



# VANTAGEO 2240-RE

## Rack Server

## Troubleshooting

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## **Revision History**

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# About This Manual

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## Purpose

This manual describes the common troubleshooting methods for the 2240-RE rack server to provide guidance on system maintenance.

## Intended Audience

This manual is intended for:

- Commissioning engineers
- Maintenance engineers

## What Is in This Manual

This manual contains the following chapters:

|   |  |
|---|--|
| Chapter 1, Safety Instructions          | Describes safety instructions for troubleshooting.   |
| Chapter 2, Troubleshooting Procedure    | Describes the troubleshooting procedure.   |
| Chapter 3, Troubleshooting Preparations | Describes the requirements for maintenance engineers, and the software and hardware tools for troubleshooting. |
| Chapter 4, Information Collection       | Describes the information to be collected for troubleshooting.   |
| Chapter 5, Troubleshooting              | Describes the fault diagnosis principles and handling methods and the troubleshooting of common faults.        |
| Chapter 6, Technical Support            | Describes the methods for obtaining VANTAGEO technical support.  |

## Related Documentation

The following documentation is related to this manual:

- 2240-RE Rack Server Product Description
- 2240-RE Rack Server Hardware Description
- 2240-RE Rack Server Prompt Code Reference
- 2240-RE Rack Server Parts Replacement
- VANTAGEO Server Alarm Handling (BMC V4)
- VANTAGEO Server BMC User Guide (BMC V4)

## Conventions

This manual uses the following conventions:



Note: provides additional information about a topic.

# Chapter 1

# Safety Instructions

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## Safety Precautions

To reduce the possibility of personal injuries, you must carefully read this manual before troubleshooting.

To ensure human and device safety, you must comply with the safety labels on the device during troubleshooting.



If you have any questions about safety, you should immediately consult your supervisor or contact the local VANTAGEO office.

## Local Laws and Regulations

During troubleshooting, you must observe local laws and regulations.



The safety instructions in this manual are only supplements to local laws and regulations.

## Personnel Requirements

The requirements for troubleshooting personnel are as follows:

- The troubleshooting personnel must be well trained and certified or authorized by VANTAGEO.
- The troubleshooting personnel must report in advance the faults that may cause safety problems to the person in charge.

## Grounding Requirements

The grounding requirements are as follows:

- Install a grounding cable before installing the device, and remove the grounding cable last when removing the device.
- Do not operate the device without a grounding conductor equipped.
- Keep the device connected permanently to the protective ground.

### Personal Safety

The following precautions must be observed to avoid personal injuries:

- Remove jewelry items, such as rings, necklaces, and watches.
- Wear appropriate personal protective equipment.
- Pay attention to the safety labels, and cautions or warnings on devices. Never cover or remove the safety labels, and cautions or warnings on devices.
- Use only the tools described in this manual.

### Device Safety

The following precautions must be observed to avoid device damage:

- When replacing a part, keep the part, screws and tools away from running fans to avoid any damage to the fans or device.
- Do not pull any cable connected to a component or the board to lift the component or board.
- Do not pull any cable connected to a component or the board to remove a connector.
- Do not block or cover the vents during system operation.
- When installing a panel, use a tool to tighten the screws.
- After the device installation or replacement is completed, remove the packing materials in the device area.

# Chapter 2

## Troubleshooting Procedure

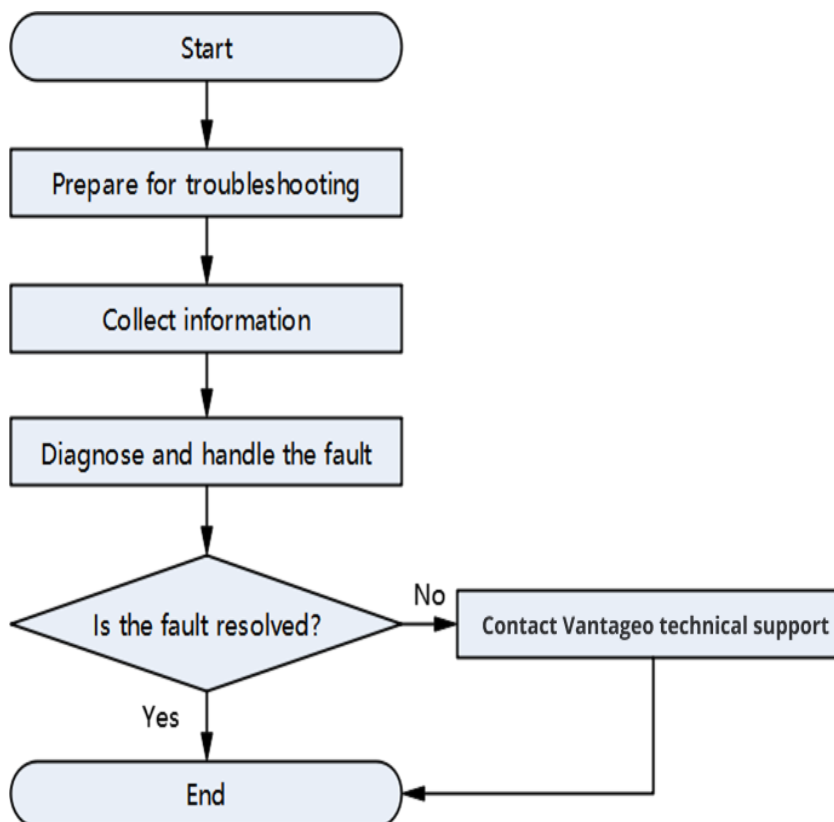
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A fault is a symptom where a device or system software fails to provide a required function or endangers security due to a particular cause during its operation.

Troubleshooting means to use reasonable methods to locate fault causes and correct faults.

Figure 2-1 shows the common troubleshooting procedure.

**Figure 2-1 Troubleshooting Procedure**



The troubleshooting procedure is described as follows:

1. Prepare for troubleshooting  
Prepare the documents and tools required for troubleshooting a fault.
2. Collect information  
Collect all the information that helps to troubleshoot the fault.
3. Troubleshoot the fault



Find the cause of the fault through fault diagnosis, develop a troubleshooting measure, and take the corresponding actions.

4. Contact VANTAGEO technical support.

If you encounter problems that are difficult to identify or resolve during device maintenance or troubleshooting, or you cannot resolve these problems by following the guidance in this manual, contact VANTAGEO technical support engineers.

# Chapter 3

## Troubleshooting Preparations

### Basic Skills

Familiarity with the following is required before troubleshooting:

- Server product knowledge
- Server hazard signs and their levels
- Server hardware structure
- Alarm indicators on the front and rear panels
- Operating system of the server
- Operating conditions of the server
- Common hardware operations, such as power-on and power-off
- Common software operations, such as software upgrade
- Server maintenance flow.

### Required Documentation

The following documents must be learned before troubleshooting:

- *2240-RE Rack Server Product Description*
- *2240-RE Rack Server Hardware Description*
- *2240-RE Rack Server Prompt Code Reference*
- *VANTAGEO Server Alarm Handling (BMC V4)*
- *VANTAGEO Server BMC User Guide (BMC V4)*

### Software Tools

[Table 3-1](#) shows the software tools to be prepared before troubleshooting.

**Table 3-1 Software Tools for Troubleshooting**

| Tool                                  | Function   | Source               |
|---------------------------------------|--|----------------------|
| Web portal of the <a href="#">BMC</a> | As the configuration and maintenance system for hardware devices including the | Provided by VANTAGEO |

| Tool                 | Function   | Source   |
|----------------------|--|--|
|                      | 2240-RE, this portal can visually display the operation of the server to ensure that the network operation is reliable, secure, and efficient.   |  |
| Log collection tools | The tools are used to collect logs for fault diagnosis and handling.   | <ul style="list-style-type: none"> <li>● Logs can be collected through the Web portal of the BMC that is provided by VANTAGEO.</li> <li>● Logs can be collected through the <a href="#">SSH</a> command line. The SSH tool is prepared by the customer.</li> <li>● Logs can be collected through the serial command line. The serial command line tool is prepared by the customer.</li> <li>● Logs can be collected through the Log-Collect tool that is provided by VANTAGEO.</li> </ul> |
| SSH software         | Through the SSH software (such as the PuTTY), you can remotely log in to the Unix or Linux server from a <a href="#">PC</a> of the Windows operating system, and perform operations and maintenance upon the server as needed. | Prepared by the customer.  |
| Packet analyzer      | A packet analyzer (for example, Wireshark) can save network interface data as required, and make the data more comprehensible.   | Prepared by the customer   |

### Hardware Tools

[Table 3-2](#) shows the hardware tools to be prepared before troubleshooting.

**Table 3-2 Hardware Tools for Troubleshooting**

| Tool                      | Function   |
|---------------------------|--|
| Floating nut mounting bar | Used to pull the floating nut so that it can be fixed to an installation hole in a slide rail of the cabinet.                    |
| Screwdrivers              | Used to fix and remove screws. The screwdrivers include the flat-head screwdriver, cross-head screwdriver, and hexagonal sleeve. |
| Diagonal pliers           | Used to cut insulating tubes and cable clips.  |
| Multimeter                | Used to measure electrical resistance and voltage, and check continuity.   |
| Anti-static wrist strap   | Used to protect against electrostatic discharge when you contact or operate devices and components.                              |

| <b>Tool</b>                | <b>Function</b>   |
|----------------------------|---|
| Anti-static gloves         | Used to protect against electrostatic discharge when you take, install, and remove boards or other precision instruments.                               |
| Cable clip                 | Used to bundle cables.  |
| Ladder                     | Used for working at heights.  |
| PC                         | Used to capture data by accessing the management interface or service interface through the network. A network cable must be prepared by the customer.  |
| Serial port cable          | The serial port on the server is DB9 or RJ45.   |
| Thermometer and hygrometer | Used to monitor the temperature and humidity of the equipment room and check whether the conditions meet the requirements for stable device operations. |
| Oscilloscope               | Used to measure voltage and time series.  |

# Chapter 4

## Information Collection

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## 4.1 Collecting Basic Information

Table 4-1 can be used to collect basic information.

**Table 4-1 Server Fault Record**

| Server Fault Record                                       |  |                      |  |
|---|--|----------------------|--|
| Record No.  | <i>For example, 123456</i>   | Record Time          | <i>YYYY-MMDD-HH:MM:SS</i>              |
| Company Name  | <i>xxx</i>   | Address              | <i>Street address, city, state</i>     |
| Engineer Name   | <i>Thomas</i>  | Contact Information  | <i>Telephone number/email address.</i> |
| Device Model  | <i>For example, 2240-RE</i>  | Device Serial Number | <i>For example, xxxxxxxxxxxx</i>       |
| Hardware Configuration                                    | <i>If you have changed the CPUs, memory modules, RAID cards or NICs, make that clear. If no hardware is changed, fill in "None".</i>   |                      |  |
| OS and Application Software Versions                      | <i>For example, Suse11sp1 (64-bit) and Oracle 10U2. Determine whether to collect OS and application software versions as required.</i> |                      |  |
| Fault Occurrence Time                                     | <i>YYYY-MMDD-HH:MM:SS</i>  |                      |  |
| Symptom   | <i>For example, automatic restart during system installation or BMC login failure.</i>   |                      |  |
| Operations Before a Fault Occurs                          | <i>For example, modifying BIOS, expanding the memory or modifying network configurations.</i>  |                      |  |
| Operations After a Fault Occurs and the Result (optional) | <i>Examples:</i>   |                      |  |

| Server Fault Record |  |
|---------------------|--|
|                     | <p><i>Replug the power cable and reinstall the OS, but the fault persists.</i></p> <p><i>Replace the disk, but the fault persists.</i></p> <p><i>...</i></p> |

## 4.2 Collecting Logs and Alarms

### 4.2.1 Exporting Logs Through the Web Portal

#### Abstract

The BMC Web portal provides the one-click log export function. The exported log file is named `bmcinfo_<product serial number>.tar.gz`, and stored in the default download folder of the browser.

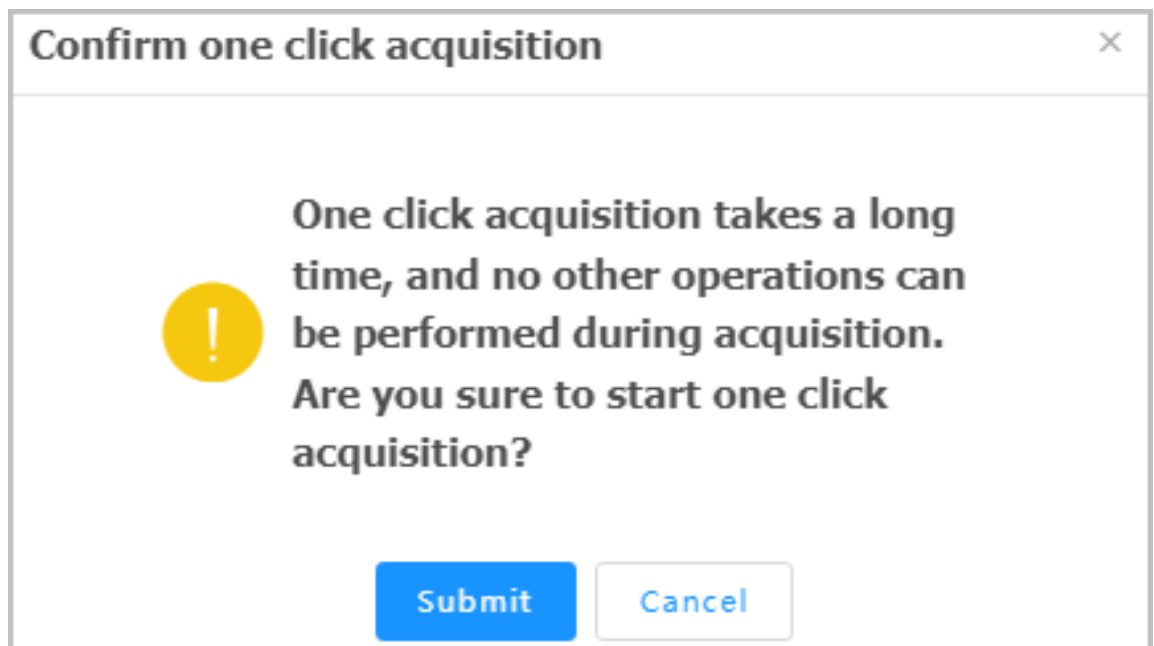
#### Note

If the product serial number is not programmed, the file name is `bmcinfo_UnknownProductSN.tar.gz`.

#### Steps

1. In the **Shortcuts** area on the homepage of the BMC Web portal, click **One-Click Collection**. The **Confirm one click acquisition** dialog box is displayed, see [Figure 4-1](#).

**Figure 4-1 Confirm one click acquisition Dialog Box**



2. Click **Submit**.



**Note**

During the collection process, all interfaces of the BMC Web portal cannot be operated. If you close the browser by mistake, log in to the BMC Web portal again. The "One click acquisition is being processed, please try again later." message is displayed. Wait for about five minutes before re-collecting logs

## 4.2.2 Exporting Logs by Category Through the Web Portal

### Abstract

BMC logs include:

- Operation log: records the information about users' operations on the server, including on-site operations and remote operations.
- Audit log: records users' login to and logout of the BMC Web portal, BMC management backend, and KVM.

### Steps

1. Select **Maintenance**. The **Maintenance** page is displayed.
2. From the navigation tree in the left pane, select **BMC Logs**. The **BMC Logs** page is displayed, see [Figure 4-2](#).

**Figure 4-2 BMC Logs Page**

| No. | Generation Time     | Interface | User          | Address        | Details   |
|-----|---------------------|-----------|---------------|----------------|---|
| 92  | 2023-05-22 14:09:39 | WEB       | Administrator | 10.56.57.151   | export bmc data failed.                               |
| 91  | 2023-05-22 09:24:49 | WEB       | Administrator | 10.56.134.101  | upgrade BMC successfully.                             |
| 90  | 2023-05-22 09:24:49 | WEB       | Administrator | 10.56.134.101  | upgrade BMC with preserve configuration successfully. |
| 89  | 2023-05-22 09:23:36 | WEB       | Administrator | 10.56.134.101  | begin upgrade BMC successfully.                       |
| 88  | 2023-05-20 07:09:40 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |
| 87  | 2023-05-20 07:06:40 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |
| 86  | 2023-05-20 07:03:39 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |
| 85  | 2023-05-20 07:00:37 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |
| 84  | 2023-05-20 06:57:36 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |
| 83  | 2023-05-20 06:54:34 | REDFISH   | Administrator | 10.239.166.158 | create eventService subscriptions failed.             |

3. Perform the following operations as required.

| To...                 | Do...   |
|-----------------------|---|
| Export operation logs | a. Click <b>Operation Logs</b> . The <b>Operations Logs</b> tab is displayed. |

| To...             | Do...  |
|-------------------|--|
|                   | b. (Optional) Enter a keyword in the search box.<br>c. Click <b>Download Logs</b> .  |
| Export audit logs | a. Click <b>Audit Logs</b> . The <b>Audit Logs</b> tab is displayed.<br>b. (Optional) In the search box, enter a keyword.<br>c. Click <b>Download Logs</b> . |

### 4.2.3 Exporting Alarms by Category Through the Web Portal

#### Abstract

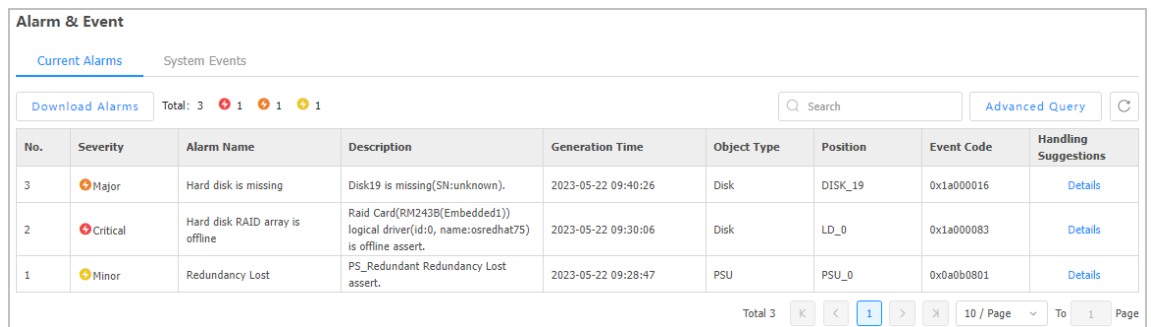
BMC alarms include:

- Current alarm: records active alarms on the server.
- System event: records events generated during the operation of the server.

#### Steps

1. Select **Maintenance**. The **Maintenance** page is displayed.
2. From the navigation tree in the left pane, select **Alarm & Event**. The **Alarm & Event** page is displayed, see [Figure 4-3](#).

Figure 4-3 Alarm & Event Page



3. Perform the following operations as required.

| To...                | Do...   |
|----------------------|---|
| Export active alarms | a. Click <b>Current Alarms</b> . The <b>Current Alarms</b> tab is displayed.<br>b. (Optional) Set query conditions.<br>c. Click <b>Download Alarms</b> .      |
| Export system events | a. Click <b>System Events</b> . The <b>System Events</b> tab is displayed.<br>b. (Optional) Set query conditions.<br>c. Click <b>Download System Events</b> . |



## 4.2.4 Exporting Logs Through the CLI (SSH)

### Abstract

If the **BMC** Web portal is faulty, you can connect to the BMC management backend through **SSH** and export logs in one click in command line mode.

### Steps

1. Connect to the BMC by using the SSH tool.
2. Run the following commands in the CLI to export logs:

```
# cd /etc/init.d/  
# ./export_bmcdata.sh
```



### Note

After the logs are exported, they are stored in the `/var/bmcdata/bmcinfo_.tar.gz` directory.

3. Download log files to the local PC by using the **SFTP** function.
4. Run the following commands in the CLI to delete the BMC log files:

```
# cd /var/bmcdata  
# rm bmcinfo_.tar.gz
```

## 4.2.5 Exporting Logs Through the CLI (Serial Port)

### Abstract

When you cannot connect to the **BMC** due to a network failure, you can export logs through the serial port.

### Steps

1. Connect the serial port of the BMC to a debugging PC by using an audio serial port cable.
2. Press and hold the **UID** button on the server panel for six seconds until the UID indicator flashes blue.
3. Use the serial port tool on the debugging PC to connect to the serial port of the BMC.
4. Log in to the serial port of the BMC with the username and password.
5. Run the following commands in the CLI to export logs:

```
# cd /etc/init.d/  
# ./export_bmcdata.sh
```



After the logs are exported, they are stored in the `/var/bmcdata/bmcinfo_.tar.gz` directory.

- 
6. Run the following command to back up the logs to the `/data` directory:

```
# cp /var/bmcdata/bmcinfo_.tar.gz /data
```



You can download log files to the local PC by using the [SFTP](#) function after the network is restored.

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# Chapter 5

## Troubleshooting

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### 5.1 Diagnosis Principles

The following principles must be complied with during fault diagnosis:

- External faults diagnosed first, and then internal faults.
- Network faults diagnosed first, and then server faults.
- High-level alarms analyzed first, and then low-level alarms.



#### Note

- All troubleshooting operations must be authorized by the customer in written form.
  - All troubleshooting operations can only be performed under the prerequisite that the service data are already backed up or will not lose.
- 

### 5.2 Handling Faults Based on Alarms

You can handle faults based on the alarms reported by the 2240-RE.



#### Note

For detailed alarm handling methods, refer to the *VANTAGEO Server Alarm Handling (BMC V4)*.

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### 5.3 Handling Faults Based on Prompt Codes

You can handle faults based on the prompt codes displayed on the monitor connected to the 2240-RE.

**Note**

For prompt code descriptions and the corresponding actions, refer to the *2240-RE Rack Server Prompt Code Reference*.

## 5.4 Handling Faults Based on Indicator Status

For the locations and descriptions of the indicators, refer to the *2240-RE Rack Server Product Description*.

You can handle alarms based on the status of each indicator. For details, refer to [Table 5-1](#) to [Table 5-3](#).

**Table 5-1 Power Indicator Status Descriptions and Corresponding Actions**

| Indicator Status | Description   | Action  |
|------------------|---|---|
| Steady green     | The server is powered on in payload mode (the host is powered on).          | No action is required.  |
| Steady yellow    | The server is powered on in standby mode (the host is not powered on).      | The BMC is being powered on, and the host is waiting for a power-on command from the power button.  |
| Off              | The server is not powered on or the power module is not operating properly. | <ol style="list-style-type: none"> <li>Log in to the BMC Web portal and check whether an alarm exists.<br/>If yes, handle the alarm by referring to the <i>VANTAGEO Server Alarm Handling (BMC V4)</i>.</li> <li>Check whether the power supply is normal. <ul style="list-style-type: none"> <li>Yes → Contact VANTAGEO technical support.</li> <li>No → Troubleshoot the power supply.</li> </ul> </li> </ol> |

**Table 5-2 Health Indicator Status Descriptions and Corresponding Actions**

| Indicator Status     | Description                          | Action   |
|----------------------|--------------------------------------|--|
| Steady green         | The server is operating properly.    | No action is required.   |
| Flashing red at 1 Hz | The server reports a minor alarm.    | Log in to the BMC Web portal and check whether a minor alarm exists.<br>If yes, handle the alarm by referring to the <i>VANTAGEO Server Alarm Handling (BMC V4)</i> .    |
| Flashing red at 4 Hz | The server reports a critical alarm. | Log in to the BMC Web portal and check whether a critical alarm exists.<br>If yes, handle the alarm by referring to the <i>VANTAGEO Server Alarm Handling (BMC V4)</i> . |

| Indicator Status | Description                           | Action  |
|------------------|---------------------------------------|---|
| Off              | The server is not operating properly. | <ol style="list-style-type: none"> <li>Log in to the BMC Web portal and check whether an alarm exists.<br/>If yes, handle the alarm by referring to the <i>VANTAGEO Server Alarm Handling (BMC V4)</i>.</li> <li>Check whether the power supply is normal. <ul style="list-style-type: none"> <li>Yes → Contact VANTAGEO technical support.</li> <li>No → Troubleshoot the power supply.</li> </ul> </li> </ol> |

**Table 5-3 Hard Disk Indicator Status Descriptions and Corresponding Actions**

| Indicator Status                        | Description  | Action  |
|---|--|---|
| Activity indicator: steady green        | The hard disk is present and inactive.   | No action is required.  |
| Activity indicator: flashing green      | The hard disk is in read-write or synchronization status.<br>For the SAS/SATA hard disk, the indicator flashes at 4 Hz. For the NVMe hard disk, the flashing frequency is not defined. | No action is required.  |
| Activity indicator: off                 | The hard disk is not present or is faulty.   | <p>Check whether the hard disk is present.</p> <ul style="list-style-type: none"> <li>Yes → Contact VANTAGEO technical support.</li> <li>No → No action is required.</li> </ul> |
| Status indicator: steady red            | The hard disk is faulty.   | Contact VANTAGEO technical support.   |
| Status indicator: flashing blue at 1 Hz | The RAID group that the hard disk belongs to is being rebuilt.   | Check whether this operation is manually triggered.   |
| Status indicator: flashing blue at 4 Hz | The hard disk is being located.  | No action is required.  |
| Status indicator: off                   | The hard disk is operating properly.   | No action is required.  |

## 5.5 Common Fault Handling

### 5.5.1 No Information Displayed After Power-On

#### Symptom

After the device is connected to an external power supply, no information is displayed on the screen.



#### Note

In a normal case, after an external power cable is connected, 5A is displayed in the lower right corner of the screen no matter whether the host is powered on.

#### Probable Causes

- The display is not connected properly.
- The power supply or power cable is faulty.
- The mainboard is damaged.
- The [EPLD](#) software fails to be programmed.

#### Action

1. Perform the following operations in accordance with the status of the power indicator.

| If...                                  | Then...                        |
|--|--------------------------------|
| The power indicator is yellow or green | Go to <a href="#">Step 2</a> . |
| The power indicator is unlit.          | Go to <a href="#">Step 4</a> . |

2. Check whether the cable of the display is connected properly.
  - Yes → [Step 5](#).
  - No → [Step 3](#).
3. Reconnect the cable of the display. Check whether the fault persists.
  - Yes → [Step 5](#).
  - No → End.
4. Verify that the power cable is connected properly and the power supply is normal. Check whether the fault persists.
  - Yes → [Step 5](#).
  - No → End.
5. Log in to the [BMC](#) Web portal and check the status and alarms of the server.
6. Troubleshoot the mainboard fault in accordance with the server status and alarms, and check whether the fault persists.
  - Yes → [Step 7](#).

- No → End.
7. Check the EPLD software.
  8. Re-program the EPLD software, and check whether the fault persists.
    - Yes → [Step 9](#).
    - No → End.
  9. Contact VANTAGEO technical support.

## 5.5.2 Failed to Initialize BIOS

### Symptom

The device cannot be started to display the VANTAGEO logo through the external power button or internal power-on command of the [BMC](#). Only code of port 80 is displayed in the lower right corner of the screen.

### Probable Causes

- The BMC is not operating properly.
- The [BIOS](#) of the mainboard is corrupted.
- The [PCIe](#) card or another card is not operating properly.
- The mainboard memory is abnormal.
- The mainboard hardware is damaged.

### Action

1. Perform the following operations in accordance with the status of the power indicator.

| If...                         | Then...                        |
|-------------------------------|--------------------------------|
| The power indicator is yellow | Go to <a href="#">Step 2</a> . |
| The power indicator is green  | Go to <a href="#">Step 4</a> . |

2. Connect the BMC and a debugging PC with a serial port cable. Check whether the BMC is operating properly.
  - Yes → [Step 5](#).
  - No → [Step 3](#).
3. Disconnect the external power cable, restart the server, and check whether the fault persists.
  - Yes → [Step 9](#).
  - No → End.
4. Check whether the code of port 80 is 5A.
  - Yes → [Step 5](#).
  - No → [Step 6](#).

5. Log in to the BMC Web portal, start the server from the backup BIOS through the [IPMI](#), and check whether the fault persists.
  - Yes → [Step 8](#).
  - No → End.
6. Log in to the BMC Web portal and check whether the memory is normal.
  - Yes → [Step 8](#).
  - No → [Step 7](#).
7. Replace the faulty memory. Check whether the fault persists.
  - Yes → [Step 8](#).
  - No → End.
8. Disconnect the cables of the PCIe peripherals and [SAS](#) cables. Try the corresponding buttons on the front panel and backplane. Check whether the fault persists.
  - Yes → [Step 9](#).
  - No → End.
9. Contact VANTAGEO technical support.

### 5.5.3 Server Reset or Frozen

#### Symptom

The server is reset or frozen during operation.

#### Probable Causes

- The memory is faulty.
- Fans are not started or the fan speed is not proper.
- Software is faulty.

#### Action

1. Perform the following operations in accordance with the memory error.

| If...  | Then...                        |
|--|--------------------------------|
| The memory error is related to a memory module | Replace the memory module.     |
| The memory error is related to the memory slot | Replace the mainboard.         |
| There is no memory error                       | Go to <a href="#">Step 2</a> . |

2. Check whether fans are operating properly.
  - Yes → [Step 4](#).
  - No → [Step 3](#).
3. Replace the faulty fans. Check whether the fault persists.
  - Yes → [Step 4](#).



- No → End.
4. Collect fault logs, and contact VANTAGEO technical support for troubleshooting.

## 5.5.4 Server Frozen or Shut Down

### Symptom

The server is frozen or shut down during operation

### Probable Causes

Fans are not started or the fan speed is not proper. The server is shut down due to high temperature.

### Action

1. Check whether each fan is operating at a normal speed.
  - Yes → [Step 3](#).
  - No → [Step 2](#).
2. Replace the faulty fans. Check whether the fault persists.
  - Yes → [Step 3](#).
  - No → End.
3. Contact VANTAGEO technical support.

## 5.5.5 Failed to Log In to BMC Web Portal

### Symptom

- Symptom 1: On the client, you cannot ping the IP address of the [BMC](#).
- Symptom 2: You cannot log in to the BMC Web portal after entering the username and password on the login page.

### Probable Causes

Causes for symptom 1:

- The BMC is not operating properly.
- The IP address of the client or BMC is incorrect.
- The network cable is not connected properly.

Causes for symptom 2:

- The browser version is incorrect.
- The cache of the browser is not cleared.
- The BMC is not operating properly.

**Action****Symptom 1:**

1. Perform the following operations in accordance with the status of the BMC NIC.

| If...                          | Then...                        |
|--------------------------------|--------------------------------|
| The NIC indicator is flashing  | Go to <a href="#">Step 2</a> . |
| The NIC indicator is steady on | Go to <a href="#">Step 3</a> . |
| The NIC indicator is unlit     | Go to <a href="#">Step 4</a> . |

2. Verify that the BMC is operating properly, and check whether the fault persists.
  - Yes → [Step 3](#).
  - No → End.
3. Check the IP address of the BMC. Verify that the IP address of the BMC is in the same network segment as that of the client. Check whether the fault persists.
  - Yes → [Step 4](#).
  - No → End.
4. Verify that the network cable is connected properly. Check whether the fault persists.
  - Yes → [Step 5](#).
  - No → End.
5. Contact VANTAGEO technical support.

**Symptom 2:**

1. Clear the cache of the browser. For example, in the Firefox browser, select **Settings > Privacy & Security > Clear History**. The **Clear Recent History** dialog box is displayed.
2. Select **Cookies** and **Cache**, and click **Clear Now**.
3. Log in to the BMC Web portal again. Check whether the fault persists.
  - Yes → [Step 4](#).
  - No → End.
4. Verify that the BMC is operating properly, and check whether the fault persists.
  - Yes → [Step 5](#).
  - No → End.
5. Contact VANTAGEO technical support.

## 5.5.6 Server Memory Failure

**Symptom**

- Symptom 1: The number of identified memory modules is not the same as the actual number of memory modules.

- Symptom 2: Memory modules are unstable and an [ECC](#) error is reported on the [BMC](#) Web portal.

### Probable Causes

- Memory modules are not installed properly.
- Memory modules are faulty.

### Action

1. Check the memory configurations.



#### Note

For a description of the memory configurations, refer to the *2240-RE Rack Server Hardware Description*.

2. Log in to the BMC Web portal, and check active and historical alarms related to the memory of the server.
3. Install the memory module indicated by the alarms to a different slot and perform a test using a test tool.
4. Perform the corresponding operation in accordance with the test result, and check whether the fault persists.

| If...  | Then...                    |
|--|----------------------------|
| The fault resides on the memory module             | Replace the memory module. |
| The fault resides on the slot of the memory module | Replace the mainboard.     |



#### Note

For how to replace a memory module and the mainboard, refer to the *2240-RE Rack Server Parts Replacement*.

- Yes → [Step 5](#).
  - No → End.
5. Contact VANTAGEO technical support.

## 5.5.7 Disk I/O Errors

### Symptom

Some disks cannot be identified, no disk can be identified, or an error occurs when data is being read from or written into the disks.

### Probable Causes

- A disk is damaged.
- The SAS cable is not connected properly.
- The disk backplane or connector is damaged.
- The corresponding RAID controller card is faulty.

### Action

1. Check whether the activity indicator of the faulty hard disk is lit.



#### Note

The activity indicator status is as follows:

- Off: The disk is not present or is faulty.
- Flashing green: Data is being read from or written to the disk, or synchronized between disks.
- Steady green: The disk is present and inactive.

2. In accordance with the check result of [Step 1](#), install the unidentified or faulty disk to another slot.
3. Perform the corresponding operation in accordance with the result, and check whether the fault persists.

| If...                                     | Then...  |
|---|--|
| The fault resides on the disk             | Replace the disk.                                |
| The fault resides on the slot of the disk | Verify that the SAS cable is properly connected. |



#### Note

For how to replace a disk, refer to the *2240-RE Rack Server Parts Replacement*.

- Yes → [Step 4](#).
  - No → End.
4. Verify that the corresponding disk backplane and connector are normal, and check whether the fault persists.
    - Yes → [Step 5](#).
    - No → End.
  5. Replace the corresponding RAID controller card or HBA card, and check whether the fault persists.



For how to replace a RAID controller card or an HBA card, refer to the *2240-RE Rack Server Parts Replacement*.

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- Yes → [Step 6](#).
  - No → End.
6. Contact VANTAGEO technical support.

# Chapter 6

## Technical Support

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### Technical Support Website

You can log in to the technical support website (<https://vantageo.com/>). On the website, you can retrieve and download documents of a product through the keywords such as 2240-RE

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### Technical Support Contact

If the problems cannot be solved through documents, you can contact VANTAGEO technical support in the following ways:

- support helpdesk: +91 18002669898
- support mailbox: [support@vantageo.com](mailto:support@vantageo.com)
- On-site technical support: contact the local office of VANTAGEO PRIVATE LIMITED

# Glossary

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**BIOS**

- Basic Input/Output System

**BMC**

- Baseboard Management Controller

**ECC**

- Embedded Control Channel

**EPLD**

- Erasable Programmable Logic Device

**HBA**

- Host Bus Adapter

**IPMI**

- Intelligent Platform Management Interface

**KVM**

- Keyboard, Video and Mouse

**OS**

- Operating System

**PC**

- Personal Computer

**PCIe**

- Peripheral Component Interconnect Express

**RAID**

- Redundant Array of Independent Disks

**SAS**

- Serial Attached SCSI

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**SFTP**

- Secure File Transfer Protocol

**SSH**

- Secure Shell

**UID**

- Unit Identification Light