PCI Latency Timer

　　PCI latency setting. Options: 32, 64, 96, 128, 160, 192, 224 and 248 PCI Bus Clocks.

　　- Above 4G Decoding

　　Whether supports decoding above 4G. Options: Enabled, Disabled.

　　- PERR# Generation

　　Data parity check setting. Options: Enabled, Disabled.

　　-SERR# Generation

　　System parity check setting. Options: Enabled, Disabled.

　　- Maximum Payload

　　Maximum effective load setting. Options: Auto, 128 Bytes, 256 Bytes.

　　- Maximum Read Request

　　Maximum read request byte setting. Options: Auto, 128 bytes, 256 bytes, 512 bytes, 1024 bytes, 2048 bytes and 4096 bytes.

　　- ASPM Support

　　Active status power management setting. Options: Disabled, Force L0 and Auto. Warning: Enabling ASPM support may cause failure of some PCI-E devices!

　　-Load Onboard LAN1 Option ROM/Load Onboard LAN2 Option ROM

　　Start system via LAN device to set onboard LAN Option ROM. Options: Enabled and Disabled.

　　- Network Stack

　　Whether to enable network stack. If enabled, PXE or UEFI supports network stack. Options: Enabled and Disabled.

●Serial Port Console Redirection

　　Serial port redirection setting.

　　&COM

　　Setting options allowed under COM.

　　-Console Redirection

　　Whether to enable COM control port to redirect. If enabled, the next option "Console Redirection Settings" changes to be configurable. Options: Enabled, Disabled.

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- Console Redirection Settings

COM control redirection setting.

&SOL

Setting options allowed under SOL.

-Console Redirection Settings

Whether to enable SOL control port to redirect. If enabled, the next option "Console Redirection Settings" changes to be configurable. Options: Enabled, Disabled.

- Console Redirection Settings

SOL control redirection setting.

& Serial Port for Out-of-Band Management/Windows Emergency management Services (EMS)

Setting options allowed under out-of-band serial ports and EMS.

-Console Redirection

Whether to enable out-of-band serial ports and EMS control port to redirect. If Enabled is selected, the next option "Console Redirection Settings" changes to be configurable. Options: Enabled, Disabled.

- Console Redirection Settings

Out-of-band serial ports and EMS control settings.

-Console Redirection Settings

Console settings.

●ACPI Setting

Advanced configuration and power management interface settings

-ACPI Sleep State

Sleep state setting. If "S1 (CPU Stop Clock)" is selected, clear all CPU cache during sleep and stop executing instructs, maintain power supply unchanged, RAM will keep updating; if "Suspend Disabled (Energy Efficient Mode)" is selected, only power supply for RAM is kept normal. Options: S1 (CPU Stop Clock), Suspend Disabled.

-NUMA Support

No unique memory access architecture setting. Options: Enabled, Disabled.

- High Precision Event Timer

High precision event timer setting. Options: Enabled, Disabled.

● ME Subsystem

Management subsystem setting.

- ME BIOS Interface Version

Management subsystem BIOS interface version.

- ME Version

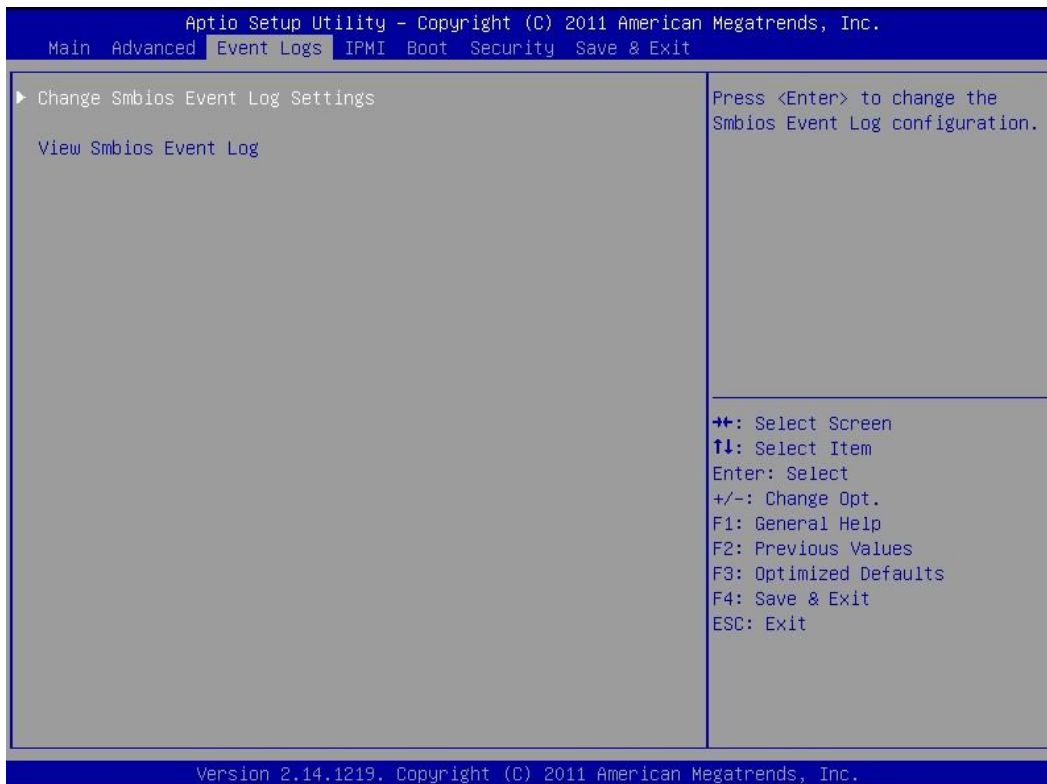Management subsystem version.

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2.2.3 Event Logs Menu

Figure 2-3

●Change SMBIOS Event Log Settings

SMBIOS event log settings.

*SMBIOS Event Log

Whether to enable SMBIOS Event Log. Options: Enabled, Disabled.

*Runtime Error Logging Support

Whether to enable runtime error logging. Options: Enabled, Disabled.

* Memory Correctable Error Threshold

Memory correctable error threshold. It is 10 by default.

- PCI Error Logging Support

Whether to enable PCI error logging. Options: Enabled, Disabled.

* Erasing Settings

Log erasing settings.

* Erase Event Log

Whether to clear event logs. Options: No; Yes, Next reset; Yes Every reset.

* When Log is Full

Settings when log is full. Options: Do Nothing, Erase Immediately.

*SMBIOS Event Log Standard Settings

Event log standard settings of SMBIOS.

* Log System Boot Event

Log system boot event settings. Options: Enabled, Disabled.

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* MECI

Multiple event count increment. It could be set to 1-255.It is 1 by default.

* METW

This option could set the time to be spent waiting for event timer before a new event is generated. It could be set to 0-99, and is 60 by default. The unit is minute.

●View SMBIOS Event Log

To view SMBIOS event log.

This option allows users to view events in SMBIOS event log. Press enter to view status of log event. Including: Date, time, error code and severity.

2.2.4 IPMI Menu

Figure 2-4

●IPMI Firmware Revision

IPMI firmware version.

●IPMI Status

IPMI status.

●System Event Log

System event logs.

*Enabling/Disabling Options

Enable/disable options.

*SEL Components

SEL component settings. Options: Enabled, Disabled.

*Erasing Settings

Deleting settings.

*Erase SEL

Whether to erase SEL. Options: No; Yes, Next reset; Yes Every reset.

*When SEL is Full

When SEL is full. Options: Do Nothing, Erase Immediately.

*Customize EFI Logging Options

To customize EFI logging options.

*Log EFI Status Codes

Whether to enable EFI status code. Options: Enabled, Disabled.

●BMC   Network Configuration

BMC network configuration.

*LAN Channel 1

Settings allowed by LAN channel1.

* Update IPMI LAN Configuration

Whether to update IPMI configuration during next boot. Options: Yes, No.

*Configuration Address Source

To obtain IP address mode settings. Options: Static, DHCP.

*Station IP Address

IP address.

*Subnet Mask

Subnet mask.

* Station MAC Address

MAC address.
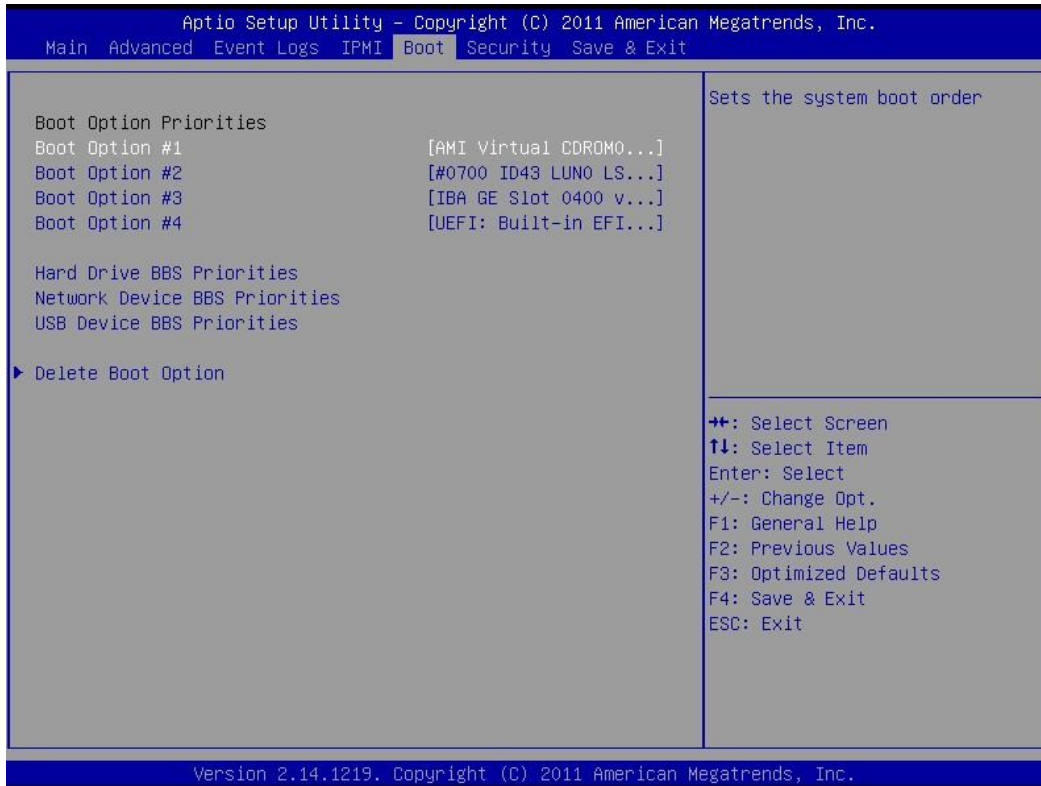
*Gateway IP Address

Gateway address.

2.2.5 Boot Menu

```
          Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
   Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                          Sets the system boot order
   Boot Option Priorities
   Boot Option #1                   [AMI Virtual CDROM0...]
   Boot Option #2                   [#0700 ID43 LUN0 LS...]
   Boot Option #3                   [IBA GE Slot 0400 v...]
   Boot Option #4                   [UEFI: Built-in EFI...]

   Hard Drive BBS Priorities
   Network Device BBS Priorities
   USB Device BBS Priorities

 ▶ Delete Boot Option
                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit


          Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

Figure 2-5

●Boot Option Priorities

Boot priority settings.

●Boot Option #1 / Boot Option #2 / Boot Option #3

To set devices to be booted firstly, secondly and thirdly.

● Network Devices

Network boot sequence settings.

●Hard Disk Drives

Hard disk drivers.

● Delete Boot Options

Delete boot options.

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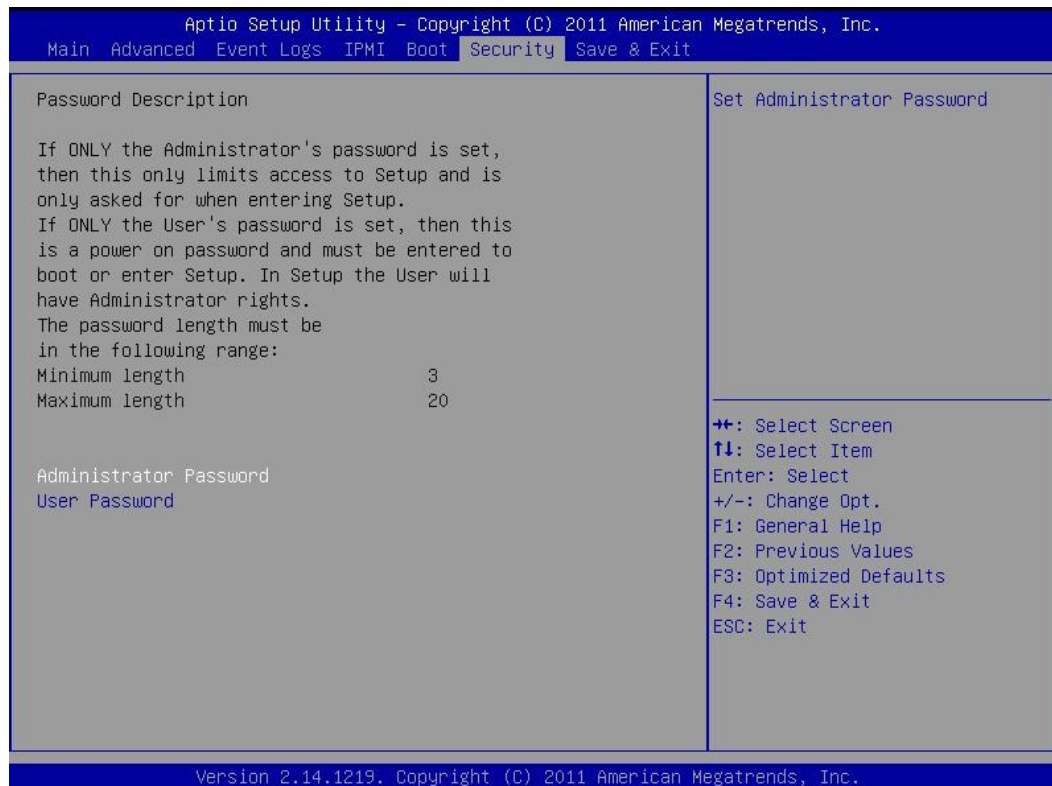**2.2.6 Security** Menu

<div align="center">Figure 2-6</div>

- **Administrator Password**

 This option is used to set system administrator password. When administrator password is set, it is required to input password on user level or above when entering BIOS setup.

- **User Password**

 This menu is used to set user password. When user password is set, during system startup and entering BIOS Setup, it is required to enter administrator password and user password, in BIOS Setup interface, all privileges will be inferior to those of administrator after entering user password.

2.2.7   Save & Exit Menu

 Options in this menu could be used to realize saving or canceling modification in BIOS configuration, and to exit configuration.

<div align="center">23</div>
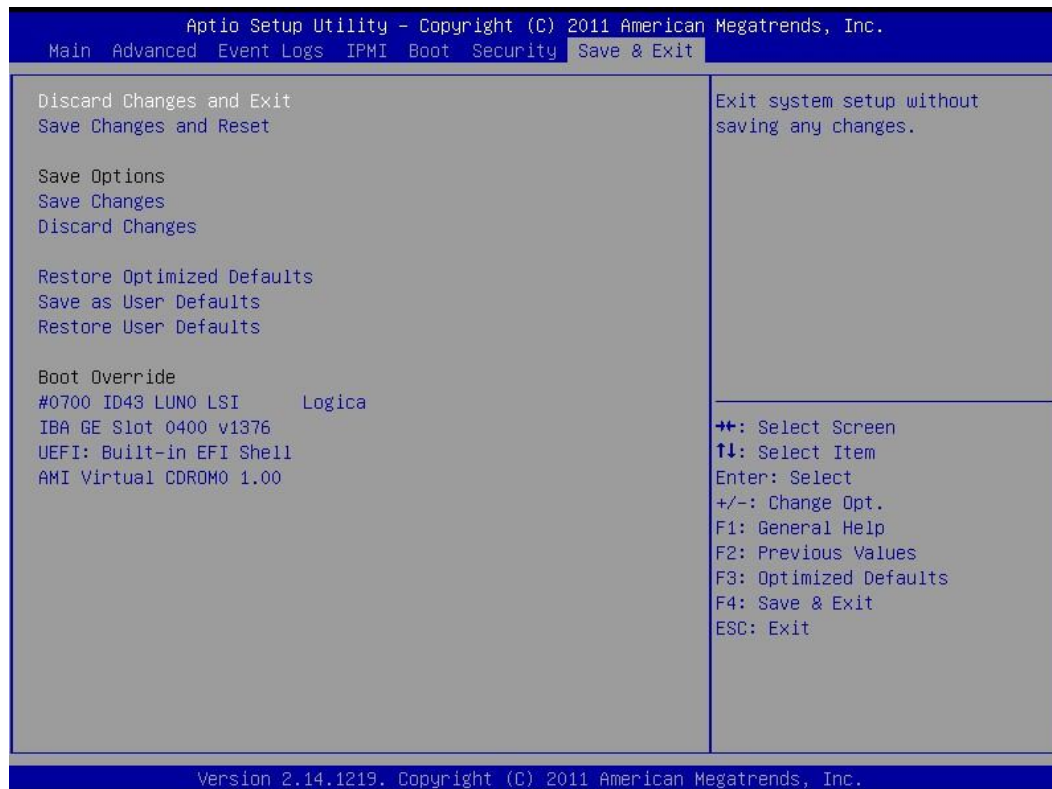
Figure 2-7

- **Save Changes and Exit**

  Select this option, press [Enter], and select [Yes] in   prompt popped up, all changes made in BIOS configuration will be saved, and system will exit BIOS configuration. This menu function could be realized using shortcut key [F10].

- **Discard Changes and Exit**

  Select this option, press [Enter], and select [Yes] in prompt popped up, all changes made in BIOS configuration will be discarded, and system will exit BIOS configuration.

- **Save Changes and Reset**

  Select this option, press [Enter], and select [Yes] in prompt popped up, all changes made in BIOS configuration will be saved, system will exit BIOS configuration, and then restart the computer.

- **Discard Changes and Reset**

  Select this option, press [Enter], and select [Yes] in prompt popped up, all changes made in BIOS configuration will be skipped, system will exit BIOS configuration, and then restart the computer.

- **Saving Changes**

  Select this option, press [Enter], and select [Yes] in prompt popped up, all changes made in BIOS configuration will be saved, and system will not exit BIOS configuration.

- **Discard Changes**

  Select this option, press [Enter], and select [Yes] in prompt popped up, all changes made in BIOS configuration will be discarded, and system will not exit BIOS configuration.

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● **Restore Defaults**

Select this option, press [Enter] and select [Yes] to confirm, default system optimal settings will be loaded, while system will not exit BIOS configuration. This menu function could be realized using shortcut key [F9].

● **Save as User Defaults**

Select this option, press [Enter], and select [Yes] to confirm, set values of all current BIOS options will be saved as user default options.

● **Restore User Defaults**

Select this option, press [Enter], and select [Yes] to confirm, user default values will be loaded.

● **Boot Override**

Select device option in this menu, and then press [Enter] to confirm, system will boot from the selected device.

Chapter Three Operation System Installation

This chapter mainly introduces operation system installation of this server:

Remote installation of operation system

● **Use an operation system disk to boot and install operation system manually**

During manual installation of operation system, some operation systems may need to use floppy drive or Inspur U drive disk to load driver of hard drive controller, as for methods to make floppy drive of driver, users could refer to readme.pdf file under root directory of Inspur system CD driver, for methods to make Inspur U drive disk and drive load notices, please refer to Inspur U Drive Disk Manual Instruction.

In drive make interface logging to driver program, user could view and make controller driver program to be loaded during operation system installation under related configuration. Description about operation system installation is based on a 64-bit system.

As for whether version of operation system you've selected is supported by configuration of purchased machine, it is suggested that you should confirm in advance.

3.1 Remote Installation of Operation System

This machine supports remote control, and installation of operation system could be implemented via remote control, the following is simple introduction for usage.

Via control console, it is required to install system blade IP address for input, to enter remote control interface, as shown in Figure 3-1:
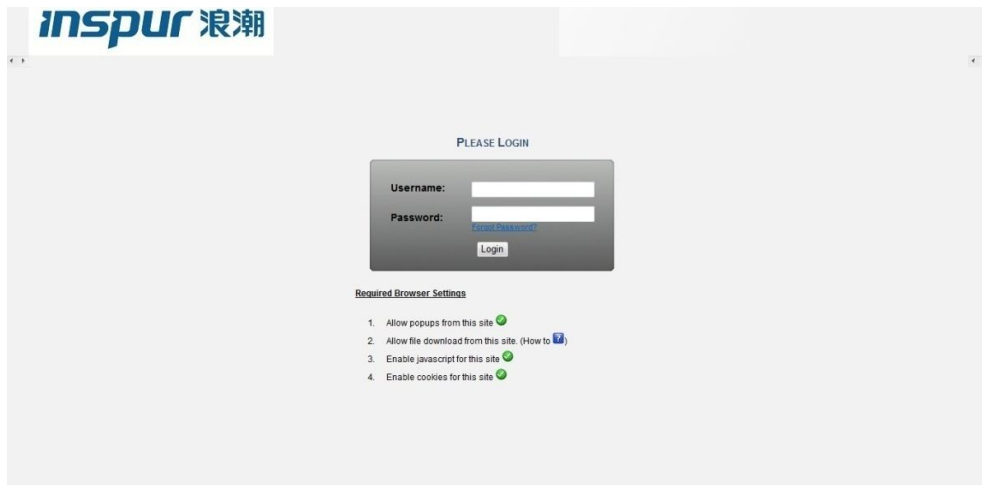
Figure 3-1
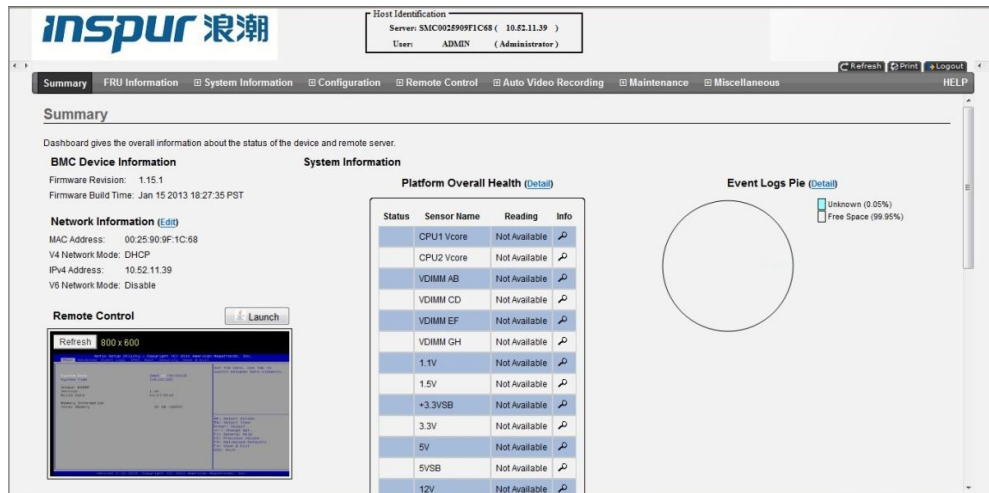
Input account ADMIN, and password ADMIN.

Figure 3-2

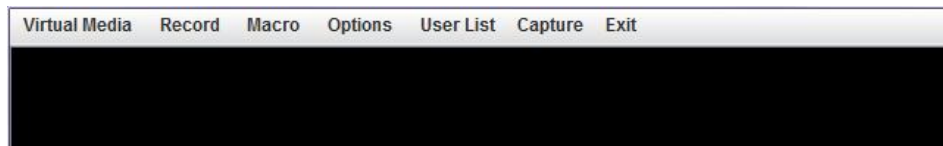Select Launch on interface, to enter remote control interface:

Figure 3-3

Hang image of operation system to be installed onto a virtual CD driver, reboot the system to install, and select Virtual Storage under Virtual Media menu, the following figure appears:
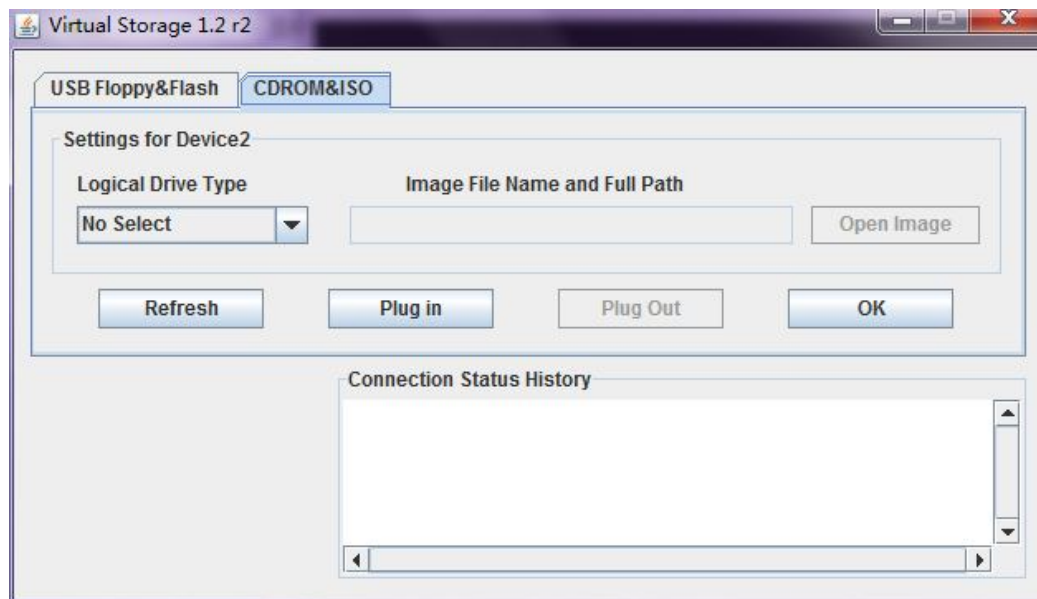
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Figure 3-4

Note:

1. To mount OS installation image, select Logical Drive Type in CDROM&ISO, and specify image position in Open image.

2. To mount drive, during installation, if it is required to load driver, select Logical Drive Type in USB Floppy&Flash, and specify drive position in Open image.

3.2 Manual Installation of Windows Server 2008 R2

3.2.1 Preparation before Installation

● Windows Server 2008 Installation CD (DVD)

● Inspur drive CD

● Hard disk controller drive floppy disk (external LSI 2108 RAID card configured with Windows Server 2008 R2, with no drive required)

● For the above drives, is a USB floppy drive is used, please make driver program into a floppy disk; if an Inspur drive U disk is used, please make driver program into an Inspur drive U disk; if a normal drive U disk is used during drive make, input drive occupied by normal U disk and directory to store drive according to hints, to make the drive to a normal U disk.

3.2.2 Installation Steps

1. Connect USB floppy drive or Inspur U drive disk or normal U drive disk, power on server, put Windows Server 2008 installation CD into the drive, enter BIOS for setting, so as to enable server to boot from CD.

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2. If system prompts to press any key to confirm to boot installation from CD, otherwise system will boot from CD to start Windows installation program automatically.

3. In language setting interface, select and set languages and other primary options according to actual needs, and then [Next] to continue.

4. Click [Install Now] in installation confirmation interface to continue.

5. Input product key (25 characters), and then click [Next] to continue.

If select "Activate Windows automatically when connected" option under the key, 3 days after the first login, auto activation will try to activate your Windows; after Windows installation, user will have 30 days to activate Windows online (or via telephone), if the 30-day limit expires before the activation is completed, Windows will stop.

6. In "Please read license terms" interface, user could understand license terms of Microsoft, select "I accept permit terms" option after reading, and then click [Next] to continue.

7. Select installation type, here it's first installation by default, select "Custom (Advanced)" to continue.

8. System enters "Where do you want to install Windows" interface, if no hard disk controller driver program is required to be loaded, current disk partition and unallocated space on this computer will display in main interface. No drive is required to be added for external LSI 2108 RAID card configuration, to add a drive, please operate according to the following steps.

If a USB floppy drive is used:

① Make a drive floppy disk, during server power-on, connect floppy drive to USB interface of the machine, and insert floppy disk into floppy drive;

② Click [Browse] in "Load driver program" interface, select driver "floppy disk driver (A:)" in prompt popped up, click [OK] to continue;

③ System will searches driver program automatically, click [Next] in "Select driver program to install" interface to continue.

④ After drive loading, detected disk will be displayed, and hard disk controller driver program is done.

If an Inspur drive U disk or a normal U disk is used:

① Make hard disk controller driver program into [3.5 floppy disk (A:)] of an Inspur drive U disk or a normal U disk;

② When power on server to install operation system, connect an Inspur drive U disk or a normal U disk to USB interface of server;

③ In "Where do you want to install Windows?" interface, select [Load driver program];

④ System pops up a window, indicating to insert an installation media containing driver program files, select [OK] directly when using an Inspur drive U disk, select path containing the drive when using a normal U disk, then select [OK];

⑤ System will display a detected driver program list, please select the drive to install, here we use default selection, and click [Next] to continue;

⑥ After drive loading, detected disk will be displayed, and hard disk controller driver program is done.

9. System returns to "Where do you want to install Windows" interface, existing disk partition and unallocated space on this computer will be displayed in main interface, click [drive option] to carry out disk partition.

In disk partition operation interface, users could carry out the following operation:

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⊙ Select existing disk partition, and then click [Delete] to delete existing partition.

⊙ Select existing disk partition, and then click [Format] to format existing partition.

⊙ Select unallocated disk space, and then click [New] to create a new partition.

Users could carry out operation according to actual needs. Taking disk without created partition as an example:

① Select unallocated space of the disk, then click [New], delete numbers in partition size box, enter partition size to be created (unit is MB), and then click [Apply] to continue.

Note: Partition is suggested to be above 30GB.

② Select disk partition newly created, and then click [Format], click [Ok] in conformation interface to continue.

③ After formatting partition, click [Next] to continue.

10. System starts to install Windows, and should complete operations such as copying files, extending files, installing functions, installation updating and completing installation etc., and system may restart several times automatically during this process.

Note: The above installation steps for Windows Server 2008 operation system may be different for different versions of system CDs used, please operate according to actual interfaces displayed during installation.

3.2.3 Install Driver

1. After system completes installation, "User must change password before first login" will prompt before login into the system, click [Ok], and take out installation CD. Set new password in password input field according to prompt on interface, press Enter to continue, if password complies with requirements, system will prompt "Password has been changed", click [Ok] to login the system.

2. In "Initial Configuration Tasks" interface, select "Do not display this window during login", and then click [Close], in newly popped up "Server Manager" interface, select "Do not display this console during login" and then close the interface.

3. Install chip set patch

① Input Inspur drive CD into the drive, in automatic play interface popped up after running CD, click install or run blue dolphin icon under operation program option, enter navigation code on CD cover of driver in navigation code interface, click [Ok] to enter installation interface automatically;

② In "Please select operation system" field, select Windows 2008 R2;

③ In "Please select components" field, select chip set patch;

④ Click [Next] to start installation;

⑤ Enter welcome to use installation program interface, click [Next] to continue installation;

⑥ Enter license agreement interface, select [Yes], to continue installation;

⑦ Enter Readme file information interface, click [Next] to continue installation;

⑧ Installation program starts, and displays installation schedule, after installation completes, click [Next] to continue;

⑨ In installation complete interface, click [Done], take out Inspur drive CD, and restart system.

4. Install net card driver

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① Install Inspur driver CD into the drive, in automatic play interface popped up after CD running, click Install or blue dolphin icon under operation program options, please input navigation code on driver CD cover in Please Input Navigation Code Interface, click [Ok] to enter installation interface automatically;

② In "Please select operation system" field select: Windows 2008 R2;

③ In "Please select components" field select: Net card drive;

④ Click [Next] to start installation;

⑤ Enter "Intel (R) network connection" interface, click [Install Driver and Software] option;

⑥ Enter welcome to use interface, click [Next] to continue;

⑦ Enter "License Agreement" interface, select "I accept terms in this license agreement", and then click [Next] to continue;

⑧ Enter "Installation Options" interface, click [Next] to continue;

⑨ Enter "Already prepared for program installation" interface, click [Install] to continue;

⑩ Installation program starts; after installation completes, click [Done] according to prompt.

5. Install display card driver

After installing net card drive, do not exit installation interface of driver CD, and continue installation of display card drive.

① In "Please select operation system" field select: Windows 2008 R2;

② In "Please select components" field select: Display card drive;

③ Click [Next] to start installing;

④ Enter "Welcome to the InstallShield Wizard" interface, click [Next] to continue;

⑤ Enter "License Agreement" interface, select "I accept the terms in the license agreement", then click [Next] to continue;

⑥ Enter "Customer Information" interface, please enter User Name and Organization, then click [Next] to continue;

⑦ Enter "Setup Type" interface, please select installation type, there're two options of "Complete" and "Custom", select "Custom" here, click [Next] to continue;

⑧ Enter "Custom Setup" interface, click [Next] to continue;

⑨ Enter "Ready to Install the Program" interface, click [Install] to start installing display card driver;

⑩ Installation program starts and completes installation, in "InstallShield Wizard Completed" interface, please click [Finish], system pops up a window, indicating to restart server to make configuration effective, take out all disks from the driver, and select [Yes] to restart server.

Note: During installation of the above display card driver programs, for different versions of Windows 2008 system installed, some installation steps may be different, please refer to actual installation.

6. Install HCA card drive

① Insert an Inspur drive CD into CD driver, in autoplay interface popped up after running, click install or run blue dolphin icon under program option, input navigation code on drive CD cover in Please enter navigation code interface, click [OK] to enter installation interface automatically;

② Select in "Please select operation system" column: Windows 2008 R2;

③ Select in "Please select component" column: HCA card drive;

④ Click [Next] to install;

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⑤ Enter "Welcome to the InstallShield Wizard for MLNX_VPI" interface, and click [Next] option;

⑥ Enter "License Agreement" interface, select "I accept the terms in the license agreement", then click [Next] to continue;

⑦ Enter "Destination Folder" interface, click [Next] to continue;

⑧ Enter "Maximum Performance" interface, click [Next] to continue;

⑨ Enter "Ready to Install Program" interface, click [Install] to continue;

⑩ Installation program start to install; after installation is done, click [Finish] according to hints. Finish installation of HCA card drive.

3.3 Manual Installation of Red Hat Enterprise Linux 6.2

3.3.1 Preparation before Installation

● Red Hat Enterprise Linux 6.2 Installation CD (1 DVD)

3.3.2 Installation Steps

1. Power on system, insert installation CD into CD drive (taking DVD installation drive for example), enter BIOS to set up, to enable server to boot from CD.

2. System enters Welcome to Red Hat Enterprise Linux 6.2! interface, there're the following options:

    Install or upgrade an existing system

    Install system with basic video driver

    Rescue installed system

    Boot from local driver

Use Up/Down arrow to select options, here it is the first installation by default, select "Install or upgrade an existing system", press Enter button to continue installation.

3. System prompts Disc Found, to begin testing the media before installation press OK.

Choose Skip to skip the media test and start the installation.

4. Enter RED HAT ENTERPRISE LINUX 6 interface, select [Next] to continue installation.

5. System enters "What language would you like to use during the installation process?" interface, select languages needed to be used during installation, here we select "English(English)", and then select [Next] to continue.

6. Enter Select the appropriate keyboard for the system interface, select keyboard type according to actual situation, here we select "US.Englsh", and then select [Next] to continue.

7. Installation enters: What type of devices will your installation involve?

Basic Storage Devices

Installs or upgrades to typical type of storage devices. If you're not sure which option is right for you? This is probably it.

Specialized Storage Devices

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Installs or upgrades to enterprise devices such as Storage Area Networks (SANs).This option will allow you to add Foe/Ischia/Zech disks and to filter out devices the installer should ignore.

Here we select Basic Storage Devices, and then select [Next] to continue.

8. System enters Please name this computer. The hostname identifies the computer on a network..

Please enter: Hostname name.

Here we could also select [Configure Network] on lower left corner of the window, to carry out network configuration, add or delete net card, and to carry out network IP address configuration. After network configuration is done, select [Next] to continue.

9. Installation program enters "Please select the nearest city in your time zone:" zone selection interface, select "Asia/shanghai", and then click [Next] to continue.

10. Installation program enters Set Root Password interface, configure according to your needs, while password should be at least 6 bits, and then click [Next] to continue.

The root account is used for administering the system. Enter a password for the root user.

11. Installation program enters "Which type of installation would you like?" installation method selection interface, there are the following installation options:

Use All Space

Replace Existing Linux System(s)

Shrink Current System

Use Free Space

Create Custom Layout

This installation takes custom manual partition as an example, select "Create Custom layout", and click [Next] to continue.

12. Installation program enters installation hard drive selection interface, in Data Storage Devices (to be mounted only) list, system displays detected storage devices. Please click hard drive of system to be installed according to actual needs, to add this hard drive under "Install Target Devices" list, and select one hard drive as "Boot Loader", and then click [Next] to continue installation.

13. Installation program enters "Please Select A Device" partition creation interface, (if partition has been created on hard drive, existing partition will display, which could be deleted if not required).

Double click Free partition or other existing partitions under hard disk, or click [Create] button

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in lower right corner, system will pop up "Add Partition".

① Create root partition (/) and boot partition: In Mount point select root partition: /, in Allowable Drives window select a hard drive needing to install system, input partition size in Size(MB), click [OK] to complete creation of root partition. Create boot partition with the same way: /boot.

② Create Swap partition (Swap): Select "Swap" in File system Type, select a hard drive needing to install system in Allowable Drives window, input Swap partition size in Size(MB) (according to memory size, if memory size is under 512MB, set according to 2 times of the memory, if memory exceeds 512MB, set Swap partition size to 2GB), click [OK] to complete Swap partition creation.

Users could also create other partitions according to needs, after creating partition, click [Next] to continue installation.

14. System pops up a prompt "Writing storage configuration to disk".

The partitioning options you have selected will now be written to disk. Any data on deleted or reformatted partitions will be lost.

Select "Write changes to disk" to continue installation, system starts to format hard drive partition.

15. Installation program enters Boot Loader configuration interface, set according to needs, and then click [Next] to continue installation.

16. System prompts "The default installation of Red Hat Enterprise Linux is a basic server install. You can optionally select s different set of software now".

Please select the type to be installed as well as software kit to be customized according to actual needs. Select "Customize now", click to continue installation.

17. Installation program enters program kit selection interface, please select according to actual needs, after confirming software kit to be installed, click [Next] to continue installation.

Here we select 的Desktop and X Windows System in Desktops and Development Tools Kit in Development.

18. Installation program starts to construct file system and copy files.

19. System enters "Congratulations, your Red Hat Enterprise Linux installation is complete." Interface, indicating installation succeeds. Click [Reboot], take out installation CD, system will

restart automatically.

20. System enters "Welcome" interface after restart, click [Forward] to continue installation.

21. Installation program enters "License Information" interface, select "Yes,I agree to the License Agreement", and click [Forward] to continue installation.

22. Installation program enters "Set Up Software Updates" interface, click [Forward] to continue installation.

23. Installation program enters "Create User" interface, users could set user password, add new user according to actual needs, and then click [Forward] to continue instillation.

24. Installation program enters "Date and time" interface, please set correct time and date, and then click [Forward] to continue installation.

25. Installation program enters Kdump configuration interface, please set according to actual needs, and then click [Finish] to finish installation.

26. Input Username and Password to login the system.

3.3.3 Load HCA Card Drive

1. Insert Inspur drive CD into the driver, left click [Applications]→[Accessories/System Tools]→[Terminal] on desktop
2. Input mount -o ro,loop MLNX_OFED_LINUX-<ver>-<OS label>.iso /mnt in terminal window occurred:
3. Enter /mnt directory to run installation script, to complete drive installation automatically /mnt/mlnxofedinstall

   （1）Input "mst start" in terminal window after drive installation

   Starting MST (Mellanox Software Tools) driver set

   Loading MST PCI module - Success

   Loading MST PCI configuration module - Success

   Create devices

   MST modules:

      MST PCI module loaded

      MST PCI configuration module loaded

   If the above information is displayed, it indicates to load drive normally

   （2）Input "mst status"

   MST devices:

      /dev/mst/mt4099_pciconf0

      - PCI configuration cycles access.

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bus:dev.fn=02:00.0 addr.reg=88 data.reg=92

Chip revision is: 01

/dev/mst/mt4099_pci_cr0

- PCI direct access.

bus:dev.fn=02:00.0 bar=0xdfb00000 size=0x100000

Chip revision is: 01

If the above information is displayed, it indicates HCA device is recognized normally and could be used

4. Driver program uninstall

Execute /mnt/uninstall. Sh, system prompts "Do you want to continue? [y/n]", input "y" to finish driver program uninstall automatically.

Chapter Four Integrated RAID System

This chapter mainly introduces configuration of mainboard integrated SATA controller RAID and its usage.

To use a mainboard integrated SATA RAID, it is required to enter BIOS, set Chipset→PCH→SCU devices option to [Enabled], and then set Onboard SATA Oprom option to [Enabled].

4.1 How to Enter SATA RAID Configuration Interface

1. During system startup, the following content will display on the screen:

Press<CTRL-I> to enter Configuration Utility…

2. Press [Ctrl][I] to enter SATA RAID configuration interface.

4.2 Application of Control Keys

Press Key	Description
↑↓	Used to move cursor in different menus or to change values of menu options.
TAB	To select the next menu setting option.
Enter	To select menu.
Esc	To exit menu or return to previous menu from sub-menu.

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4.3 SATA RAID Configuration

After entering SATA RAID configuration interface, menu list information, information of hard disk connecting to SATA controller (hard disk ID number, hard disk type, hard disk capacity as well as whether hard disk is a volume member etc.), existed RAID volume information (including volume ID number, name, RAID level, capacity, status, whether information bootable) will all display. As shown in the following figure:

4 executable menus in this SATA RAID configuration interface are listed in the following:

● Create RAID Volume

To create an RAID volume.

● Delete RAID Volume

To delete an existed RAID volume.

● Reset Disks to Non-RAID

To reset hard disks in RAID volume, and to restore them to non-RAID status.

● Exit

To exit SATA HostRAID configuration interface.

I. Create RAID Volume Menu

After entering SATA RAID configuration interface, use up and down arrow buttons to select this menu, then press [Enter] to create an RAID volume menu, or input number in front of the menu directly to create an RAID volume menu.

System displays the following menu options:

Name: Please enter a volume label less than 16 characters not containing any special character.

RAID Level: Please select RAID volume level, if no volume has been created at present, there're four volume levels of RAID0(Stripe), RAID1（Mirror）, RAID10(RAID0+1) and RAID5（Parity）for selection, please select volume level according to actual requirements.

RAID0:This RAID volume is allowed to be made on 2 or above hard disks.

RAID1:This RAID volume is allowed to be made on 2 hard disks.

RAID10:This RAID volume is allowed to be made on 4 hard disks, which is only available when hard disk quantity is 4 or above.

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RAID5（Parity）:This RAID volume is allowed to be made on 3 or above hard disks.

Disks: Select hard disks to make RAID volume, press enter after this option is selected, system will enter hard disk selection interface, please select hard disks to make RAID volume using space key in succession, and then press enter to return to volume create menu.

Strip Size: Please select strip size, only RAID0 and RAID5 volumes could select this option.

Capacity: Select volume capacity, which is the max. volume capacity by default.

After completing the above configuration, please select [Create Volume], and press enter, system prompts: "WARNING:ALL DATA ON SELECTED DISKS WILL BE LOST. Are you sure you want to create this volume ?(Y/N):".

To create an RAID volume, please enter "Y", a volume will be created, and all data on the selected disks will be lost.

Otherwise, please enter "N", to exit volume creation.

Here we enter "Y" to create an RAID volume, after creation, return to SATA HostRAID configuration main interface, and the created RAID volume will display in RAID volumes.

II．Delete RAID Volume Menu

After entering SATA RAID configuration interface, use up and down arrow buttons to select this menu, then press [Enter] to delete RAID volume menu, or input number in front of the menu directly to enter delete RAID volume menu.

System prompts: "Deleting a volume will reset the disks to non-RAID. Warning:ALL DISKS DATA WILL BE DELETED.".

To delete an RAID volume, please press [DEL], system prompts: "ALL DATA IN THE VOLUME WILL BE LOST! Are you sure you want to delete 'Volume*'?(Y/N):", to delete this RAID volume, please enter "Y", to cancel deletion of this RAID volume, please enter "N".

III．Reset Disks to Non-RAID Menu

After entering SATA RAID configuration interface, use up and down arrow buttons to select this menu, then press [Enter] to enter this menu, or input directly.

System will display all hard disks in RAID volume, please select hard disks to be reset using space key according to actual requirements, and then press enter to reset hard disks, system prompts whether to reset hard disks, key in "Y" or "N" according to prompt. Note: While resetting hard disk, data on this disk will all be lost, meanwhile, this disk will not belong to RAID volume any more.

IV．Exit Menu

After entering SAS RAID configuration interface, users could use up and down arrow buttons to select this menu, and then press [Enter] to enter this menu.

System prompts: " Are you sure you want to exit?(Y/N):", enter "Y", to exit SAS RAID configuration interface, enter "N", to cancel exit operation.

Chapter Five Common Problems and Troubleshooting

This chapter introduces the information concerning common problems and trouble removal. If you are not sure the failure cause and removal method, please contact our customer service center for solution.

Note: When replacing or installing the hardware device for the server, please disconnect the power cable from the server completely. It is suggested to use the anti-static wrist strap when dismounting the server and earth the other end to provide electrostatic protection.

5.1 Restart the machine

When a failure occurs, try to restart the machine according to the following methods first.

Purpose	Operational approach
Restart the software and clear up system RAM and restart the operating system.	<Ctrl+Alt+Del>
Clear up system RAM, self-check the POST again and restart the operating system.	Reset button
Cold boot again, close the system power switch and start so that to clear up the system RAM. Self-check the POST again, restart the operating system and power up all peripherals again.	Power button

5.2 Failure occurs when starting the machine

Some problems often occur when starting the machine generally due to incorrect hardware installation and configuration. You may find and remove the problems referring to the following methods.

5.2.1 No system power

When pressing the power switch, the power light is not on and the system is still in

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non-electric state. Please solve according to the following steps:

1. Check whether your power socket can supply power normally and power cable is connected correctly or not.

2. Press the power switch for many times to start (pay attention not to exert too large force from your finger)

3. Disconnect the power cable of the system and open the case to check.

4. Check the fastness of the cable connection in the case and accessory plugging.

5. Remove other external components than Inspur ones.

6. Pack the case, connect the power cable correctly and start the machine.

5.2.2 Display doesn't work

It can be electrified (the host can start and run normally), but the display doesn't work:

1. Check the correctness and fastness of the signal cable and power cable of the display.

2. Make sure to power on the display

3. Adjust the contrast and brightness of the display and determine whether it can display or not.

4. Shut down the system and disconnect the power cable to check whether there is curve in the pin at the connecting end of the display signal cable and host.

5. Replace another display for test if possible.

6. If the machine is installed with other components than Inspur ones. Please remove it first.

7. With the permission of Inspur technical support personnel, pull and plug RAM and clear CMOS for test.

5.2.3 Installation system can't find the hard disk

1. When install the system directly booted with the system CD, if it prompts that no hard disk can be found, please pay attention to the normality of the disk state and power-on self-check hard disk state.

2. If the power-on self check can detect the hard disk but the hard disk can't be detected when installing the system, it may be caused by the following several conditions:

●When use Jierui management software CD to install system, if "No matched storage controller" is prompted after entering navigation number and system installation information, please confirm whether navigation number is input correctly.

●Because the navigation serial number is different when storage configuration has been

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changed, so you should obtain the new navigation serial number from Inspur technical support before you change your storage configuration.

● If you use the system CD to boot and install the operating system directly, the hard disk drive is generally added through the floppy. When using USB floppy to add the drive, please set the BIOS first and close the onboard floppy controller.

● Please check whether the fabricated floppy drive is correct or not (the drive for external RAID card should be fabricated directly from the attached RAID card driver CD) and whether there is fault in the soft disk.

5.2.4 Keyboard and mouse don't work

1. Check whether the cable joint of the mouse and keyboard is plugged and connected correctly. Pay attention to curve of the joint pin.

2. Check whether the mouse setting in control panel of the operating system is normal or not.

3. Clean the rolling wheel and drive shaft of the mouse.

4. It is suggested that you use the keyboard and mouse tested for compatibility by Inspur group or replace with other keyboard and mouse for testing.

5.2.5 System blue screen, halt or restart

For blue screen, restart or halt of the machine in the utilization process of the system, process referring to the following thoughts:

1. If other external non-Inspur component or some application program software is installed before the fault, it is suggested to download and test.

2. Use the latest antivirus software for antivirus test.

3. It is suggested that you record the displayed information code for blue screen, such as: stop c000000218.....; stop: 0x0000007b. Such beep on error like this kind of information is generally caused by the system. It is suggested that you reinstall it. For the installation process, you can refer to the user manual or consult at 8008600011.

4. If all above operations cant solve the problem, it is suggested that you save file winnt/minidump in disk C and call the service center for support from the professional technical engineer who may ask you to provide minidump file for further analysis the cause for blue screen and halt. If there is no minidump folder in disk c, please refer to the following steps: right-click my computer, select <attribute>→<advanced>→<startup and recovery bar >, then select <set>, change <write in debug information> in the next page to "small RAM dump" and restart the machine. The system will produce minidump file in next blue screen.

5.2.6 Machine alarm

If the machine alarms in startup or utilization process, please refer to the following processes for disposal:

1. If the phenomenon occurs after you plugged some external board, it is suggested that you pull off this device and start to test. If it is normal, it shows that your external board is incompatible with the machine. It is suggested not to use it any more; If it is unsolved, please go on referring to the following steps.

2. Determine the orientation of the alarm sound simply:

● If the alarm sound is from the front of the case generally followed the abnormal change of the fault indicator, there is possibility of abnormal fan or hard disk module;

●If the alarm sound is from the rear of the case, please pay attention to check whether a redundant power supply is configured or not and whether there is an abnormal status lamp of the power supply module or a module without power cable or not (when power alarms, the shield switch can be pressed to stop alarm);

● If the alarm sound is in the case, the alarm may be from mainboard , RAID card or hard disk back plate. If it is also accompanied by no display or no power faults, there is comparatively large possibility of bad mainboard. You can try to pull or plug RAM or clear CMOS; If the starting self-check is normal and it alarms when testing RAID card with display of abnormal array information, there is comparatively large possibility of RAID card alarm. There is maybe array abnormality; When the hard disk back plate alarms, there is always abnormal status lamp of the hard disk on the front panel which can be also used to analyze in coordination.

3. After understanding the basic information, please feedback the detail alarm information to Inspur technical support personnel as soon as possible. We will make further analysis and judgment and help you to solve the problem as soon as possible.

5.3 Other notices

1. This server does not support system sleep function.

2. In order to guarantee the liability of the system, it is suggested that you use the component of the relevant model authenticated by us when expanding and equipping components.

3. Please guarantee the fine electricity utilization environment of the server, normal voltage input and earthing condition and temperature and humidity and so on within the normal range.

4. For special needs, when transferring the server, pay attention to avoid the vibration and carry out in power off condition.

5. For notices of more products, please refer to the FAQ for server in official website of Inspur: http://www.inspur.com/support/Channel_Home/support_sv.asp

5.4 Technical support information

If you have any doubt or unsolved problems in using Inspur server, please take the following measures:

1. If you have doubt in product configuration and detail specification, please contact your supplier.

2．If there is system problem in using the machine, please contact the customer service center of Inspur server directly, please record the product serial number on your host case. After receiving your service request, our technical support personnel will provide you with solution or field maintenance.

3. Contact method of customer service center of Inspur server:

Technical support telephone: 86-531-88546554

Free consulting telephone: 800-8600011

400-8600011

Email: webservice@inspur.com

Download address of drive and product information for Inspur server:

http://www.inspur.com/support/Channel＿Home/support＿sv.asp