



Cisco Interactive Services Solution Troubleshooting Guide

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Overview

This guide identifies how to troubleshoot and resolve issues with the Cisco IEC4600 Series and Cisco IEM. It identifies troubleshooting scenarios that could arise and includes the steps for resolving these scenarios. The most common issues are described and diagnostic measures are presented to help you determine why these issues might be present.

Incomplete or incorrect software and hardware configuration is the cause of many issues. If the software has been installed correctly, issues are rare. Before applying the troubleshooting methods described below, verify that the appropriate software is installed and that the software is configured correctly.

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Troubleshooting Process

1. Define the issue
2. Gather detailed information
3. Consider probable cause for the failure
4. Devise a plan to solve the problem
5. Implement the plan
6. Observe the results of the implementation
7. Repeat the process if the plan does not resolve the problem
8. Document the changes made to solve the problem

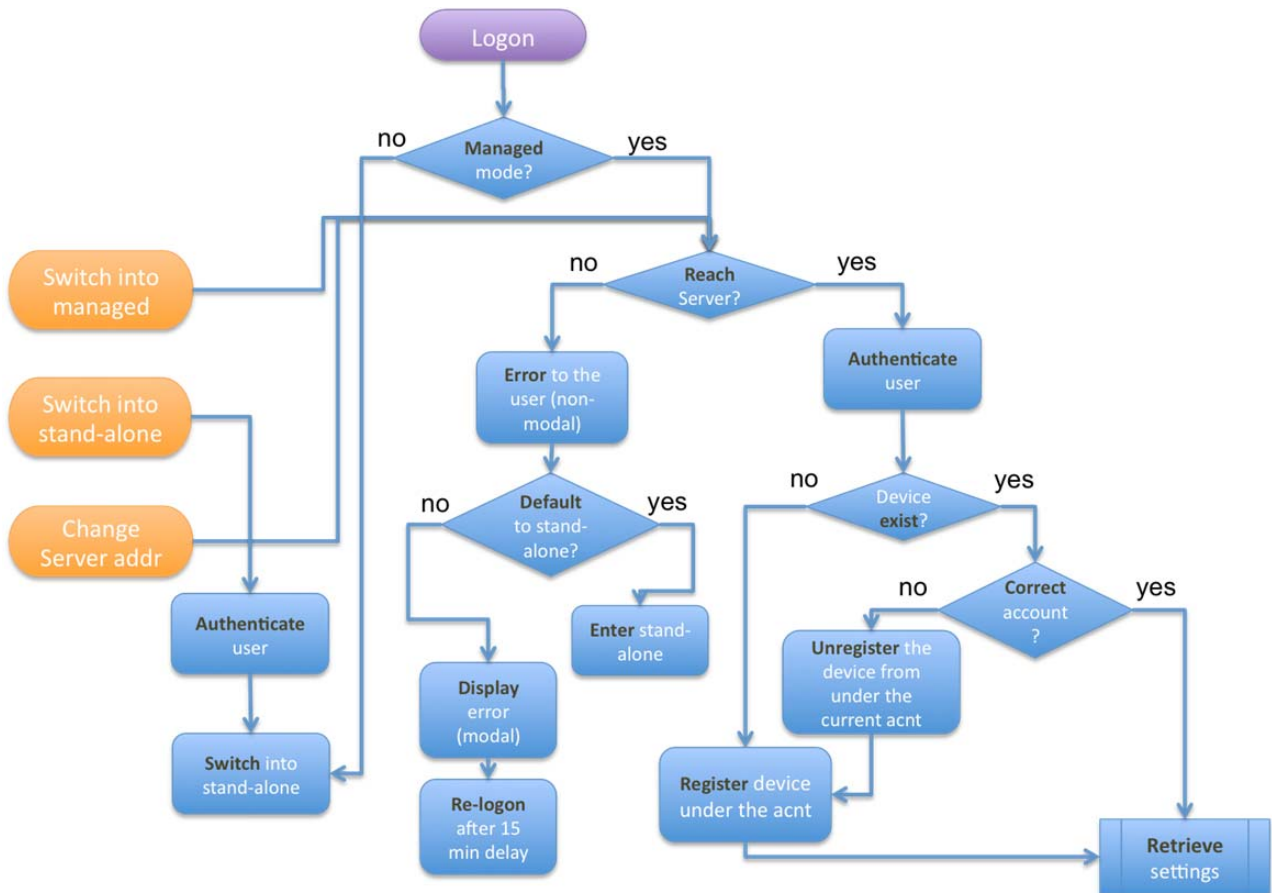
Troubleshooting Common Issues

Figure 1 Troubleshooting Common Issues

Content	<ul style="list-style-type: none">• Is a video, ticker, or application frozen or not responding to the user?• Is the message “404 – Not Found” displayed in any zone?
Screen	<ul style="list-style-type: none">• Is the screen freezing or dark?• Is the message “No signal” displayed?
Peripherals	<ul style="list-style-type: none">• Is a webcam, speakers, keyboard, mouse, or other peripheral not working properly?• Are ambient temperature readings within specifications?
Configuration	<ul style="list-style-type: none">• Is a certain attribute (i.e. volume, rotation, startup URL, etc.) not working properly?• Is the message “Service Unavailable” displayed?
System	<ul style="list-style-type: none">• Is the message “503 – Service Unavailable” displayed?• Is the message “Management server is not reachable” displayed?
Software	<ul style="list-style-type: none">• Does an active firmware Alert appear in the IEM?• Do you see a red “FW” next to the IEC icon in the IEM?
Hardware	<ul style="list-style-type: none">• Do you see console-type messages about data corruption?• Does the IEC not boot up even though the lights are on?

Troubleshooting Flowchart

Figure 2 Troubleshooting Flowchart



Power Troubleshooting

If any device in the kiosk is not working, troubleshoot whether the problem is related to power:

- Verify that the power cord is connected securely to the device.
- Verify that the power cord is plugged into an electrical outlet.
- Verify that the device is turned on. If there are lights on the device, verify that they are lit.
- If a power controller is being used, verify the power controller is working. Recycle the power from the power controller.
- If devices are plugged into a power strip, verify that the power strip is plugged into a working electrical outlet and is turned on. Plug in another device to verify the power strip is working.

Network Troubleshooting

This section describes how to troubleshoot issues with the network. Signs of network issues include frozen screens, dark screens, and the IEC error message “No link to network. Trying to Connect.”.

- Verify that the Ethernet connection on the IEC has a heartbeat (i.e. both green lights around the Ethernet port are lit). If not, check the cable connections.
- Verify that the Ethernet cable is securely connected to the IEC and Ethernet port on a wall/floor/cubicle/switch/router.
- If the Ethernet cable is connected to an Ethernet port that is in a wall, floor, or cubicle, verify that it is a working port by connecting another networked device into that port and accessing the network.
- Verify that the Ethernet cable is viable by using it to connect another networked device to the network.
- Unplug the IEC from the electrical outlet and plug it in again. If it is connected to a power controller, recycle power thru the power controller.
- Verify network connectivity by pinging to the IEC. If the ping test failed, check the network settings on the device and Cisco IEM as well as the IP addresses, subnet masks and default gateways. If you can ping to the IEC, the issue is not network connectivity. Troubleshoot the operating system and browser.
- Verify that the network settings on the IEC are correct. By default, the Cisco IEC4600 is configured to look for a DHCP-enabled Ethernet network. If you are connecting to another type of network (either static IP, wireless, or both), configure the network using the Emergency Configuration Mode. See “Emergency Configuration Mode”.
- Verify that the wireless WEP key, WPA/WPA2 Personal passphrase, or WPA/WPA2 Enterprise password has been entered correctly into the Network settings on the IEC. Go to Network settings, view the key/passphrase/password, and fix it if necessary. If you change it, click the Apply button and then the Close button. In the System Settings window, click on the Reboot button.
- Confirm with the network administrator that the router/switch is up and running.

Content Troubleshooting

If content (application, ticker, video, buttons, etc.) is frozen, not responding to a user, or not loading; one zone is dark; or the “404 - Not Found” error appears in a zone, follow the steps below:

- Verify that the URL to the content is correct in the IEM.
- Point to a different application to determine if it is an application problem or zone problem. If a different application works in the zone, go to step 3. If a different application does not work in the zone, troubleshoot the policy in IEM or the IEC software.
- Restart the application or website where the content is sitting.
- If the application was recently modified, restore previous version of application that worked.

**Note**

If these steps do not fix the problem, troubleshoot the screen.

Content Rendering Issues

How do you ensure that content will render correctly on the IEC? The Cobra browser on the IEC supports the most recent browser techniques and is designed to be compatible with most web content. To further validate whether specific content will render properly on the Cobra browser, use an open source browser such as <https://code.google.com/p/arora/> to test the content for compatibility.

Flash Issues

If Flash content is not displaying, verify that plugins are enabled (see Figure 3).

Figure 3 Enable Plugins

General Policy				
Filter: plugins				
Property	Compatibility	Value	Description	
browser				
content				
plugins				
enabled		true	Enable browser plugins	

If there is still a problem, add the URLs of the Flash content to the flashplayer trustedsites setting (see Figure 4).

Figure 4 Flashplayer Trusted Sites

General Policy				
Filter: flash				
Property	Compatibility	Value	Description	
flashplayer				
security				
hardware				
trustedsites			List of web sites to enable full access to web camera, URLs or IP addresses	

Video Issues

If a video from a web site does not play, it could be the player. Many external sites implement their own video players and create logic to detect the browser capabilities and choose an appropriate player. Because Cobra browser is unknown to a lot of the sites and resemble Safari browser, they may pick the wrong player. To counter that you can change the User Agent for the particular page once you find what user agent works properly with your video provider.



Note

Support for external video sites is limited and video playback is not accelerated. We recommend that you use the native video player.

Screen Troubleshooting

If the entire screen is frozen or dark, the “No signal” error is displayed on the screen, or the user is clicking on screen with no response, try the following:

- Verify that the Cisco IEC4600 is plugged in and turned on by confirming that the amber light is lit on the front of the device.
- Verify that the video display is plugged into an electrical outlet and powered on. Test the video display by connecting it to another device.
- Check the cable connection between the video display and the Cisco IEC4600. Test the cable and replace if necessary.
- Verify the USB cable for the touch screen is connected securely to the IEC.
- Connect a different video input to the display.
- Verify that the Master input setting in the IEC has not been manually set to another input. Go to “Changing the Master Display Video” in Chapter 3 of the *Cisco Interactive Experience Client 4600 Series User Guide* for instructions.
- Check ambient temperature readings. Are they within specifications?
- Reboot the IEC.

If the startup URL appears sideways or upside down on the video display, the rotation of the startup URL has been configured incorrectly.

If content is stretching outside of the visible screen area, and the screen is connected by an HDMI or DVI connection, the video display monitor may be set to “overscan”. To correct this condition, check the picture settings on the video display monitor. The monitor should be in the regular “scan” mode and picture adjustments should be off.

If scrolling is not working, verify that the scrolling setting in the IEC is enabled to either Flicking or Panes. Verify that scrolling has not been configured manually on the IEC.

If clicks are not working, check the scrolling mode. If it is set to Flicking, change it to Panes.

If the touch screen is not working correctly:

- Use the calibration utility to recalibrate the screen. Press **Ctrl-Alt-C** to start the Touchscreen Calibration utility.
- Reboot the system if the touch screen was not connected via the USB interface before boot time.

If there are video quality issues:

- Check the quality of the HDMI Cable by connecting it to another device.
- Check output is set to HDMI.
- Replace HDMI cable.

If the calibration screen pops up multiple times when starting or restarting the IEC, swap out the wireless keyboard for a wired keyboard. Although some Bluetooth wireless keyboards describe themselves as an HID touch-capable device, it might look like a second touch screen to the IEC. The IEC thus wants to calibrate it in order to support it. It is best to use a wired USB keyboard instead.

**Note**

If the display issue is not resolved as a result of deploying the above fixes, the issue may be a content, network, or local problem with the Cisco IEC4600 Series device. Refer to the other troubleshooting sections.

Peripherals Troubleshooting

If any of the peripherals other than the screen, such as webcam, keyboard, mouse, or speakers, are not working properly, follow the steps:

- Restart the peripheral.
- Reboot the IEC.
- Verify that the peripheral is turned on. Check lights and power button. Check connection to power source.
- Verify cable connections to the peripherals are secure.
- Plug the peripheral into a different port on the IEC.
- Check ambient temperature readings. Are they within specifications?
- Verify peripheral works when connected to a different device or IEC. If it works with a different device or IEC, troubleshoot the IEC hardware and software.

Replace the peripheral if the issue has not been resolved.

Audio Issues

If audio cannot be heard:

- Verify that the speaker's volume is not on mute and the volume is turned up to the maximum level.
- Verify that mute on the IEM policy (volume > master > muted) is set to **false**.
- Test whether the speaker is not broken by connecting it to another device.
- Verify that the correct input and output devices were chosen in the Audio settings in the IEM. Verify that the audio settings have not been manually set on the IEC.
- Issue an unmute command.

Mouse Issues

If the mouse cursor is not displaying on the video display or moving and clicking the mouse buttons is not resulting in any actions on the part of the Cisco IEC4600, verify the following:

- Verify that the mouse cursor is enabled in the IEM.
- If the mouse was plugged into a USB port during or after the boot process, reboot the IEC.
- If using a wireless mouse, make sure that the mouse and Cisco IEC4600 are within range as specified by the mouse manufacturer.
- Verify that the mouse is turned on if it has an on/off switch.
- If the mouse is powered by batteries, change the batteries.

Webcam Issues

If the webcam is not capturing video:

- Check if the webcam's light is on.
- Reboot the IEC if the webcam was plugged in during or after the boot process.

Keyboard Issues

If typing on the keyboard is not resulting in any actions:

- If using a wireless keyboard, switch to a wired keyboard.
- If the keyboard is powered by batteries, change the batteries.
- If the keyboard was plugged in during or after the boot process, reboot the IEC.

If characters are not displaying correctly when using the keyboard, the keyboard layout is not correctly configured.

Printer Issues

If the printer connected to the IEC is not printing correctly, it may not be compatible. Consult www.Openprinting.org for printer compatibility. Review the level of support for a printer, which is indicated in the printer record. Because Cisco uses stable releases, support for some of the consumer-grade printers where the models change frequently is lax. Cisco recommends that you procure more mature commercial-grade printers with longer lifespans.

Configuration Troubleshooting



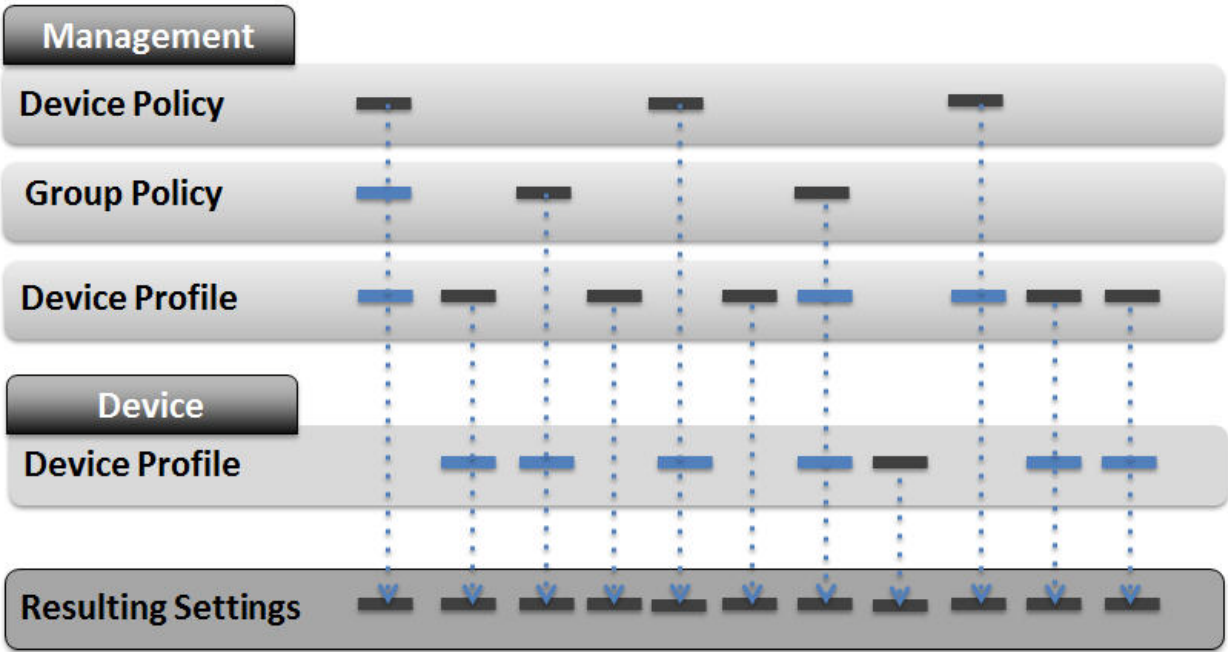
Tip

Only use supported platforms and browser versions for full functionality in the IEM. The supported platforms are Windows XP (32bit or 64bit), Windows 7 (32bit or 64bit), and Macintosh OS 10.6.8. The supported browser versions are Internet Explorer 8 and 9 (32bit and 64bit) and Firefox 12.

Many issues may be due to incorrect configuration of profiles and policies in the IEM or system settings in the IEC. Examples of configuration issues include wrong content is being displayed or wrong screen rotation.

- Review configuration settings.
- Check the settings hierarchy.

Figure 5 Settings Hierarchy



- Check that non-functional settings have been defaulted out.
- Remove policies, reset to default settings, and then reapply policies.

If the message “Service Unavailable” appears, failover is being triggered by a network error that was being reported to the browser (possibly introduced by a transparent proxy). Please turn off the failover in the policy by changing the enabled value to false. The failover will be desensitized in future releases to ignore those kinds of errors.

Figure 6 Failover Enabled

Filter: failover			
Property	Compatibility	Value	Description
▼ browser			
▼ network			
▼ failover			
enabled		false	Enable network failover
▼ recovery			
interval		15	Network failover recovery interval

If the startup URL is not visible on the video display or the message “Startup URL is not configured” is displayed on the screen:

- Verify that the Cisco IEM is up and running.
- Verify that the Startup URL is correct in the Cisco IEM. Login to the Cisco IEM. Select Policies and then double click on a Policy in the center frame. Expand the browser property and expand the startup property. Review the Startup URL in the Value column. If it is incorrect, fix it. Click the Apply button and then click on the Reboot button.
- Verify that a policy has been applied to the device in the IEM. Otherwise assign a policy to the device.
- Verify that the IEM URL is correct in the IEC. Go to the System settings and click on the Server tab. Confirm that the IEM URL is correctly entered. If not, fix the URL. Click the Apply button and then the Close button. In the System Settings window, click on the Reboot button.
- Reboot the device.

SIP Issues

If the Cisco IP phone, TelePresence, or Tandberg is not connecting to the IEC, verify the following was configured correctly in the IEM:

- The format of the CUCM phone is: **sip.target** or **sip.target1**
- The value of the CUCM phone is the directory number in CUCM.
- The format of the CUCM username is: **sip.username**
- The value of the CUCM username is the username in CUCM.
- The format of the CUCM password is: **sip.password**
- The value of the CUCM password is the CUCM password.
- The format of the CUCM domain is: **sip.domain**
- The value of the CUCM domain is the IP address of the CUCM.
- The format of the CUCM protocol is: **sip.transport**
- The value of the CUCM protocol is: **udp**

System Troubleshooting



Tip

The latest versions of Firefox, Google Chrome, Internet Explorer, and Safari work with the IEM interface. There are known issues with Internet Explorer 8 thus it should not be used.

If the error message “503 - Service Unavailable” appears:

- Check if the IEM server is up and running.
- Check the performance indicators in the IEM.

If the IEC cannot discover the Cisco IEM, check if the IEM server is up and running.

The message “Management server is not reachable” indicates that the IEC is in Management Mode but the management server is not correct or inaccessible. This message could appear due to a network problem, a Proxy Server configuration error, or an incorrect IEM URL.

- Verify that the management console is accessible from the network segment that the IEC is residing on.
- Verify that the IEM URL is correct.
- Verify the proxy server settings.

Settings Menu Issue

If the IEC does not display the Settings menu after you press **Ctrl-Alt-S** so instead you see CLI prompts, the hotkeys have been disabled in the IEM. In the IEM, go to the policies that have applied to the IEC and enable the hotkeys. See the “Changing Hotkeys” section of the Configuring Policies & Profiles chapter in the *Cisco Interactive Experience Manager User Guide* for instructions on how to enable hotkeys.

Software Troubleshooting

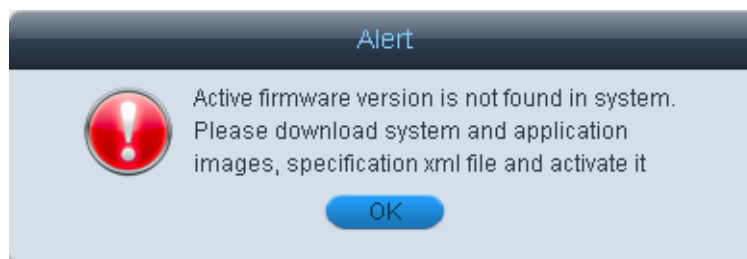
**Tip**

When installing the Cisco IEM, check the Cisco Interactive Services Solution support pages on www.cisco.com for the latest software version. Check the site periodically after that for new software versions.

If a red “FW” is shown on the device in the IEM Device screen, the software on the IEC4600 needs to be upgraded to a version compatible with the IEM. The connection will be “best effort” backward-compatible. To upgrade the firmware, use the IEM's upgrade function. See “Upgrading Devices” in Chapter 3 of the *Cisco Interactive Experience Manager User Guide*.

If an Alert dialog box appears that notifies you that the active firmware version is not found in the system, you will need to upload 3 files: system image, application image, and specification xml.

Figure 7 **Firmware Version Alert dialog box**



Unsupported Products

If you see an error message that the product is unsupported (e.g. KAE), log in to the IEM as an Administrator and add that product. See the “Adding a New Product” section of the Maintenance & Upgrades chapter in the *Cisco Interactive Experience Manager Installation Guide* for instructions on how to add a new product.

Hardware Troubleshooting

If there are console-type messages about data corruption or the IEC will not boot even though the power light is on the device, it could be a hardware issue.

1. Verify that the IEC is plugged in and turned on.
2. Verify network connectivity.
3. Verify connections.
4. Reboot.
5. Check logs on IEC.
6. Check events and performance for the device in the IEM.

Troubleshooting Tools

Monitoring Events in the IEM

You can monitor IEC4600 Series events remotely or view a log of events, such as errors and warnings. There is a filter that lets you view a subset of events to help pinpoint a problem.

Step 1 Click **Devices** in the left pane.

Figure 3-1 *Devices Button*



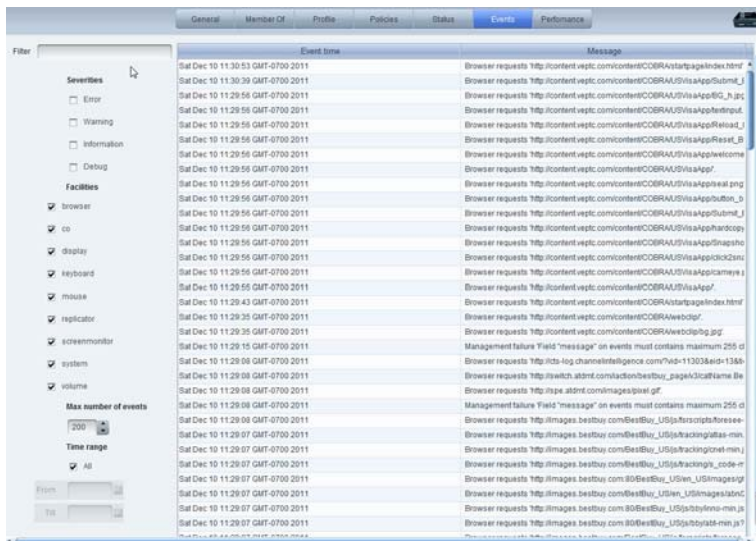
Step 2 In the center pane, double-click a device's icon.

Figure 3-2 *Device Icons in the Center Pane*



Step 3 Click the **Events** tab.

Figure 3-3 Events Tab



- Step 4** (Optional) To filter events by severity, check one or more Severities check boxes.
- Step 5** (Optional) To filter events by facilities, check the one or more Facilities check box.
- Step 6** In the Max number of events field, choose a value.
- Step 7** To specify a time range, uncheck the **All** check box and enter dates in the From and Till fields.
- Step 8** Click **Apply**.



Note

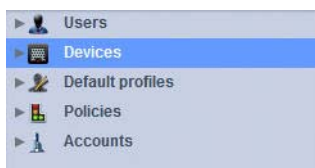
If a particular event is not displayed in the Events tab, modify the filters set to show all events.

Monitoring Performance in the IEM

You can monitor performance of an IEC4600 Series's memory and CPU usage as well as the temperature of the CPU.

- Step 1** Click **Devices** in the left pane.

Figure 3-4 Devices Button



- Step 2** In the center pane, double-click a device's icon.

Figure 3-5 *Device Icons in the Center Pane*

Step 3 Click the **Performance** tab.

Figure 3-6 *Performance Tab*

- Step 4** (Optional) To filter performance by memory values, uncheck one or more Memory check boxes.
- Step 5** (Optional) To filter events by CPU values, uncheck the one or more CPU check box.
- Step 6** Click **Apply**.

Enabling the Debug Mode on the IEC

The Debug mode on the IEC can be enabled to make the logging data persistent so it can be analyzed after a reboot or crash. Since debugging is an application that runs in the background, it will affect performance of the Cisco IEC4600 Series if it is enabled. To enable the Debug mode, follow these instructions:

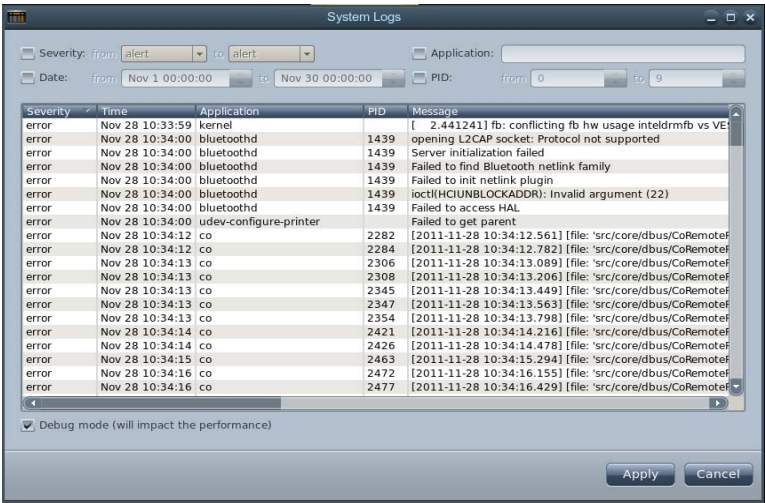
- Step 1** Press **Ctrl-Alt-S** to display the System Settings window.
- Step 2** Click the **System Logs** icon.

Figure 3-7 System Logs Icon in System Settings Window



Step 3 Check the **Debug mode** check box.

Figure 3-8 Debug Mode Check Box



- Step 4 Click **Apply**.
- Step 5 To exit the System Logs window, click **Close**.


Note

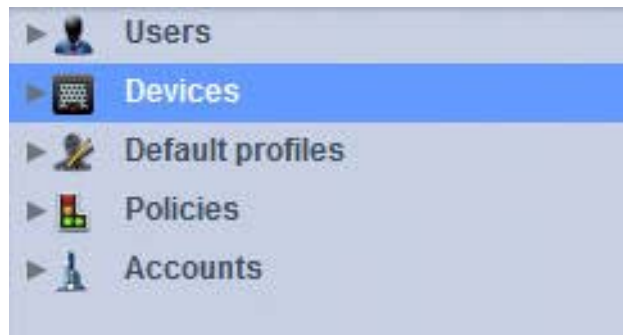
If the Cisco IEC4600 is slow to react when a user interacts with it, the Debug mode may have been enabled which will impact the performance of the device.

Emergency Configuration Mode

If the system hangs during the initialization process, enter the Emergency Configuration Mode to modify the configuration. To use Emergency Configuration Mode, do the following:

- Step 1** Log in IEM.
- Step 2** Click **Devices** in the left pane.

Figure 2-9 **Devices Button**



- Step 3** Double-click on the device icon to display the tabs containing information about that particular device.
- Step 4** In the General tab, click on the **Maintenance Code** button.

Figure 2-10 **Maintenance Code Button in General Tab**

A screenshot of the IEM 'General' tab for a specific device. The tab is selected and highlighted in blue. Below the tab bar, the following information is displayed: Device Name (ZS656015030045), Serial Number (656015030045), Maintenance Code (with a 'Get' button), Product (KAE), Model (VX4602), Version (4.111.251), User, Status (ON), Location, and Description. The 'Get' button is highlighted in grey.

Figure 2-11 *Maintenance Code General Tab*

The screenshot displays the 'General' tab of the 'Maintenance Code' configuration page. The fields and their values are as follows:

Field	Value
Device Name *	ZS656015030045
Serial Number	656015030045
Maintenance Code	0d16ae
Product	KAE
Model	VX4602
Version	4.111.251
User	
Status	ON
Location	
Description	

Buttons for 'Copy' and 'Hide' are located next to the Maintenance Code field.

The maintenance code is displayed. Write down the code.

Step 5 Go to the IEC4600.

Step 6 Click on the gear button in the upper right corner of the screen.

Figure 2-12 **Gear Button on Screen**



You will be prompted for an access code.

Step 7 Enter the maintenance code.

Factory Reset

If you want to reset the Cisco IEC4600 Series device to factory level settings, follow these steps to reset the device to factory settings:

Step 1 Press **Ctrl-Alt-S** to display the System Settings window.

Step 2 Click the **System** icon.

Figure 3-13 System Icon in System Settings Window



Step 3 Click the **Device** tab.

Figure 3-14 Device Tab



Step 4 Click **Reset to defaults**. The Reset dialog box opens.

Step 5 Click **Yes**.

Figure 3-15 **Reset Dialog Box**



