

# SCOPIA Elite 5000 Series MCU

## Troubleshooting Guide

Version 7.5



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# 1

## Troubleshooting the SCOPIA Elite MCU

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### Resolving MCU Failure to Register with the Gatekeeper



**Problem** The SCOPIA Elite 5100 Series MCU/SCOPIA Elite 5200 Series MCU fails to register with the gatekeeper.

**Possible Causes**

- The gatekeeper address is set incorrectly.
- There is a TCP/IP setup issue.
- There is a LAN or cable issue.
- The ECS is in the Predefined mode.

**Solution** If the gatekeeper IP address is incorrect, verify the gatekeeper IP address and reconfigure the gatekeeper IP address on the MCU.

**Solution** If the problem is caused by a TCP/IP setup issue, perform these steps:

- Verify that the MCU is assigned a unique IP address.
- Verify that the subnet mask and default gateway subnet mask are set correctly.
- Attempt to ping the MCU from the gatekeeper to verify whether the MCU is reachable.
- Ensure the IP address assigned to the MCU is unique and not duplicated anywhere on the network.

**Solution** If the problem is caused by a LAN or cable issue, perform these steps:

- Verify the switch port settings.
- Verify that the Ethernet cable is straight through.
- Try another Ethernet cable.
- Verify if the Link and Activity LEDs on the switch port are lit.

**Solution** If the ECS is in the Predefined mode, verify that the MCU is predefined on the ECS.

## Resolving Front Panel LED Issues

**Problem** The SCOPIA Elite 5200 Series MCU chassis contains an automatic reset mechanism to deal with most issues. In such cases, the STATUS LED on the front panel lights red briefly before the reset takes place.

**Solution** If the STATUS LED continues to light red, manually reset the system by pressing the RESET button on the front panel.

For more information on front panel LEDs, see the *Installation Guide for SCOPIA Elite 5200 Series MCU Release 7.5*

## Resolving MCU Conference Initiation Failure



**Problem** Users cannot create new conferences.

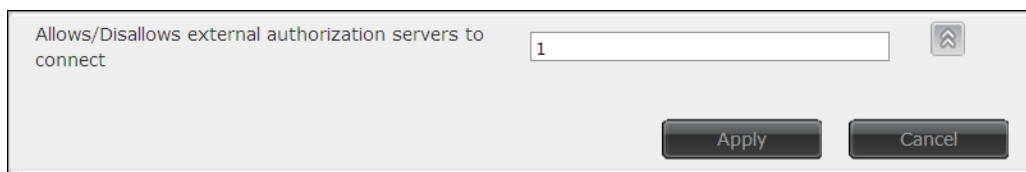
### Possible Causes

- In ad hoc conferences, the ECS is set to reject all calls.
- The MCU is set to work with an external authorization server, but no authorization server is configured.
- The MCU is set to work with an external authorization server, but the authorization server is not configured properly to work with the MCU.
- There are endpoint-related interoperability issues
- There are not enough MCU resources available for the desired conference.

**Solution** If the problem is caused by the ECS rejecting all calls, verify that the Accept calls option is checked in ECS > Settings > Calls.

**Solution** If the MCU is set to work with an authorization server and no authorization server is configured, perform these steps: verify that the External conference authorization policy option is set to None in Maintenance > Advanced parameters > External conference policy authorization.

1. Access the MCU Administrator interface.
  2. Select the **Maintenance options** button , and then select **Advanced parameters**.  
The Advanced parameters window is displayed.
  3. Locate the **Allows/Disallows external authorization servers to connect** parameter.
  4. Select the **Review** button .
- This parameter section is displayed.



**Solution** If the MCU is set to work with an authorization server, but the authorization server is not configured properly, verify that the MCU IP address is correctly configured in the authorization server.

**Solution** If there are endpoint-related interoperability issues, perform this procedure:

### Procedure

**Step 1** Verify the MCU and the endpoint are registered properly:

- For SIP endpoints, verify that both the MCU and the SIP endpoint are properly registered with the SIP proxy.
- For H.323 endpoints, verify that both the MCU and the H.323 endpoint are properly registered with the ECS.
- For 3G endpoints, verify that both the MCU and the 3G endpoint are properly registered with the SIP proxy and/or ECS.

**Step 2** If the registration is correct, collect logs and wireshark traces and send them to RADVISION Customer Support.

**Solution** If the initiating LAN endpoint is not registered with the ECS, verify that the initiating endpoint appears in the ECS Endpoints table correctly.

**Solution** If the MCU service is not defined in the ECS Services table, perform these steps:

1. Verify that the service is defined in the MCU.
2. Verify that the MCU service prefix appears in the ECS Services table. If it does not, add it manually.
3. Verify that the service prefix is not a subset of another service prefix.

**Solution** There are not enough MCU resources available, verify that current calls are not utilizing all resources by checking the available MCU capacity and then trying to disconnect other calls in order to find the problem.

## Resolving Conference Access Failure

**Problem** An endpoint cannot be invited to a conference or dial into the conference.

### Possible Causes

- The ECS is set to reject all calls.
- The endpoint is not registered with the ECS.
- The MCU is configured to work with an authorization server, but the endpoint is not authorized and therefore the authorization server rejects the call.
- The endpoint is currently in a call.
- There are not enough MCU resources available for the desired conference.

**Solution** If the ECS is set to reject all calls, verify that the **Accept calls** option is checked in ECS > Settings > Calls.

**Solution** If the endpoint is not registered with the ECS, verify that the invited/dialing endpoint appears in the ECS table of registered endpoints. Also verify that the endpoint is online.

**Solution** If the MCU is configured to work with an authorization server, verify that the endpoint is authorized in the authorization server.

**Solution** If the endpoint is currently in a call, confirm that the endpoint is not busy/in a call.

**Solution** If there not enough MCU resources, remove one of the current participants to verify that the endpoint can join successfully. Then verify that cascading is enabled and that the meeting is scheduled for cascading.

## Resolving Endpoint Disconnection Issues

**Problem** Endpoints unexpectedly drop out of the MCU conference.

**Possible Causes** The network connection is unreliable.

**Solution** Check network connection quality (round trip time should be less than 300 msec).

## Resolving Unexpected Conference Termination

**Problem** A conference on the MCU unexpectedly terminates.

### Possible Causes

- The MCU unexpectedly drops out of the ECS endpoints database.
- The Ad hoc conferences terminate when option at **Configuration > Conferences** is set to Conference creator leaves and the conference creator has left the conference.

**Solution** If the MCU drops out of the ECS endpoints database, uncheck the **Check that endpoint is online every n seconds** option in **ECS > Settings > Advanced**. Uncheck the **Check that call is alive every n seconds** option in **ECS > Settings > Calls**. Uncheck the **TTL** option in **ECS > Settings > Advanced**.

**Solution** If a conference is terminated when the conference creator has left the conference, perform this procedure:

### Procedure

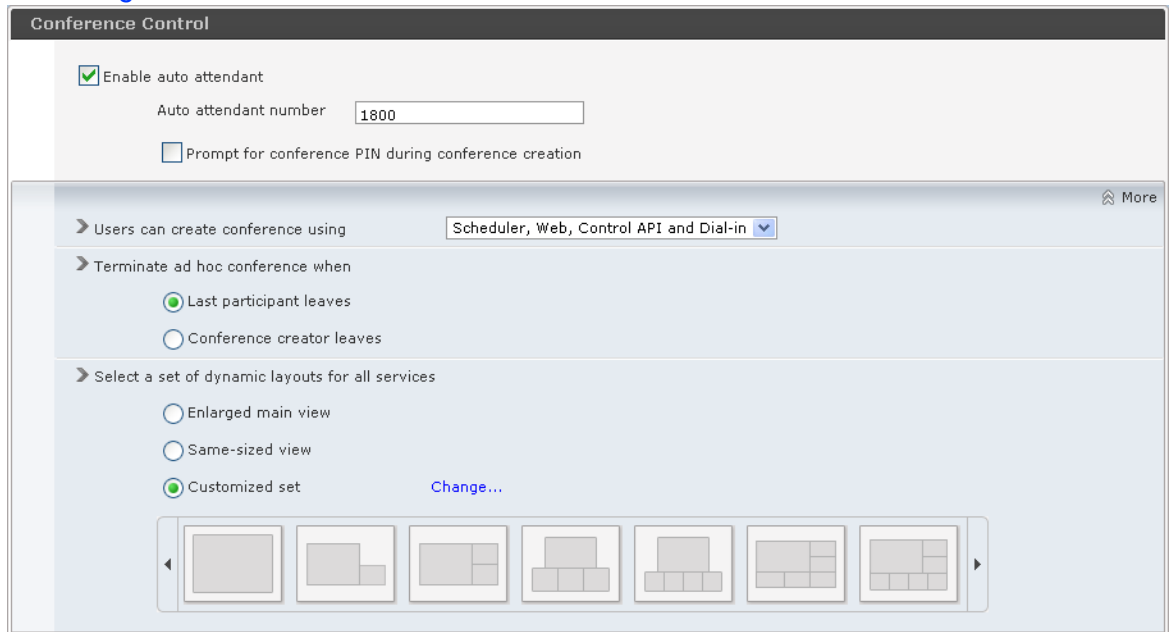
**Step 1** Access the MCU Administrator interface.

**Step 2** Select the **Configuration** tab .

**Step 3** Select the **Conferences** tab .

**Step 4** In the Conference Control section, select **More**.  
Additional conference control parameters are displayed.

**Figure 1-1** The Conference Control Section of the Conferences Tab



**Step 5** Enable the **Last participant leaves** option.

**Step 6** Select **Apply**.

## Resolving Presentation Issues

**Problem** A conference participant cannot start or receive a presentation.

### Possible Causes

- H.239 functionality is not enabled on the endpoint.
- Presentation is not configured in the MCU service used in the conference.
- MCU presentation definitions in the service are not supported by the endpoint (frame rate, frame size, codec).

**Solution** If the H.239 functionality is not enabled on the participant's endpoint, verify that H.239 is enabled on the endpoint. Make a point-to-point call to another endpoint and verify that the participant can start a presentation.

**Solution** If presentation is not configured in the MCU, perform this procedure:

### Procedure

**Step 1** Access the MCU Administrator interface.

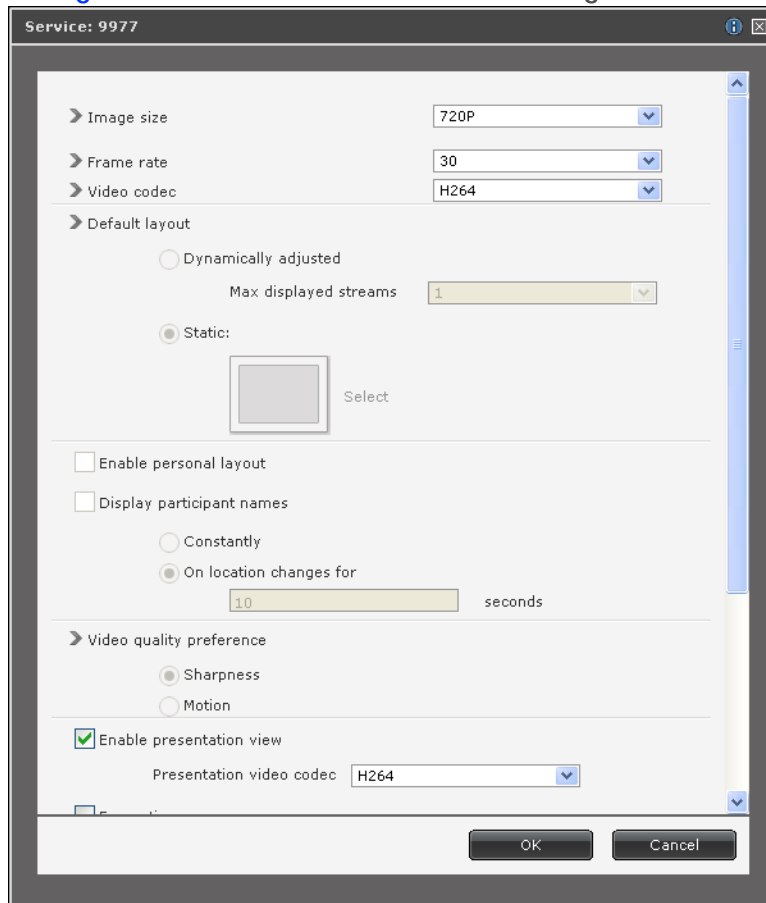
**Step 2** Select the **Configuration** tab .

**Step 3** Select the **Conferences** tab .

**Step 4** In the Services List section, select the service.

- Step 5**      Select More.  
 Additional settings for this service are displayed.

**Figure 1-2** Additional Service Settings Window



- Step 6**      Select **Enable presentation view**.  
**Solution**    If the problem is caused by inconsistency of presentation definitions, configure the endpoint to that it supports the frame size, frame rate and video codec as defined in the service.

## Resolving Unexpected SIP Call Disconnection

- Problem**      A SIP call unexpectedly disconnects after 30 seconds.
- Possible Causes**    DNS is not fully configured on the MCU and user agents.
- Solution**        Make sure that DNS is configured on user agent and MCU.

## Recovering the Password

You use the serial port on the MCU front panel to assign a new IP address to your MCU.

**Problem** You forgot your password.

**Solution** You need to change your password on the MCU as described in this procedure.

### Procedure

**Step 1** Make sure you have these items:

- IP address of the default router the MCU uses to communicate over the network
- PC with available serial port and terminal emulator software installed
- Serial cable

**Step 2** Connect the serial cable from the PC terminal to the serial port on the front panel of the MCU upper SCOPIA Elite Media Blade.

**Step 3** Connect the power cable.

**Step 4** Start the terminal emulation application on the PC.

**Step 5** Set the communication settings in the terminal emulation application on the PC as follows:

- Baud rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

**Step 6** Turn on the power to the MCU.

A log of the auto-boot events scrolls across the computer monitor.

**Step 7** When the message “Press any key to start configuration” appears on the screen, press any key within 10 seconds.

The network configuration Main menu appears:

Main menu

N: Configure network port values

P: Change the configuration software password

S: Configure network security mode

T: Configure TFTP servers list

A: Advanced configuration menu

Q: Quit

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**Note:** If you do not press a key before the countdown ends, the device continues its initialization and you will need to reboot the device to return to the network configuration Main menu.

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**Step 8** Enter P at the prompt to configure default network port values and press Enter.

**Step 9** Enter the name that you want to use as the global user name at the Enter User name prompt and press Enter.

**Step 10** Enter the password that you want to use at the Password prompt, and press Enter.  
The network configuration Main menu appears.

**Step 11** Enter Q to save your changes and allow the device to complete the boot process.

## Resolving a Poor Video Quality Issue

**Problem** The quality of the video in a conference is poor.

**Solution** Perform the procedure described in this section.

During this procedure a ping test is used to monitor connection general performance, although the ping test uses ICMP packets and not RTP packets used in video/audio protocols.

As part of this troubleshooting procedure, you check the general performance of the connection between the MCU and the endpoint.

### Procedure

**Step 1** Connect a PC to the network segment to which the EP belongs.

**Step 2** Open a command line window.

**Step 3** Enter this command:

```
ping -l 1500 -t <remote IP address of the MCU>
```

**Step 4** Monitor the router response for at least 20 minutes.

**Figure 1-3** Example of a Router Response in a Ping Test

```
C:\Documents and Settings\john>ping -l 1500 192.168.212.12 -t
Pinging 192.168.212.12 with 1500 bytes of data:
Reply from 192.168.212.12: bytes=1500 time=83ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=81ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=81ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=82ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=83ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=81ms TTL=60
Reply from 192.168.212.12: bytes=1500 time=81ms TTL=60
```

**Step 5** (Optional) You may display statistics by pressing CTRL + Space.

**Figure 1-4** Example of Router Statistics as Displayed in the Ping Test

```
Ping statistics for 192.168.212.12:
    Packets: Sent = 65, Received = 65, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 80ms, Maximum = 91ms, Average = 82ms
    Control-Break
```

Press CTRL +C to hide statistics.

**Step 6** Use the router response to perform the following:

- a. Verify that there is no packet loss.  
The packet loss that is higher than 1-2% causes poor video quality.
- b. Verify that the steady jitter (the difference between the minimum and maximum round trip times) is not higher than 30-50 msec.
- c. Verify that the minimal delay (round trip time) for QoS-tagged packets is not higher than 300-400 msec.

**Step 7** Close the command line window.

**Step 8** Verify that enough bandwidth is dedicated to videoconferencing traffic and this bandwidth is available at all times.


**Step 9** Verify that there is enough bandwidth for daily activity traffic on WAN IP links apart from bandwidth dedicated to videoconferencing.

**Step 10** Use a network sniffing application to perform the following:

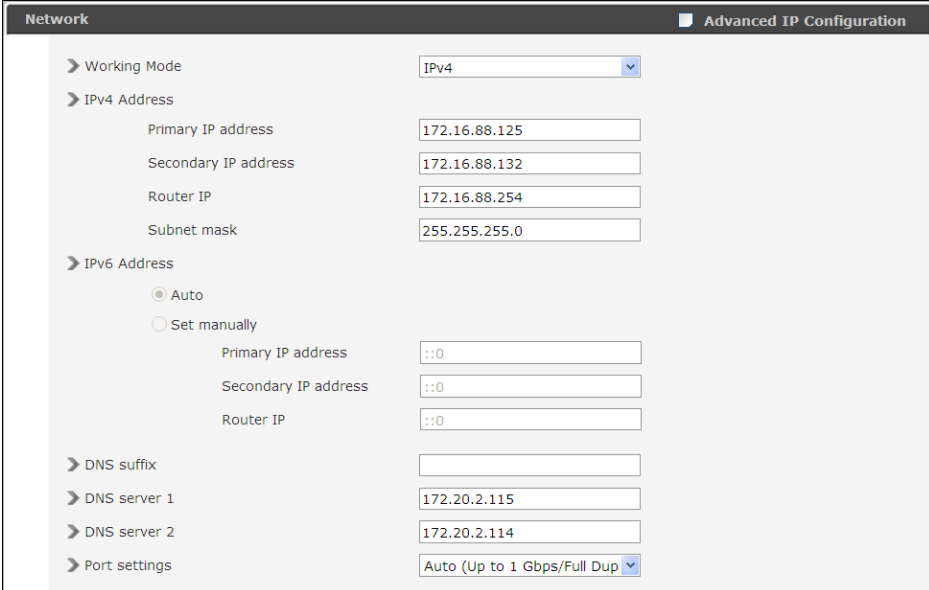
- Verify that the one-way delay is not higher than 100-150 msec.
- Verify that the delay is the same for both directions.

**Step 11** Verify that the Auto Negotiation preferred setting is selected for all routers and switches working in 100 Mbit/Full Duplex mode.

**Step 12** Verify that the MCU LAN ports are synchronized with the switch:

- Step 13** In deployments using a Gateway, verify that the Gateway LAN ports are synchronized with the switch:
- Connect a PC to the Gateway.
  - Open a command line window.
  - Enter the `sysLanStatusGet` command to check the port status.
  - Enter the `motFccErrorShow` command to check that there are no CRC errors.
- Step 14** Verify that 10 Mbit/Half Duplex hubs are not used for videoconferencing traffic.
- Step 15** Verify that synchronization of the LAN endpoints with the LAN switches is set to 100 Mbit/Full Duplex.
- Access the MCU Administrator interface.
  - Select the **Configuration** tab . The Setup tab is displayed.
  - In the Network section, verify that the **Port settings** is set to either the **Auto (Up to 1 Gbps/Full Duplex)** or **100 Mbps/Full Duplex** option.

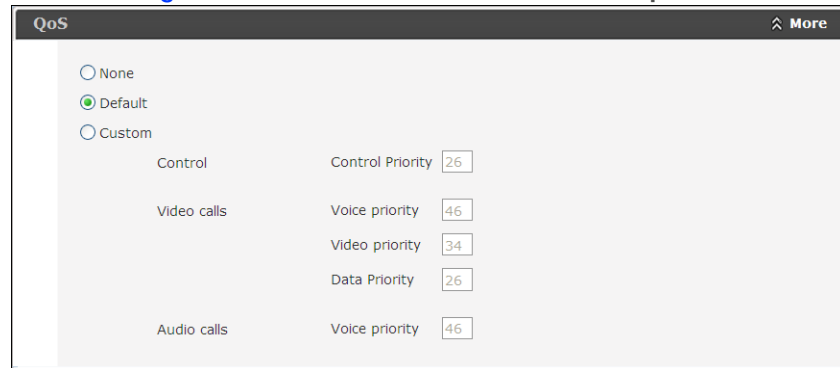
**Figure 1-5** Network Section of the Setup Tab



Network		Advanced IP Configuration
Working Mode		IPv4
IPv4 Address		
Primary IP address		172.16.88.125
Secondary IP address		172.16.88.132
Router IP		172.16.88.254
Subnet mask		255.255.255.0
IPv6 Address		
<input checked="" type="radio"/> Auto		
<input type="radio"/> Set manually		
Primary IP address		:::0
Secondary IP address		:::0
Router IP		:::0
DNS suffix		
DNS server 1		
		172.20.2.115
DNS server 2		
		172.20.2.114
Port settings		
		Auto (Up to 1 Gbps/Full Duplex)

- Step 16** Verify that the MCU Quality of Service (QoS) settings are correct:
- In the Setup Tab of the MCU Administrator interface, scroll down to the QoS section.
  - Select **More**. The QoS section is displayed.

Figure 1-6 QoS Section of the Setup Tab



- c. Select **Custom**.
- d. Enter 34 in all fields.
- e. Select **Apply**.

**Step 17** Verify that the bandwidth on the WAN IP links dedicated to the videoconferencing traffic is enough.

**Step 18** (Optional) On Cisco routers, verify that assured forwarding policy is set to 41.

## Resolving a Poor Audio Quality Issue

Problem	The quality of a participant's audio received in a conference is poor.
Possible Causes	Interoperability issues: an incorrect video format used by an endpoint or incorrect logical channel negotiation
Solution	Perform the procedure in this section:
<b>Procedure</b>	
<b>Step 1</b>	Make a point-to-point call without RADVISION products to verify that there are no issues related to endpoints used in a conference. In case there are problems related to endpoints, use the endpoint documentation to troubleshoot them.
<b>Step 2</b>	If the problem is not endpoint-related verify that perform verification depending on the kind of endpoint used in the conference: <ul style="list-style-type: none"><li>• For a SIP endpoint, verify that both the MCU and the endpoint are properly registered with the SIP proxy.</li><li>• For an H.323 endpoint, verify that both the MCU and the endpoint are properly registered with the ECS.</li><li>• For a 3G endpoint, verify that both the MCU and the endpoint are properly registered with SIP proxy and/or the ECS.</li></ul>
<b>Step 3</b>	If registration is correct, collect logs and wireshark traces to RADVISION Customer Support.

## Resolving a Video Display Issue

Problem	The video for a conference participant is not displayed in a conference view.
Possible Causes	<ul style="list-style-type: none"><li>• Interoperability issues: an incorrect video format used by an endpoint or incorrect logical channel negotiation</li><li>• Issues related to a camera or cables</li><li>• The media ports are blocked on the firewall</li></ul>
Solution	If the problem is caused by interoperability issues, perform the procedure in this section:  <b>Procedure</b>
Step 1	Make a point-to-point call without RADVISION products to verify that there are no issues related to endpoints used in a conference. In case there are problems related to endpoints, use the endpoint documentation to troubleshoot them.
Step 2	If the problem is not endpoint-related verify that perform verification depending on the kind of endpoint used in the conference: <ul style="list-style-type: none"><li>• For a SIP endpoint, verify that both the MCU and the endpoint are properly registered with the SIP proxy.</li><li>• For an H.323 endpoint, verify that both the MCU and the endpoint are properly registered with the ECS.</li><li>• For a 3G endpoint, verify that both the MCU and the endpoint are properly registered with SIP proxy and/or the ECS.</li></ul>
Step 3	If registration is correct, collect logs and wireshark traces to RADVISION Customer Support.
Solution	If the problem is caused by the camera-related or cable-related issues, verify that the camera is connected properly.
Solution	If the problem is caused by incorrect firewall configuration, open the necessary media ports on the firewall. Refer to the Port Security Reference Guide for information about ports.

## Resolving Power Supply Unit (PSU) Failure

This procedure is applicable only for SCOPIA Elite 5200 Series MCU.

Problem	The PSU fails. The Power LED located on the MCU front is not lit.
Solution	Perform the procedure in this section:

## Procedure

- Step 1** Access the Status tab of the MCU Administrator interface and verify that there are no error messages related to the PSU.
- Step 2** Check that LEDs on the PSU are not lit red.
- Step 3** Replace the PSU. Refer to the Administrator Guide for SCOPIA Elite 5200 Series MCU for exact procedure.



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