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Chapter 1. Introduction

This document contains instructions for replacing NVIDIA® RTX™ Blade Server components. Be sure to familiarize yourself with the NVIDIA Terms & Conditions documents before attempting to perform any modification or repair to the RTX Blade Server System. These Terms & Conditions for the RTX Blade Server System can be found through the NVIDIA DGX Systems Support page.

Contact NVIDIA Enterprise Support to obtain an RMA number for any system or component that needs to be returned for repair or replacement. When replacing a component, use only the replacement supplied to you by NVIDIA.

You can obtain the following components for replacement in your data center.

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Figure 1. Front System Components

Figure 2. Rear System Components
Contact NVIDIA Enterprise Support for replacement instructions and guidance for components that are not included in this document.

1.1. NVIDIA Enterprise Support Portal

The best way to file an incident is to log on to the NVIDIA Enterprise Support portal.

1.2. NVIDIA Enterprise Support Email

You can also send an email to enterprisesupport@nvidia.com.

1.3. NVIDIA Enterprise Support - Local Time Zone Phone Numbers

Chapter 2. Fan Module Replacement

The RTX Blade Server fan modules can be replaced while power is applied to the system and the system is running.

2.1. Fan Module Replacement Overview

This is a high-level overview of the steps needed to replace the fan modules.

1. Identify fan module to be replaced by locating the illuminated amber fault light and the number silkscreened directly above the fan module.
2. Press the green tab to release the module, pull it out from the chassis and set aside.

⚠️ **CAUTION:** The fan module should be replaced within 30 seconds after removal.

3. Identify the slot where the new fan will be installed.
4. Insert the fan until an audible click is heard from the latch on the handle.
5. Confirm that the fault light does not light up.

2.2. Replacing the Faulty Fan Module

The fan modules can be replaced without turning off the RTC Blade Server.

⚠️ **CAUTION:** The fan module should be replaced within 30 seconds after removal to prevent overheating of system components.

1. Identify the fan module to be replaced by the illuminated amber fault light and by the number silkscreened directly above the fan module.
2. Press the green tab to release the module, then pull the module out from the chassis and set aside.

3. Quickly insert the new fan module into the empty slot, and continue pushing into the slot until an audible click occurs from the latch on the handle.

**CAUTION:** Replace the fan module within 30 seconds to prevent overheating of the system components.
4. Confirm that the amber fault light does not light up.
A faulty RTX Blade Server blade can be replaced while power is applied to the system and the system is running.

3.1. Blade Replacement Overview

This is a high-level overview of the steps needed to replace the blades.

1. Identify the blade that needs to be replaced in the rack / chassis.
2. Confirm that the Blade ID LED is lit.
3. Release the ejector lever locking clip.
4. Use the lever to eject the blade from the chassis.
5. Install the new blade in the slot.
6. Use the lever to fully engage the connectors.
7. Make sure the clip locks into place.

3.2. Replacing the Faulty Blade

**CAUTION:** The blade should be replaced within 30 seconds after removal to prevent overheating of system components.

1. Identify blade to be replaced.
   a. To locate the RTX Blade Server with the faulty blade, look for an illuminated ID LED.
b). Once you locate the RTX Blade Server with the faulty blade, identify the blade to be replaced by the flashing blue and green LEDs.

2. On the faulty blade, push the release latch up to unlock the blade ejector lever.
3. Pull on the ejector lever away from the blade so the connectors are released from the midplane.

4. Pull the blade out of the system.

**Important:** Do not carry the blade by the lever as this could cause the lever to break.

**Note:** Expect the sudden sound of the door to the slot shutting as you remove the blade. The slot door shuts to divert airflow from the empty slot.
CAUTION: The blade should be replaced within 30 seconds after removal to prevent overheating of system components.

5. Insert the blade in the corresponding slot, making sure the lever is fully open and that it won’t block the insertion process.

CAUTION: Keep fingers out of the way of the lever as you insert the blade.

6. When the blade meets the midplane connectors in the back, raise the lever back into position to ensure the blade connects with the midplane connectors.
Make sure you can hear or feel the click as the lever locks into place to finalize the insertion.

7. Press the power button on the blade.
Chapter 4. Blade Battery Replacement

4.1. Blade Battery Replacement Overview

This is a high-level overview of the steps needed to replace the blade battery.

1. Identify the blade that needs to be replaced in the rack / chassis.
2. Confirm that the Blade ID LED is lit.
3. Turn the RTX Blade Server off.
4. Release the ejector lever locking clip.
5. Use the lever to eject the blade from the chassis.
6. Remove the air baffle.
7. Identify and replace the battery.
8. Replace the air baffle.
9. Install the blade in the slot.
10. Use the lever to fully engage the connectors.
11. Make sure the clip locks into place.

4.2. Replacing the Blade Battery

CAUTION: The blade should be replaced within 30 seconds after removal to prevent overheating of system components.

1. Identify blade to be replaced.
   a). To locate the RTX Blade Server with the faulty blade, look for an illuminated ID LED.
b). Once you locate the RTX Blade Server with the faulty blade, identify the blade to be replaced by the flashing blue and green LEDs.

2. Turn the RTX Blade Server off.
3. On the faulty blade, push the release latch up to unlock the blade ejector lever.
4. Pull on the ejector lever away from the blade so the connectors are released from the midplane.

5. Pull the blade out of the system.

- **Important:** Do not carry the blade by the lever as this could cause the lever to break.

- **CAUTION:** The blade should be replaced within 30 seconds after removal to prevent overheating of adjacent blades.

- **Note:** Expect the sudden sound of the door to the slot shutting as you remove the blade. The slot door shuts to divert airflow from the empty slot.
6. Remove the air baffle from the blade.

7. Locate the battery to be replaced.
8. Replace the battery with a new CR2032.

9. Replace the air baffle.
10. Insert the blade in the corresponding slot, making sure the lever is fully open and that it won’t block the insertion process.

**CAUTION:** Keep fingers out of the way of the lever as you insert the blade.

11. When the blade meets the midplane connectors in the back, raise the lever back into position to ensure the blade connects with the midplane connectors. Make sure you can hear or feel the click as the lever locks into place to finalize the insertion.
12. Press the power button on the blade.
Chapter 5. Chassis Monitoring Module Replacement

The RTX Blade Server blades must be shut down before replacing the chassis monitoring module.

5.1. Chassis Monitoring Module Replacement Overview

This is a high-level overview of the steps needed to replace the chassis monitoring modules (CMM).

1. Confirm that all the blades in the chassis are powered off.
2. From the back of the chassis use the ejector lever to pull the Chassis Monitoring Module out.
3. Install the new CMM and use the lever to confirm it fully engages with the connectors.
4. Confirm the module locks into place.

5.2. Replacing the Chassis Monitoring Module

A faulty chassis monitoring module is indicated by the amber light.
1. Confirm that all blades are powered off by checking that the green LEDs on the front of the chassis are not lit.
2. Unplug the Ethernet cables from the CMM and label them if not labeled already.
3. Remove the faulty CMM.
   a). Release the locking tab and pull on the ejector lever away from the CMM so the connectors are released from the midplane.
   b). Pull the CMM out of the system.

Note: Expect the sudden sound of the door to the CMM bay shutting as you remove the CMM. The bay door shuts to divert airflow from the empty bay.
4. Install the new CMM.
   a). Confirm all blades are powered off by checking the green LEDs in the front of the chassis are not lit.
   b). Insert the new CMM into the slot.
   c). Close the lever to make sure the connectors engage with the midplane and the locking tab clicks into place.
5. Confirm that the fault light is not lit and that the green light comes up and presents a heartbeat (flashing).

6. Connect the remote management RJ45 cables.
Chapter 6. Switch Module Replacement

The RTX Blade Server switch module can be replaced while power is applied to the system, but the blades must not be active.

6.1. Switch Module Replacement Overview

This is a high-level overview of the steps needed to replace the switch modules.

1. Confirm blades in the chassis are not being used as all network connectivity will be lost.
2. Label all cables in case they are not already labeled.
3. Unplug all cables.
4. Eject switch module from chassis.
5. Install replacement switch module.
6. Plug in all cables following the labels.

6.2. Replacing the Switch Module

1. Confirm that all blades are powered off by checking that the green LEDs on the front of the chassis are not lit.
2. Unplug the Ethernet cables from the switch module and label them if not labeled already.
3. Remove the faulty switch module.
   a) Release the locking tab and pull on the ejector lever away from the switch module so the connectors are released from the midplane.
b). Pull the switch module out of the system.

Note: Expect the sudden sound of the door to the switch bay shutting as you remove the switch. The bay door shuts to divert airflow from the empty bay.
4. Install the new switch module.
   a). Confirm all blades are powered off by checking the green LEDs in the front of the chassis are not lit.
   b). Insert the new switch module into the slot.
c). Close the lever to make sure the connectors engage with the midplane and the locking tab clicks into place.

5. Confirm that the fault light is not lit and that the green light comes up and presents a heartbeat (flashing).
6. Connect the remote management RJ45 cables.
Chapter 7. Power Supply Replacement

An RTX Blade Server power supply unit (PSU) can be replaced while power is applied to the system and the system is running.

7.1. Power Supply Replacement Overview

This is a high-level overview of the steps needed to replace a power supply.

1. Identify failed power supply with the amber LED.
2. Confirm that at least 5 power supplies are energized and have green LEDs.
3. Remove power cord from failed power supply.
4. Press down on the latch to release the power supply.
5. Remove power supply by pulling it out of the chassis.
6. Install new power supply in the empty slot.
7. Plug in the power cord.

7.2. Replacing the Power Supply

1. Identify the failed power supply by the amber LED.
2. Determine whether you need to shut down the system.
   ▶ If the five remaining PSUs are working and energized, then you do not need to shut down power to the RTX Blade Server System.
   ▶ If fewer than five PSUs are working and energized, then you do need to shut down power to the RTX Blade Server System.
3. Unplug the power cable from the faulty power supply.
   You may need to dislodge the power cord from the retaining clip.
4. Remove the faulty power supply.
   a). Press down on the release latch and at the same time pull the black handle to release the PSU from the rear connectors.
b). Continue using the black handle to pull the power supply out of the system.

5. Install the new power supply.
   a). Insert power supply to the chassis and confirm its fully inserted with the audible click that the latch makes.
b). Install the power cord and confirm that the LED turns green.

c). If needed, power on the system.

7.3. Replacement Locking Power Cables
Use locking cables to prevent unintentional damage to the power supplies. Locking power cable must meet local safety certification agency requirements and datacenter needs. Replacement power cables must also meet the following specifications:

- IEC60320-C19 connector, 20A at ~250V rating - S-Lock style
- IEC60320-C20 connector, 20A at ~250V rating - P-Lock style
- 3 Conductor cable supporting 20A, 250V
- Passes local safety certification requirements
- Should be available in 2 colors to specify for the different datacenter feeds
- Length - 4 feet (1.22 meters)

For reference, the following are the locking power cables that come with the RTX Blade Server:

- IEC60320-C19 connector, 20A at ~250V rating - S-Lock style
- IEC60320-C20 connector, 20A at ~250V rating - P-Lock style
- 3 Conductor, 12AWG SJT cable, rating at ~300V
- Insulation resistance: 500V DC/s, > 100M-ohms
- Dielectric strength: 1500V AC/s, <1mA

**Power Cord Warnings**

Use certified AC power cords to connect to both the power distribution unit (PDU) and server system installed in your rack.

Do not attempt to modify or use the AC power cord(s) if they are not the exact type required to fit into the grounded electrical outlets.

**CAUTION:**

To avoid electrical shock or fire, check the power cord(s) that will be used with the product as follows:

- The power cord must have an electrical rating that is greater than that of the electrical current rating marked on the product.
- The power cord must have safety ground pin or contact that is suitable for the electrical outlet.
- The power supply cord(s) is/are the main disconnect device to AC power.
- The socket outlet(s) must be near the equipment and readily accessible for disconnection.
- The power supply cord(s) must be plugged into socket-outlet(s) that is /are provided with a suitable earth ground.
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