10 Maintaining a Device

NOTICE

Unauthorized field maintenance on electronic components such as fuses in a device is not allowed. The problematic component or device must be returned for repair. Faulty fuses and other electronic components can only be replaced by professionals authorized by Huawei.

10.1 Replacing a Power Module

10.2 Replacing a Fan Module

10.3 Replacing an Optical Module

10.4 Replacing an LPU

10.5 Replacing the Only MPU on a Device (Services Have Been Interrupted)

10.6 Replacing the Only MPU on a Device (Services Are Not Interrupted)

10.7 Replacing One of MPUs on a Device

10.8 Replacing an SFU

10.9 Replacing and Clearing Air Filters

10.1 Replacing a Power Module

Context

The power modules on the CloudEngine 16800 are hot swappable. The procedures and methods for replacing power modules on all the CloudEngine 16800 models are similar. Any operation difference between different models will be noted. The following illustrates how to replace a power module on the CloudEngine 16808.

⚠ CAUTION

- Do not install DC power modules and AC & high-voltage DC power modules on the same device; otherwise, the device may be damaged.
- The power module can get very hot. Be careful when replacing it.

Tools

- ESD wrist strap or ESD gloves
- Flat-head screwdriver

Procedure

Step 1 Before replacing a power module, determine in which cabinet and chassis the power module is installed, find the power module in the chassis, and attach a label to the panel of the power module.

Step 2 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 3 Remove the power module.

Use one hand to hold the handle of the power module and slowly pull it out of the slot while supporting the bottom of the power module with the other hand.

Figure 10-1 Removing a power module
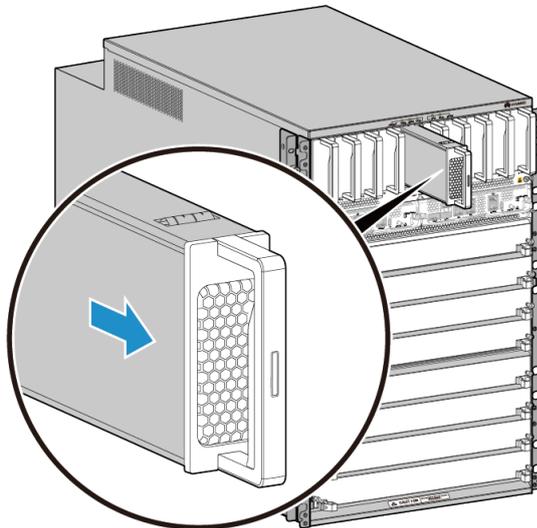
Step 4 Install the new power module. For details, see **6.2 Installing Power Modules**.

Step 5 Verify whether the new power module functions normally:

- Observe indicators on the power module panel. If the Input and Output indicators are steady green and the Alarm indicator is off, the power module is working normally. If the Alarm indicator is steady red, the power module does not work normally.

- Run the **display device** command to check whether the new power module is running properly. If the **Alarm** field is **Normal**, the power module is running properly.

  If the new power module does not work normally, contact the equipment supplier for technical support.

  ----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If the replaced power module is confirmed to be faulty, you need to fill in the **Fault Tag**, and mail the tag together with the faulty power module back to Huawei for timely maintenance.

10.2 Replacing a Fan Module

Context

Fan modules on the CloudEngine 16800 are hot swappable. If a fan module fails, replace it within 10 minutes to ensure stable running of the device. The methods for replacing fan modules on the CloudEngine 16800 are similar. The following illustrates how to replace a fan module on the CloudEngine 16808.

⚠️ CAUTION

- To prevent a fan module from falling down, hold both handles while removing it.
- Do not stand a fan module upright to avoid it falling over and causing damage or injury.
- The fan module can get very hot. Be careful when replacing it.
- Only one fan module can be replaced at a time. Do not remove two or more fan modules at the same time when the device is running. Replace the fan module within 10 minutes.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver

Procedure

Step 1 Before replacing a fan module, determine in which cabinet and chassis the fan module is installed, find the fan module in the chassis, and attach a label to the panel of the fan module.

Step 2 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 3 Remove the fan module to be replaced from the device.

1. Loosen the captive screws on the fan module. See callout 1 in **Figure 10-2**.

2. Turn the handles out. See callout 2 in **Figure 10-2**.

3. Hold the handles with your hands, and evenly pull the fan module slowly along the guide rails. See callout 3 in **Figure 10-2**.

4. Fold the handles. See callout 4 in **Figure 10-2**.

Figure 10-2 Removing a fan module
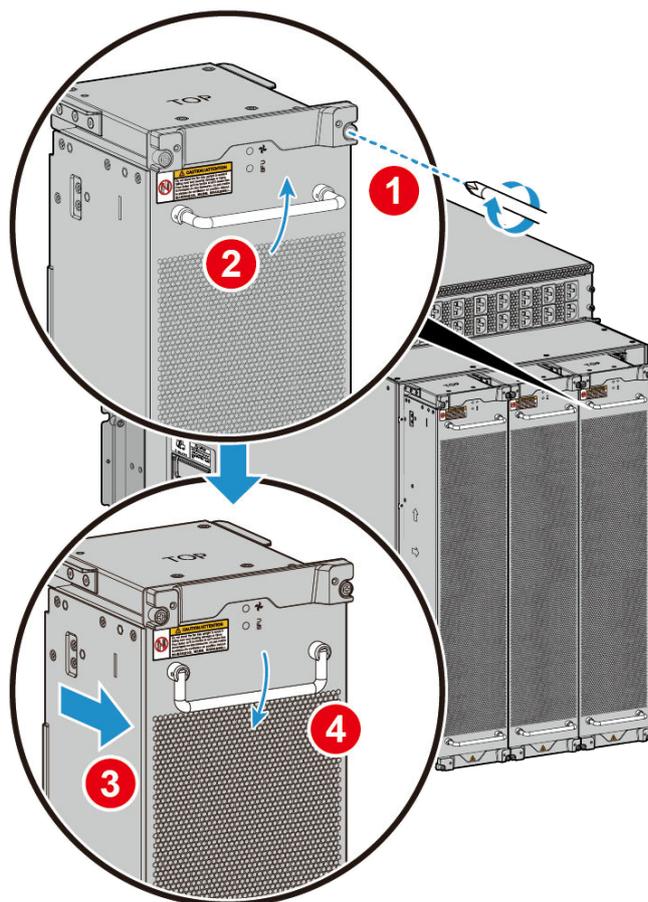
Step 4 Install the new fan module. For details, see **6.5 Installing Fan Modules**.

Step 5 After the new fan module is installed, fans run at a low speed for about 10 seconds. The fan module then works in intelligent fan speed adjustment mode. Use either of following methods to check whether the new fan module works normally:

● Observe the indicator on the fan module. If the indicator blinks green slowly, the fan module is working normally. If the indicator is steady red, the fan module does not work normally.

● Run the **display device fan** command to check the running status of the fan module.

If the fan module does not work normally, contact the equipment supplier for technical support.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced fan module is faulty, fill in the **Fault Tag**, and mail the tag together with the faulty power module back to Huawei for timely maintenance.

10.3 Replacing an Optical Module

Context

⚠️ **CAUTION**

Laser beams will cause eye damage. Do not look into bores of optical modules or optical fibers without eye protection.

NOTICE

- Huawei-certified optical modules are strongly recommended because non-Huawei-certified optical modules cannot ensure transmission reliability and may affect service stability.
- Optical modules are hot swappable, and you do not need to power off the device when replacing optical modules.
- Optical modules are electrostatic-sensitive components. Therefore, you must take ESD protection measures when replacing optical modules.
- Do not insert an optical module reversely. If an optical module cannot be completely inserted into an optical port, do not force it into the port. Instead, turn the optical module over and try again.
- Only external optical modules can be replaced and pluggable. Built-in optical modules cannot be replaced.

Follow these guidelines when replacing an optical module:

- Replacing an optical module interrupts service transmission. Therefore, replace an optical module only when you confirm that the optical module has failed.
- Ensure that the new optical module has the same center wavelength and complies with the same standards as the old one.
- When replacing an optical module, ensure that no optical fiber is connected to the optical module. Install or remove optical fibers carefully to avoid damages to fiber connectors. Exercise caution when installing or removing optical fibers to prevent damage to the optical module.
- After removing the optical fibers from an optical module, cover the fiber connectors with dust caps. Place the optical fibers in an appropriate place to prevent them from swinging.
- Use assistant tools like the tweezers delivered with the device to remove an optical module in a confined space.

- After removing a copper module, wait at least 2 seconds before inserting a new one. Otherwise, the port may fail to go Up. If the port cannot go Up, remove the copper module and install it 2 seconds later.
- If the LINK indicator on an optical port with two optical fibers is off, swap the two optical fibers.
- During the replacement, keep the bores of the optical module and fiber connectors clean, protecting them from dust and other contamination sources. Install dust plugs on idle optical ports.

Tools and Accessories

- ESD wrist strap or ESD gloves
- Spare optical module
- Dust caps
- (Optional) Optical port dust plug
- (Optional) Tweezers

Procedure

Step 1 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 2 Before replacing an optical module, determine in which cabinet and chassis the optical module is installed, find the optical module in the chassis, and attach a label to the optical module.

Step 3 Record optical fiber locations on the optical module to be replaced and check whether the labels on the optical fibers are correct and clear. If any label is unclear, make and attach a new label to the optical fiber to ensure correct connection.

Step 4 Remove the optical fibers from the optical module and cover them with dust caps.

Step 5 Rotate the handle of the optical module down, gently push the optical module, and then pull out the optical module by the handle, as shown in **Figure 10-3**. When installing a CFP optical module, hold the screw rods with both hands, and slightly pull out the optical module from the optical port.

Figure 10-3 Replacing an optical module
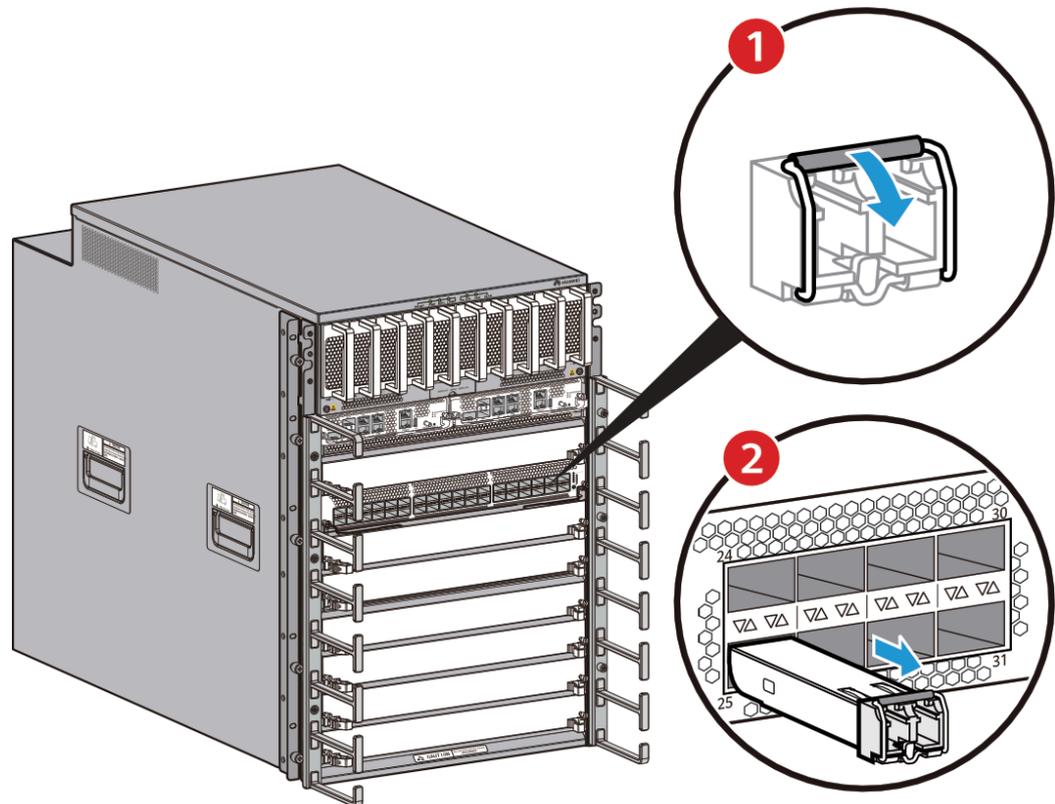
Step 6 Perform the following steps to insert the spare optical module into the optical port.

1. Take out the new optical module from the packing box and check whether any part of the module is damaged or missing. Ensure that the type of the new optical module is the same as that of the optical module to be replaced.

2. Insert the new optical module fully into the optical port. When the optical module clicks, it has been seated correctly in the optical port. If the new optical module is a CFP one, insert the new optical module into the optical port of the card, push the module panel horizontally into the connector using even force with both thumbs. After the module is inserted, push the module slightly to ensure that it has reached the stop position. Pull out the two screw rods slightly to ensure that they can properly function. Pre-tighten one of the screw rods. Then, tighten the other screw rod. After that, tighten the first screw rod. To prevent the optical module from getting loosened due to vibration or collision, you are advised to use a screwdriver to tighten the screw rods.

Step 7 Connect the optical fibers to the marked positions.

Step 8 Check the LINK indicator on the corresponding optical port. If the LINK indicator is steady green, the new optical module is working normally.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If the replaced optical module is confirmed to be faulty, you need to fill in the **Fault Tag**, and mail the tag together with the faulty optical module back to Huawei for timely maintenance.

Configuration requirements for copper modules, high-speed cables, and optical modules differ depending on their models. For details, see "Licensing Requirements and Limitations for Ethernet Interfaces" located under *Configuration > Interface Management Configuration Guide > Ethernet Interface Configuration*. When a module is replaced by a module of a different type, configuration on the corresponding port may be changed. In this case, check the port configuration after the replacement.

If the new optical module fails to function properly, connect the local office of Huawei for timely technical support.

10.4 Replacing an LPU

Context

All the LPUs on the CloudEngine 16800 are hot swappable. The procedures and methods for replacing an LPU are the same on the CloudEngine 16800. The following illustrates how to replace an LPU on the CloudEngine 16808.

NOTICE

- During the replacement, pull or push the LPU slowly and horizontally to prevent it from colliding with adjacent cards. Collisions may cause damages to the adjacent running cards.

- Do not touch the electronic components on the LPU during the replacement.

- After an LPU is powered off, if the remaining power of the entire device meets requirements, the LPU will be automatically powered on after the device is restarted. The LPU power-off scenarios include:

  - The **power off** command is run to manually power off the LPU.

  - The device does not support the LPU.

  - The current version does not support the LPU.

---

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver

Procedure

Step 1 Before replacing an LPU, determine in which cabinet and chassis the LPU is installed, find the LPU in the chassis, and attach a label to the LPU panel.

Step 2 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 3 Select an LPU of the same model for replacement. If the new LPU is of a different model, ensure that it can replace the old one. Inspect the new LPU to ensure that no component is damaged or detached, and record the bar code on the new LPU.

Step 4 Unplug cables from the LPU to be replaced and attach labels to the cables to identify the ports to which they are connected.

Step 5 Remove the LPU to be replaced from the chassis.

1. Use a Phillips screwdriver to loosen the captive screws on both ends of the LPU panel. See callout 1 in **Figure 10-4**.

2. Rotate the ejector levers of the LPU outward to release the LPU from the backplane. See callout 2 in **Figure 10-4**.

3. Grasp the ejector levers and slowly pull out the LPU along the guide rails. See callout 3 in **Figure 10-4**. Place the LPU in an ESD bag or on an ESD pad.

Figure 10-4 Removing an LPU
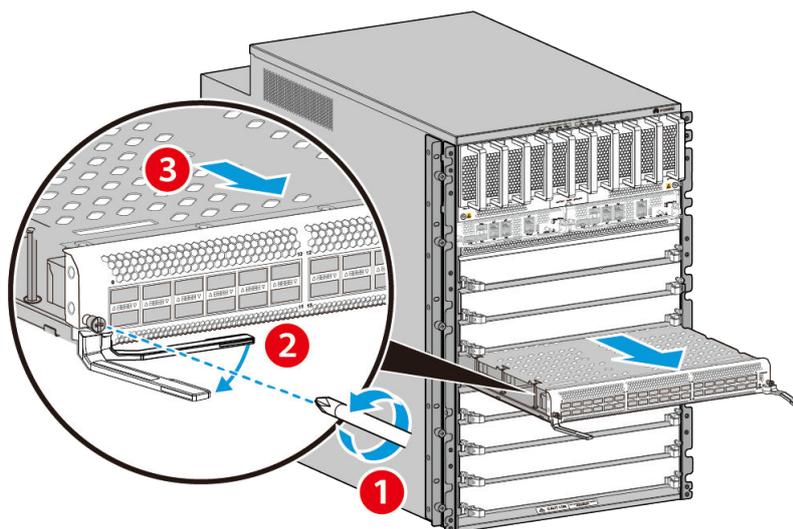
> ⚠ **CAUTION**
>
> Before removing an LPU, remove the optical modules close to the card edges. This prevents these optical modules from being damaged when we rotate the ejector levers on the card.

Step 6 Install the new LPU. For details, see **6.6 Installing MPUs and LPUs**.

Step 7 Observe the RUN/ALM indicator on the new LPU.

> 📖 **NOTE**
>
> It takes some time for the new LPU to start and operate normally.

- If the RUN/ALM indicator blinks green fast, the new LPU is loading the software or resetting.

- If the RUN/ALM indicator blinks green slowly, the new LPU is running normally.

Step 8 Connect cables to the LPU according to labels on the cables. For details, see **7.6 Connecting Signal Cables**.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced LPU is faulty, fill in the **Fault Tag** and send the faulty LPU and the fault tag to Huawei.

10.5 Replacing the Only MPU on a Device (Services Have Been Interrupted)

Context

If a device has only one MPU, the MPU replacement procedure varies depending on whether the MPU has completely or partially failed:

- If the MPU has completely failed, services on the device are interrupted and the command line interface (CLI) cannot be used.

- If the MPU has partially failed, services are still running and you can run commands on the CLI.

NOTICE

- If the MPU has stopped working, no commands can be executed on the CLI. Perform the following operations after the replacement:
  - Check the software version of the new MPU. Ensure that the software version of the new MPU is the same as that of the old MPU or is the required version.
  - (Optional) If the configuration file cannot be exported from the old MPU or the exported configuration file is not the latest, reconfigure services on the new MPU.

- During the replacement, pull or push the MPU slowly and horizontally to prevent it from colliding with adjacent cards. Collisions may cause damages to the adjacent running cards.

- Do not touch the electronic components on the MPU during the replacement.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver

Procedure

Step 1 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 2 Enter the BIOS menu on the MPU from the serial port and copy the configuration file and license file from the MPU.

- If the configuration file and license file are copied successfully, perform steps 3 to 9.

- If the configuration file and license file fail to be copied, perform steps 3 to 8.

Step 3 Take out the new MPU from the package, and make sure that no component on the new MPU is damaged or detached.

Step 4 Unplug cables from the MPU to be replaced and attach labels to the cables to identify the ports to which they are connected.

Step 5 Remove the MPU from the chassis and install the new one. For details on how to remove and install a card, see **10.4 Replacing an LPU**.

> 📖 **NOTE**
>
> Ensure that the new MPU uses the same software version as the old one.

Step 6 Observe the RUN(G)/ALM(R)/OFL(Y) indicator on the new MPU.

> 📖 **NOTE**
>
> After the new MPU is installed in the chassis, it starts and registers automatically. The start and registration process takes a few minutes.
>
> - If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green fast, the new MPU is loading the software or resetting.
>
> - If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green slowly, the new MPU is running normally.

Step 7 Connect cables to the correct ports on the new MPU according to labels on the cables.

Step 8 After the replacement is complete, perform the following operations to verify whether the replacement is successful:

- Run the **display device board** command to check whether the new MPU is running properly. If the **Alarm** field is **Normal**, the MPU is running properly.

- Run the **display startup** command to view the system software name and configuration file name for next startup. The system software name and configuration file name on the new MPU must be the same as those on the old MPU.

- Run the **display current-configuration** command to check the current parameter settings. The parameter settings must be the same as those before the replacement.

> 📖 **NOTE**
>
> The network monitoring engineers or system maintenance engineers can configure the software using the CLI.

Step 9 (Optional) If the configuration file has been copied from the old MPU, upload the configuration file to the new MPU.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced MPU is faulty, fill in the **Fault Tag** and send the faulty MPU and the fault tag to Huawei.

10.6 Replacing the Only MPU on a Device (Services Are Not Interrupted)

Context

If a device has only one MPU, the MPU replacement procedure varies depending on whether the MPU has completely or partially failed:

- If the MPU has completely failed, services on the device are interrupted and the CLI cannot be used.
- If the MPU has partially failed, services are still running and you can run commands on the CLI.

> **NOTICE**
>
> - During the replacement, pull or push the MPU slowly and horizontally to prevent it from colliding with adjacent cards. Collisions may cause damages to the adjacent running cards.
> - Do not touch the electronic components on the MPU during the replacement.
> - After the new MPU is installed and powered on, it automatically synchronizes the system software from the active MPU.
> - After replacing the MPU, ensure that the new MPU uses the same software version as the old one.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver

Procedure

Step 1 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 2 Take out the new MPU from the package, and make sure that no component on the new MPU is damaged or detached.

Step 3 Install the new MPU into the standby MPU slot. For details on how to install a card, see **6.6 Installing MPUs and LPUs**.

Step 4 Observe the RUN(G)/ALM(R)/OFL(Y) indicator on the new MPU.

    📖 **NOTE**

      After the new MPU is installed in the chassis, it starts and registers automatically. The start and registration process takes a few minutes.

- If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green fast, the new MPU is loading the software or resetting.

- If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green slowly, the new MPU is running normally.

Step 5 Run the **dir** command to check whether the configuration file names and sizes on the new MPU are the same as those on the old MPU.

- If the configuration file names and sizes on the two MPUs are the same, the file synchronization is successful. Go to step 7.

- If the configuration file names or sizes on the two MPUs are different, go to step 6 to manually synchronize the configuration file to the new MPU.

Step 6 (Optional) Save data.

1. Log in to the device from a client.

2. Copy the configuration file to the standby MPU using either of the following methods:

   – Method 1:

       <HUAWEI> **copy flash:/XXX.cfg slave#flash:/XXX.cfg**

       📖 **NOTE**

         XXX.cfg is the configuration file name.

   – Method 2:

   Run the **save** command to save the configuration file to the standby MPU.

3. Copy the license file to the standby MPU.

       <HUAWEI> **copy flash:/XXX.dat slave#flash:/XXX.dat**

       📖 **NOTE**

         XXX.dat is the license file name. Skip this step if there is no license file in the system.

Step 7 Run the **display switchover state** command to check the active/standby switchover status. When the **Switchover State** field displays **Ready**, go to the next step.

Step 8 Run the **slave switchover** command in the user view to perform an active/standby switchover.

Step 9 Unplug cables from the MPU to be replaced and attach labels to the cables to identify the ports to which they are connected.

Step 10 Remove the MPU from the chassis. For details on how to remove a card, see **10.4 Replacing an LPU**.

Step 11 Connect cables to the correct ports on the new MPU according to labels on the cables.

Step 12 Perform the following operations to verify whether the replacement is successful:

- Run the **display device board** command to check whether the new MPU is running properly. If the **Alarm** field is **Normal**, the MPU is running properly.

- Run the **display startup** command to view the system software name and configuration file name for next startup. The system software name and configuration file name on the new MPU must be the same as those on the old MPU.

- Run the **display current-configuration** command to check the current parameter settings. The parameter settings must be the same as those before the replacement.

☐ **NOTE**

The network monitoring engineers or system maintenance engineers can configure the software using the CLI.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced MPU is faulty, fill in the **Fault Tag** and send the faulty MPU and the fault tag to Huawei.

10.7 Replacing One of MPUs on a Device

Context

If a device has double MPUs, the MPU replacement procedure varies depending on whether the MPU to be replaced is the active or standby one. If it is the active MPU, perform an active/standby switchover first. If it is the standby MPU, replace it directly.

NOTICE

- During the replacement, pull or push the MPU slowly and horizontally to prevent it from colliding with adjacent cards. Collisions may cause damages to the adjacent running cards.

- Do not touch the electronic components on the MPU during the replacement.

- The system software has been loaded to the flash storage of a new MPU before the delivery.

- After replacing the MPU, ensure that the new MPU uses the same software version as the old one.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver

Procedure

Step 1 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 2 Take out the new MPU from the package, and make sure that no component on the new MPU is damaged or detached.

Step 3 If the MPU to be replaced is the active MPU, perform an active/standby switchover. Run the **display switchover state** command to check the active/standby switchover status. When the **Switchover State** field displays **Ready**, go to the next step. If it is the standby MPU, go to step 5.

Step 4 Run the **slave switchover** command in the user view to perform an active/standby switchover.

Step 5 Unplug cables from the MPU to be replaced and attach labels to the cables to identify the ports to which they are connected.

Step 6 Remove the MPU from the chassis and install the new one. For details on how to replace a card, see **10.4 Replacing an LPU**.

Step 7 Observe the RUN(G)/ALM(R)/OFL(Y) indicator on the new MPU.

📖 **NOTE**

> After the new MPU is installed in the chassis, it starts and registers automatically. The start and registration process takes a few minutes.

- If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green fast, the new MPU is loading the software or resetting.

NOTICE

When the RUN(G)/ALM(R)/OFL(Y) indicator of the standby MPU blinks green fast, the standby MPU is performing batch backup. Do not insert or remove the active MPU in this case.

- If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green slowly, the new MPU is running normally.

Step 8 Run the **dir** command to check whether the configuration file names and sizes on the new MPU are the same as those on the old MPU.

- If the configuration file names and sizes are the same, the file synchronization is successful. Go to step 10.
- If the configuration file names or sizes on the two MPUs are different, go to step 9 to manually synchronize the configuration file to the new MPU.

Step 9 (Optional) Save data.

1. Log in to the device from a client.
2. Copy the configuration file to the standby MPU using either of the following methods:
   - Method 1:
     ```
     <HUAWEI> copy flash:/XXX.cfg slave#flash:/XXX.cfg
     ```

📖 **NOTE**

> *XXX.cfg* is the configuration file name.

   – Method 2:

   Run the **save** command to save the configuration file to the standby MPU.

3. Copy the license file to the standby MPU.

   ```
   <HUAWEI> copy flash:/XXX.dat slave#flash:/XXX.dat
   ```

   📖 **NOTE**

   > *XXX.dat* is the license file name. Skip this step if there is no license file in the system.

Step 10 Connect cables to the correct ports on the new MPU according to labels on the cables.

Step 11 After the replacement is complete, perform the following operations to verify whether the replacement is successful:

- Run the **display device board** command to check whether the new MPU is running properly. If the **Alarm** field is **Normal**, the MPU is running properly.

- Run the **display startup** command to view the system software name and configuration file name for next startup. The system software name and configuration file name on the new MPU must be the same as those on the old MPU.

- Run the **display current-configuration** command to check the current parameter settings. The parameter settings must be the same as those before the replacement.

   📖 **NOTE**

   > The network monitoring engineers or system maintenance engineers can configure the software using the CLI.

   ----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced MPU is faulty, fill in the **Fault Tag** and send the faulty MPU and the fault tag to Huawei.

10.8 Replacing an SFU

Context

All the SFUs on the CloudEngine 16800 are hot swappable. The procedures and methods for replacing an SFU on the CloudEngine 16800 are the same. The following illustrates how to replace an SFU on the CloudEngine 16808.

⚠ CAUTION

Before replacing an SFU, remove the fan module corresponding to the SFU. Note:

- Prepare the materials and tools for replacing the SFU in advance, and ensure that the SFU is replaced and the fan module is inserted back within 10 minutes.

- Only one fan module can be removed at a time.

- If two or three SFUs matching one fan module need to be replaced, remove the fan module, replace the SFUs one by one, and install the fan module back. Ensure only one SFU is removed at a time; otherwise, the corresponding LPU will be powered off due to overheating.

- When we need to replace an SFU on the CloudEngine 16816, push one ejector lever forward and press the green button to release the ejector lever. Perform similar operations for the other ejector lever.

NOTICE

- During the replacement, pull or push the SFU slowly and horizontally to prevent it from colliding with adjacent cards. Collisions may cause damages to the adjacent running cards.

- Do not touch the electronic components on the SFU during the replacement.

- To ensure that services are not affected when a running SFU is replaced, press and hold down the OFL button on the SFU for at least 6s before removing the SFU. Remove the SFU when the SFU is isolated from the system (its OFL indicator is steady yellow). You can directly replace an unregistered SFU without having to press and hold down the OFL button.

- After an SFU is powered off, if the remaining power of the entire device meets requirements, the SFU will be automatically powered on after the device is restarted. The SFU power-off scenarios include:

  - The **power off** command is run to manually power off the SFU.

  - The device does not support the SFU.

  - The current version does not support the SFU.

Tools

ESD wrist strap or ESD gloves

Procedure

Step 1 Before removing the SFU to be replaced, you should first determine the location of the SFU, for example, the cabinet and chassis where the SFU resides and the location of the fan module corresponding to the SFU.

Step 2 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 3 Take out a new SFU from the package, and check that no component on the SFU is damaged or detached.

Step 4 Then, remove the fan module corresponding to the SFU to be replaced from the chassis. Locate the SFU to be replaced and attach a label on the front panel of the SFU to prevent misoperations. See callout 1 in **Figure 10-5**.

Step 5 Take out SFU ejector levers.

Step 6 Remove the SFU to be replaced from the chassis.

1. Power off the SFU to be replaced.

   You can power off an SFU using either of the following methods:

   – Press and hold down the OFL button on the panel of the SFU for at least 6 seconds until the RUN(G)/ALM(R)/OFL(Y) indicator is steady yellow, indicating that the SFU is powered off.

   – Run the **power off slot** *slotid* command in the user view.

2. Install the ejector levers on the SFU to be replaced, and press and hold the square buttons on the ejector levers to rotate them outward and release the SFU from the chassis. See callouts 2, 3, and 4 in **Figure 10-5**.

3. Grasp the ejector levers with both hands and pull the SFU out slowly along the guide rails. When most part of the SFU is out of the chassis, use one hand to support the bottom of the SFU and the other hand to grasp its panel, while pulling the SFU out of the chassis. Place the SFU in an ESD bag or on an ESD pad.

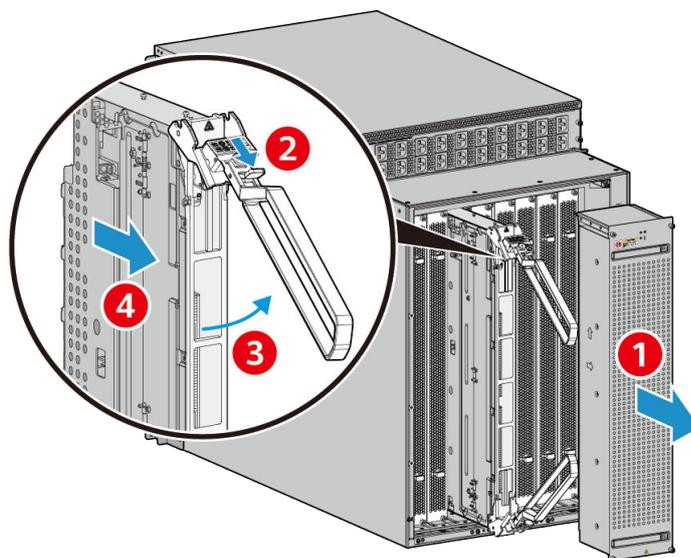4. Press and hold the round button on the SFU to remove the ejector levers.

> **NOTICE**
>
> Do not use a tool other than the ejector levers to install or remove an SFU.

Figure 10-5 Removing an SFU

Step 7 Install the new SFU. For details, see **6.4 Installing SFUs**.

Step 8 Insert a fan module.

Step 9 After the replacement is complete, perform the following operations to verify whether the replacement is successful.

📖 **NOTE**

> After the new SFU is installed in the chassis, it starts and registers automatically. The start and registration process takes a few minutes.

- Observe the RUN(G)/ALM(R)/OFL(Y) indicator on the new SFU.
  - If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green fast, the new SFU is loading the software or resetting.
  - If the RUN(G)/ALM(R)/OFL(Y) indicator blinks green slowly, the new SFU is running normally.
- Run the **display device board** command to check whether the new SFU is running properly. If the **Alarm** field is **Normal**, the SFU is running properly.

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. If you confirm that the replaced SFU is faulty, fill in the **Fault Tag** and send the faulty SFU and the fault tag to Huawei.

10.9 Replacing and Clearing Air Filters

Context

The environment of an equipment room must conform to relevant national or industrial standards. Keep the room clean, tidy, dustproof, and moistureproof. Prevent rodents and insects from entering the room. Perform routine maintenance to maintain the environment of the equipment room.

- Clean the equipment room periodically. You can clean the equipment room during daily or monthly maintenance.
- Periodically clean the dust-proof sponges of devices. Clean or replace the air filters every three to six months. If the dust is heavy, clean or replace the air filters at least once every three months.

> **NOTICE**
>
> - To prevent dust from falling off, remove the air filters slowly.
> - Clean the air filters gently. Otherwise, the dust-proof sponges may be pulled, causing unrecoverable stretching and deformation.
> - If the air filters cannot be washed or cannot be dry in cloudy days, take the air filters out of the equipment room and pat them gently to reduce dust.
> - The air filters may be deformed after being cleaned for multiple times. You are advised to replace them at least once a year.
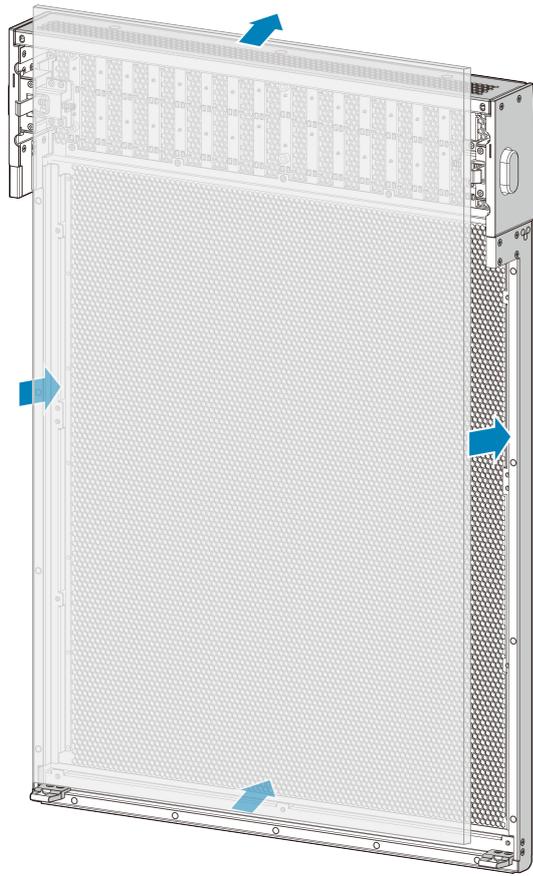
Tools

ESD wrist strap or ESD gloves

Procedure

Step 1 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

Step 2 Remove the air filter to be replaced from the inner side of the cabinet door or chassis door (optional).

Step 3 Wash the air filter with clean water. Add detergent if necessary. After cleaning, place it in a well-ventilated place for drying.

Step 4 Align the cleaned air filter with the cabinet door or chassis door (optional). Gently press the contact positions between the air filter and sponge fixing strips to secure the air filter. Check whether the air filter covers holes on the door plate.

Figure 10-6 Replacing an air filter

----End

Follow-up Procedure

After the replacement is complete, tidy up all tools. Handle the replaced air filter in compliance with local safety regulations.