

Dear User of Inspur Yingxin Server,

**Heartfelt thank you for your use of Inspur Yingxin Server!**

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

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

This manual is the property of the Inspur.

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

Any alteration about the content of this manual will not be informed.

Please contact Inspur if you have any questions or advice about this manual.

Inspur  
April, 2014

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## Statement

Please read the following statements before you use this server. 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 motherboard 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 detailed hardware configuration of your server 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, Fan, and so on are all in given standard. Please don't use them together with the corresponding components of any other machines.

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 for the software problems about the installation and operation of the database, network management software or other networking products.

5. The figures in the pressworks attached to the server are just for your reference. The server that you purchase prevails.

6. Please read carefully our user manual before you install this server. If you have any questions about the usage, please contact our Customer Service.

**7. We must call your attention that in the application process you should pay attention to doing necessary backup of your file.**

8. This is a Grade A product, and this product may cause radio jamming. In this case, users need to adopt feasible measures to the interference.

9. The copyright of the marks and names of all the software and hardware products involved in this manual is reserved by the relevant companies.

10. In the statements above, "us" indicates Inspur; Inspur holds the right of final explanation about the above statements.

# Regarding This Manual

- **Chapter One Safety Information**

In this chapter, safety information regarding server usage is introduced.

- **Chapter Two Product Introduction**

In this chapter the technical characteristics, appearance features, I/O interface technical specification of this server are introduced.

- **Chapter Three System Setup**

In this chapter the setup of the main board BIOS of this server and the usage of some common jumpers is introduced.

- **Chapter Four Install Operating System**

In this chapter, how to install the main operating system to this server is introduced.

- **Chapter Five Common Problems and Trouble-shooting**

In this chapter, solutions to some common problems are introduced.

- **Chapter Six Management Functions Introduction of Integrated management card**

In this chapter, the usage of integrated management card of this server is introduced.

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

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# Chapter 1 Safety Information



**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, please.

**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 flat 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. 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.

Notes: 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:

1. In case of the following cases, please unplug the power line plug of products from the power socket and contact the 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 treat it 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 dismantling 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 dismantling the cover of cabinet or touching the internal components, the products need to be cooled down.

- Before dismantling 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 dismantling 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.

## Chapter 2 Product Introduction

### 2.1 Server Technical Specification

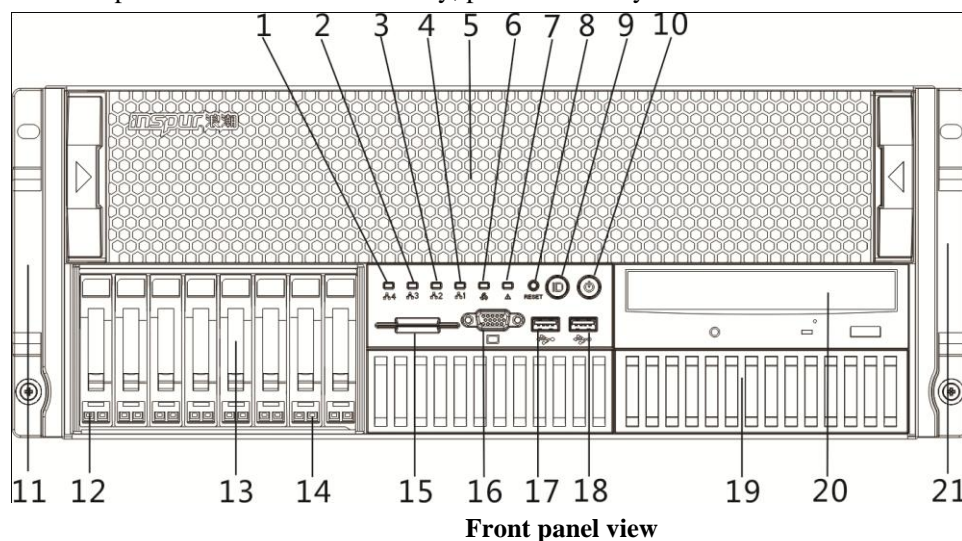
|                                 |  |
|---------------------------------|--|
| <b>Processor</b>                |  |
| Processor type                  | Intel 4-way Xeon E7-4800 V2 series CPU   |
| Processor number                | 1~4 CPU  |
| Interface                       | Socket 2011  |
| <b>Chipset</b>                  |  |
| Chipset type                    | Intel C600 chipset   |
| <b>Memory</b>                   |  |
| Memory type                     | DDR3 ECC Registered memory   |
| Memory slot number              | Up to 32 DIMMs   |
| Memory capacity                 | Support up to 256GB using single 8G memory<br>Maximum memory capacity will increase with the increase of single memory capacity    |
| Memory advanced characteristics | 4-channel access, support memory mirroring and memory hot standby  |
| <b>I/O Interface</b>            |  |
| USB interface                   | 2 front USB interfaces<br>4 rear USB interfaces  |
| Serial interface                | 1 rear serial interface  |
| Network interface               | 4 RJ45 network interface, 1 management interface   |
| Display interface               | 1 front VGA interface<br>1 rear VGA interface  |
| <b>ID button and LED</b>        |  |
| ID button and LED               | 1 ID button and LED in the front of the chassis<br>1 ID button and LED in the rear of the chassis                                  |
| <b>Display controller</b>       |  |
| Controller type                 | Onboard AST2300 display controller   |
| Video memory                    | 16MB video memory  |
| <b>HDD controller</b>           |  |
| SAS controller                  | Optional SAS RAID card or SAS card   |
| SATA controller                 | South bridge integrated SATA controller, 2 SATA 3.0 interfaces on the mother board, one SATA interface is used for connecting SATA |

|                               |   |
|-------------------------------|---|
|                               | optical drive   |
| <b>Management card</b>        |   |
| Management card chip          | Integrated A speed 2300 chip, support IPMI2.0+IKVM  |
| Management card interface     | IPMI management dedicated interface or multiplex onboard Intel I350 network card 3 is available   |
| <b>Network card</b>           |   |
| Network card controller       | Onboard 2 Intel I350 Gigabit network chips, total 4 RJ45 interfaces<br>Optional 10Gigabit Ethernet expansion card, 2 RJ45 interfaces  |
| <b>PCI expansion slot</b>     |   |
| PCIe bus type                 | PCI-Express bus, supporting vertically inserted full height expansion card  |
| PCIe slot                     | PCIe_0_CPU0 slot: full-length full-height PCIe x16 slot (CPU_0 supports)<br>PCIe_1_CPU0 slot: half-length full-height PCIe x16+x1 slot (CPU_0 supports)<br>PCIe_0_CPU1 slot: full-length full-height PCIe x16 slot (CPU_1 supports)<br>PCIe_1_CPU1 slot: front half-length full-height PCIe x8 slot (CPU_1 supports)<br>PCIe_2_CPU1 slot: full-length full-height PCIe x16 slot (CPU_1 supports)<br>PCIe_0_CPU2 slot: half-length full-height PCIe x16 slot (CPU_2 supports)<br>PCIe_1_CPU2 slot: front half-length full-height PCIe x8 slot (CPU_2 supports)<br>PCIe_0_CPU3 slot: full-length full-height PCIe x16 slot (CPU_3 supports)<br>PCIe_1_CPU3 slot: full-length full-height PCIe x16 slot (CPU_3 supports) |
| <b>Hard disk</b>              |   |
| Hard disk type                | 2.5" SAS and SATA hard disk   |
| Number                        | Different CPU numbers configured support different hard disk number:<br>1-2 CPU, support up to 8 pieces of 2.5" HDD<br>4 CPUs, support up to 16 pieces of 2.5" HDD  |
| <b>External storage drive</b> |   |
| Optical drive (optional)      | Optional standard SATA optical drive, no standard SATA optical drive when the hard disks number is over 8   |
| Inspur drive U disk           | Optional Inspur drive U disk. Load HDD controller driver when install OS manually   |
| <b>Power supply</b>           |   |
| Specification                 | 3+1 redundant power source, system provides 2100W power support; can extend to support 2+2 redundancy mode  |
| Power input                   | Please refer to the power input label on the host nameplate   |
| <b>Physical dimensions</b>    |   |
| Package box outer size        | W(Width) 664mm; H(Height) 443mm; D(Depth) 963mm   |
| Main chassis size             | W(Width) 447.6mm; H(Height) 174.8 mm; D(Depth) 749mm  |
| Weight                        | Standard configuration: 2 CPUs/4 DIMMs/4 SAS HDDs/3 power module<br>Net weight: 38Kg  |

|                                   |   |
|-----------------------------------|---|
|                                   | Gross weight: 47Kg (packaging + guide rail)<br>Full configuration: 4 CPUs/32 DIMMs/16 SAS HDDs/4 power modules<br>Net weight: 42Kg<br>Gross weight: 51Kg (packaging + guide rail) |
| <b>Environment parameter</b>      |   |
| Operating environment temperature | 10℃-35℃   |
| Storage and transport temperature | -40℃-55℃  |
| Operating humidity                | 35%-80% relative humidity   |
| Storage and transport humidity    | 20%-93% (40℃) relative humidity   |

## 2.2 Front Panel View

The pictures are for reference only; please refer to your actual machines.

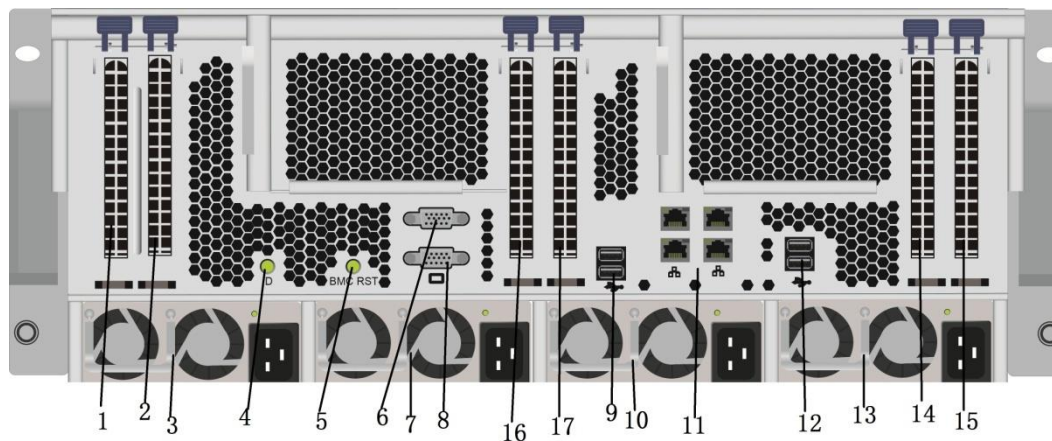


| Number | Name                           | Introduction   |
|--------|--------------------------------|--|
| 1      | Network card 4 indicator light | Integrated I350 network card 4 indicator light<br>Blinking: network connected or transferring data (green)<br>Off: no network connection |
| 2      | Network card 3 indicator light | Integrated I350 network card 3 indicator light<br>Blinking: network connected or transferring data (green)<br>Off: no network connection |
| 3      | Network card 2 indicator light | Integrated I350 network card 2 indicator light<br>Blinking: network connected or transferring data (green)                               |

|    |                                   |   |
|----|-----------------------------------|---|
|    |                                   | Off: no network connection  |
| 4  | Network card 1 indicator light    | Integrated I350 network card 1 indicator light<br>Blinking: network connected or transferring data (green)<br>Off: no network connection  |
| 5  | Fan module plane                  | Open the fan module plane and there are 4 fan modules;<br>Every fan module contains 2 fans and it is Fan 1 which is close to the motherboard side;<br>Seen from chassis front view, the fan module is 1/2/3/4 from left to right in turn;<br>There are FAN1/FAN2 indicator lights on each fan module; when fan failure occurs, the light is orange. |
| 6  | Fan failure indicator light       | Fan failure alert<br>On: fan fails (orange color)<br>Off: fan is working normally   |
| 7  | System failure indicator light    | System failure alert<br>On: system fails (orange color)<br>Off: system is working normally  |
| 8  | Reset button                      | System restart button   |
| 9  | ID button and indicator light     | When server is connected to power, press ID button on chassis front side or ID button on chassis back side, and this light will turn blue for server identification; repress the button and the light will turn off.  |
| 10 | Power button and indicator light  | Power on/off button and power up indicator light<br>On: the server is powered up;<br>Off: the server is not powered up.   |
| 11 | Left handle                       | Chassis handle on the left  |
| 12 | HDD active state indicator light  | Turn green when the hard disk is reading and writing.   |
| 13 | 1~8 2.5" HDD bays                 | HDDs supported by SAS module 1 and HDD0-HDD7 from left to right in turn   |
| 14 | HDD failure alert indicator light | When the hard disk fails, it will turn red;<br>When the hard disk is under RAID card rebuilding, it will turn purple;<br>When the hard disk is operating Locate, it will turn blue.   |

|    |                          |  |
|----|--------------------------|--|
| 15 | Label mylar bar          | Pull mylar bar out and view product information from the label pasted on it  |
| D  | Front VGA port           | Connecting VGA port display device   |
| 17 | USB port                 | Connecting USB device  |
| 18 | USB port                 | Connecting USB device  |
| 19 | 9~16 2.5" HDD bays       | HDDs supported by SAS module 2 and HDD8-HDD15 from left to right in turn;<br>Only the configuration with 4 CPUs supports more than 8 HDDs;<br>The configuration with SAS module 2 can't support standard SATA optical drive. |
| 20 | Optical drive (optional) | SATA standard optical drive<br>The configuration with SAS module 2 can't support standard SATA optical drive.  |
| 21 | Right handle             | Chassis handle on the right  |

## 2.3 Rear Panel View



Rear panel view

| Number | Name                         | Function and instruction                                   |
|--------|------------------------------|--|
| 1      | PCIE Riser installation slot | Install PCIE Riser card                                    |
| 2      | PCIE Riser installation slot | Install PCIE Riser card                                    |
| 3      | PSU 4 installation slot      | Installation position for the 4 <sup>th</sup> power module |
| 4      | ID button and indicator      | After the server is connected to the power supply,         |

|    |                              |   |
|----|------------------------------|---|
|    |                              | press this ID button or the ID button in the front of the case, this indicator will turn blue for identifying machine, press the button again to close the indicator. |
| 5  | BMC RESET                    | BMC restore factory settings button and indicator   |
| 6  | Serial port                  | Connect serial port device  |
| 7  | PSU 3 installation slot      | Installation position for the 3 <sup>rd</sup> power module  |
| 8  | VGA port                     | Connect VGA port display device   |
| 9  | USB interface                | Connect USB interface device  |
| 10 | PSU 2 installation slot      | Installation position for the 2 <sup>nd</sup> power module  |
| 11 | Gigabit network interface    | 4 gigabit Ethernet interface  |
| 12 | USB interface                | Connect USB interface device  |
| 13 | PSU 1 installation slot      | Installation position for the 1 <sup>st</sup> power module  |
| 14 | PCIE Riser installation slot | Install PCIE Riser card, optional riser card is available   |
| 15 | PCIE Riser installation slot | Install PCIE Riser card   |
| 16 | PCIE Riser installation slot | Install PCIE Riser card, optional riser card is available   |
| 17 | PCIE Riser installation slot | Install PCIE Riser card   |

## Chapter 3 System Setup

In this chapter, the regular jumper of motherboard and BIOS function setup of this server are introduced. Only operator or administrator with qualification of system maintenance can implement these operations described in this part.

### 3.1 System BIOS Setup

BIOS is a basic input and output system. With some special setting programs, it can adjust the system parameter and the hardware parameter. As BIOS has great influence on the starting and running of the system, setting parameters improperly may arise the conflict among hardware resources, or affect the system's performance. Hence understanding the BIOS setup is significant to server configuration. If there is no especial requirement, we suggest you use the default value

and not alter the parameters.



#### Notes:

1. Before the server BIOS setup is altered, please record the corresponding original setup. Hence when there are operating problems in the system due to the alteration, the setup can be restored.
2. The factory default system setup is usually the optimized setup. Don't try to alter the parameters before you understand their denotations.
3. The common setup is introduced in detail in this chapter. For items less used in the application, this chapter only offers simple instruction or just omits the instruction.
4. The contents of the BIOS may differ due to the different configurations of products; no detailed introduction will be provided here.

### 3.1.1 How to Enter the BIOS Setup

Power up and start the server. When the prompt "Press [DEL] to SETUP or [TAB] to POST" displays on screen below, press [DEL] and wait for a while. And then the system enters BIOS setup.

If the system does not enter BIOS setup after previous steps, please press [Ctrl]-[Alt]-[Del] at the same time to reset the system, and repeat operations above. (If the prompt displays to press [DEL] again, please press it quickly.)

Note: Some items in BIOS cannot be configured, for example, information of system detecting and configuration. For some items, there is a right pointer, which means if you select this item and press [Enter], cascading menu (that is, submenu) will be displayed on the screen.

### 3.1.2 BIOS System Menu Introduction

Next the following main function menus of BIOS are introduced.

| Menu Name | Menu Function  |
|-----------|--|
| Main      | Configuring the basic system settings, such as system time, system date, displaying BIOS information, etc. |
| Advanced  | Configuring CPU, integrated SATA controller and other advanced characteristics                             |
| Security  | Configuring the system super user and password   |
| Power     | Providing the support for Wake on Lan  |
| Boot      | Configuring boot priority of system devices  |
| Exit      | Saving or exiting BIOS setup, etc  |

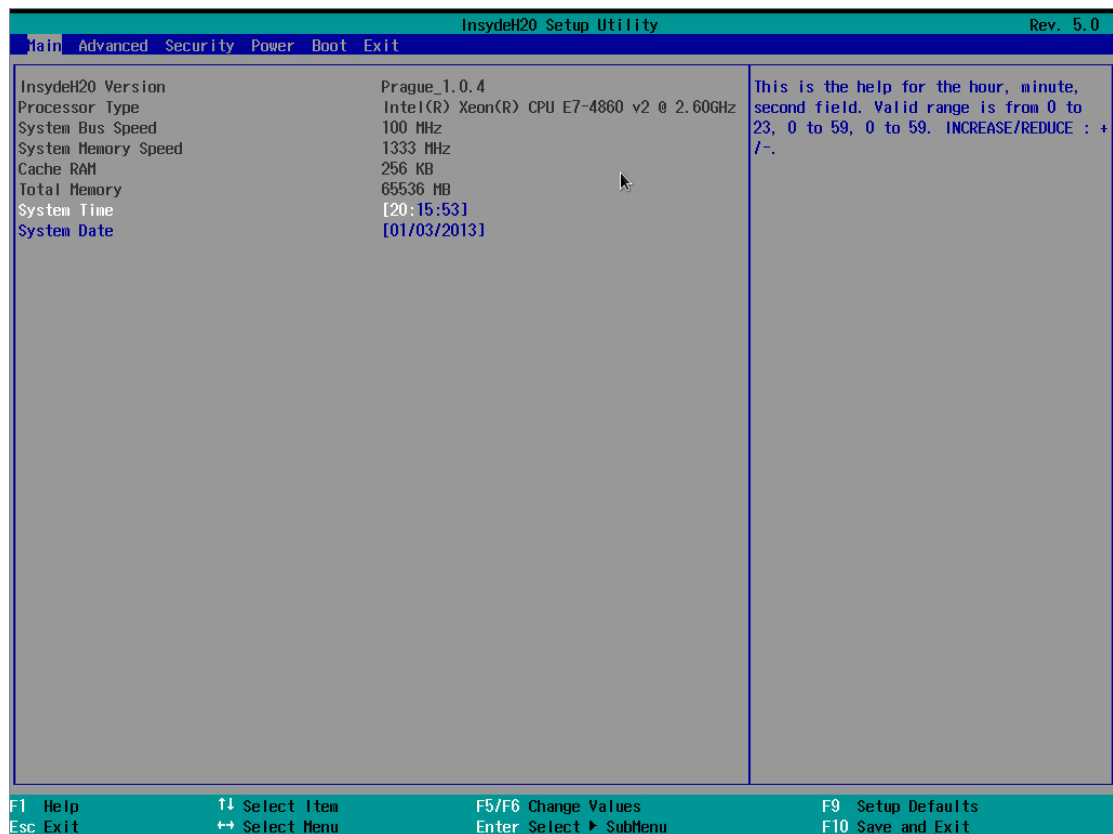
Introduction of operational keys:

| Button | Description                           |
|--------|---------------------------------------|
| ↑ (up) | For selecting the upper menu or value |



|           |  |
|-----------|--|
| ↓ (down)  | For selecting the next menu or value   |
| ← (left)  | For selecting the left menu or value   |
| → (right) | For selecting the right menu or value  |
| Esc       | For returning to the superior menu or the main menu  |
| +         | For changing the item value<br>For changing the current menu item into the previous item value<br>The key only displays the item values relevant to the item itself rather than all the item values  |
| -         | For changing the item value<br>For changing the current menu item into the next item value<br>The key only displays the item values relevant to the item itself rather than all the item values  |
| F1        | The help key for displaying the relevant introduction of current menu  |
| F5        | 1. Change the item value. When the current item has multiple option values, select the previous option value.<br>2. Adjust the item order. When changing the boot device priority, move up the current item, that is promoting the current item's priority.  |
| F6        | 1. Change the item value. When the current item has multiple option values, select the previous option value.<br>2. Adjust the item order. When changing the boot device priority, move down the current item, that is lowering the current item's priority. |
| F9        | For recovering the optimized performance configuration   |
| F10       | For saving CMOS settings and exiting   |
| Enter     | For executing current command or entering the submenu  |

## 1. Main menu



In BIOS setup utility, Main menu first displays. In this menu, BIOS version and memory capacity can be viewed. System time, date, etc. also can be set up in this menu.

To set system date and time, use the arrow key to choose one of the options. Press [Enter] to select subfield and use keys “-, +” to set field value.

- BIOS Information

It displays system BIOS version and BIOS modification time.

- Memory Information

It displays the system memory capacity.

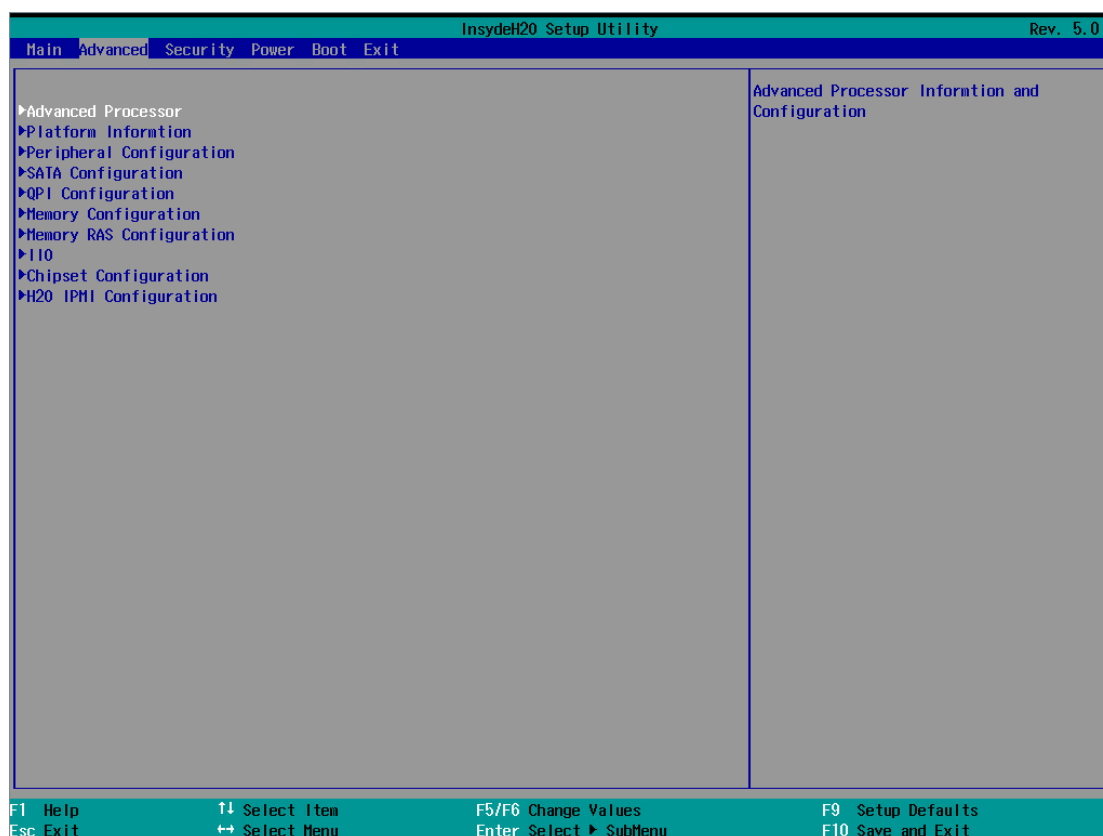
- System Time

Set the system time, adopting 24 hour system, in format of [hour/minute/second]

- System Date

Set the system date in format of [month/day/year].

## 2. Advanced menu



This menu is mainly applied to set advanced characteristic items. Improper setup can result in abnormal system operation. Default configurations are recommended.

Following are the introductions for main and common-used items.

- Advanced Processor

- \* CPU Package Detected

Displaying the CPU amount installed in the system.

- \* Socket 0/1/2/3 CPU Information

Displaying the detailed information of CPU installed in the system currently, including CPU basic frequency, the number of CPU cores, rated power and other information.

- \* CPU Power Management Controls

Enter this item to conduct CPU power management.

- \* Active Processor Cores

The number of active processor cores, including **【All】** (default setting)、**【1】**、**【2】**、**【3】**、**【4】**、**【5】**、**【6】**、**【7】** options (it differs according to the number of configured CPU cores).

- \* Intel HT Technology

CPU hyper-threading function setting, including **【Enabled】**(default setting) and **【Disabled】** two options.

- \* Intel(R) Virtualization Technology

CPU virtualization technology support function setting, including **【Enabled】**(default setting) and **【Disabled】** two options.

- Platform Information

Displaying ME version, working condition and other information.

- SATA Configuration

Entering this item can view the SATA device condition connected to each SATA port and enter SATA controller mode and each SATA port settings.

- \* SATA Controller

This item is used to enable or disable onboard SATA controller.

- \* HDC Configure As

This item is used to set onboard SATA controller modes, including [Disabled], [IDE], [AHCI] and [RAID] four items.

If you want to use serial devices as parallel IDE storage devices when onboard SATA controller is used, please set this item to [IDE].

If you do not use RAID and want to connect 1-6 SATA devices when onboard SATA controller is used, please set this item to [AHCI].

If you want to use integrated SATA Host RAID when onboard SATA controller is used, please set this item to [RAID].

- QPI Configuration

- \* QPI General Configuration

Entering this item can configure the general options of QPI.

- \* QPI Per Socket Configuration

Entering this item can set the QPI Port of every Socket, including the allocation of Bus, IO, MMIO and other resources.

- Memory Configuration

Entering this item can set the relevant parameters of memory.

- \* DDR Speed

Entering this item can set the memory speed. When Auto is selected, it will select automatically the highest speed supported by the current configuration; if other values are selected, it will run as the set speed, if the set speed is not supported, it will select the highest speed that it can support.

- \* VMSE Lockstep mode

Through this item you can select the working mode of VMSE: 1:1 Mode (Lockstep) or 2:1 Mode (Independent).

- \* Memory Topology

This item can skip to the memory topology, which displays the manufacturer, model, speed, installation position and other information of the memory banks installed in the system.

- Memory RAS Configuration

Entering this item can enable or disable the memory RAS features, mainly including SDDC,

DDDC, Demand Scrubbing, Patrol Scrubbing, Sparing, Device Tagging and so on.

- \* Rank Sparing

To enable [Sparing] function, it's needed to configure one memory bank with more than 2 ranks. After enabled, system selects one rank not to use, when other rank errors of this memory bank add up to a certain threshold value, the wrong rank will be mapped out, and the selected rank will replace it. Hereafter, this DIMM has no sparing function. If set to [sparing] mode, the memory viewed in the system is smaller than the real memory.

- \* Patrol Scrub

If this function is enabled, CPU will read and verify all memories installed in the system once within a certain period (24 hours); if finding ECC error, it will correct the error automatically.

- \* Demand Scrub

If this function is enabled, when CPU is reading one section of memory and finds ECC error, it will correct the error.

- \* Device Tagging

After this function is enabled, if some grain of one rank in DIMM goes wrong, the grain used for error correction will replace it, hereafter, this rank has no device tagging function, and the error correcting capability will go down.

- \* Data Scrambling

After this function is enabled, it will avoid the signal error caused by that single bit continuously appears "0" or "1" when accessing memory.

- IIO Configuration

Entering this item can configure the relevant parameters of every IIO's every port.

- Chipset Configuration

Entering this item can configure the relevant parameters of the chipset.

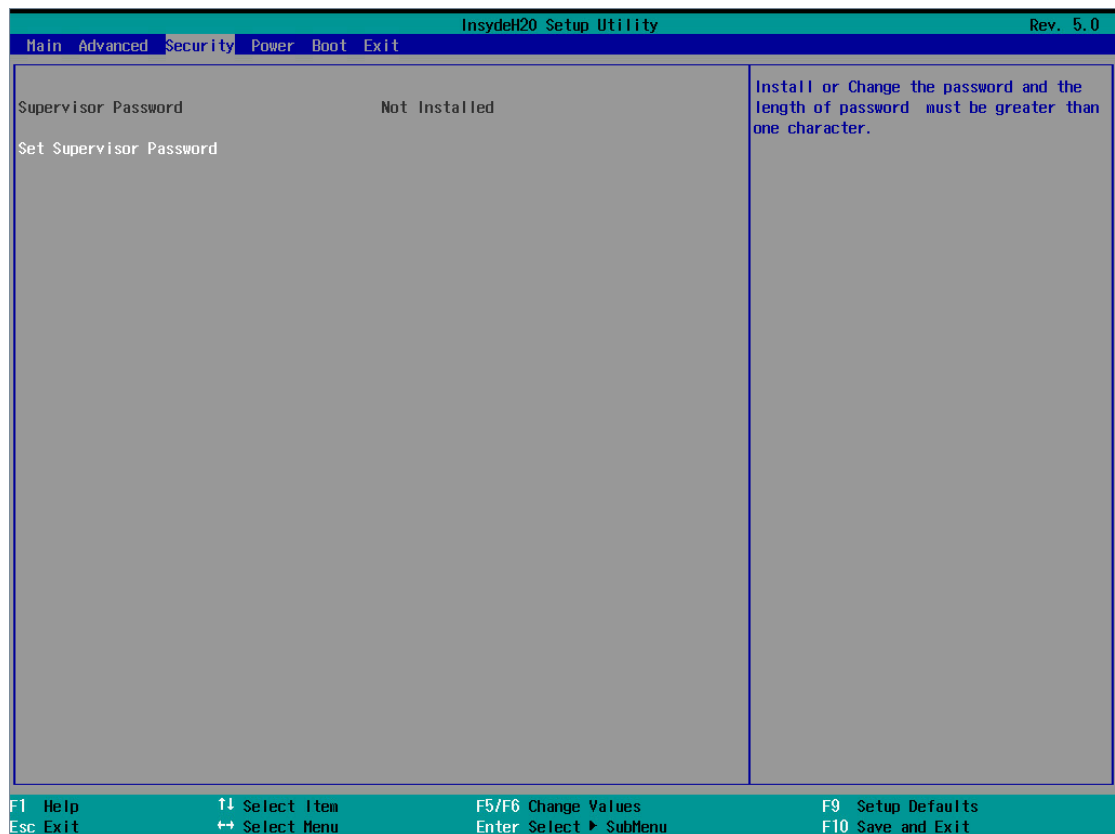
- H2O IPMI Configuration

Entering this item can view the relevant information of BMC and configure BMC.

- \* IPMI Support

This item is used to enabled or disable the support for IPMI. Viewing BMC information and configuring BMC need to enable IPMI support.

### **3. Security menu**



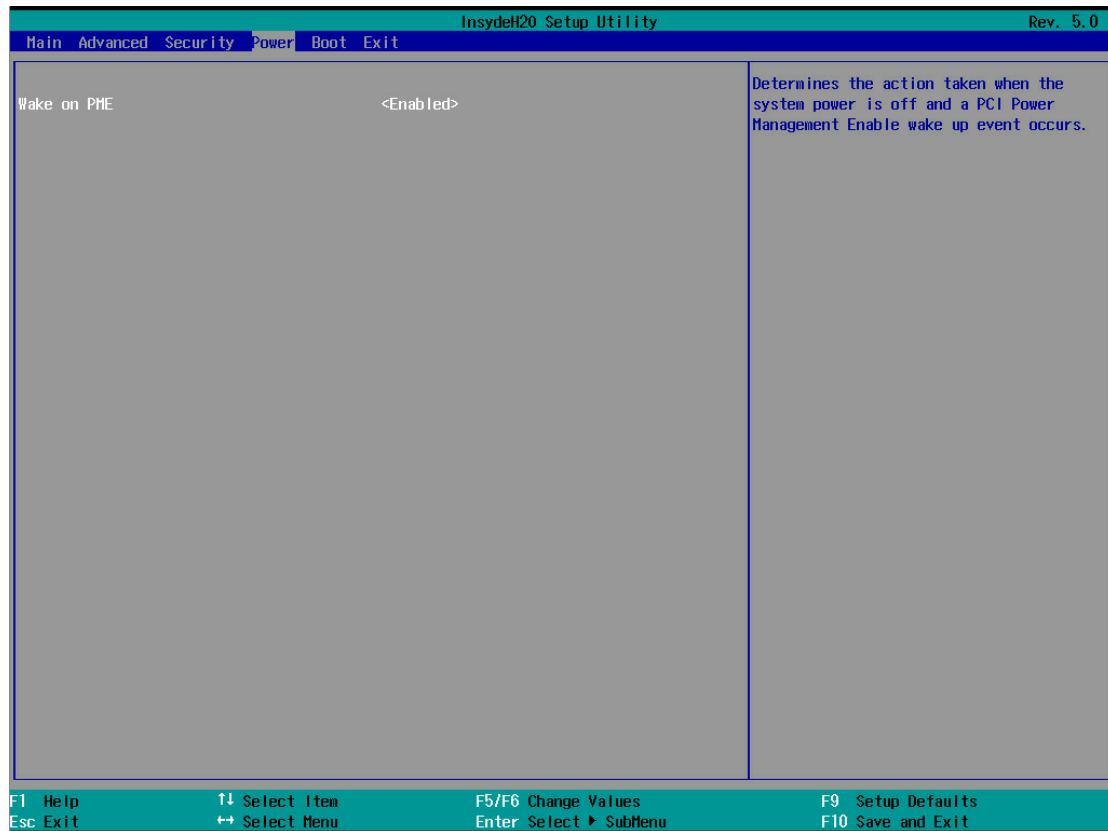
- Supervisor Password

Displaying whether to set up system administrator password. After the setup of the administrator password, you must input the password when entering the BIOS setup progress.

- Set Supervisor Password

This menu is used to set up system administrator password.

#### 4. Power menu

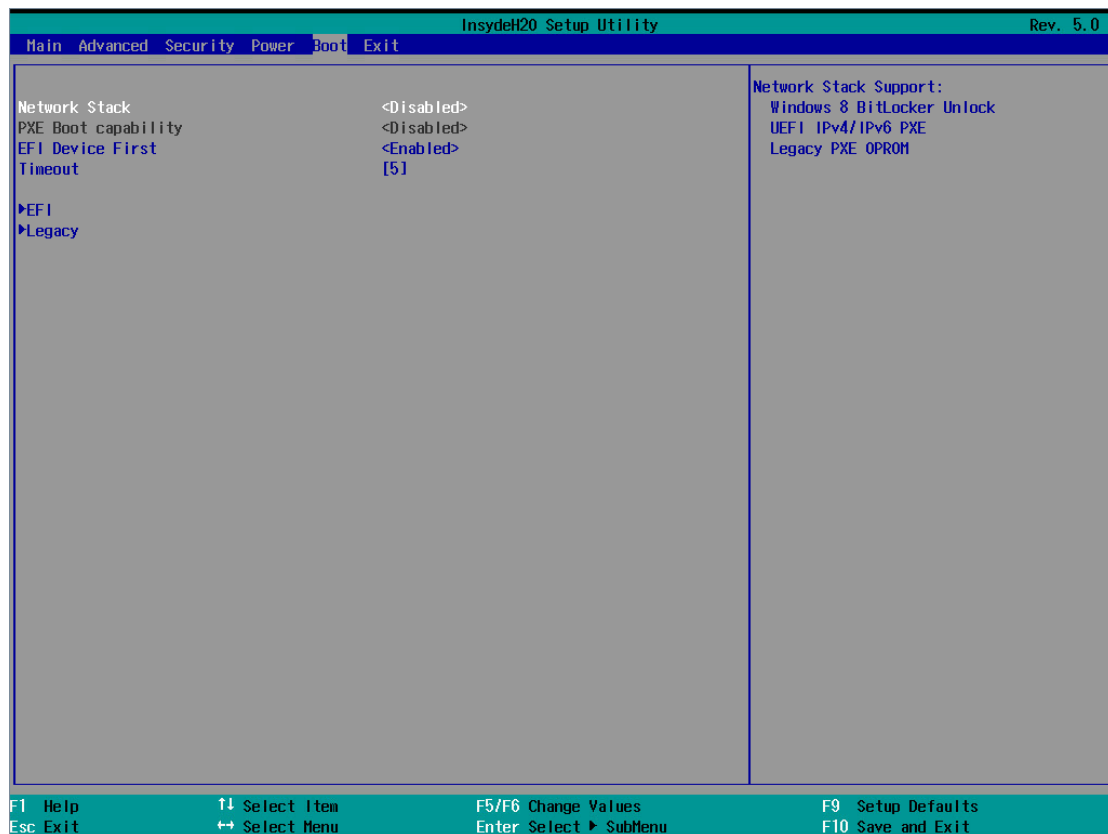


Power menu provides the support for Wake on Lan

- Wake on PME

Prague platform realizes Wake on Lan through PME. This item can enable or disable the support for Wake on Lan; after enabled, you can use Magic Packet to wake on.

## 5. Boot menu



Boot menu is mainly used to the configuration of system boot process and system boot devices priority.

- Network Stack

This item can enable or disable the support for network stack to support PXE.

- PXE Boot capability

This item is used to select Legacy PXE or UEFI PXE (IPV4/IPV6) to support. This item is available only after Network Stack is enabled.

- EFI Device First

This item is used to set whether to give preference to the UEFI bootable devices during booting. The default setting is Enabled, that is give preference to UEFI bootable devices.

- Timeout

Set the prompted waiting time of BIOS Setup.

- EFI

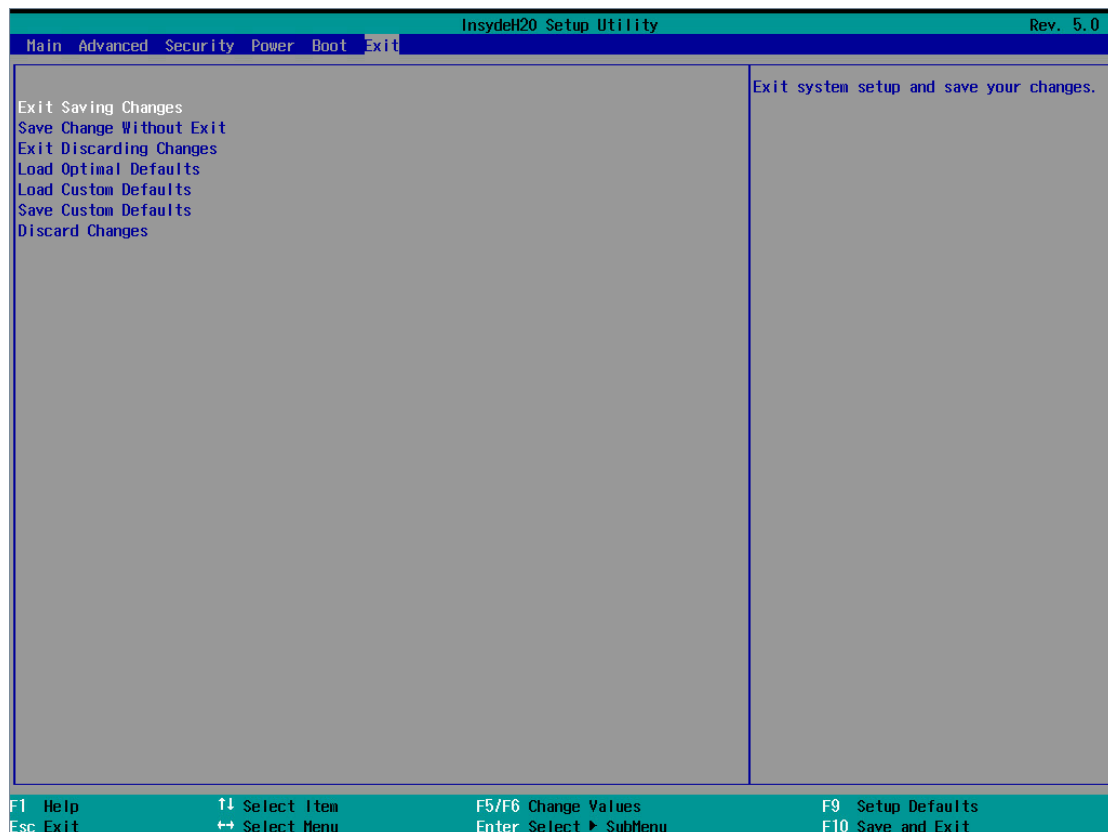
Press [Enter] to enter this menu sub-option and set the boot priority of UEFI devices.

- Legacy

Press [Enter] to enter this menu sub-option and set the boot priority of Legacy devices.

## 6. Exit menu





The options in this menu can be used to save or discard the settings of the changes in the BIOS and exit the setting program.

- Exit Saving Changes

Select this item and press [Enter]. After you select [Yes] for confirmation, the changes in the BIOS settings will be saved and the system will exit the BIOS setup. The menu function can use [F10] shortcut key to realize.

- Saving Change Without Exit

Select this item and press [Enter]. After you select [Yes] for confirmation, the changes in the BIOS settings will be saved and the system will not exit the BIOS setup.

- Exit Discarding Changes

Select this item and press [Enter]. After you select [Yes] for confirmation, the changes in the BIOS settings will be discarded and the system will exit the BIOS setup.

- Load Optional Defaults

Select this item and press [Enter]. After you select [Yes] for confirmation, the system will load system default optimization setup and the system will not exit the BIOS setup. This menu function can use [F9] shortcut key to realize.

- Load Custom Defaults

Select this item and press [Enter]. After you select [Yes] for confirmation, the system will load the already saved user defaults.

- Save Custom Defaults

Select this item and press [Enter]. After you select [Yes] for confirmation, the system will save the current items setup values of the BIOS as the user default values.

- Discard Changes

Select this item and press [Enter]. After you select [Yes] for confirmation, the changes in the BIOS settings will be discarded and the system will not exit the BIOS setup.

## 3.2 Motherboard Jumper Settings

Motherboard jumper setting is the operation of shorting cut two pins of the jumper to change the interface functions. Refer to the following figure, and adjust the motherboard functions.

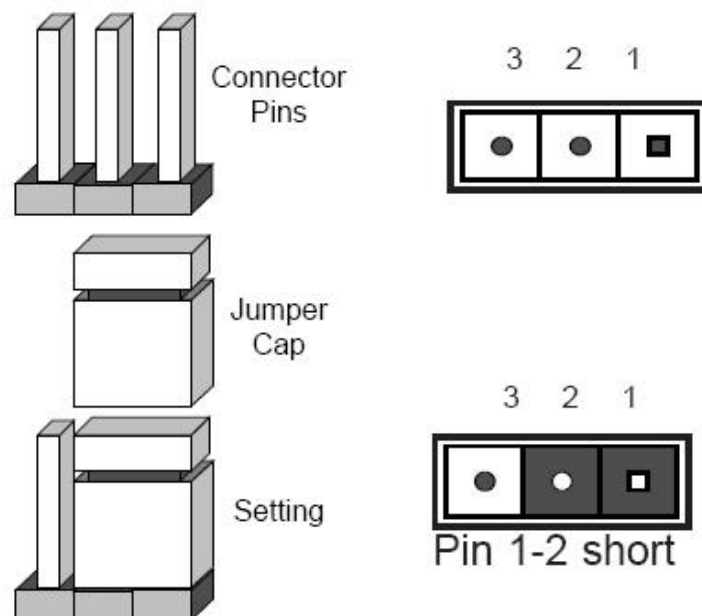
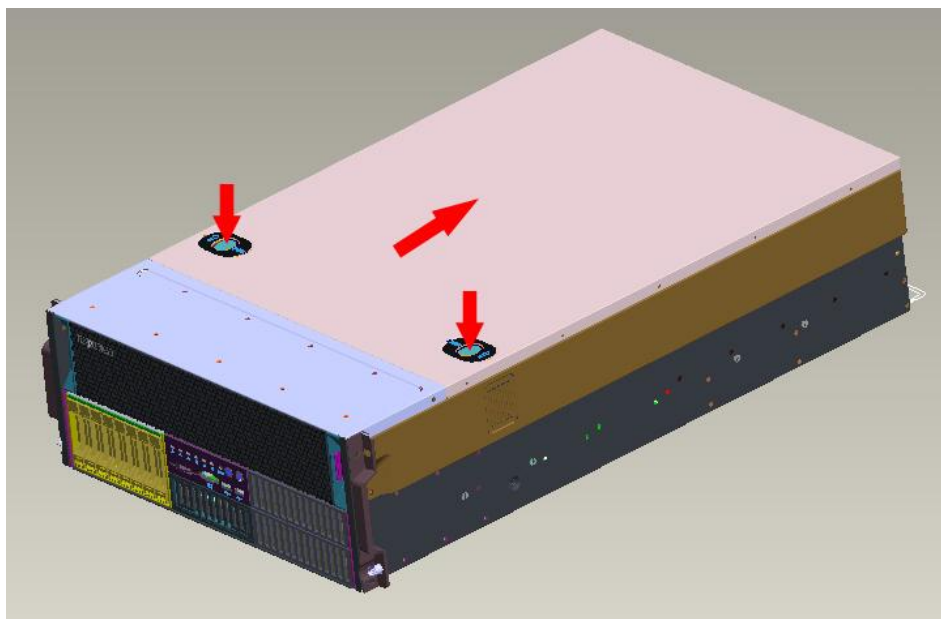


Figure of jumper settings

### 3.2.1 Open the Chassis Upper Panel

If the following operations are needed, please get the authorization of Inspur according to the methods as follows to open the chassis upper panel:

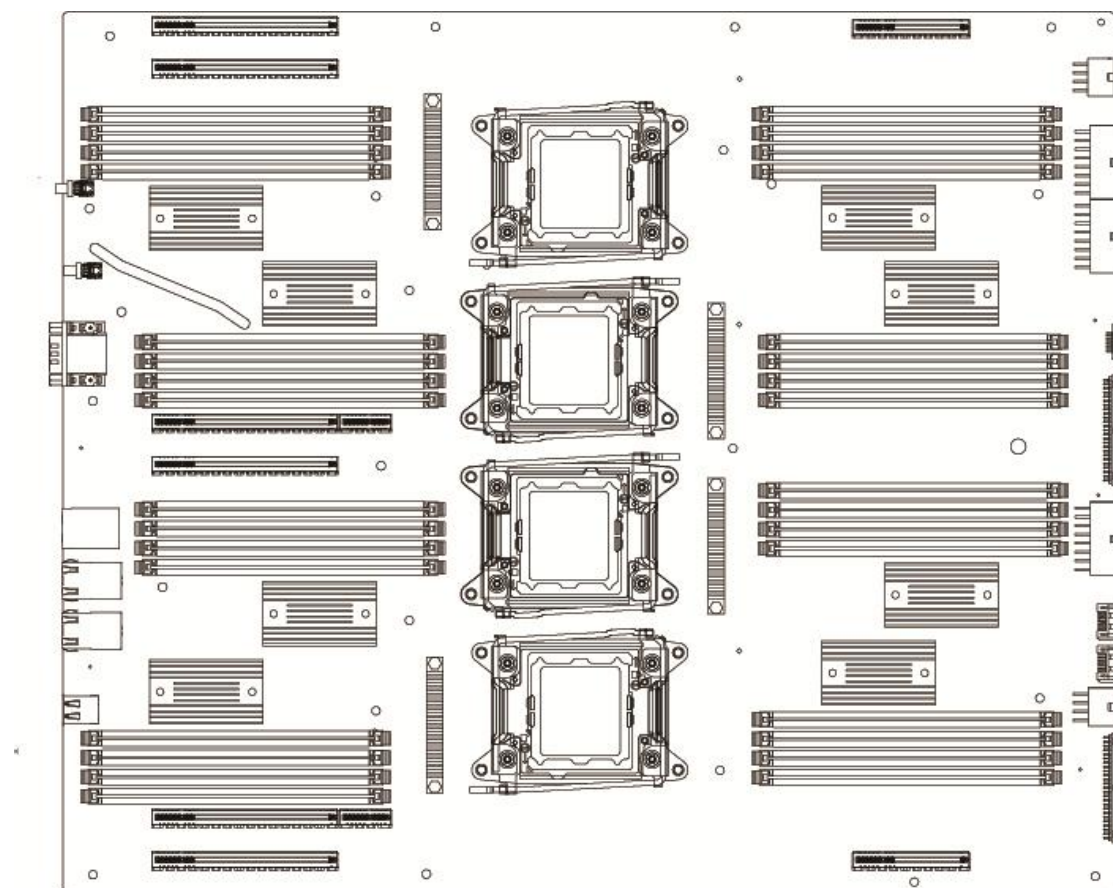
1. Power off the system (turn off the AC power);
2. Vertically press the PUSH button on the chassis upper panel with two thumbs and meanwhile push the chassis upper panel backwards.
3. Remove the chassis upper panel.



Open the chassis upper panel

### 3.2.2 Introduction of Common Motherboard Jumper Function

Following is the layout of common motherboard jumper:



Motherboard common use jumper location picture

| Jumper name     | Function description                  | Jumper function  |
|-----------------|---------------------------------------|--|
| CLR_CMOS jumper | CMOS jumper                           | Short-cutting pin1 and 2, normal state (default);<br>Short-cutting pin2 and 3, clear CMOS                  |
| J77 jumper      | Integrated I350 network card 3 jumper | Short-cutting pin1 and 2, enable network card (default);<br>Short-cutting pin2 and 3, disable network card |
| J78 jumper      | Integrated I350 network card 4 jumper | Short-cutting pin1 and 2, enable network card (default);<br>Short-cutting pin2 and 3, disable network card |
| J79 jumper      | Integrated I350 network card 1 jumper | Short-cutting pin1 and 2, enable network card (default);<br>Short-cutting pin2 and 3, disable network card |
| J80 jumper      | Integrated I350 network card 2 jumper | Short-cutting pin1 and 2, enable network card (default);<br>Short-cutting pin2 and 3, disable network card |

Notes:

1. When clearing CMOS, the system must be shut down and power supply cut off. Short cut pin2-3 for 5 seconds. And then reuse jumper cap to short cut Pin1 and Pin2 (default state) and restore to the original state.
2. After the jumper operation, please install the upper panel of the chassis.

## Chapter 4 Install Operating System

This chapter primarily focuses on the method for installing the prevailing operating systems to the server.

The Ruijie server kit supports operating systems that can be installed intelligently and automatically, such as mainstream Windows system. For the practically supported operating systems, please refer to the optional operating systems in the drop-down box of [Select operating system]. Some configuration of the server may not support the automatic setup of these operating systems. So the operating systems shall be manually set up according to the actual demand.

**During manual setup of the operating system, some operating systems may need the floppy driver or Inspur driver U disk to load the drive of hard disk controller. Refer to the readme.pdf file under the root directory in Inspur driver CD for the making method of the driver floppy disk. Please refer to the attached Inspur driver U disk instructions for the making method of Inspur driver U disk and notes of driver loading.**

**Enter the interface of driver making, you can check and make the controller drives that need be loaded during operating system installation under relevant configuration.**

The introduction of operating system installation in this chapter takes configured with 9271 SAS RAID card as an example. If your server is configured with external RAID card, please refer

to User Manual in the CD attached to the external RAID card to add the driver for the hard disk controller. For network card driver, graphics driver and system patch program, the guidance in the chapter can also be referred to for setup.

**It is suggested that you confirm in advance that the purchased machine configuration supports the version of the installed operating system.**

## **4.1 Application Instructions for Inspur Driver U disk**

Under Windows system and Linux system, Inspur driver U disk can be identified as two parts: virtual floppy driver [3.5 floppy disk (A :)] and normal partition of U disk [UDISK PRO]. When you install some operating systems manually, you can use Inspur driver U disk to load the drive of hard disk controller (at present, the operating systems that use Inspur driver U disk to load the hard disk controller support Windows XP or above versions, Red Hat Linux 4.5 or above versions, and Suse Linux 9.0 SP2 or above versions).

### **Warning:**

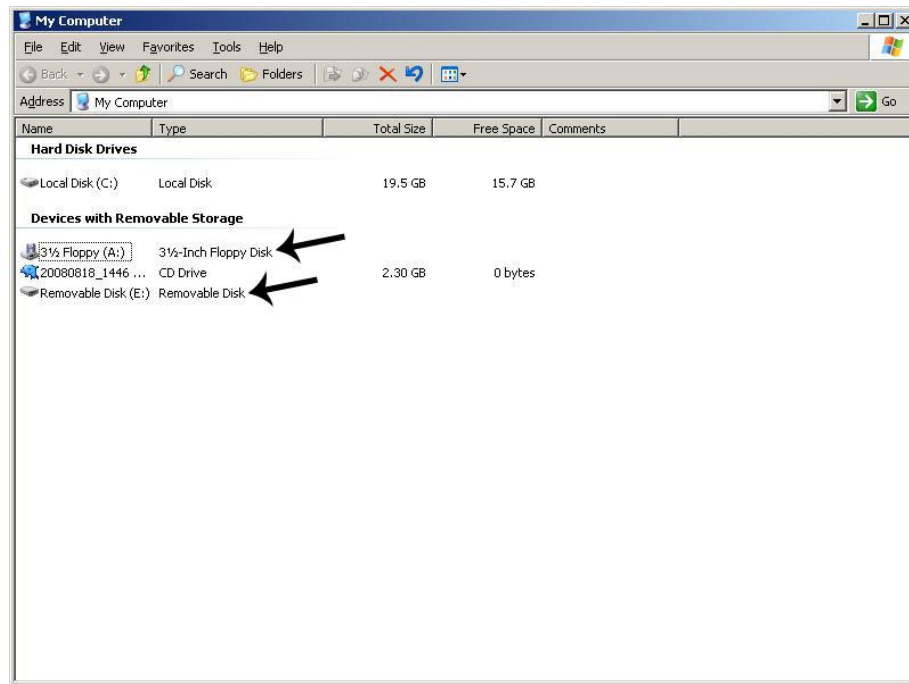
**During the installation of the operating system by using Inspur driver, it may detect Inspur driver U disk on the disk partition interface. At this moment, the user must distinguish U disk from hard disk, and never delete or format U disk.**

**During the installation of the operating system, if it needs to boot the system from hard disk after reboot, it must enter the server BIOS for setting to ensure the starting sequence of hard disk is prior to the starting sequence of U disk and the system can boot from the disk. If the starting sequence of U disk is prior to the starting sequence of hard disk, the system will fail to boot from hard disk.**

The following introduces the making method for the driver of onboard hard disk controller when using Inspur driver U disk to install the operating system. For driver making of external RAID card or SAS card, please refer to the corresponding contents in the driver CD of external board card.

## **Make Driver**

1. Prepare a set of computer installed with Windows system and connect the Inspur driver U disk to the USB interface of the computer as is shown in the picture below. Inspur driver U disk will be identified as two parts: virtual floppy driver [3½ Floppy (A:)] and normal partition of U disk [Removable Disk (E:)]. Among of them, the disk character E in [Removable Disk (E:)] will be different according to the actual partitions of your computer.



**Notes:** Before connecting the Inspur driver U disk to the computer, if your computer is configured with standard floppy, please enter BIOS and close this standard floppy; if your computer is connected with USB floppy, please first disconnect USB floppy. It must guarantee that when the Inspur driver U disk is connected to your computer, the disk character of virtual floppy driver under Windows system shall be identified to be A:, and only by this can the subsequent normal driver making be guaranteed.

2. Put the driver CD (Inspur driver CD and RAID card driver CD) into optical drive, and the driver making software will operate automatically. If the system forbids the automatic operation of CD, please enter CD directory and operate dolphin.bat (Inspur driver CD) in CD or setup.exe (RAID card driver CD) in CD directory.

3. Methods for making drivers by using Inspur driver CD:

(1) After operating dolphin.bat documents, the system will enter the interface of “Welcome to Inspur driver CD”:



Two methods to enter drive making software main interface, as follows:

- In the text box below “Please input navigation No.”, input navigation No (check navigation No. on CD cover) to log in the drive making software main interface. Click [Exit] to exit the log-in.
- In the drop-down menu below “Please select the machine type”, select this server’s type (As for specific type, please refer to host nameplate label).

(2) After inputting the navigation No. or selecting machine type to log in, enter the main interface of driver making software. The main interface is shown in the following picture:



(3) After you select the corresponding operating system and the controller driver to be made

according to the actual need, click [Next] button and make corresponding driver. Different operating systems correspond to different making interfaces and methods of the driver.

### ● Driver making of Windows system

When the driver of Windows operating system is made, copy the driver directly into the virtual floppy drive A: of Inspur driver U disk.

Select the Windows version to be installed and driver to be made, and then click [Next].

The system will display a prompt as shown in the following picture. Please confirm that Inspur driver U disk is well connected. Format the virtual floppy drive A: of Inspur driver U disk, and then click [OK] to start the driver making.



After the driver making is completed, the system will pop up the window, prompting "Driver has been completed". Click [OK] to complete the making of driver.



### ● Notices for using Inspur driver U disk to load driver under windows system

During the installation of Windows operating system, if the driver of hard disk controller is loaded by using Inspur driver U disk, entering the interface of disk partition, Inspur driver U disk will occupy a disk letter. If the disk is not partitioned, U disk will occupy disk C:. If the disk has other partitions, U disk will occupy other disk letter (please distinguish according to the actual hard disk partition).

If there are other partitions on the disk, at this moment, it needs to delete all of them and then create new partitions on the hard disk. The U disk will not occupy disk letter any more.

If the disk is not partitioned, it needs to create one disk partition on the unallocated space, and then delete this newly created disk partition. And at this time the U disk will not occupy any disk letter any more. Then create disk partition based on actual need and complete the installation of operating system according to the instructions.

**Notes: Be sure to distinguish U disk from hard disk, and never delete or format U disk.**



## 4.2 Manually Install Windows Server 2012

### 4.2.1 Preparation Prior to the Installation

- Installation DVD of Windows Server 2012
- Inspur driver CD.
- Hard disk controller driver floppy (if configured with build-out LSI 9271 RAID card, installing Windows Server 2012 need not driver).
  - On making the drivers, if using USB floppy drivers please make the driver into the floppy disk; if using the Inspur driver U disk make the driver into the Inspur driver U disks; if using common driver U disk, when making driver, input the drive where the common U disk is and the directory where the driver locates, and make the driver into the common U disk.

### 4.2.2 Installation Steps

1. Connect USB floppy driver or Inspur driver U disk or common U disk, power up and start the server, and then put the installation CD of Windows Server 2012 into the CD-ROM, enter BIOS to set to enable the server to boot from CD.

2. If the system prompts that boot from CD, press any key, if no prompt, the system will start Windows installation program from CD automatically.

3. In Language settings interface, select and set the language and other preferences to be installed according to the actual demand, and click <Next> to continue.

4. Click <Install now> to continue in the installation confirmation interface.

5. Input your Product Key (25 characters), and then click <Next> to continue.

If selecting the “Automatically activate Windows on-line” option under the product key, then in the 3 days after your first login, system will try to activate your Windows automatically; after installing Windows, you can activate Windows online (or by telephone) in 30days; if you didn’t complete the activation in 30 days, windows will stop the service.

6. The Microsoft software license items will be shown in the interface of “Please read the license terms”. Select “I accept the license terms” after reading, and click <Next> to continue.

7. Select the installation type in the interface of “Which type of installation do you want?”, and here the default set by us is the first installation. Select “Custom” model to continue.

8. The system enters the interface of “Where do you want to install Windows?” If it doesn’t need to load drive of hard disk controller, the main interface will display the existing partitions and unallocated spaces on the computer. Build-out LSI 9271 RAID card configuration doesn’t need to add driver, if it needs, please operate according to the following method:

#### **If USB floppy driver is used:**

(1) Make driver floppy. When powering up and starting the system, connect the floppy driver

to USB interface and insert the driver floppy into the floppy driver.

(2) Click <Browse> in "Loader Driver" window and select "Floppy Disk Driver (A:)" where driver locates in the prompt. Click <OK> to continue.

(3) The system will detect the driver program automatically. Please click <Next> in the interface of "Choose to install the driver".

(4) The driver of the hard disk controller is loaded completely

**If Inspur driver U disk or common U disk is used:**

(1) Make the driver of the hard disk controller into [3.5 floppy disk (A:)] partition of Inspur driver U disk or common U disk.

(2) When powering up and starting the installation of the operating system, connect the Inspur driver U disk or common U disk to the USB interface on the server.

(3) Please select <Load Driver> in the interface of "Where do you want to install Windows?"

(4) The system will prompt "Load Driver" window, which will display "To install the device driver needed to access your hard drive, insert the installation media containing the driver file, and then click OK". Please click <OK>.

(5) The system will detect the driver program automatically. Please click <Next> in the interface of "Choose to install the driver".

(6) The driver of hard disk controller is installed.

9. System will go back to the interface of "Where do you want to install Windows?" the main interface will display the existing partitions and unallocated spaces on the computer. Select option <Drive Options> and perform the following operation:

⊙It can delete the existing partitions by selecting the existing partitions and then clicking <Delete>.

⊙It can format the partitions by selecting the existing partitions and clicking <Format>.

⊙It can create new partitions by selecting unallocated disk spaces and then clicking <New> to create new partitions.

You can operate according to the actual demands. Here we'd expound on the issue when there are no existing partitions in the disk:

(1) Select the unallocated space and click <New>, delete the number in Size input box and then input the one you want to create (unit: MB) and click <Apply> to continue.

**Note: we suggest the partition should be larger than 30GB.**

(2) Select the newly created disk partition, then click <Format>, and click <OK> at the prompt confirmation interface.

(3) After formatting the partition, click <Next> to continue.

10. The system starts to install Windows, and it will complete operations of Copying files", "Expanding files", "Installing features", "Installing updates" and "Completing installation" etc. In this course the system may automatically reboot for several times.

Note: For the above installation steps of Windows Server 2012 operating system, there may be some differences because of different system CD versions, please operate according to actual display interfaces during installation.

### 4.2.3 Install Diver

1. After the installation, the system would reboot to the interface of “The user’s password must be changed before logging on for the first time.” Take out the installation CD and then click <OK> to continue. Follow the prompt to set the administrator password and then click the arrow button at the right of the password input box to continue. If the password meets the requirements, it will prompt “Your password has been changed.” and then click <OK> to confirm that the password has been changed.

2. Select “Do not show this window at logon” at the bottom of the “Initial Configuration Tasks” interface, and then click <Close>. In the new interface of "Server Manager", select “Do not show this console at logon” and close the interface.

### 3. Install Chipset patch

(1) Insert Inspur driver CD into CD-ROM, click the blue dolphin icon under the installation or operation procedure item in the automatically playing interface popped out after the disk’s running, and input the navigation No. on the driver CD set in the navigation No. verification interface popped up after the operation of CD and click <OK> to enter the installation interface automatically;

(2) In “Select OS” column, select Windows 2012;

(3) In “Select Hardware” column, select Chipset patch;

(4) Click <Next> to start the installation;

(5) Enter the interface of “Welcome to the Setup Program” and click <Next> to continue the installation;

(6) Enter the interface of “License Agreement”, and select <Yes> to continue the installation;

(7) Enter the interface of “Readme File Information”, and click <Next> to continue the installation;

(8) The installation program begins to install; and click <Next> according to the prompts;

(9) Complete the installation, click <Finish> according to the prompts, take out the driver CD and restart the system.

### 4. Install Network card driver

(1) Insert Inspur driver CD into CD-ROM, click the blue dolphin icon under the installation or operation procedure item in the automatically playing interface popped out after the disk’s running, and input the navigation No. on the driver CD chassis in the navigation No. verification interface popped out after the operation of CD and click <OK> to enter the installation interface automatically;

(2) In the “Select OS” column, select Windows 2012;

(3) In the “Select Hardware” column, select Network card driver;

(4) Click <Next> to start the installation;

(5) Enter the interface of “Intel(R) Network Connections”, click <Install Driver and Software>;

(6) Enter the interface of welcome to use, click <Next> to continue;

(7) Enter the interface of “License Agreement”, select “I accept the terms in the license agreement” and then click <Next> to continue;

(8) Enter the interface of “Setup Options” and click <Next> to continue;

(9) Enter the interface of “Ready to Install the Program”, and click <Install> to continue;

(10) The installation program starts to install; when the installation is completed, click

<Finish> according to the prompt.

#### 5. Install Video driver

After the installation of network card driver, stay in the installation interface of driver CD and continue with the installation of video driver.

- (1) In column “Select OS”, select Windows 2012;
- (2) In column “Select Hardware”, select Video driver;
- (3) Click <Next> to start the installation;
- (4) Enter the interface of “Welcome to the InstallShield Wizard and click <Next> to continue;
- (5) Enter the interface of “License Agreement”, select “I accept the terms in the license agreement” and then click <Next> to continue;
- (6) Enter the interface of “Customer Information”, please input User Name and Organization, and then click <Next> to continue;
- (7) Enter the interface of “Setup Type”, select the setup type. There are “Complete” and “Custom” two options, here select “Custom” and click <Next> to continue;
- (8) enter the interface of “Custom Setup”, click <Next> to continue;
- (9) Enter the interface of “Ready to Install the Program” and click <Install> to start the installation of video driver;
- (10) The installation starts and completes; in the interface of “InstallShield Wizard Completed”, click <Finish>; the system pops up window to prompt that the server needs to be reboot if you want the setting to take effect; take all the disks out from the driver and select <Yes> to reboot the server.

Note: For the above video driver installation, some installation steps may be different because of different Windows 2012 system versions, please subject to the actual installation process.

## 4.3 Manually Install Red Hat Enterprise Linux 6.4

### 4.3.1 Preparation Prior to the Installation

- Red Hat Enterprise Linux 6.4 installation DVD

### 4.3.2 Installation Steps

1. Power up to start the system, put the installation CD into the driver (here taking using DVD installation disk as example), enter BIOS to configure and select to boot from the CD.

2. System enters the interface of “Welcome to Red Hat Enterprise Linux 6.4! ” there are the following options:

- Install or upgrade an existing system
- Install system with basic video driver
- Rescue installed system
- Boot from local driver

Use up and down arrow keys to select the option, here the default is the first installation, select “Install or upgrade an existing system”, press <Enter> to continue the 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.”

Select <Skip> to evade the disk detection and press <Enter> to continue the installation.

4. Enter the interface of “Red Hat Enterprise Linux 5”, click <Next> to continue the installation.

5. System enters the interface of “What language would you like to use during the installation process?” Select language version of the operating system. Here we select “English (English)” for installation and click <Next> to continue the installation.

6. System enters “Select the appropriate Keyboard for the system” interface. Here we select “U.S. English” and click <Next> to continue the installation.

7. System enters the interface of “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

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

Here we select “Basic Storage Devices”, and press <Next> to continue the installation.

8. System enters the interface of “Please name this computer. The hostname identifies the computer on a network.” Please input the Hostname. Here you can select the [Configure Network] at the left bottom of this window to set network configuration, including adding or deleting network card and configuring network IP address. After network configuration is finished, press <Next> to continue the installation.

9. The installation program enters “Please select the nearest city in your time zone” time zone selection interface, select “Asia/shanghai” and click <Next> to continue the installation.

10. The installation program enters “Root Password” setting interface, set at least six characters as needed and click <Next> to continue the installation.

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

11. The installation program enters “Which type of installation would you like?” 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 layout as an example, select “Create Custom layout”, click <Next> to continue the installation.

12. The installation program enters install hard disk interface. In the list of “Data Storage Devices (to be mounted only)”, system will display the detected storage devices. Please select the hard disk that needs to install system, add this hard disk to the list of “Install Target Devices”, select one hard disk as “Boot Loader”, and then click <Next> to continue the installation.

13. The installation program enters partition creating interface of “Please Select A Device” (if partition has been created on the hard disk, it will be displayed, and you can delete it if you do not need it).

Double click the Free partition and other existing partitions under hard disk, or click the <Create> button at the right bottom, system will pop up “Add Partition”

1) Create root partition (/) and boot partition: Select root partition in Mount point: /, select the hard disk that needs to install system in the window of “Allowable Drives”, enter the size of partition in Size (MB) and click <OK> to finish the creating of root partition. Create the boot partition in the same way: /boot.

2) Create a swap partition (Swap): Select “Swap” in File system Type, select the hard disk that needs to install system in the window of “Allowable Drives”, and input the size (MB) of the swap partition in Size (MB) (set according to the size of memory, if the memory is smaller than 512MB, set as twice of it. If the memory exceeds 512MB, you can set it as 2GB), and then click <OK> to finish the creating of swap partition.

You can also create other partitions as needed, and click <Next> to continue the installation after the creation.

14. System prompts that “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 the installation, and system starts to format hard disk partitions.

15. The installation program enters Boot Loader setting interface, set as needed and click <Next> to continue the installation.

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

Please select the type that needs to install and software package that needs to be customized according to actual demand. Here select “Customize now” and click <Next> to continue the installation.

17. The installation program enters program package selection interface. please select the

software package to install according to actual demand, confirm it and click <Next> to continue the installation.

Here we select Desktop and X Windows System in Desktops and Development tools package in Development.

18. The system start to create files system and copy files.

19. The system enters “Congratulations, your Red Hat Enterprise Linux installation is complete” interface which means the system installation is finished, click <Reboot> and take out the installation CD and driver floppy. The system will restart automatically.

20. After the system restarts, it will enter the “Welcome” interface, so click <Forward> to continue.

21. The installation program enters “License Agreement” interface. Select “Yes, I agree to the License Agreement” and click <Forward> to continue the installation.

22. The installation program enters “Set Up Software Updates” interface and click <Forward> to continue the installation.

23. The installation program enters “Create User” interface. Set user name and password to add user; click <Forward> to continue the installation.

24. The installation program enters “Date and time” interface. Set the correct time and date; then click <Forward> to continue the installation.

25. The installation program enters Kdump interface. Set according to the actual demand and click <Forward> to continue the installation.

26. Input Username and Password to log in system.

### 4.3.3 Install Network Card Driver

After completing the operating system installation, system will load the onboard network card driver automatically. You can update network card driver manually using attached driver CD.

1. Insert Inspur driver CD into CD-ROM, click Terminal menu in Applications→System Tools, and input the following in the windows:

```
#mount /dev/cdrom /mnt  
  
#cd /mnt  
  
#cd driver/nic/linux/sv  
  
#cp igb-4.3.0.tar.gz /tmp  
  
#cd /tmp  
  
#tar -zxvf igb-4.3.0.tar.gz
```

```
#cd igb-4.3.0/src
```

```
#make
```

```
#make install
```

```
#cd /
```

```
#umount /mnt
```

```
#reboot
```

(Note: “**igb-4. 3. 0. tar. gz**” is network card driver, and its version will be updated.

When being installed, the actual version in the accompanying driver CD shall prevail.)

2. System will auto reboot, please take out the driver CD.

3. Log in the system, after connecting the network cable, set the network configuration.

## Chapter 5 Common Problems and Trouble-shooting

This chapter focuses on the common problems and trouble-shooting of the server. If you are not sure about the cause of a failure and its removal method, please contact our customer service center for solution.

**Notes:** When replacing or installing hardware device for the server, you should disconnect the power cable from the server completely. It is recommended to use the anti-static wrist strap and to earth-connect the other end to provide electrostatic protection in dismounting the server.

### 5.1 Restarting Server

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

| Purpose  | How to operate |
|--|----------------|
| Restart the software, clear up system memory and restart the operating system.   | [Ctrl+Alt+Del] |
| Clear up system memory, self-check the POST again and restart the operating system.  | Reset button   |
| Cold boot again, switch off and restart the system power so that to clear up the system memory, to self-check the POST again, to restart the operating system and to power up all peripherals again. | Power button   |



## **5.2 Problems When Starting the Machine**

Some problems often occur when the machine is started, generally due to incorrect hardware installation and configuration. You may find and solve the problems by the following methods.

### **5.2.1 System Can Not Be Powered on**

After pressing the power button, the power light is not on and the system stays in non-electric state. Please try the following steps:

1. Check whether your power socket can supply power normally and the power cable is correctly connected.
2. Repeatedly press the power button to start the machine (pay attention not to exerting too much force).
3. Disconnect the power cable from the system and open the chassis to check.
4. Check the fastness of the cable connection and accessory plugging in the chassis.
5. Remove other external components other than Inspur's.
6. Pack the chassis, connect the power cable correctly and start the machine.

### **5.2.2 Monitor Has No Display**

The server can be powered on (the host can start and run normally), but the monitor doesn't work:

1. Check the correctness and fastness of the signal cable and power cable connected to the monitor.
2. Make sure to power on the display.
3. Adjust the contrast and brightness of the monitor to confirm 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 monitor signal cable and the host.
5. Find another monitor for test if possible.
6. If the machine is installed with components other than Inspur ones, please remove them first.
7. With the permission of Inspur technical support personnel, you may pull and plug RAM and clear CMOS for test.

### 5.2.3 Installation System Can't Find Hard Disk

1. When installing the system directly booted with the system CD, if it prompts that no hard disk can be found, please check 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 conditions:

- If you are using the system CD to boot and install the operating system directly, the hard disk drive is generally added through the floppy driver or **Inspur driver U disk**. When using USB floppy driver to add the drive, please set the BIOS first and close the onboard floppy driver controller. When using **Inspur driver U disk** to add the drive, please connect **Inspur driver U disk** when starting the server.

- Please check whether the driver having been made is correct or not (the drive for external RAID card should be made directly from the attached RAID card driver CD) and whether there is fault in the floppy disk or **Inspur driver U disk**.

### 5.2.4 Keyboard and Mouse Do Not Work

1. Check whether the cable joint of the mouse and keyboard is plugged and connected correctly. Make sure the joint pin has no curve.

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

3. Clean the scrolling 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 of the system, you may refer to the following measures:

1. If other external non-Inspur components or some application program software are installed before the fault, it is suggested removing it and going on to test your server.

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. This kind of information reveals problems in the system. It is suggested that you reinstall it. For the installation process, you can refer to the user manual.

4. If all above operations failed to solve the problem, it is suggested that you backup the file

winnt/minidump in disk C, and call the service center for support from professional technical engineers who may ask you to provide minidump file for further analysis on the cause for blue screen and halt. If there is no minidump folder in disk C, please refer to the following steps: right-click on My Computer, select [Property]→[advanced]→[startup and recovery], then select [settings], change [write debugging information] in the next page to “small RAM dump” and restart the machine. The system will produce minidump file automatically in the next blue screen.

## **5.2.6 Machine Alarm**

If there's machine alarm in startup or utilization process, please refer to the following measures:

1. If this happens after you plugged in some external board, you may need to pull off this device and to do another test. If the alarm goes off, it shows that your external board is incompatible with the machine. It is suggested not to use it any more; if the alarm is still on, please go on referring to the following steps.

2. Locate the alarm sound:

- When the alarm sound is from the front of the chassis, usually we notice abnormal changes of the fault indicating light. There is the possibility of abnormal fans or hard disk module;

- If the alarm sound is from the rear of the chassis, please check whether a redundant power supply is configured or not and whether there is an abnormal status light of the power supply module or a module without power cable (when power alarm goes on, the shield switch can be pressed to stop it);

- If the alarm sound is in the chassis, the alarm may be from motherboard, RAID card or hard disk back plane. If it is also accompanied by no display on the monitor or power on faults, there is high possibility of something wrong with motherboard. You can try to pull or plug RAM or clear CMOS; if the starting self-check is normal and the alarm starts when the RAID card is under test, and there is abnormal array information, then it is likely that the RAID card has set off the alarm. There may be array abnormality; when the hard disk back plane alarms, there is always abnormal status light of the hard disk on the front panel, which can be used to help analysis.

3. After having collected the basic information, please feedback the detailed alarm information to Inspur technical support personnel in a timely manner. We will make further analysis and judgment and help you solve the problem as soon as possible.

## **5.3 Problems about Attached Ruijie Server Suite**

When using attached Reijie server suite to conduct server management and system auto-installation, configuration change, factory settings change, BIOS settings change and other reasons may cause abnormality during using process. You can find and eliminate problems according to the following methods.

### **5.3.1 Prompt Unable to Get the Disk Size When Using Reijie to**

## **Guide System Installation**

Please check whether the local hard disk and RAID are normal.

1. Onboard RAID configuration, it's need to confirm whether RAID mode under BIOS is enabled.
2. Offboard RAID configuration, please confirm whether RAID array is configured.

### **5.3.2 The Disk Size and Local Disk Capacity Are Inconsistent**

#### **When Using Reijie to Guide System Installation**

Please check whether there are external mobile devices (USB device, external disk array, tape library and so on). If the server is connected with USB flash drive, USB softdog, mobile HDD or other USB devices, please remove them first and then install the system; if the server is connected with storage devices, please disconnect the storage devices, and then use Reijie to install, otherwise, it may cause storage array abnormality and data lost.

### **5.3.3 The Machine Auto Reboots Repeatedly after Inserting System CD, When Reijie Boot Configuration Is Finished**

1. Reijie CD system installation is developed based on genuine system CD directory structure, so if you use all-in-one system CD, please change to use a single system CD to install.
2. When Reijie boot configuration is finished, please operate according to Reijie boot prompt. If there is not prompt to insert system CD, please don't insert the system CD into CD driver; once system prompts to insert system CD, please don't intervene manually, system installation will complete automatically, otherwise, it may cause system installation abnormality.

### **5.3.4 Lose the Attached Reijie Server Suite CD or System Driver CD**

Please login Inspur official website and download the right version according to your machine model.

1. Reijie server suite download link:

[http://www.inspur.com/downloads/channel\\_home/Downloads\\_sv\\_1.asp](http://www.inspur.com/downloads/channel_home/Downloads_sv_1.asp)

2. System drivers download link:

[http://www.inspur.com/downloads/channel\\_home/Downloads\\_sv.asp](http://www.inspur.com/downloads/channel_home/Downloads_sv.asp)

## 5.4 Additional Notes

1. In order to guarantee the reliability of the system, it is suggested that you use the component of the relevant Model tested and authenticated by us when expanding and equipping components.

2. Please guarantee the fine electricity utilization environment of the server, normal voltage input and earth-connecting condition and temperature and humidity and so on within the normal range.

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

4. Solution for blurred screen when entering RAID card configuration interface

In this server, for some RAID card configuration (such as 2008 RAID card, 2108 RAID card, 9261 RAID card, 9211 SAS card configuration), when entering RAID card configuration interface, sometimes there is problem of blurred screen. It needs to follow the methods below: before entering RAID card configuration interface, firstly enter BIOS and then set Advanced→ Runtime Error Logging → Runtime Error Logging Support option to [Disabled]. After RAID card configuration is completed, set this option to [Enabled].

5. Instruction for SATA Mode option settings when installing some operating systems

When installing Suse Linux 11.1 operating systems and if using standard SATA optical drive for installing operating system, it needs entering BIOS and setting Advanced → SATA Configuration → SATA Mode option to [ AHCI Mode ] so as to support optical drive to install operating system.

6. Instructions of hot-swap PCIE slots

On the motherboard, PCIE\_0 CPU1 slot and PCIE\_1 CPU1 slot are hot-swappable, which supports online replacement of expansion card. When hot-swappable slot is configured with expansion card and if the indicator light is normally on, the expansion card in this slot works normally. If it needs to online replace the expansion card in this slot, press the switch of this hot-swappable slot. And then replace the expansion card in this slot after the indicator light is off. After the replacement is completed, again press the switch of the hot-swappable slot. After the indicator light is normally on, the expansion card works normally.

Some PCIE expansion card cannot support hot swapping operation very well. For details, please consult Inspur customer service center.

7. For more notices of our products, please refer to the FAQ for server in the official website of Inspur:

[http://www.inspur.com/support/Channel\\_Home/support\\_sv.asp](http://www.inspur.com/support/Channel_Home/support_sv.asp)

## 5.5 Technical Support Information

During your using Inspur server, if there's any doubt or problem, please adopt the following solutions:

1. If you have any doubt on product configuration and detailed specification, please contact your supplier.

2. If there's any system problem occurred during your using the machine, please contact Inspur server customer service center directly. Please record the product serial number on your host chassis. Our technical support personnel will provide you solutions or carry out onsite repair after receiving your request.

3. Contact information of Inspur server customer service center:

Email: [sv\\_str\\_pcs@inspur.com](mailto:sv_str_pcs@inspur.com)

Inspur server drivers and product information download link:

[http://www.inspur.com/support/Channel\\_Home/support\\_sv.asp](http://www.inspur.com/support/Channel_Home/support_sv.asp)

## Chapter 6 Management Functions

### Introduction of Integrated management Card

This product integrates IPMI management card, by which the user can remote log in the server. The following will describe the application of management function that management controller integrates.

#### 6.1 Management Chip BMC IP

Onboard IPMI management card IP can be checked and set in the menu of “Server Mgmt”→“BMC network configuration” →“BMC Sharelink Management Channel/ BMC Dedicated Management Channel” →“Station IP address” in the BIOS.

##### Notes:

BMC Sharelink Management Channel: refers to the multiplex management network interface, onboard Intel I350 network card 3.

BMC Dedicated Management Channel: refers to IPMI management dedicated interface.

Please set or view IP address according to the actual use of the network card.

**If you reset IP address of IPMI card, only after saving and restarting the server or powering off (disconnecting the power) can you make it into normal use.**

#### 6.2 Remote Login

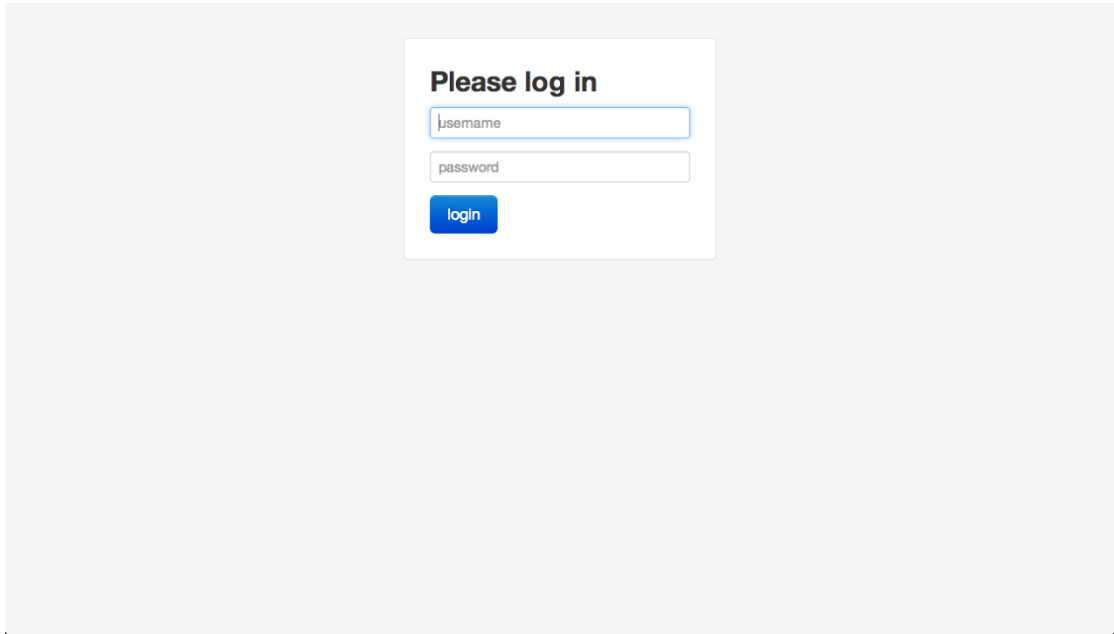
##### 6.2.1 Login Interface

The language of the login interface is decided on the language of the local operating system, English interface or Chinese interface. Or you can choose Chinese or English interface under the language options after login.

1. Input [http://BMC\\_IP](http://BMC_IP) in the browser and press Enter to enter BMC login interface as shown in figure 1, input BMC username and password.

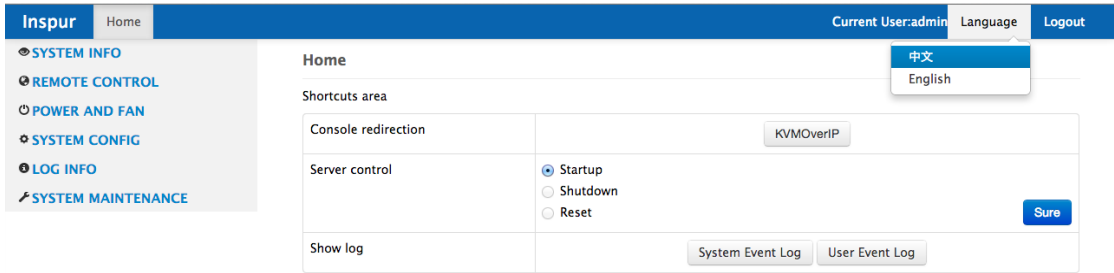
Default username: admin

Password: admin



2. Input the correct username and password, and then click login to enter the home page of BMC management interface.

The left navigation bar displays: system info, remote control, power and fan, system config, log info and system maintenance.



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## 6.2.2 System Info

Click the system info of the left navigation bar, the interface is shown as the following figure.  
The sublist includes: asset info, monitor info, FRU info and version info.

## 1. Asset information

CPU information displays CPU model, the first/second/third level cache.

Memory information displays node, channel, dimm, manufacturer, type, capacity, rated speed and current speed figure 5.

According to the CPU information, you can judge the CPU working condition of the mainboard.

According to the memory information, you can judge the mainboard memory condition quickly and straightforwardly.

| Inspur Home        |  | Current User: Language Logout      |  |  |  |
|--------------------|--|------------------------------------|--|--|--|
| SYSTEM INFO        |  | Asset information                  |  |  |  |
| Asset Info         |  | CPU information Memory information |  |  |  |
| Monitor Info       |  |                                    |  |  |  |
| FRU Info           |  |                                    |  |  |  |
| Version Info       |  |                                    |  |  |  |
| REMOTE CONTROL     |  |                                    |  |  |  |
| POWER AND FAN      |  |                                    |  |  |  |
| SYSTEM CONFIG      |  |                                    |  |  |  |
| LOG INFO           |  |                                    |  |  |  |
| SYSTEM MAINTENANCE |  |                                    |  |  |  |

| Lo... | Model                                     | First ... | Second... | Third lev... |
|-------|---|-----------|-----------|--------------|
| 1     | Intel(R) Xeon(R) CPU E7-4880 v2 @ 2.50GHz | 64        | 256       | 37.5         |
| 2     | Intel(R) Xeon(R) CPU E7-4880 v2 @ 2.50GHz | 64        | 256       | 37.5         |
| 3     | Intel(R) Xeon(R) CPU E7-4880 v2 @ 2.50GHz | 64        | 256       | 37.5         |
| 4     | Intel(R) Xeon(R) CPU E7-4880 v2 @ 2.50GHz | 64        | 256       | 37.5         |

| Inspur Home        |  | Current User: Language Logout      |  |  |  |
|--------------------|--|------------------------------------|--|--|--|
| SYSTEM INFO        |  | Asset information                  |  |  |  |
| Asset Info         |  | CPU information Memory information |  |  |  |
| Monitor Info       |  |                                    |  |  |  |
| FRU Info           |  |                                    |  |  |  |
| Version Info       |  |                                    |  |  |  |
| REMOTE CONTROL     |  |                                    |  |  |  |
| POWER AND FAN      |  |                                    |  |  |  |
| SYSTEM CONFIG      |  |                                    |  |  |  |
| LOG INFO           |  |                                    |  |  |  |
| SYSTEM MAINTENANCE |  |                                    |  |  |  |

| Number | Node | Cha... | Dimm | Manufacturer | Type | Capacity(... | Rated speed(... | Current speed(... |
|--------|------|--------|------|--------------|------|--------------|-----------------|-------------------|
| 1      | 0    | 0      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 2      | 0    | 0      | 1    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 3      | 0    | 1      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 4      | 0    | 1      | 1    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 5      | 1    | 0      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 6      | 1    | 0      | 1    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 7      | 1    | 1      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 8      | 1    | 1      | 1    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 9      | 2    | 0      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 10     | 2    | 0      | 1    | N/A          | N/A  | N/A          | N/A             | N/A               |
| 11     | 2    | 1      | 0    | N/A          | N/A  | N/A          | N/A             | N/A               |

## 2. Monitor information

Temperature information displays the temperature information, current status and threshold



values of different mainboard locations.

When the temperature value is not in the range of the threshold value, it will show temperature abnormal.

Inspur

Home

Current User:admin

Language

Logout

SYSTEM INFO

Asset Info

Monitor Info

FRU Info

Version Info

REMOTE CONTROL

POWER AND FAN

SYSTEM CONFIG

LOG INFO

SYSTEM MAINTENANCE

Monitor information

Temperature

Voltage

Fan

Power supply

| Sensor name     | Status | Minimum threshold value | Current value | Maximum threshold value |
|-----------------|--------|-------------------------|---------------|-------------------------|
| TEMP_OUT        | normal | 0 ° C                   | 40 ° C        | 90 ° C                  |
| CPU1_MEM_VR     | normal | 0 ° C                   | 41 ° C        | 90 ° C                  |
| CPU2_MEM_VR     | normal | 0 ° C                   | 42 ° C        | 90 ° C                  |
| CPU1_2_VHORE_VR | normal | 0 ° C                   | 37 ° C        | 90 ° C                  |
| CPU3_VHORE_VRZ@ | normal | 0 ° C                   | 43 ° C        | 90 ° C                  |
| CPU0_VHORE_VRZ@ | normal | 0 ° C                   | 48 ° C        | 90 ° C                  |
| TEMP_IN         | normal | 0 ° C                   | 33 ° C        | 90 ° C                  |
| CPU0_MEM_VR     | normal | 0 ° C                   | 36 ° C        | 90 ° C                  |
| CPU3_MEM_VR     | normal | 0 ° C                   | 32 ° C        | 90 ° C                  |
| CPU0_TEMP       | normal | 0 ° C                   | 45 ° C        | 90 ° C                  |
| CPU1_TEMP       | normal | 0 ° C                   | 44 ° C        | 90 ° C                  |
| CPU2_TEMP       | normal | 0 ° C                   | 49 ° C        | 90 ° C                  |
| CPU3_TEMP       | normal | 0 ° C                   | 45 ° C        | 90 ° C                  |

Voltage information displays the current voltage value, threshold value and current status of the mainboard CPUs.

When the voltage value exceeds the range of threshold value, the voltage value will show abnormal.

Home

Current User:admin

Language

Logout

SYSTEM INFO

Asset Info

Monitor Info

FRU Info

Version Info

REMOTE CONTROL

POWER AND FAN

SYSTEM CONFIG

LOG INFO

SYSTEM MAINTENANCE

Monitor information

Temperature

Voltage

Fan

Power supply

| Sensor name | Status | Minimum threshold value | Current value | Maximum threshold value |
|-------------|--------|-------------------------|---------------|-------------------------|
| PVTT_CPU0   | normal | 0.96 Volts              | 1.01 Volts    | 1.03 Volts              |
| VBATTERY    | normal | 2.8 Volts               | 3.12 Volts    | 5.1 Volts               |
| PVTT_CPU1   | normal | 0.96 Volts              | 1.01 Volts    | 1.03 Volts              |
| P12V        | normal | 11.4 Volts              | 12.059 Volts  | 12.599 Volts            |
| P3V3        | normal | 3.139 Volts             | 3.34 Volts    | 3.46 Volts              |
| PVCC_CPU0   | normal | 0.41 Volts              | 0.909 Volts   | 1.26 Volts              |
| PVCC_CPU1   | normal | 0.41 Volts              | 0.909 Volts   | 1.26 Volts              |
| P5V5        | normal | 4.759 Volts             | 5.12 Volts    | 5.24 Volts              |
| PVTT_CPU2   | normal | 0.96 Volts              | 1.01 Volts    | 1.03 Volts              |
| PVTT_CPU3   | normal | 0.96 Volts              | 1.02 Volts    | 1.03 Volts              |
| PVCC_CPU2   | normal | 0.41 Volts              | 0.909 Volts   | 1.26 Volts              |
| PVCC_CPU3   | normal | 0.41 Volts              | 0.9 Volts     | 1.26 Volts              |

Fan information displays fan speed.

When it can't read the fan speed, it will prompt the fan status is wrong.

| Inspur Home  |        | Current User:admin Language Logout                                 |               |                         |
|--|--------|--|---------------|-------------------------|
| ● SYSTEM INFO<br>Asset Info<br><b>Monitor Info</b><br>FRU Info<br>Version Info<br>● REMOTE CONTROL<br>○ POWER AND FAN<br>● SYSTEM CONFIG<br>● LOG INFO<br>✎ SYSTEM MAINTENANCE |        | <b>Monitor information</b><br>Temperature Voltage Fan Power supply |               |                         |
| Sensor name  | Status | Minimum threshold value  | Current value | Maximum threshold value |
| Fan_1  | normal | 0 RPM  | 1536 RPM      | 12288 RPM               |
| Fan_2  | normal | 0 RPM  | 1536 RPM      | 12288 RPM               |
| Fan_3  |        | 0 RPM  | 0 RPM         | 12288 RPM               |
| Fan_4  |        | 0 RPM  | 0 RPM         | 12288 RPM               |
| Fan_5  |        | 0 RPM  | 0 RPM         | 12288 RPM               |
| Fan_6  |        | 0 RPM  | 0 RPM         | 12288 RPM               |
| Fan_7  | normal | 0 RPM  | 1536 RPM      | 12288 RPM               |
| Fan_8  | normal | 0 RPM  | 1536 RPM      | 12288 RPM               |
| HardDisk1  | normal | 0 RPM  | 4416 RPM      | 9216 RPM                |
| HardDisk2  |        | 0 RPM  | 0 RPM         | 9216 RPM                |

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Power supply information displays PSU working status; if the PSU is not working, it will show this PSU is abnormal.

| Inspur Home  |  | Current User:admin Language Logout                                 |  |  |
|--|--|--|--|--|
| ● SYSTEM INFO<br>Asset Info<br><b>Monitor Info</b><br>FRU Info<br>Version Info<br>● REMOTE CONTROL<br>○ POWER AND FAN<br>● SYSTEM CONFIG<br>● LOG INFO<br>✎ SYSTEM MAINTENANCE |  | <b>Monitor information</b><br>Temperature Voltage Fan Power supply |  |  |
| Sensor name  |  | Status   |  |  |
| PSU0_PWORK   |  | abnormal   |  |  |
| PSU1_PWORK   |  | abnormal   |  |  |
| PSU2_PWORK   |  | normal   |  |  |
| PSU3_PWORK   |  | abnormal   |  |  |
| Sensor name  |  | Consumed power   |  |  |
| ME_Power   |  | 200 Watts  |  |  |

192.168.101.100/indexPrague.html#a3

### 3. FRU information

It displays the chassis information, board information and product information. The detailed information is shown as the following figures.

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Asset Info

Monitor Info

FRU Info

Version Info

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FRU Information

Field Replaceable Unit(FRU)

Basic Information

Chassis Information

Board Information

Product Information

|                 |         |
|-----------------|---------|
| FRU Device ID   | 0       |
| FRU Device Name | BMC_FRU |

InspurHome

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FRU Information

Field Replaceable Unit(FRU)

Basic Information

Chassis Information

Board Information

Product Information

|   |             |
|---|-------------|
| Chassis Information Area Format Version | 1           |
| Chassis Type                            | Unspecified |
| Chassis Part Number                     | 0           |
| Chassis Serial Number                   | 0           |
| Chassis Extra                           | Inspur      |

InspurHome

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FRU Information

Field Replaceable Unit(FRU)

Basic Information

Chassis Information

Board Information

Product Information

|                                       |                         |
|---------------------------------------|-------------------------|
| Board Information Area Format Version | 1                       |
| Manufacture Date Time                 | Wed Apr 9 13:56:00 2014 |
| Board Manufacturer                    | Inspur                  |
| Board Product Name                    | prague                  |
| Board Serial Number                   | 1                       |
| Board Part Number                     | 0                       |

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FRU Information

Field Replaceable Unit(FRU)

Basic Information

Chassis Information

Board Information

Product Information

|   |        |
|---|--------|
| Product Information Area Format Version | 1      |
| Manufacturer Name                       | Inspur |
| Product Name                            | prague |
| Product Part Number                     | 0      |
| Product Version                         | 0      |
| Product Serial Number                   | 0      |
| Asset Tag                               | prague |

192.168.101.100/indexPrague.html#a3

#### 4. Version information

It displays the version number and build time of BIOS, CPLD and BMC.

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REMOTE CONTROL

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Version information

| Name | Version number | BuildTime |
|------|----------------|-----------|
| CPLD | ..             | -         |
| BMC  | ..             |           |
| BIOS |                |           |

## 6.2.3 Remote Control

Remote control is mainly the control for BMC and local system, including KVM over IP, serial over lan, server control, server location and BMC reset 5 functions.

### 1. KVM over IP

Click KVM over IP button and download the \*.jnlp file.

Note: if you want to use KVM over IP function, the machine must be installed with java virtual machine, and use javaws program to open the \*.jnlp file.

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REMOTE CONTROL

KVM over IP

Serial On Lan

server Control

server Location

BMC Reset

POWER AND FAN

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KVM over IP

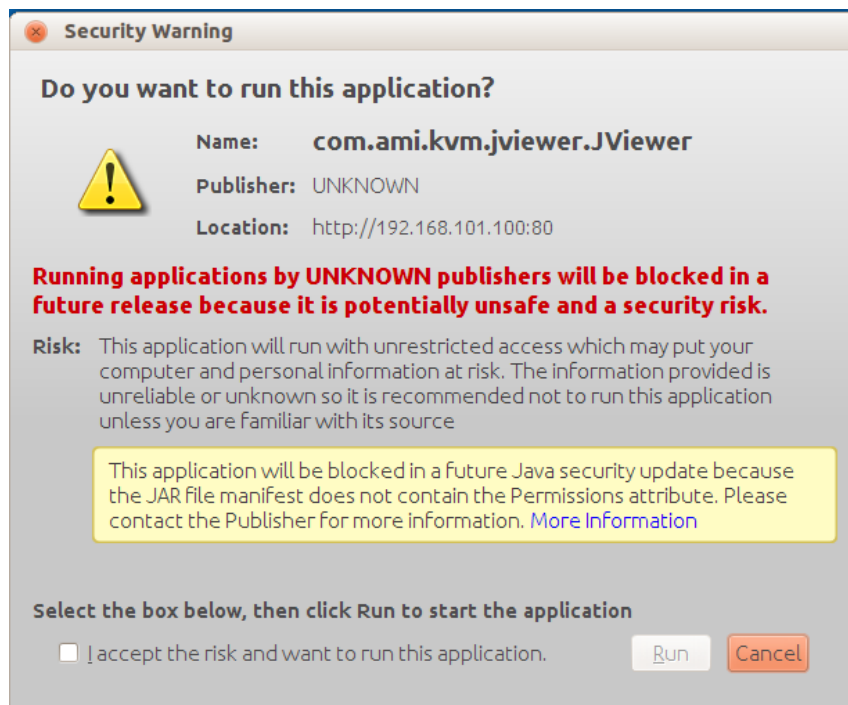
1. Click KVM over IP button and download the jnlp file

2. Open the jnlp file through jdk and login to the terminal

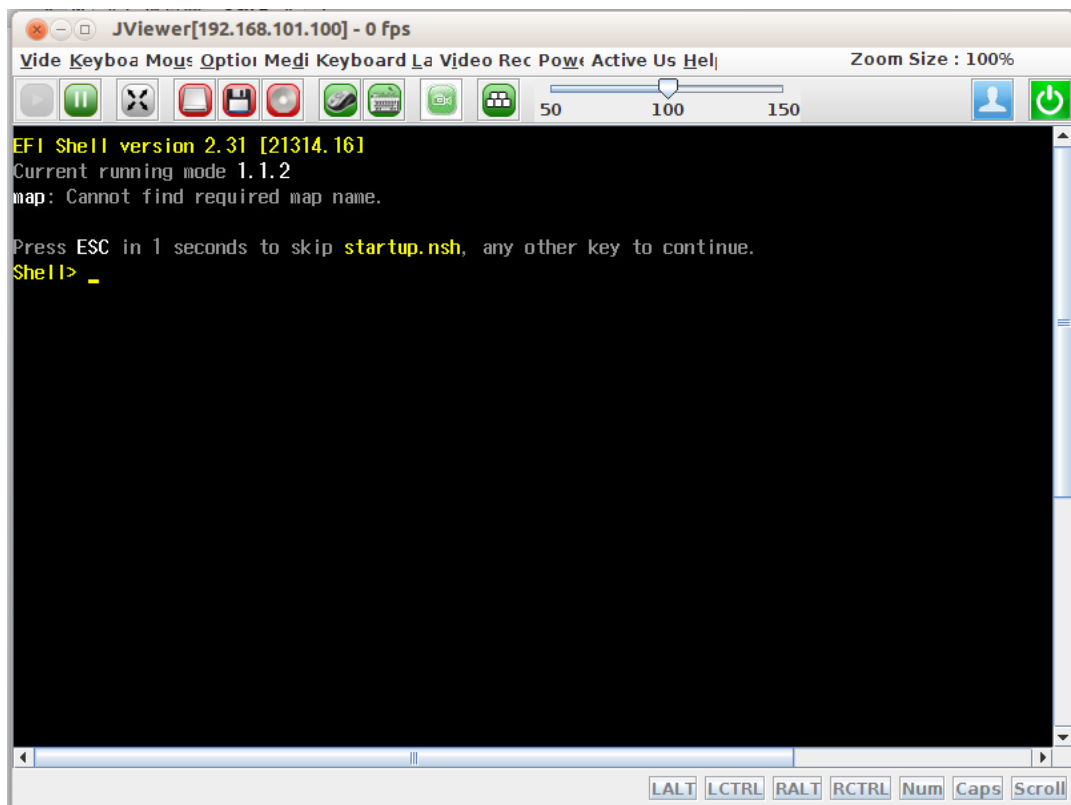
Control console redirection

KVM over IP

Check the accept box and click [Run].

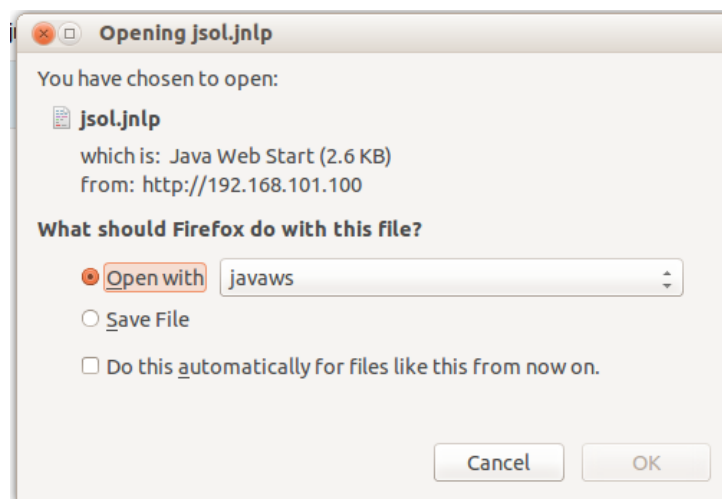
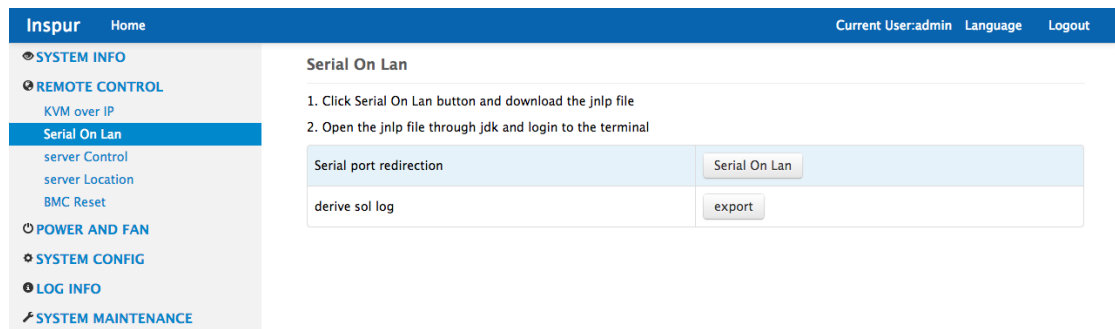


The following figure shows and enter KVM control console.



## 2. Serial on Lan

System serial port redirected to the network output function, this function redirects the system serial port to BMC, and BMC realizes system serial port output through network remotely.



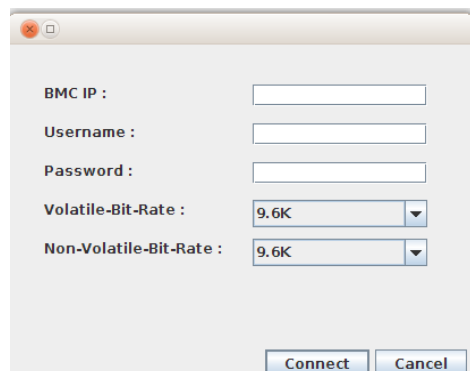
Input BMC IP: xx.xx.xx.xx

Username: admin (default)

Password: admin (default)

Volatile-Bit-Rate: 11.52k

Non-Volatile-Bit—Rate: 11.52k



Enter SOL output interface

```

JavaSOL
Session Help
192.168.101.100
N0.C0: Jordan Creek Revision ID = 33
N0.C0: Setting Revision ID = C1 REV
SMBUS read fail status = 0xE0000043
SMBUS read fail status = 0xE0000087
SMBUS read fail status = 0xE000000F
SMBUS read fail status = 0xE000001F

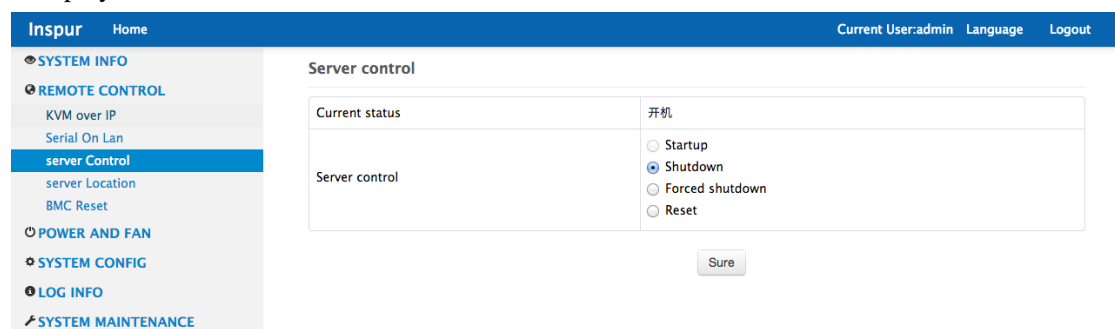
DIMM Detect time 36 ms
N1: Initialize Throttling (Early)
Checkpoint Code: Socket 0, 0xB0, 0x00, 0x0000
N1: Detect DIMM Config
N1.C0: lif debug: ReadJckCfq N1, vendorId=0x8086, vendorId=0x00008086
N1.C0: Jordan Creek Revision ID = 33
N1.C0: Setting Revision ID = C1 REV
SMBUS read fail status = 0xE0000043
SMBUS read fail status = 0xE0000087
SMBUS read fail status = 0xE000000F
SMBUS read fail status = 0xE000001F

DIMM Detect time 35 ms
Get Var data from socket 1 to socket 0
Get NVRAM common data from socket 1 to socket 0
Get Var data from socket 2 to socket 0
Get NVRAM common data from socket 2 to socket 0
Get Var data from socket 3 to socket 0
Get NVRAM common data from socket 3 to socket 0
Node Channel DIMM Bus Segment SMBUS Address
-----
0 0 0 0 0 - Not Present
0 0 1 0 1 - Not Present
0 1 0 0 4 - Not Present
0 1 1 0 5 - Not Present
Node Channel DIMM Bus Segment SMBUS Address
-----
1 0 0 0 0 - Not Present
1 0 1 0 1 - Not Present

```

### 3. Server control

Remote control server, main operations include startup, shutdown, forced shutdown and reset. It displays the current status of the server.



192.168.101.100/indexPrague.html#/kvmOverIp

### 4. Server location

Light the server ID LED. If you want to close the ID LED, it needs to operate the server ID button. When the ID LED is on, you can't light it again.



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Server location

|                |           |
|----------------|-----------|
| Current status | OFF       |
| Light LED      | Light LED |

## 5. BMC reset

### Remote control BMC reset

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KVM over IP

Serial On Lan

server Control

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BMC Reset

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BMC Reset

Reset BMC

## 6.2.4 Power and Fan

### 1. Fan management

Fan management only realizes manual fan control at present and automatic fan control has not been realized.

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Dynamic Power Management

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Fan module

Manual fan control

| ID        | Status   | Current speed | Speed control               |
|-----------|----------|---------------|-----------------------------|
| Fan1      | normal   | 1568 ( 1% )   | Low Rpm Medium Rpm High Rpm |
| Fan2      | normal   | 1584 ( 1% )   |                             |
| Fan3      | abnormal | 0 ( 1% )      | Low Rpm Medium Rpm High Rpm |
| Fan4      | abnormal | 0 ( 1% )      |                             |
| Fan5      | abnormal | 0 ( 1% )      | Low Rpm Medium Rpm High Rpm |
| Fan6      | abnormal | 0 ( 1% )      |                             |
| Fan7      | normal   | 1562 ( 1% )   | Low Rpm Medium Rpm High Rpm |
| Fan8      | normal   | 1542 ( 1% )   |                             |
| Disk fan1 | normal   | 4476 ( 100% ) | Low Rpm Medium Rpm High Rpm |
| Disk fan2 | abnormal | 0 ( 100% )    | Low Rpm Medium Rpm High Rpm |

## 2. Dynamic power management

There are 3 function buttons: enable power control, disable power control and add policy.

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Dynamic Power Management

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Dynamic Power Management

Enable Power Control

Disable Power Control

Add Policy

| Policy Id | Domain Id | Power Limit | Suspend | Operation |
|-----------|-----------|-------------|---------|-----------|
|-----------|-----------|-------------|---------|-----------|

Policy ID: 1~4.

Domain ID: system/processor (policy type)

Note: different policy types correspond to different power limits.

Power limit: the value should be in the allowed value range on the right.

Suspend: it refers to the time that the policy is not effective.

The screenshot shows the 'Add Policy' dialog box. It contains the following fields and options:

- Policy Id:** A dropdown menu with the value '1' selected.
- Domain Id:** A dropdown menu with the value 'system' selected.
- Power Limit:** A text input field with the value '800'. A blue tooltip indicates the 'Allowed value range: 1~32767'.
- Suspend (Note: up to five):** A section containing:
  - start time:** A time picker set to '00:00'.
  - end time:** A time picker set to '01:00'.
  - working day:** A section with 'check all' checked and individual days (Mon., Tue., Wed., Thur., Fri., Sat., Sun.) all checked.
  - add** button.
- At the bottom, there are four tabs: 'start time', 'end time', 'working day', and 'operation'.
- At the very bottom, there are 'reset' and 'sure' buttons.

After one policy is added, this policy will be showed.

There are 3 operation buttons: open, close, remove.

Open: open this policy, the default setting is closed after the policy is added.

Close: close this policy.

Remove: remove this policy.

## 6.2.5 System Config

### 1. SNMP control

Alert settings have 2 TAB pages: SNMP alert and Email alert.

The screenshot shows the 'Alert Settings' page with the 'SNMP Alert' tab selected. The page includes the following fields and options:

- SNMP Alert Support:** A checkbox labeled 'Enable' which is currently unchecked.
- LAN Channel:** A dropdown menu with the value '1' selected.
- Destination Address:** A text input field with the value '0.0.0.0'.
- Event Filter:** A section containing:
  - Event Severity:** A dropdown menu with 'Unspecified' selected.
  - Sensor configuration:** A dropdown menu with 'All Sensors' selected.
- At the bottom right, there are three buttons: 'Save' (blue), 'Reset' (grey), and 'Send Test Alert' (grey).

SNMP alert

SNMP alert support: Enable. Checking is enabled, otherwise disabled.

LAN channel: select the corresponding LAN channel, which is usually eth0 or eth8.

Destination address: destination IP address.

Event filter: through the selection of event security and sensor configuration, it can decide the

level of event alert; that is it can decide the level of sensors' abnormal events which needs alert management function.

#### Email alert

SMTP: it is the Email alert. Decide whether to enable.

LAN channel: select the corresponding LAN channel.

Sender address: the format is email format.

Server address: the address of server that needs email alert, the format is IP address format.

SMTP server requires authentication: if enabled, it will show the username and password input boxes.

Event filter: same with SMTP alert

LAN destination: the target address of email alert, including username, subject and message.

The user's registered email address is the target address that the email alert will send.

## 2. User management

Users can set the user information in the user management interface, including add user, modify user and delete user.

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### User Management

The list below shows the current list of available users. To delete or modify a user, select their name in the list and press 'Delete User' or 'Modify User'. To add a new user, select an unconfigured slot and press 'Add User'.

Number of configured users: 2

| UserID | Username  | UserAccess | Network Privilege | Email ID |
|--------|-----------|------------|-------------------|----------|
| 1      | anonymous | Disabled   | Administrator     | ~        |
| 2      | admin     | Enabled    | Administrator     | ~        |
| 3      | ~         | ~          | ~                 | ~        |
| 4      | ~         | ~          | ~                 | ~        |
| 5      | ~         | ~          | ~                 | ~        |
| 6      | ~         | ~          | ~                 | ~        |
| 7      | ~         | ~          | ~                 | ~        |
| 8      | ~         | ~          | ~                 | ~        |
| 9      | ~         | ~          | ~                 | ~        |
| 10     | ~         | ~          | ~                 | ~        |

Add User
Modify User
Delete User

### 3. Network control

Network setting of the management device, including the following items:

LAN interface: select the corresponding network card, which is usually eth0 or eth1.

LAN settings: checking “Enable” can continue the settings of corresponding network card.

MAC address: MAC address

Obtain an IP address automatically: if checking “Enable DHCP”, it will be dynamic IP, obtain an IP address automatically; otherwise, users can set the IP address.

IPv4 address: IP address

Subnet mask: subnet mask

Default gateway: default gateway

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### Network Setting

Network setting of the management device

|               |  |
|---------------|--|
| LAN interface | eth0                                       |
| LAN Settings  | <input checked="" type="checkbox"/> Enable |
| MAC address   | 6C:92:BF:02:06:84                          |

IPv4 Configuration

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Obtain an IP address automatically | <input type="checkbox"/> Enable DHCP |
| IPv4 Address                       | 192.168.100.100                      |
| Subnet Mask                        | 255.255.255.0                        |
| Default gateway                    | 0.0.0.0                              |

Save
Reset

## 6.2.6 Log Info

### 1. System event log

It displays BMC SEL information, mainly including sensor log information, OEM event

information and event filtering. It also displays the BMC timezone and client timezone when the events happened.

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LOG INFO  
**System Event Log**  
User Event Log  
SYSTEM MAINTENANCE

**System Event Log**  
Note: Please use IE9 and above if you want to export log.

All Events filter by All Events

☐ BMC Timezone ☒ Client Timezone UTC Offset : (GMT +08:00 )

| Event ID | Time                | Sensor name | Sensor type | Description                                    |
|----------|---------------------|-------------|-------------|--|
| 240      | 01/01/2012 08:19:14 | PVTT_CPU0   | Voltage     | Upper Non-Critical - Going High - Asserted     |
| 239      | 01/01/2012 08:17:39 | PVTT_CPU0   | Voltage     | Upper Non-Critical - Going High - Deasserted   |
| 238      | 01/01/2012 08:17:38 | PVTT_CPU0   | Voltage     | Upper Non-Critical - Going High - Asserted     |
| 237      | 01/01/2012 08:16:18 | CPU1_MEM_VR | Temperature | Lower Non-Critical - Going Low - Deasserted    |
| 236      | 01/01/2012 08:16:18 | CPU1_MEM_VR | Temperature | Lower Critical - Going Low - Deasserted        |
| 235      | 01/01/2012 08:16:18 | CPU1_MEM_VR | Temperature | Lower Non-Recoverable - Going Low - Deasserted |
| 234      | 01/01/2012 08:16:16 | TEMP_OUT    | Temperature | Lower Non-Critical - Going Low - Deasserted    |
| 233      | 01/01/2012 08:16:16 | TEMP_OUT    | Temperature | Lower Critical - Going Low - Deasserted        |
| 232      | 01/01/2012 08:16:16 | TEMP_OUT    | Temperature | Lower Non-Recoverable - Going Low - Deasserted |
| 231      | 01/01/2012 08:16:14 | TEMP_OUT    | Temperature | Lower Non-Recoverable - Going Low - Asserted   |

<< < 2 > >>

Clear log

## 2. User event log

It displays user event logs; at present when users login and logout Web page, it will record logs, and when BIOS is updated successfully it will record logs.

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LOG INFO  
System Event Log  
**User Event Log**  
SYSTEM MAINTENANCE

**User Event Log**  
Note: Please use IE9 and above if you want to export log.

☐ BMC Timezone ☒ Client Timezone UTC Offset : (GMT +08:00 )

| Event ID | Time                | Level | Type            | Description                                     |
|----------|---------------------|-------|-----------------|---|
| 13       | 01/01/2012 22:28:40 | Info  | session         | Create user session success                     |
| 12       | 01/01/2012 08:25:06 | Info  | session         | Create user session success                     |
| 11       | 01/01/2012 08:24:56 | Info  | session         | User session log out success                    |
| 10       | 01/01/2012 08:20:52 | Info  | session         | Create user session success                     |
| 9        | 01/01/2012 08:20:25 | Error | GPIO Monitoring | CPU2 thermtrip too high. The system need reboot |
| 8        | 01/01/2012 08:20:25 | Error | GPIO Monitoring | CPU3 thermtrip too high. The system need reboot |
| 7        | 01/01/2012 08:15:41 | Info  | session         | Create user session success                     |
| 6        | 01/01/2012 08:03:57 | Info  | session         | Create user session success                     |
| 5        | 01/01/2012 08:03:24 | Error | GPIO Monitoring | CPU2 thermtrip too high. The system need reboot |
| 4        | 01/01/2012 08:03:24 | Error | GPIO Monitoring | CPU3 thermtrip too high. The system need reboot |

<< < 1 > >>

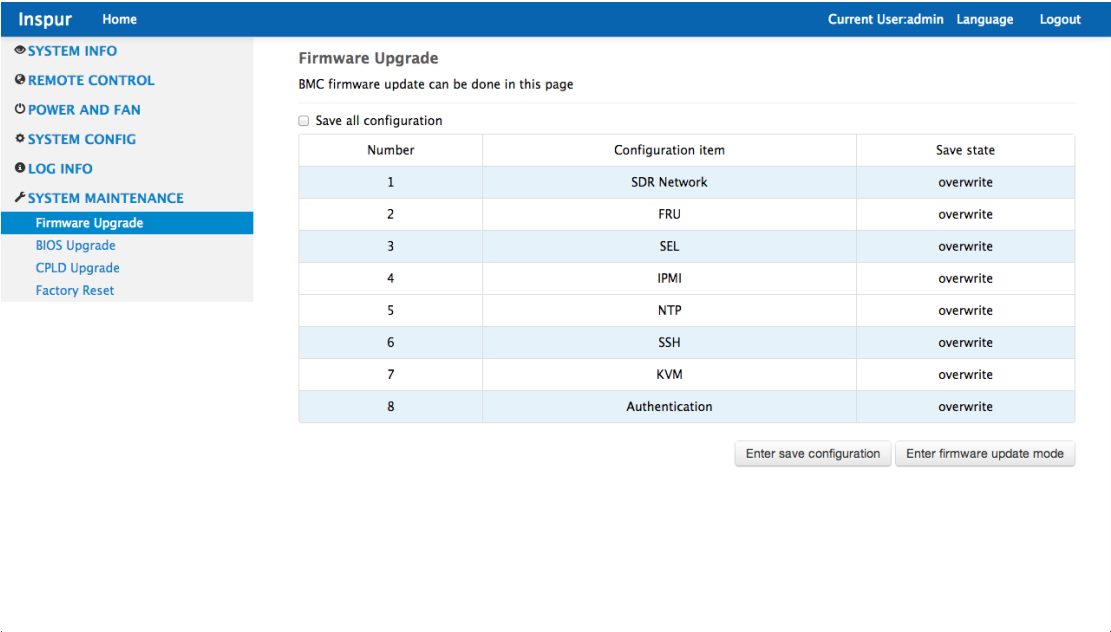
Clear log

192.168.101.100/indexPrague.html#userLog

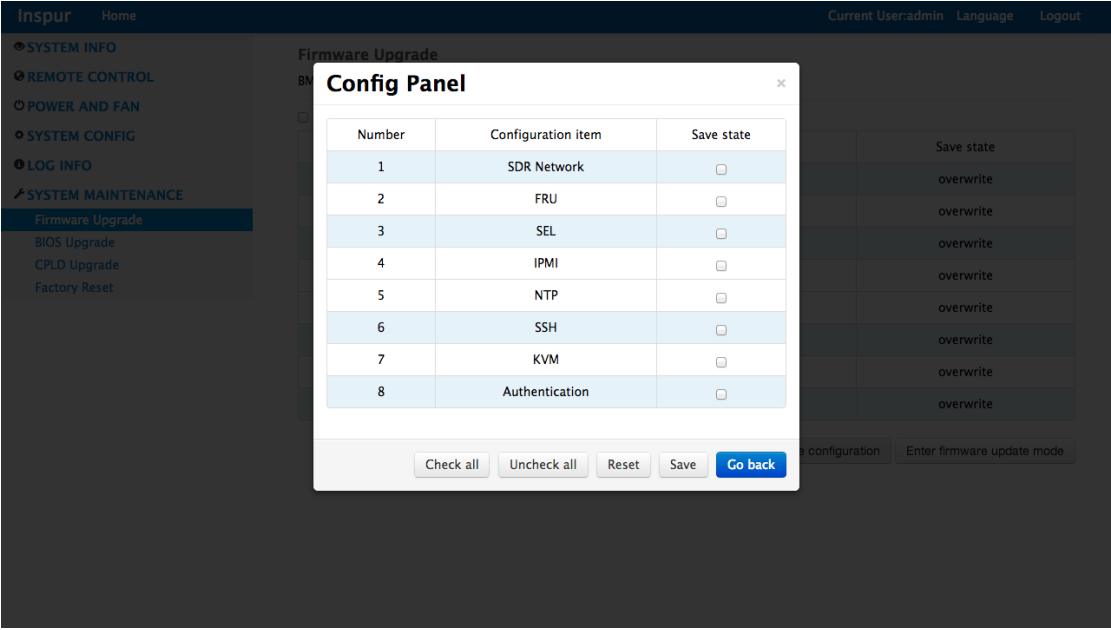
## 6.2.7 System Maintenance

### 1. Firmware update

Click “Enter save configuration” to enter the config panel.



Select the configuration items that need to save in the config panel and click “Save”.



Click “Enter firmware update mode”, after success, select the FW mirror image.  
Click “Upload”

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Firmware Upgrade

BMC firmware update can be done in this page

1. Enter firmware update mode

Enter firmware update mode

2. Select the file, upload and verify

选择文件未选择文件

Upload

After the image file has been uploaded, click “Proceed to refresh”.

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Firmware Upgrade

BMC firmware update can be done in this page

1. Enter firmware update mode

Enter firmware update mode

2. Select the file, upload and verify

选择文件prague\_rom\_20140415.ima

Upload

3. Proceed to refresh

Proceed to refresh

When the update has completed, BMC will reset and please open a new window to login.



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Firmware Upgrade

BMC firmware update can be done in this page

1. Enter firmware update mode

Enter firmware update mode

2. Select the file, upload and verify

选择文件

prague\_rom\_20140415.ima

Upload

3. Proceed to refresh

Proceed to refresh

4. Update has completed, please open a new window to login

## 2. BIOS update

Click “Enter the update mode” in the BIOS update interface.

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BIOS update

1.Enter BIOS update mode

Enter the update mode

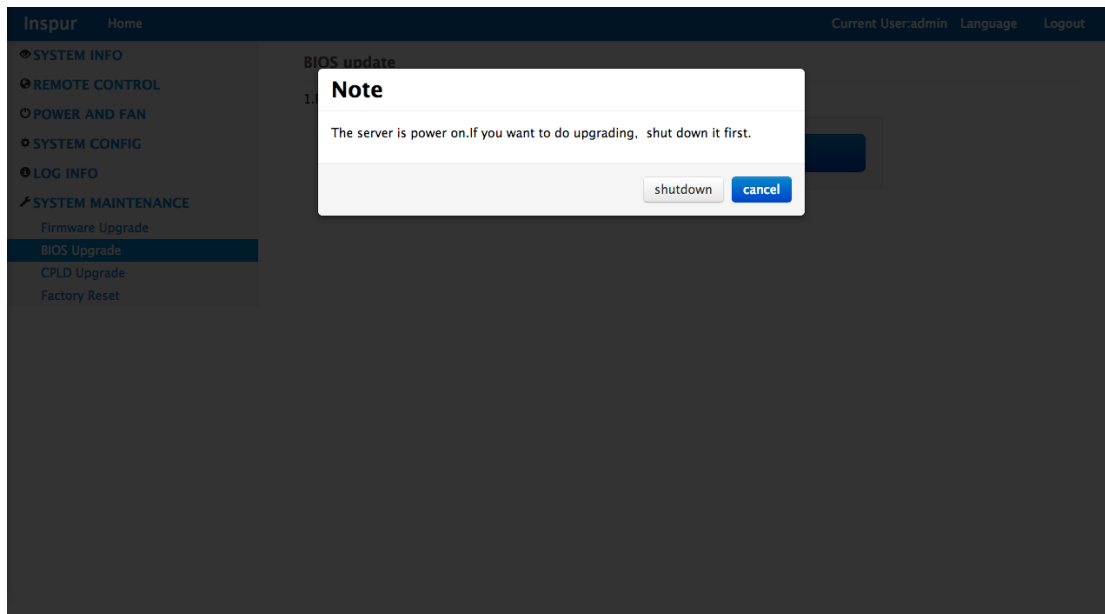
Firmware Upgrade

BIOS Upgrade

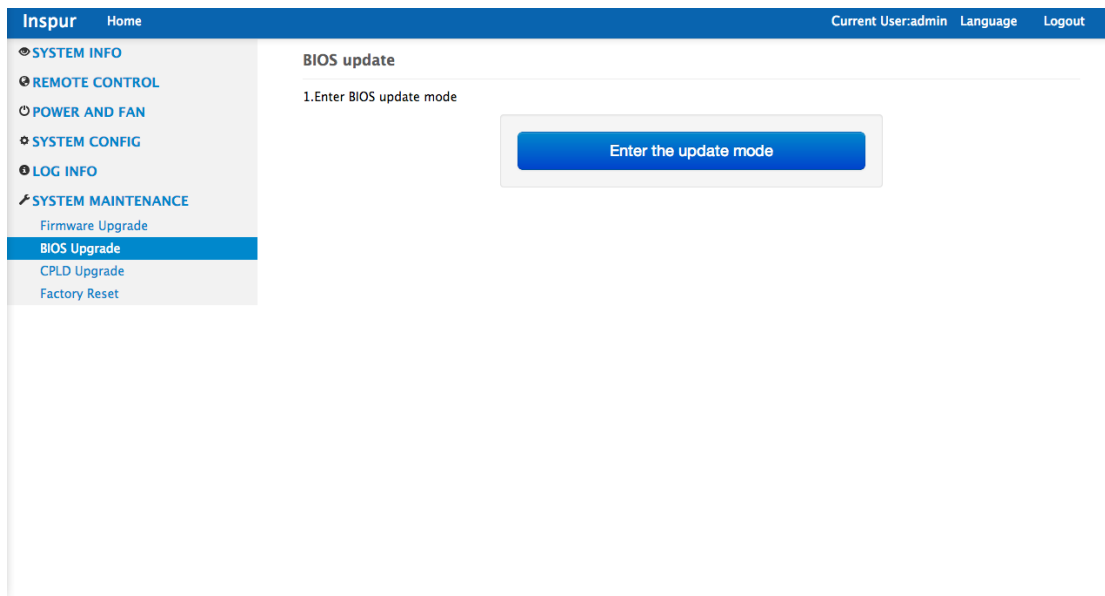
CPLD Upgrade

Factory Reset

If the server is on, it will prompt as shown in the following figure:



Click cancel and return to the initial page.



Click shutdown, and after shutdown succeeds, enter the update mode, it will show step 2 after a while.

Note: if the current status is off, clicking enter will skip to this step directly.

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BIOS update

1.Enter BIOS update mode

Enter the update mode

2.Choose the object file and upload

Choose FileNo file chosen

No file chosen

Upload

Select the BIOS image file and click “Upload”. After a while, it will show step 3.

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BIOS update

1.Enter BIOS update mode

Enter the update mode

2.Choose the object file and upload

Choose FilePrague\_BIOS...140409.bin

Upload

3.Start to upgrade

☐ Flush ME

☐ Cover BIOS configuration files

Start to upgrade

There are 2 optional configuration items.

Click “Start to upgrade” to enter upgrade. Wait for a while, if it succeeds:

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BIOS update

1.Enter BIOS update mode

Enter the update mode

2.Choose the object file and upload

Choose File Prague\_BIOS...140409.bin

Upload

3.Start to upgrade

☐ Flush ME

☐ Cover BIOS configuration files

Start to upgrade

4.Upgrade has been completed, and BMC restarts. Please create a new session

If it fails:

Inspur

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BIOS update

1.Enter BIOS update mode

Enter the update mode

2.Choose the object file and upload

Choose File Prague\_BIOS...140409.bin

Upload

3.Start to upgrade

☐ Flush ME

☐ Cover BIOS configuration files

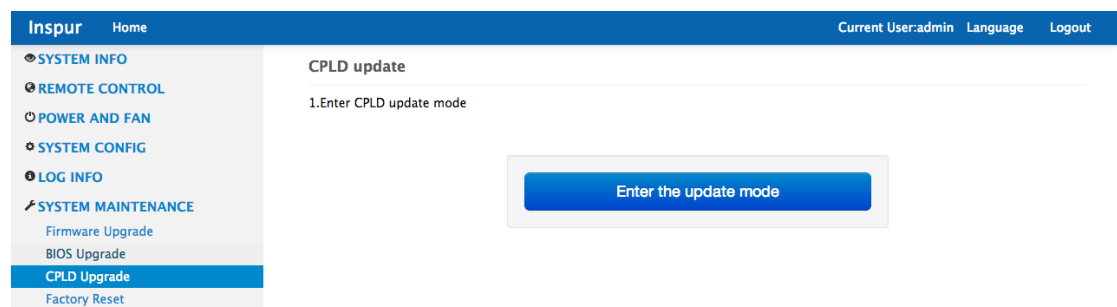
Start to upgrade

4.Upgrade has been completed, and BMC restarts. Please create a new session

The page at localhost:63342 says:  
Upgrade fails

OK

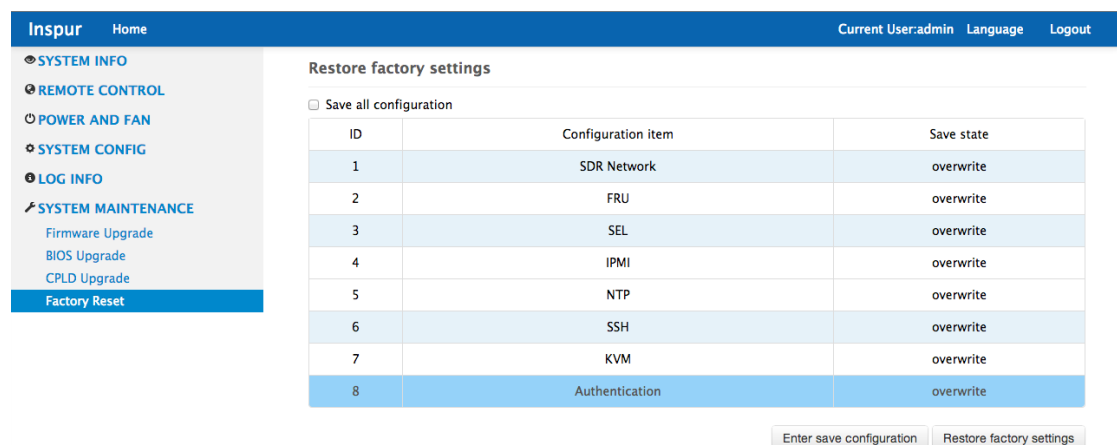
### 3. CPLD upgrade



192.168.101.100/indexPranue.html#/hios/Inngrade

CPLD upgrade is divided into 3 steps to complete, and these 3 steps are shown separately. Click “Enter the update mode” button and enter step2, select the target file to upload and verify, click “Upload” button and enter step3, click “Proceed to fresh” button and wait for the task to complete.

#### 4. Factory reset



Click “Restore factory settings” button. If the operation succeeds, it will prompts success, if fails, it will prompt failure.

Config panel shows the current configuration.

You can click to enter it and select the configuration.

