

Cisco Remote Expert Manager Troubleshooting and Serviceability Guide

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Preface



Note

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Overview

This preface describes the audience, organization, and conventions of this guide. It also provides information on related documentation. This preface includes the following sections:

- [“Audience”](#)
- [“Purpose”](#)
- [“Organization”](#)
- [“Related Documentation”](#)

Audience

This guide is intended for customers, partners, and the field team who will troubleshoot the hardware and software at the data center, contact center, and branches. It is also intended for administrators who will keep the application up and running.

Purpose

This guide provides the information that you need to troubleshoot and maintain serviceability for the Cisco Remote Expert Manager (REM).

Organization

This guide is organized into the following chapters:

Chapter	Title	Description
1	REM Troubleshooting	Explains how to troubleshoot common problems
2	Serviceability Administration	Assists administrators with maintaining the REM application

Related Documentation

These documents provide additional information about the Cisco Remote Expert Smart solution:

Cisco Remote Expert Manager Installation Guide

<http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-manager/products-installation-guides-list.html>

Cisco Remote Expert Manager Port Usage Guide

<http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-manager/products-installation-guides-list.html>

Cisco Remote Expert Manager Administration Guide

<http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-manager/products-maintenance-guides-list.html>

Cisco Remote Expert Manager eREAD User Guide

<http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-manager/products-user-guide-list.html>

Cisco Remote Expert Manager Release Notes

<http://www.cisco.com/c/en/us/support/customer-collaboration/remote-expert-manager/products-release-notes-list.html>



REM Troubleshooting

June 10, 2016

Chapter Overview

This chapter explains how to troubleshoot common problems.

Topics in this chapter include:

- “Introduction”
- “Troubleshooting Methodology”
- “Possible Errors & Troubleshooting Tips”
- “Troubleshooting Guidelines for IEC as Video Endpoint”
- “Troubleshooting Guidelines for Remote Expert Applications Running on VMware”
 - “vCenter Settings”
 - “VMware Performance Indicators”
 - “CPU Troubleshooting”
 - “Memory Troubleshooting”
 - “Disk Troubleshooting”
 - “Network Troubleshooting”
 - “CPU Oversubscription Implications on Performance”
 - “Other Considerations”
- “Information to Help with Troubleshooting”
 - “RE Event and RESC Logs”
 - “Normal IEC Bootup Sequence”
 - “Normal Call Flow and its Associated resc.log”
 - “Trace Files for TAC”

Introduction

This document discusses and solves the most common problems that have been reported during testing and also from the field. This document also explains necessary call flow to help you understand the logic to make troubleshooting easier.

Prerequisites

This document assumes that you know the working of Cisco Unified Communication Manager (UCM), Cisco Unified Contact Center Express (UCCX), Cisco Unified Contact Center Enterprise (UCCE), and Cisco TelePresence (TP) video endpoints.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions:
http://www.cisco.com/en/US/tech/tk801/tk36/technologies_tech_note09186a0080121ac5.shtml.

Troubleshooting Methodology

In order to isolate the issue and resolve it, it is important to follow a methodology. A high level troubleshooting process flow is a good way to isolate problem components from the overall solution.

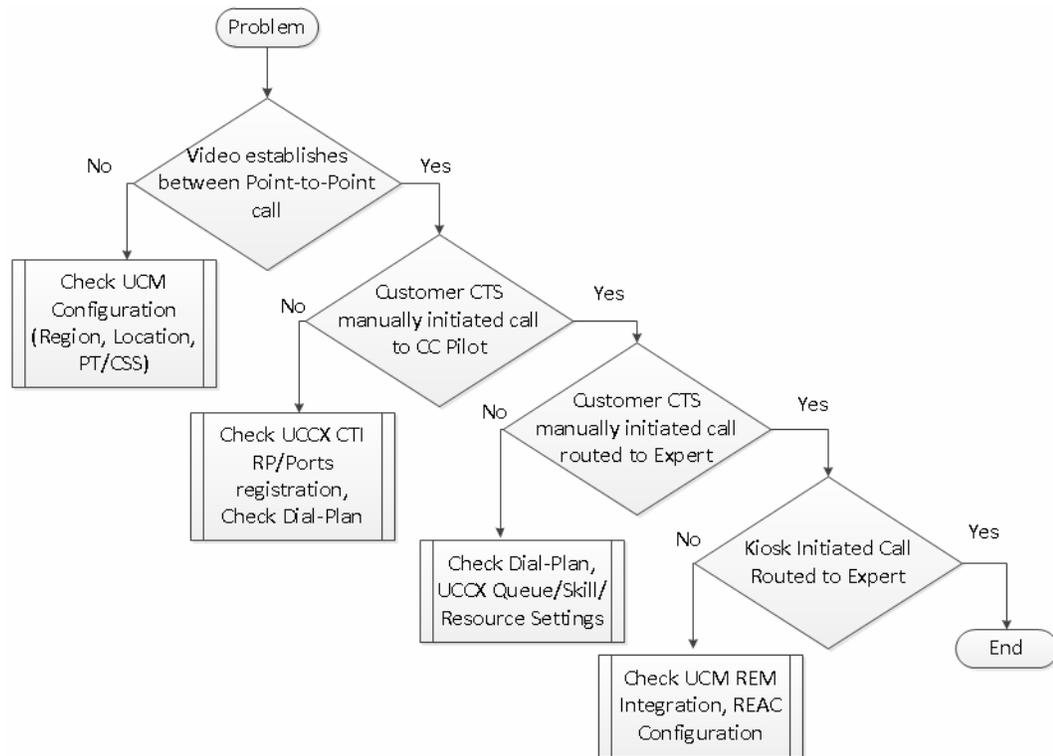
There are mainly three components involved in the Cisco Remote Expert Solution:

1. Unified Communication Manager and its endpoints
2. Unified Contact Center Express and experts
3. Remote Expert Manager and its components

A “Divide and Conquer” troubleshooting approach is suggested in order to isolate the problem component within the solution. For example, without using the customer pod, determine if the other components of the solution are functioning correctly. Is it possible, for example, to manually initiate a call from the branch TP video endpoint and successfully route the call to an expert via Contact Center? If the answer is “no”, then at least part of the problem lies within the CUCM/UCCX/UCCE infrastructure. Correct that problem before determining if REM troubleshooting is necessary.

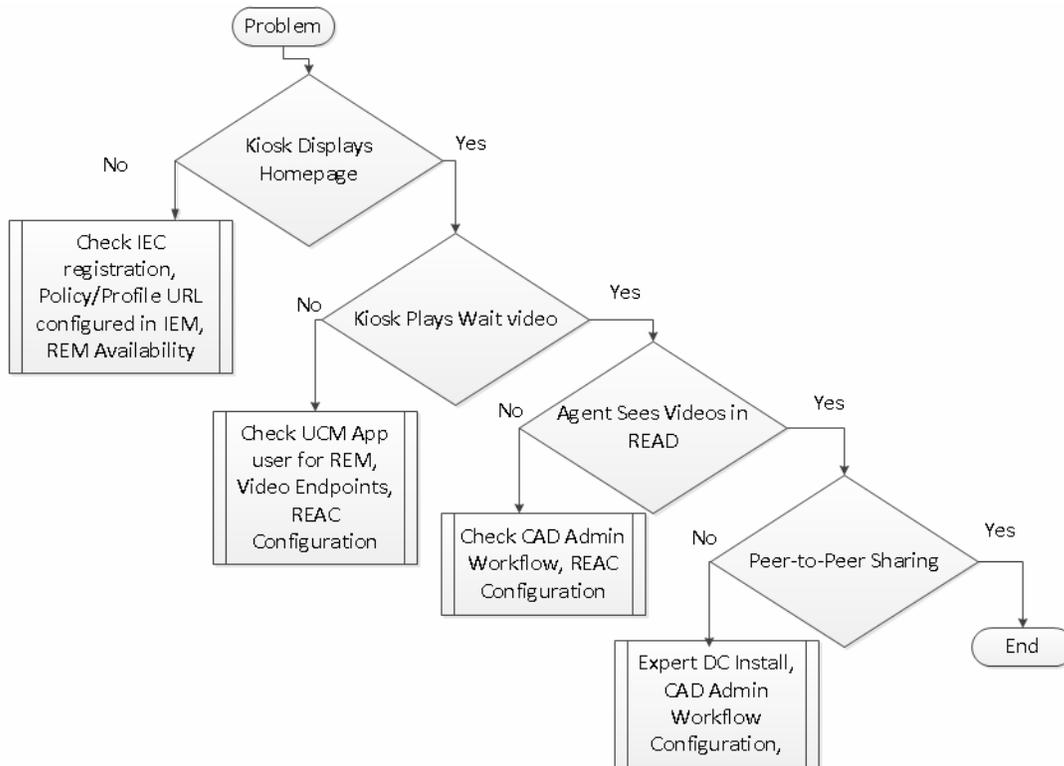
Review the flowchart below to troubleshoot UCM and UCCX/UCCE issues.

Figure 1-1 Troubleshooting Flowchart for UCM and UCCX/UCCE Issues



If customer-side/branch site manually initiated call can be successfully routed to an expert and answered by an expert, but does not work from the customer pod, then it could be a REM-related issue. In that instance, the following flowchart may be helpful.

Figure 1-2 Troubleshooting Flowchart for REM-Related Issues



Possible Errors & Troubleshooting Tips

This section documents errors that customers may encounter and how to fix them.

Table 1-1 Possible Errors and Reasons

Possible Errors	Components Involved	Possible Reasons
Customer pod has no display	Monitor IEC	<ol style="list-style-type: none"> 1. Check whether monitor is working and the power is connected. 2. If monitor was connected after the IEC was booted up, reboot the IEC. 3. Try connecting the monitor to IEC's alternate video port (VGA or HDMI).
IEC displays 'Management failure: Product VEP is not found'	IEC	The IEC has an older version of firmware. Upgrade the IEC's firmware.

Possible Errors	Components Involved	Possible Reasons
IEC displays 'Network Error'	IEC LAN Cable/Switch DHCP Server	If LAN cable was connected after the IEC was booted, reboot the IEC. Check the network connection. If it is DHCP-based, check whether the DHCP server is correctly leasing an IP address to the IEC.
IEC displays 'Kiosk Phone is out of Service'	Customer pod-side video endpoint	Customer pod-side video endpoint is unregistered from the UCM.
IEC reboots in certain cases	REM Customer pod-side video endpoint	The following are some of the scenarios in which reboot is initiated from REM: <ul style="list-style-type: none"> Whenever there is a power failure, REM reboots the IEC to identify all peripherals that are connected. If customer pod-side video endpoint goes down and comes up, REM reboots the IEC. If the Cobra application is not working normally, REM reboots the IEC.
IEC is not streaming video such as the On Hold Video or a video that was pushed from an expert	RTMP Compliant Streaming Server	<ol style="list-style-type: none"> Check RTMP Compliant Streaming Server is up. If the agent is not registered, the call will not be connected to the agent who then will not be able to load READ. Also, the Kiosk will not move to the connected screen.
Agent Desktop displays 'Checking for Active Session' continually, even after accepting the call	REM Contact Center CAD Admin Workflow	<ol style="list-style-type: none"> Validate Expert configuration in REAC. Verify CAD Workflow settings.

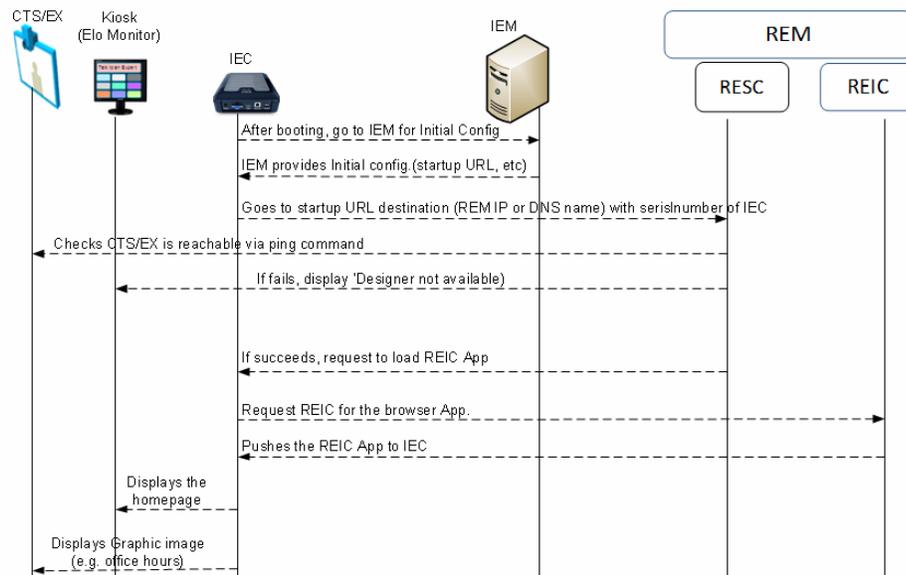
Additional issues and how to solve them are described below.

Unable to Bring Up Kiosk Flex Application on the Customer Pod's Home Page

The call flow that is related to the customer pod's display page is the following:

- While the IEC boots up, the IEC contacts the IEM for its home page URL (startup URL in the IEM) which is hosted on REM.
- The IEC goes to the URL destination listed in the startup URL of the IEM's policy.
- The REM (the destination of the URL) requests the IEC to load the Kiosk Flex application.
- While requesting to load the Kiosk Flex application, the Kiosk Flex application queries the IEC for its serial number.
- The IEC responds with its serial number.
- If the IEC's serial number matches what is configured in the REM, the Kiosk Flex application is loaded into the IEC and the IEC displays the home page with a connect button on the customer pod.
- The IEC also displays a static image on the TP video endpoint (e.g. office hours).

Figure 1-3 Kiosk Flex Application Call Flow



If you are unable to bring up the Kiosk Flex application, the following are possible reasons:

- The IEC was configured with the wrong IEM host information. Verify that the IEM's URL is correct in the IEC and the IEM shows that the IEC is active.
- The URL configured in the IEM is incorrect. First put the default kiosk serial number in `rem.properties` and run the configuration tool. Then register the kiosk with the default IEC in REAC. Verify that the URL is correct by typing "`https://<REM_IP>:8443/reic`" in a browser. You should see the same homepage with the connect button on the browser window and be able to click the connect button with a mouse. As a result, a call will try to connect with the video endpoint using the UCCX/UCCE Pilot number.
- The IEC does not have the correct policy applied. Verify that the policy with the REM's URL as the startup URL was applied to the IEC in the IEM.
- The IEC is unable to reach the IEM. This could be a network problem (e.g. Local LAN issue, WAN issue, or cable issue). If the REM's FQDN is used, it could be that DNS server is either incorrectly configured or not reachable. Ping the REM from IEC's console to ensure that it is pingable.
- The LAN connection may not have been up when the IEC was booting up. Reboot the IEC.
- The web service may not be up. Verify that all nine web services (listed below) are up by entering the URL "`https://<REM_IP>:8443/resc/services/listServices`".
 1. Print and Video Share Service
 2. File Upload Service
 3. Spring Init
 4. Customer Service
 5. Admin Service
 6. Notification Service
 7. Version

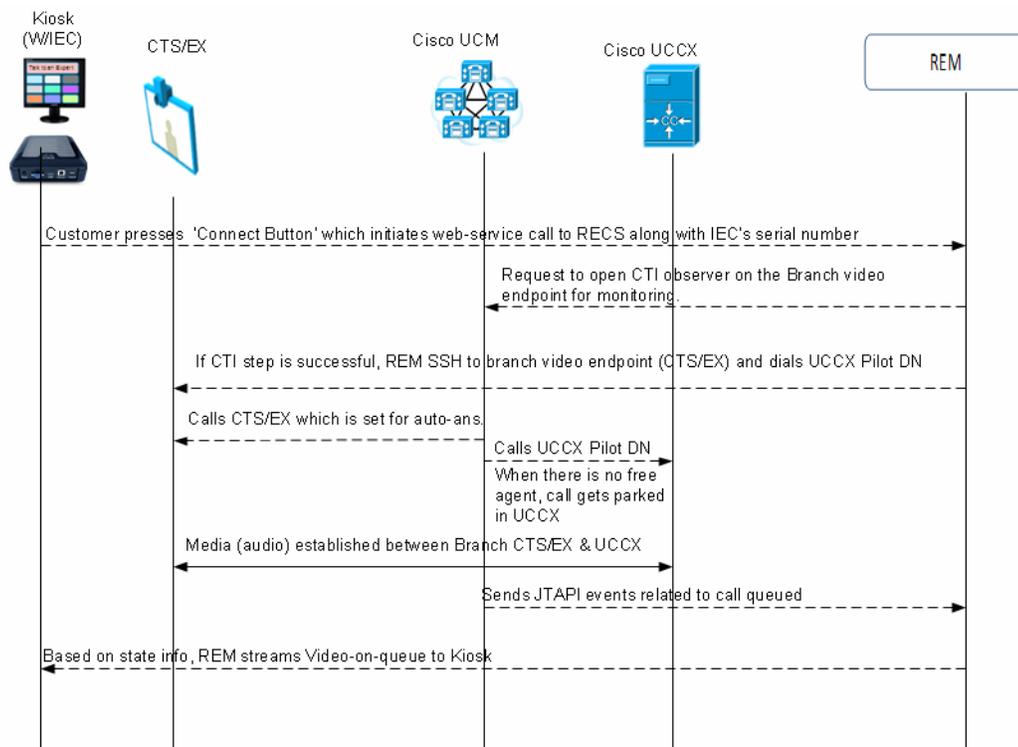
- 8. Virtual Agent Services
- 9. Reporting Service
- The IEC’s serial number is listed incorrectly in the REM. Verify that the REM’s Kiosk configuration window is showing the correct serial number of the IEC.
- Check the IEC’s event log from IEM for more information. Refer to the “Events Tab in the IEM” section in the Serviceability Administration chapter for detailed information on how to check an IEC’s logs.

Unable to Establish Call from Customer Pod ('System Error' Message)

When a customer presses the Connect button, the call flow is the following:

1. The Kiosk application invokes the REM’s call connect web service.
2. The REM requests the CUCM to set up a call via JTAPI between the customer pod’s video endpoint DN and UCCX/UCCE Pilot DN.
3. The CUCM initiates a call from the customer pod’s TP video endpoint to UCCX/UCCE Pilot DN and the call is established.

Figure 1-4 Connect Button Call Flow



When a call is unable to be established, the following are possible reasons:

Configuration data is incorrect in the REM:

- The TelePresence DN of the customer pod's video endpoint is listed incorrectly in REM. Check the Kiosk configuration in the REAC.
- The IVR Phone number is listed incorrectly in the REM. Check the Expert Type configuration in the REAC.
- The customer pod's video endpoint is not listed in the CUCM's application user (ragent) control list. Include the customer pod's video endpoint into the REM's control list.
- The CUCM's application user (ragent) either does not exist or the user's password is not matching the password in the REM configuration.
- The REM has incorrect CUCM credentials (username, password, IP addresses).
- The REM may have duplicate entries for the customer pod's video-endpoint (DN).
- Problem with the JTAPI links to either the REM or to UCCX/UCCE:
 - Check that the JTAPI link between REM and CUCM is up and running.
 - Check that the JTAPI link between CUCM and UCCX/UCCE is up and running by checking the CTI Route Point's status in the CUCM administration page.
- Problem with endpoints:
 - The customer pod's video endpoint is not in the active state (e.g. upgrading firmware or rebooting state).
 - The UCCX/UCCE ports are maxed out and hence unable to establish a call with UCCX/UCCE (e.g. UCCX/UCCE getting more calls than it can support).

Customer Pod Displays 'Error: Management Server is not reachable' Message

The message "Management Server is not reachable" indicates that the IEM IP Address is not correct or inaccessible. This message may also appear due to a network problem, a proxy server configuration error, or an incorrect IEM URL. Check if the firewall policy is blocking access.

If the IEM is down but the IEC has accessed the startup URL previously, it will load the startup URL from its cache. In other words, the failure of the IEM does not prevent the IEC from functioning. If any configuration changes are needed, then IEM has to be active for pushing the new policy configurations to the IEC.

Customer Pod Displays 'Startup URL is not configured' Message

The following are the possible reasons and resolutions for the message "Startup URL is not configured":

- IEC does not have a policy (initial configuration that includes startup URL) enforced in IEM. Verify the IEC has the correct policy applied and the IEC has been rebooted.
- Another possibility is that the IEC is not registered in the IEM, instead it is in standalone mode. Check the IEM to ensure that the proper serial number is added for the IEC.
- If the IEC is not rebooted after configuration changes, reboot the IEC.

IEC Displays 'Cannot register' Message

Click the Show Details button to reveal information about service that is disabled.

This is due to the fact the IEM is not enabled for registration.

-
- Step 1** Log into the IEM as root/administrator user. Otherwise, users cannot see the Maintenance link. The Maintenance link is not shown to regular users.
 - Step 2** Click the **Maintenance** link.
 - Step 3** Click **Server Settings**.
 - Step 4** Check the **Device gateway enabled** check box.
 - Step 5** Click **Apply**.
-

Customer Pod Touch Screen Function is Not Working Correctly

If the touch screen (customer pod) is not working correctly:

1. Ensure that the USB interface cable is plugged into the IEC and the touch screen.
2. Use the calibration utility to recalibrate the screen.
 - a. Press **Ctrl+Alt+S**.
 - b. Enter the DMC (Device Maintenance Code).
 - c. Click **Calibrator**.
3. Reboot the system if the touch screen USB cable was not connected before boot time.

Customer Pod Displays Virtual Keyboard When Call Connects

When connecting to a remote expert, the touchscreen connected to the IEC displays a virtual keyboard on the customer pod. This is due to an incorrect policy applied to the IEC. Disable the following configuration settings in the policy that is applied to the IEC. If there is no policy applied to the IEC, then these changes should be set in the IEC profile configuration.

-
- Step 1** Log into the IEM.
 - Step 2** Go to the policy that is applied to the IEC or the IEC's profile.
 - Step 3** Go to keyboard > virtual > enabled property.
 - Step 4** Set enabled value to **false**.
 - Step 5** Go to browser > input > popup > keyboard > enabled property.
 - Step 6** Set enabled value to **false**.
 - Step 7** Save the policy by clicking the **Apply** button.
 - Step 8** Reboot the IEC to activate the policy on it.
-

Customer Pod Displays ‘Server is down’ Message

There are multiple possible reasons for this error message:

1. Check the IEC's Policy or Profile settings in the IEM with respect to startup URL configuration.
1. Check REM-UCM JTAPI configuration (application username/password in UCM and REM).
2. The REM's tomcat service may be down.
3. The most likely reason for this error message is that the REM's service is not up and running. A successful REM installation should show nine services (Print and Video Share Service, File Upload Service, Spring Init, Customer Service, Admin Service, Notification Service, Version, Virtual Agent Services, and Reporting Service). To list those services, go to `https://<REM_IP>:8443/resc/services/listServices` where “<REM_IP>” is the IP address of the REM.

If you see only one service, you need to check `resc.log`. Check that the JTAPI link between the REM and UCM is up and running. If the link is not up and running, the UCM username and password that is listed in the `rem.properties` file are not what is configured in UCM application user page.

Try the following to resolve the issue:

1. Restart the Tomcat service. See the *Cisco Remote Expert Manager Installation Guide* for instructions.
2. Look for the message ‘bad login’ in the `resc.log`.

```
[root@localhost ~]# grep --color 'bad login' /var/rem/resc/logs/resc.log
2012-06-08 22:33:44,442 ERROR [pool-2-thread-1]
org.apache.axis2.deployment.ServiceDeployer - The VirtualAgentServices.aar
service, which is not valid, caused Error creating bean with name
'virtualAgentService' defined in class path resource [applicationContext.xml]:
Cannot resolve reference to bean 'callService' while setting bean property
'callService'; nested exception is
org.springframework.beans.factory.BeanCreationException: Error creating bean with
name 'callService' defined in class path resource [applicationContext.xml]:
Instantiation of bean failed; nested exception is
org.springframework.beans.BeanInstantiationException: Could not instantiate bean
class [com.cisco.big.call.CallService]
: Constructor threw exception; nested exception is
com.cisco.jtapi.PlatformExceptionImpl: Unable to create provider -- bad login or
password.
```

If it is a bad login or password error, correct the JTAPI username and password either in the `rem.properties` file or in the UCM application configuration page. If the `rem.properties` file is modified to correct this username and password issue, execute the IAS. See the *Cisco Remote Expert Manager Installation Guide* for instructions.

Customer Pod Displays ‘Service Temporarily Unavailable’ Message

This error occurs when the IEC cannot pull the home page from the REM because the startup URL configured in the IEM is not reachable or the REM server or services are down.

To resolve this error:

- Verify the REM is up and functioning by checking this URL on a browser: `https://<REM_IP>:8443/reic` where “<REM_IP>” is the IP address of the REM.
- Check the IEC's event log in the IEM. Verify the IP address of the REM as configured in the IEM policy that is applied to the IEC or the IEC's profile.

Customer Pod Displays 'Kiosk is not registered' Message

If the customer pod does not display the 'Connect homepage' message but instead displays the 'Kiosk is not registered' message, the reason for this error is due to the fact that REAC does not have an entry for this IEC in its Kiosk menu page. Add the IEC to the REAC. If it is already added, verify that the IEC's serial number is correct.

The resc.log file will display this issue as 'unique serialNumber':

```
[root@localhost ~]#grep --color 'unique serialNumber:' /var/rem/resc/logs/resc.log
```

When the IEC is added or updated with the correct serial number, the resc.log should display 'kiosk: <serialnumber> is alive'.

Connected Peripherals are Not Detected by the IEC

Peripherals such as a printer, scanner, keyboard, or mouse must be connected to the IEC before it is booted up in order for the IEC to detect them. If you connect a peripheral after the IEC has booted up, reboot the IEC to detect that peripheral.

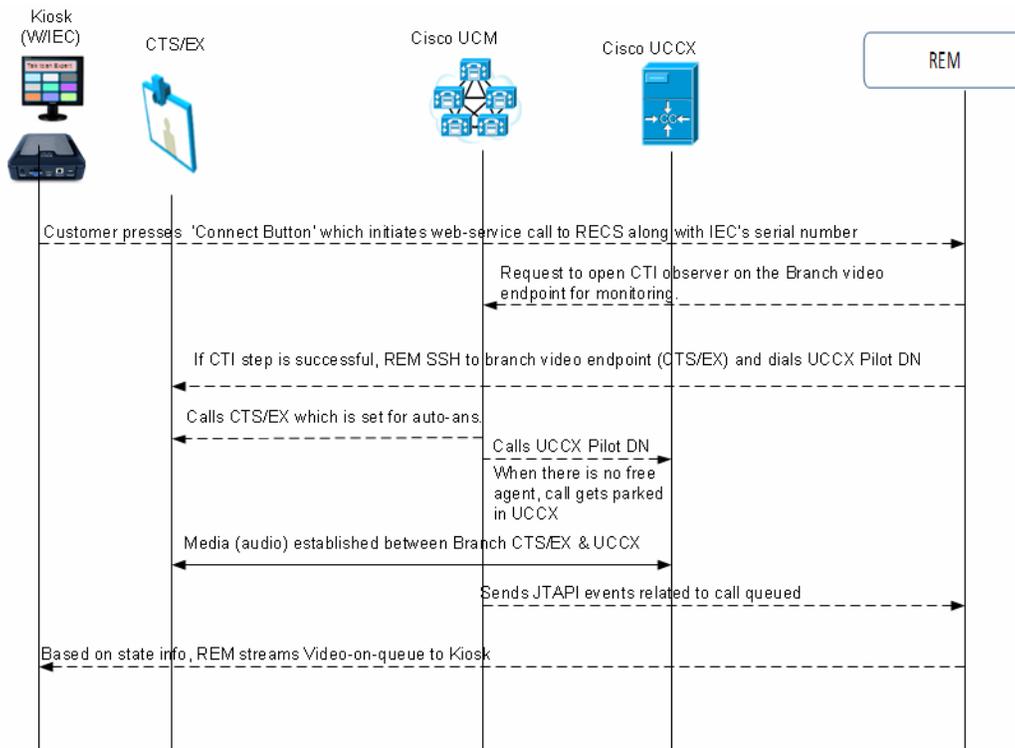
IEC is Not Reflecting the Applied Policy

After applying the policy, IEC needs to be rebooted to have the policy enforced. Also check the IEM to ensure that the IEC has the proper policy applied to it.

IEC's Profile Configuration is Not Active

If there is a policy assigned to the IEC, its configuration take precedence over the IEC's profile configuration. If the IEC's profile configuration is required instead, remove the applied policy.

Figure 1-5 Profile and Policy Hierarchy for IECs



Customer Pod Displays 'System is not available, Please try after some time' Message

If the customer pod displays the 'System is not available, Please try after some time' message, it could be due to the video endpoint at the customer pod is not in the UCM's REM application user's control list.

```
[root@localhost ~]# grep --color 'not in provider' /var/rem/resc/logs/resc.log
com.cisco.jtapi.InvalidArgumentExceptionImpl: Address 2512 is not in provider's domain.
```

To resolve this issue, go to the UCM application user configuration that is used by the REM in its `rem.properties` file. Add the video endpoint into its control list.

Use the Unix "less" command to view and search the `resc.log` file for RE call issues. Within the "less" command, search for the following strings to find call issues:

- 'Making a Call connect via Jtapi' is the `resc.log` entry indicating a new RE session attempt.
- 'ObserverThread' are `resc.log` entries containing `ObserverThread` that correspond to the client pod video endpoint initiating and participating in the RE session.
- 'AgentObserver' are `resc.log` entries containing `AgentObserver` that correspond to the expert pod's video endpoint participating in the RE session.

The following command shows which the DNs that successfully got connected in the past:

```
[root@localhost ~]# grep --color 'CallConnected' /var/rem/resc/logs/resc.log
```

The result of the command is the following output:

```
2012-06-07 22:15:25,632 INFO
[ObserverThread(com.cisco.big.call.BIGObserver@6f221448)]
com.cisco.big.call.BIGObserver - CallConnected2512
2012-06-07 22:15:25,634 INFO
[ObserverThread(com.cisco.big.call.BIGObserver@6f221448)]
com.cisco.big.call.BIGObserver - CallConnected1134
2012-06-07 22:15:43,017 INFO
[ObserverThread(com.cisco.big.call.BIGObserver@6f221448)]
com.cisco.big.call.BIGObserver - CallConnected2504
2012-06-07 22:24,026 INFO [ObserverThread(com.cisco.big.call.BIGObserver@1539d980)]
com.cisco.big.call.BIGObserver - CallConnected2512
```

Customer Pod Displays 'Expert not available' Message

Whenever the IEC is rebooted or powered up, the REM will check reachability to the IEC's local video endpoint that is configured in the REAC's Kiosk menu page. If the IEC's video endpoint is not pingable from the REM, the REM instructs the IEC to display 'Expert not available'.

This may also happen when the REM or REAC's Kiosk page has multiple instances of the same IEC.

If you check the resc.log, you will see following error messages:

```
[root@localhost ~]#grep --color 'is not reachable' /var/rem/resc/logs/resc.log

WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - ----- ****
CTS for kiosk: 656015330015 is not reachable 4 ****
WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - ----- ****
CTS for kiosk: 656015330015 is not reachable 5 ****
WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - **** ---- CTS
for kiosk:656015330015 is dead. after 5 tries
```

A similar message will also be logged in the IEC's Event screen in the IEM.

Customer Pod Displays Request to Provide Feedback After Pressing the Connect Button

If the customer pod displays a screen requesting the customer to provide feedback about the session after the customer presses the Connect button, the wrong CC Pilot DN was configured or the DN is not working. Contact Center could also be possibly down or busy or the UCM-Contact Center integration has issues.

Check the resc.log for Called Address:Unknown:

```
[ObserverThread(com.cisco.big.call.BIGObserver@5b7127)] com.cisco.big.call.BIGObserver
- BIGObserver - Curent Called Address:Unknown
INFO [ObserverThread(com.cisco.big.call.BIGObserver@5b7127)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
INFO [http-bio-80-exec-73] com.cisco.big.call.CallService - Time taken for Call
Connect: 4
INFO [ObserverThread(com.cisco.big.call.BIGObserver@5b7127)]
com.cisco.big.call.BIGObserver - Setting the session to status 2
INFO [ObserverThread(com.cisco.big.call.BIGObserver@5b7127)]
com.cisco.big.call.BIGObserver - Call disconnected
```

Customer Pod Does Not Display the Home Page

There are several possible reasons why the customer pod does not display the Home page:

- The IEC does not have the policy with the startup URL pointing to the REM applied to it. Apply that policy to the IEC in the IEM.
- If IEC does not have a policy but using its profile in the IEM for the startup URL, verify that the startup URL in the profile is pointing to the REM.



Note Use of policies is the preferred method for configuring IEC properties.

- Verify that the IEC has been added to the REAC's Kiosk menu.
- If the IEC was updated recently but not rebooted, the IEC needs to be rebooted.
- Check if REM Server is reachable and web services are accessible.

Once you have fixed the issue above, verify that the content in the Home page is correct by following these steps:

-
- Step 1** Check which images will load in the IEC by going to the following link:
https://<REM_IP>:8443/resc/services/VirtualAgentServices/getKioskDetailsBySerialNum?serialNumber=<Serial Number>. The PNG files are the ones that actually display on the customer pod.
- Step 2** Those PNG files displayed are in fact mapped to specific Contact Center Pilot DN's, Expert Types are grouped together and the IVR (DN) number can be modified altogether for an Expert Type group.
- Step 3** Check the IEC's event log in the IEM to see if the request from the IEC was successful.



Note The IP address used in the request is also in its response. This would help to identify the REM IP address used by the IEC in its request.

IEC Reboots Twice

In certain circumstances, such as during a power failure at the branch, the IEC reboots twice. This is expected because the IEC was designed to only detect those peripherals that are connected to it when it is rebooted. In a power failure scenario, the TP video endpoint takes longer time to reboot compared to the IEC. As a result, the IEC does not detect the TP video endpoint connected to its HDMI port. In order to circumvent this issue, IEC reboots again after it finds the TP video endpoint is reachable.

The following resc.log shows that the REM rebooted the IEC:

```
2012-06-11 16:45:40,326 INFO [http-bio-80-exec-144]
com.cisco.big.common.util.CommandExec - reboot
[root:localhost ~]$ echo "RE_CHANNEL_TERM";
RE_CHANNEL_TERM
[root:localhost ~]$
Broadcast message from root@localhost (pts/2) (Mon Jun 11 09:45:28 2012):
```

```
The system is going down for reboot NOW!
```

Unable to See Wait Video While Call is in the Queue

The Wait Video that is streamed when the call is in a queue is handled by REM. The call flow when a customer call is being queued is as follows:

1. When there is no expert available, the UCCX/UCCE puts the call in a queue.
2. Based on the JTAPI event, the RECS requests the media server (Adobe) to stream a pre-configured video file to the IEC.

Possible reasons for the Wait video not playing are:

- The Wait video has not been added in the REM. Go to `/opt/apache-tomcat-7.0.23/webapps/reic/assets/video` and ensure that the Wait video has been added.
- If a particular video has been provided as the Wait video for an expert type in REAC and still does not play, check the following:
 - The video format provided in REAC in the Video tab is correct (https or rtmp format).
 - The video filename in REAC is the same as that given in the Adobe server (Folder Path: Adobe > webroot > vod > filename).

Unable to See On-Hold Video While Call is On Hold

The On-Hold video is handled by the external media server such as Adobe Media Server (AMS). There are two deployment models: customers can install AMS on a different server or customers can install AMS and REM on the same server.

Possible reasons for the On-Hold video not playing are:

- The Adobe server does not have the requested media file. Check the REAC Video tab to ensure that the file's URL is provided in the correct format.
- The file is not present in the Adobe media server location (Folder Path: Adobe > webroot > vod > filename). Check if the filename provided in the REAC is the same as that stated in this location.
- Only filenames of types .flv, .f4v, .mp4 and .mov are supported. Video clips are streamed via the rtmp protocol. Only filenames and formats of these types would play if provided as the On-Hold video. Convert the video format or change the filename if necessary.

Unable to Bring Up Static Graphic Page in TP (During Non-TP Calls)

The IEC can display a static image or stream a video file to the TP video endpoint when it is not being used. If this feature is not working, a configuration mismatch is the likely cause.

-
- Step 1** Verify the TP video endpoint device configuration in UCM is correct and make sure that the 'Days Display Not Active', 'Display On Time', and 'Display on Duration' settings are correctly configured.
- Step 2** Verify the REM's Content configuration page has correct image file names and hours.
- Step 3** Go to the following URL: `https://<REM_IP>:8443/reic/dualcontent.html`
- This URL response should display the graphics that supposed to show up at the current time.

- Step 4** Verify in the IEM that the IEC shows dual images (one image for the customer pod and the other image is for TP video endpoint when it is not on a call). Click **Devices** in the left pane and then click the Show Screenshot icon located at the top of the center pane.

If the dual images show up in the IEM, then the issue is probably with the TP video endpoint.

Unable to Upload and Update Images to REM

The static graphic images and video files can be uploaded to the REM from REAC. However, such uploading fails from certain browsers. Only use supported browsers while accessing the REAC.

READ is Not Showing Up

When the expert answers the call, the READ will be displayed in the Cisco Agent Desktop's integrated browser. If it does not, the following are possible reasons:

- UCCX/UCCE does not have a Premium Package license. The CAD needs the Premium Package license.
- Cisco Agent Workflow is not correctly configured. Verify that the Cisco Agent Workflow is correctly configured to bring up the READ from the REM server.



Note The configuration parameters in the HTTP Action Setup are case sensitive so ensure that the values entered into fields are correct.

- The webservices are not running. This link should show nine active services:
`https://<REM_IP>:8443/resc/services/listServices.`
- Verify each of the call events.dation of READ. For different call event states, the expert's desktop will display different web pages.



Note Replace `<rem_server_ip>` with the actual IP address and replace `<agent_dn>` with the actual user ID.

- Not Ready:
`https://<rem_server_ip>:8443/read/Common.jsp?agentDn=<agent_dn>&state=0&request=welcome`
- Ready: `https://<rem_server_ip>:8443/read/Common.jsp?agentDn=<agent_dn>&state=1&request=welcome`
- Ringing:
`https://<rem_server_ip>:8443/read/desktoppage?agentDn=<agent_dn>&calling=<ivr_queue_id>`
- Dropped:
`https://<rem_server_ip>:8443/read/Common.jsp?agentDn=<agent_dn>&request=disconnect`
- Logout: `https://<rem_server_ip>:8443/read/Common.jsp?request=logout`

eREAD Document Panel Has Changed Its Size

If the document panel size does not appear as expected on the agent's screen, the `READ_GADGET_WIDTH` and `READ_GADGET_HEIGHT` properties have been changed in the REM Properties file.

The default values are `READ_GADGET_WIDTH = '100%'` and `READ_GADGET_HEIGHT = '790px'`. The minimum value for `READ_GADGET_HEIGHT` is 500px. Once you have changed their values, restart the Finesse Tomcat service for the changes to take effect.

Video Call is Not Established Between Different Types of TelePresence Video Endpoints

When an expert is available, the customer call that has been queued in UCCX/UCCE will be redirected to the available expert's video endpoint. If the video endpoints used between the customer and the expert are of different types (i.e. one is an EX90 and the other is a C40), there could be interoperability issues associated with MTP.

UCM-based MTP does not support video and if the end-to-call uses MTP resources, the resulting call will be an audio call. There are two workarounds:

1. Remove MTP resources being used in such calls between customer-side video endpoint and expert's video endpoint.
2. If MTP is needed for some other reasons, use IOS-based MTP with pass-through configuration. IOS-based pass-through feature supports video calls getting established.

Experts are not Getting Registered in REAC

While registering experts in REAC, if the registration fails and shows both nodes (in a dual node setup) in red, do the following:

-
- Step 1** Go to the console of the VM in VMWare VSphere.
 - Step 2** Type the command `system-config-network`.
 - Step 3** Go to the option **Edit DNS Configuration**.
 - Step 4** Check if the Hostname is different in both these VMs. The Hostname must be unique for each VM. If it is the same name, change the Hostname in one of the VMs.
 - Step 5** Validate the UCM configuration.
 - Step 6** Restart the network by typing the command `/etc/init.d/network restart`.
-



Note If the hostname has changed, restart Tomcat for REM to function properly.

REIC (Cobra Browser) Hangs

When the REIC hangs or goes into a limbo state due to some reason, use the following command to clear cache: `https://<Virtual IP>:8443/resc/services/AdminService/cleanCallCache`

Session Hangs

The administrator can clean the call cache of kiosks if a session hangs. When a session hangs, a new call cannot be initiated to or from the customer pod. By cleaning the call cache, the session's status in the Session tab is changed to "Completed", which then allows the customer pod to start or receive a new call.

Step 1 Click the **Clean Call Cache** tab.

A Status box appears in the lower right corner of the screen indicating that the call cache was cleaned.

REM Error Message

If you see the error message "Address <DN> is not in provider's domain", the device whose Directory Number (DN) is <DN> is not in the control-list of application user (agent) in CUCM's configuration. Add the device in the CUCM under the appropriate Application User.

EX90 Firmware Error Message

If you see the error message "The agent or workflow-initiated action request failed", update the EX90 firmware to TC6.1.

Troubleshooting Guidelines for IEC as Video Endpoint

If the IEC is being used as the video endpoint as opposed to a Cisco TelePresence unit such as the EX-60, you may encounter the following issues related to the SIP configuration.

SIP Video Call is Not Established Between IEC Video Endpoint and Agent

If the call cannot be made or received, 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**



Note Ensure that all of the formats and values are in lowercase.

Troubleshooting Guidelines for Remote Expert Applications Running on VMware

Performance indicators from within the virtual machines are still valid. For the UC applications that support it, use RTMT or the perfmon data for analysis of the performance of the UC application. Data from these tools provides view of the guest performance such as disk, CPU, memory, etc.

Move to the VMware infrastructure when there is a need to get the perspective from the ESXi host. Use the vSphere Client to view data.

- If vCenter is available, historical data is available through the client.
- If vCenter is not available, live data from the host is available through the client.

vCenter Settings

Just like some of the UC applications, vCenter can be configured to save more performance data. The more historical data saved, the bigger disk space needed by the database used by vCenter.



Note

This is one of the main areas where you need vCenter rather than going directly to the ESXi host for performance data. vCenter can save historical data that the ESXi host does not keep.

The configurations to change the amount historical data saved by vCenter is located in the vSphere client under Administration > Server Settings. For each interval duration, the duration that the statistics will be saved for (days, weeks, months, or years) and the statistics level can be set. The statistic levels range from 1 to 4 with level 4 containing the most data. Look at the data size estimates to make sure there is enough space to keep all of the statistics.

VMware Performance Indicators

The following table lists the performance indicators to monitor and view from a VMware perspective when a virtual machine's performance is not optimal. Most counters are from the ESXi host, which can give a perspective of VM interactions and overall host and data store utilization.

Table 1-2 VMware Performance Indicators

Performance Area	Object	Counter	Acceptable Range
CPU	Host	Usage	less than 80%
CPU	Virtual Machine	Ready	less than 3%

Performance Area	Object	Counter	Acceptable Range
Memory	Host	Consumed	general trend is stable
Memory	Host	Balloon/Swap used	0 kb
Disk	Specific datastore	Kernel command latency	less than 3ms
Disk	Specific datastore	Physical device command latency	less than 20ms
Disk	Specific datastore	Average commands issued per second	less than LUN capacity
Network	Host	Receive packets dropped / Transmit packets dropped	0 packets

CPU Troubleshooting

High CPU usage could be due to a small number of VMs using all of the resources or too many VMs running on the host. IF there are too many VMs running on the host, see if CPU reservations are in use (see oversubscription section). To isolate a CPU issue for a particular VM, consider moving it to another ESXi host.

To view the CPU performance indicators, go to the ESXi host's performance tab and select the advanced button. Under chart options, select CPU, timeframe, and then only the host (not individual cores) to view overall CPU usage on the host.

Each virtual machine CPU usage can also be seen from the Virtual Machines tab on the host.

To get a view of the reservations set by all of the VMs, use the Resource Allocation tab of the cluster.



Note This is only available via vCenter.

Memory Troubleshooting

The guidelines do not support memory sharing between VMs. To verify, the swapping and ballooning counters should be set to zero. If a given VM does not have enough memory and there are not memory issues on the specific host, consider increasing the VM's memory.

To view the memory performance indicators, go to the ESXi host's performance tab and select the advanced button.

Under chart options, select memory and timeframe, and then select the following counters:

- Used memory
- Swap used
- Balloon

Used memory can be used to look at general trends. Swap and balloon should always be “0”, otherwise memory sharing is being used, which should not be the case.

Disk Troubleshooting

Bad disk performance often shows up as high CPU usage. IOPS data can provide information on how hard the application and VM is working the disks. Specific activities can cause spikes in IOPS such as upgrades and database maintenance. If VMs running on the same datastore are all doing these activities at the same time, the disks might not be able to keep up. IOPS data can be seen from vCenter or the SAN. Disk latency (response time) is a good indicator of disk performance.

-
- Step 1** To view the disk performance indicators, go to the ESXi host's performance tab.
- Step 2** Choose the **advanced** button.
- Step 3** Choose the appropriate datastore, which can be found on the datastore page.
- Step 4** Under chart options, select **disk** and **timeframe**.
- Step 5** Choose the following counters:

- **Physical device command latency**
- **Kernel command latency**
- **Average commands issued per second**

The kernel counter should not be greater than 2-3ms. The physical device counter should not be greater than 15-20 ms. The 'Average commands issued per second' counter can be used if IOPS are not available from the SAN. IOPS should be considered if it looks like datastore is overload. This IOPS data is viewable from the host and each VM.



Note For NFS datastores, the physical and kernel latency data is not available. Starting in VMware 4.0 update 2 and beyond the esxtop command can be used to view NFS counters and in particular the guest latency. The guest latency is a summation of the physical device and kernel latencies.

Network Troubleshooting

Generally, network performance issues can be seen by dropped packets. If dropped packets are seen from an ESXi host, the network infrastructure should be investigated for the issue, which might include a virtualized switch (Nexus 1000V). In ESXi 4.1, issues have been seen with large file transfers (e.g. SFTP/FTP transfers). For this issue, the Large Receive Offload options need to be disabled on the ESXi host. This setting is found on the host's Configuration tab > Advanced Settings > Net.*.



Note There are several LRO settings on this page and all of them need to be disabled. If a VM has been cloned and uses static MAC addresses, verify there are not duplicate MAC addresses in the network.

To view the network performance indicators, follow these steps:

-
- Step 1** Go to the ESXi host's performance tab.
- Step 2** Choose the **advanced** button.
- Step 3** Under chart options, select **Network** and **timeframe**.

Step 4 Choose the following counters:

- **Receive packets dropped**
- **Transmit packets dropped**

The main thing to check is that no packets are getting dropped in the network.



Note Advanced network debugging and configuration can be done on Nexus 1000v if used, which requires vCenter.

CPU Oversubscription Implications on Performance

Some deployments allow CPU oversubscription, which is the sharing of CPU cores between VMs. In this case, a few more data points need to be considered. First, look to see if CPU reservations are set for the VM. Cisco has recommended CPU reservations while using CPU oversubscription for some applications which are part of the official OVA. Second, look at the CPU ready time (i.e. how long a VM is waiting to run on a core). This counter can be converted into a percentage. General guidelines are to keep the percentage below 6% and then anything above 3% should be monitored for desired response times.

Other Considerations

On the C-series UCS servers there have been issues with the write cache battery backup. If this battery is not operating correctly, performance will suffer. Use a tool like WBEM Command Line Interface (wbemcli) to verify the battery is okay. The following output is an example of using the wbemcli:

```
wbemcli ei -noverify 'https://root:<password>@<ESXi Host  
IP>:5989/root/cimv2:VMware_HHRCBattery'
```

Go to the following link to learn more about troubleshooting virtualized environments:

http://docwiki.cisco.com/wiki/Troubleshooting_and_Performance_Monitoring_Virtualized_Environments

Information to Help with Troubleshooting

RE Event and RESC Logs

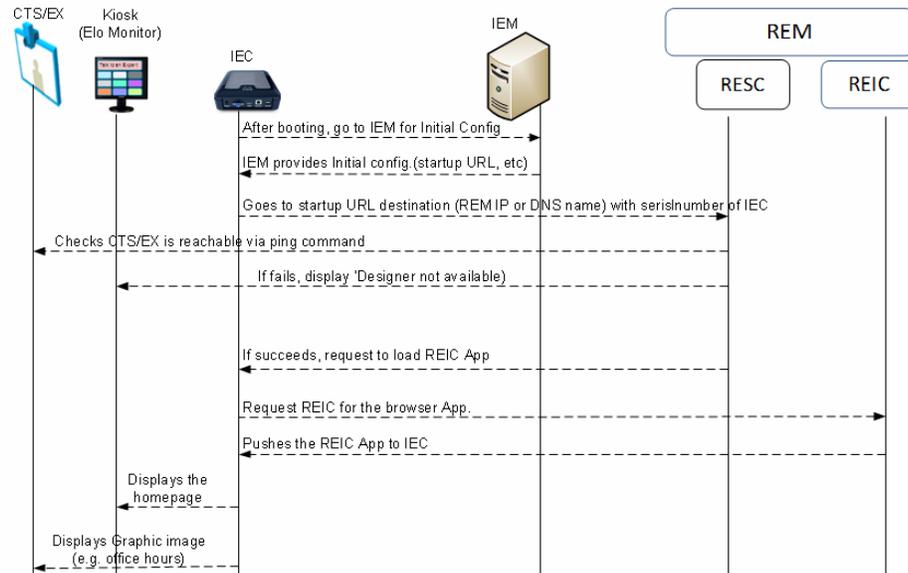
RE Event logs can help with troubleshooting issues. Follow these steps:

- Step 1** Download the RE Event log from REAC.
- Step 2** Review the exception message column to determine if the desired operation threw an exception.
- Step 3** If the root cause cannot be identified in the RE Event log, then download the resc log from REAC.

Step 4 Scan the resc log file for detailed information.

Normal IEC Bootup Sequence

Figure 1-6 IEC Bootup Sequence



The following happens during the IEC bootup sequence:

1. REM receives initial notification as indicated by “Received getKioskNotificationInfo : 656015330015”:

```

[http-bio-80-exec-44] com.cisco.big.scheduler.services.NotificationService - Received
getKioskNotificationInfo : 656015330015
[http-bio-80-exec-44] com.cisco.big.scheduler.services.NotificationService - Return
getKioskNotificationInfo
[org.springframework.scheduling.quartz.SchedulerFactoryBean#0_Worker-3]
com.cisco.big.scheduler.job.SchedulingJob - SchedulingJob invoked
[org.springframework.scheduling.quartz.SchedulerFactoryBean#0_Worker-3]
com.cisco.big.scheduler.job.SchedulingJob - SchedulingJob executed successfully
[org.springframework.scheduling.quartz.SchedulerFactoryBean#0_Worker-1]
com.cisco.big.scheduler.job.SchedulingJob - SchedulingJob invoked
[org.springframework.scheduling.quartz.SchedulerFactoryBean#0_Worker-1]
com.cisco.big.scheduler.job.SchedulingJob - SchedulingJob executed successfully
[http-bio-80-exec-37] com.cisco.big.va.services.VirtualAgentServices - Received
getKioskDetails unique serialNumber: 656015330015
[http-bio-80-exec-37] com.cisco.big.va.dao.KioskDAO -
[com.cisco.big.va.pojo.domain.Locale@57d04f0a]
[http-bio-80-exec-41] com.cisco.big.va.services.VirtualAgentServices - Received
getKioskDetails unique serialNumber: 656015330015
[http-bio-80-exec-41] com.cisco.big.va.dao.KioskDAO -
[com.cisco.big.va.pojo.domain.Locale@6555121a]
  
```

```
[http-bio-80-exec-44] com.cisco.big.admin.service.AdminService -
getContentByTimeInterval: Time :09-06-2012 05:18:23
[http-bio-80-exec-44] com.cisco.big.admin.service.AdminService - Parsed Date :Sat Jun
09 05:18:23 GMT+00:00 2012
```

2. REM instructs to load dual content image:

```
[http-bio-80-exec-44] com.cisco.big.va.dao.ContentDAO - Return DC Value
:http://172.21.57.111:80/images//bg_img_1920X1200.jpg
[http-bio-80-exec-37] com.cisco.big.admin.service.AdminService - reportPostIECReboot
invoked for KioskId :656015330015
```

3. REM routinely checks TP video endpoint reachability:

```
WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - ----- ****
CTS for Kiosk: 656015330015 is not reachable 4 ****
WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - ----- ****
CTS for Kiosk: 656015330015 is not reachable 5 ****
WARN [http-bio-80-exec-60] com.cisco.big.admin.util.VepManagementUtil - **** ---- CTS
for Kiosk:656015330015 is dead. after 5 tries
```

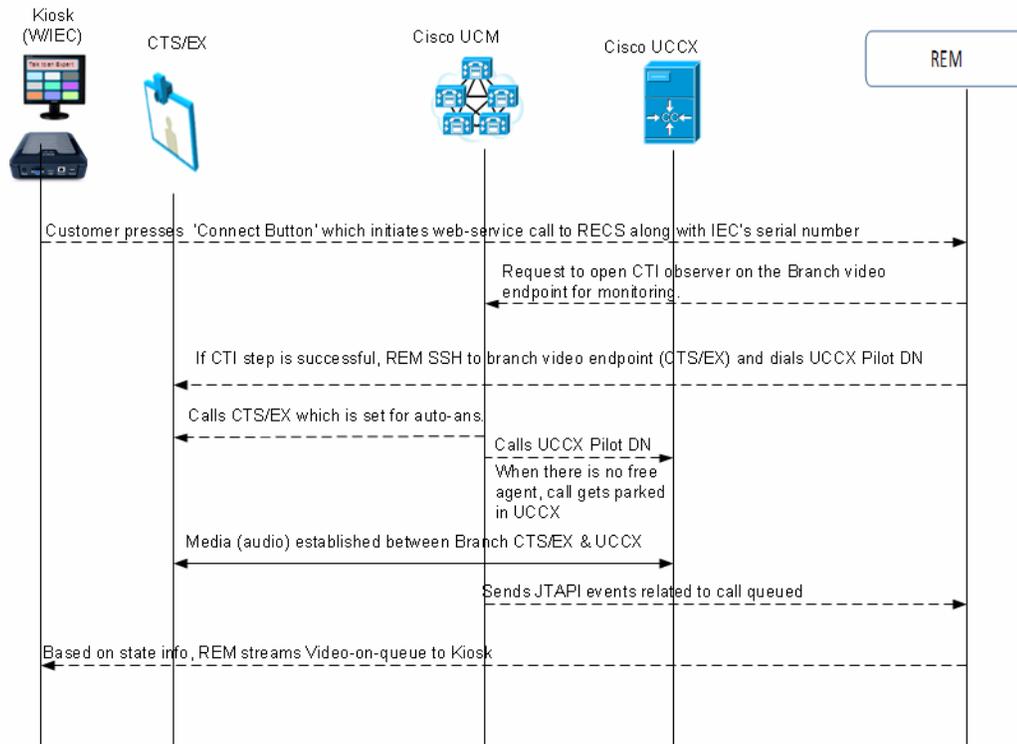
These logs will only be created when the IEC's local TP video endpoint is not reachable. If the TP video endpoint is reachable, then no such logs are created. However the routine checking of TP reachability logs will be available in IEC's event log in IEM.

4. REM regularly monitors for aliveness of IEC, in particular the Cobra Application:

```
[http-bio-80-exec-46] com.cisco.big.admin.service.AdminService - Checking for
aliveness :656015330015 time:Sat Jun 09 12:19:11 GMT+00:00 2012
[http-bio-80-exec-46] com.cisco.big.admin.service.AdminService - Kiosk:656015330015 is
alive
```

Normal Call Flow and its Associated resc.log

Figure 1-7 Normal Call Flow



In the scenario below, the customer presses the Connect button on the customer pod to have an immersive virtual collaboration with an expert and the following values are used:

- Customer pod IEC's serial number: 656015330015
- Customer-side EX90 video endpoint DN: 2512
- Contact Center Pilot DN: 1134
- Expert's DN: 2504
- Log file: resc.log

1. REM receives Call-Connect request after the customer pressed the Connect button on the customer pod indicated by "getKioskNotificationInfo: 656015330015" in the first line of the following output:

```
[http-bio-80-exec-87] com.cisco.big.scheduler.services.NotificationService - Received
getKioskNotificationInfo: 656015330015
[http-bio-80-exec-87] com.cisco.big.scheduler.services.NotificationService - Return
getKioskNotificationInfo
[pool-17-thread-2] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet....
[pool-17-thread-2] com.cisco.big.call.CallService - ExpertType namedecoratorEWT : 10
[pool-17-thread-4] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet....
[pool-17-thread-4] com.cisco.big.call.CallService - ExpertType namedecoratorEWT : 10
[http-bio-80-exec-87] com.cisco.big.va.services.VirtualAgentServices - Call Connect
Request : Kiosk Serial : 656015330015 ExpertType :
```

2. REM gets the DN of the customer pod-side video endpoint REAC/REM indicated by “Address in service event for:2512” in the first line of the following output:

```
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - Address in service event for :2512
[http-bio-80-exec-87] com.cisco.big.call.CallService - Time taken to check if Address
is in service: 0
```

3. REM able to start JTAPI Monitoring on 2512:

```
[http-bio-80-exec-87] com.cisco.big.call.CallService - Is Address in service: true
[http-bio-80-exec-87] com.cisco.big.call.CallService - Time taken to check if call is
present: 1002
[http-bio-80-exec-87] com.cisco.big.call.CallService - Is call Present: false
[http-bio-80-exec-87] com.cisco.big.call.BIGObserver - Starting an SSH connection to
CTS to execute call Startcommand
[http-bio-80-exec-86] com.cisco.big.scheduler.services.NotificationService - Received
getKioskNotificationInfo: 656015330015
[http-bio-80-exec-86] com.cisco.big.scheduler.services.NotificationService - Return
getKioskNotificationInfo
[pool-17-thread-2] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet....
[pool-17-thread-2] com.cisco.big.call.CallService - ExpertType nameddecoratorEWT : 10
```

4. REM connects to customer pod-side endpoint via SSH indicated by “Starting an SSH connection to 10.17.161.51” in the first line of the following output:

```
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Starting an SSH
connection to 10.17.161.51
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Starting Pre
condition Check
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Initializing
PreCommandExecutionMatchString
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - available: 0
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - totalReadTimeout:
25000
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - sleepReadtime: 2000
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - available: 95
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - readBytes: 95
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Welcome
to.0.290141Alpha3
```

5. REM successfully connected to video endpoint via SSH indicated by “Completed preCommandExecutionMatchString” in the second line of the following output:

```
R [http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor -
ProcessBytesAndMatchString executed successfully for Command: callConnect
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Completed
preCommandExecutionMatchString
```

6. REM dials Contact Center Pilot DN (1134) indicated by “Executing xcommand dial number: 1134” in the first line of the following output:

```
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Executing xcommand
dial number: 1134
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Starting Post
condition Check
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Initializing
PreCommandExecutionMatchString
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - available: 0
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - totalReadTimeout:
23000
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - sleepReadtime: 2000
```

```
[pool-17-thread-4] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet...
[pool-17-thread-4] com.cisco.big.call.CallService - ExpertType namedecoratorEWT : 10
[http-bio-80-exec-86] com.cisco.big.admin.service.AdminService - Checking for
aliveness :656015330015 time:Fri Jun 08 14:39:25 GMT+00:00 2012
[http-bio-80-exec-86] com.cisco.big.admin.service.AdminService - Kiosk:656015330015 is
alive
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - available: 108
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - readBytes: 108
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - xcommand dial number:
1134
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor -
ProcessBytesAndMatchString executed successfully for Command: callConnect
[http-bio-80-exec-87] com.cisco.big.call.tp.SSHCommandExecutor - Completed
PostCommandExecutionMatchString
[http-bio-80-exec-87] com.cisco.big.call.BIGObserver - Time taken to execute SSH
command on CTS: 4
```

7. REM shows call connected between DN 2512 and 1134 indicated by “1134” in the first line, “2512” in the second line, and “CallConnected1134” in the third line of the following output:

```
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:1134
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - CallConnected1134
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.ConnCreatedEvImpl
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:2504
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.ConnConnectedEvImpl
```

8. REM finds call is not connected to expert (queued call):

```
[pool-17-thread-2] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet...
[pool-17-thread-2] com.cisco.big.call.CallService - ExpertType namedecoratorEWT : 10
[pool-17-thread-4] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet...
[pool-17-thread-4] com.cisco.big.call.CallService - ExpertType namedecoratorEWT : 10
pool-17-thread-6] com.cisco.big.call.CallService - CallConnectTimeout Call not
established yet...
```

9. REM shows call connected to the expert (DN:2504) indicated by “2504” in the first line, “2512” in the second line, and “CallConnected2504” in the third line of the following output:

```
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:2504
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - CallConnected2504
```

10. REM detects call is on hold by expert indicated by “2504 In manageOnHold” in the last line of the following output:

```
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)].AgentObserver
- Agent Observer - DN: 2504
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - Event :
```

```
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 Call:2512 --> 2504
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 Call Id:9245
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 In manageOnHold
```

11. REM detects call is resumed by expert indicated by “2504 In manageTalking” in the third line of the following output:

```
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 Call:2512 --> 2504
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 Call Id:9245
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - 2504 In manageTalking
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.BaseObserver - Session reference not
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@5e6276e5)]
com.cisco.big.call.cm.observer.AgentObserver - List of Session on Agent
```

12. REM detects call is disconnected indicated by “Call disconnected” in the last line of the following output:

```
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.ConnDisconnectedEvImpl
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.ConnDisconnectedEvImpl
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:2504
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.TermConnDroppedEvImpl
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:2504
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - class com.cisco.jtapi.ConnDisconnectedEvImpl
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Called Address:2504
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - BIGObserver - Curent Calling Address:2512
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - Setting the session to status 2
[ObserverThread(com.cisco.big.call.BIGObserver@403bfa49)]
com.cisco.big.call.BIGObserver - Call disconnected
```

Trace Files for TAC

There are normally two log files that are needed by the Cisco TAC team to troubleshoot REM related issues:

1. resc.log file
2. IEC’s event log from the IEM

Go to the IEC’s event screen, select all the check boxes under facility (by default it is all selected), and then press the **Save as** button. When the local workstation’s Windows Explorer window opens, save the log file to the local disk.



Serviceability Administration

June 10, 2016

Chapter Overview

This chapter is intended for service engineers and server administrators who are accountable for keeping the REM up and running to its complete usability and performance. The scope of this chapter is restricted to topics that assist administrators with maintaining the REM application. This chapter also explains how to backup and restore the REM.

Topics in this chapter include:

- [“Serviceability Overview”](#)
- [“Monitoring”](#)
 - [“Errors and Alerts from REAC”](#)
 - [“Errors and Alerts from READ”](#)
 - [“Errors and Alerts from REIC”](#)
 - [“REM Server \(RESC\) Errors”](#)
 - [“Log Monitoring”](#)
 - [“Events Tab in the IEM”](#)
 - [“Call Related Errors”](#)
 - [“JTAPI Issues”](#)
 - [“Web Service”](#)
 - [“Dual Content Issue”](#)
 - [“Failure of RESC Web \(API\) Services”](#)
- [“Verifying VM Settings”](#)
- [“TUI Troubleshooting Tools”](#)
- [“Troubleshooting Tools in REAC”](#)

Serviceability Overview

Serviceability administration provides descriptions and procedures for the following functionality:

- Supports daily management of REM applications
- Schedules monitoring and maintenance of the each component
- Captures events for troubleshooting and provides alert/error message definitions
- Saves trace information to various log files for troubleshooting
- Monitors the disk usage of the log partition on a server

Monitoring

Monitoring involves keeping track of various errors and warning being thrown by various components of the REM. It involves checking the state or health of all REM components for availability and appropriate functioning of all solution features.

There are various errors and alerts that are thrown by REM which needs to be resolved to keep the REM up and running.

Errors and Alerts from REAC

The tables below document the errors and alerts that could be thrown by the Remote Expert Admin Console (REAC) application and shown on the user interface (UI).

Table 2-1 Generic REAC Errors

Error/Alert	Description	Solution
Unable to contact the web server. Please check web server status.	Occurs when the REM server is down	Bring the REM server up by using the TUI: Main Menu > Services Control > Application Server > b) Start Service
An internal error occurred	Occurs during Kiosk restart if RESC has encountered an internal error	Check the RESC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) RESC Logs: resc.log
Unable to connect to REM Server	Occurs during Kiosk restart when REAC is unable to connect to RESC (if RESC is deployed on a separate server)	<ol style="list-style-type: none"> 1. Bring the REM server up by using the TUI: Main Menu > Services Control > Application Server > b) Start Service 2. Check the RESC IP by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties > REM Core Properties
Unable to restart kiosk	Occurs during Kiosk restart if REM has failed to restart due to issues on the server	<ol style="list-style-type: none"> 1. Check the Kiosk settings > IEC Serial Number 2. Perform the same operation again 3. Restart IEC from IEM 4. Restart IEC manually

Error/Alert	Description	Solution
Illegal input provided	Occurs during Kiosk restart if Kiosk has been deleted from REM	Check the REAC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > d) REAC Logs: reac.log
Unable to connect to Kiosk	Occurs during Kiosk restart when REM server is unable to make connection to the IEM	Verify if the IEM IP address is correct in the REM Properties file by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties
HTTP (500): The server reported an Error	The server has encountered an internal error, which prevented it from fulfilling the request	<ol style="list-style-type: none"> 1. Check REAC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > d) REAC Logs: reac.log 2. Check RESC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) RESC Logs: resc.log
An error occurred during File Transfer	The server has encountered an internal error, which prevented it from fulfilling the request	<ol style="list-style-type: none"> 1. Check RESC IP by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties > REM Core Properties 2. Check the following parameters in REAC PROPERTIES by using the TUI: Main Menu > REM Server Administration > Edit REM Templates > a) REAC Properties: <pre> remote_server_ip=\${RESC_IP}* remote_server_uname=ENC(\${RESC_SERVER_USER}*) remote_server_pwd=ENC(\${RESC_SERVER_PASSW}*) </pre>
Unable to synchronize resources across cluster nodes	Occurs during file transfer when handshaking between the two nodes fails	<ol style="list-style-type: none"> 1. Refer to the JTAPI Issues section of this chapter to fix the issue 2. Upload the file from REAC again

Table 2-2 Remote Service Call Errors

Error/Alert	Description	Solution
Remote call to xxxx failed	Occurs when REAC is unable to communicate to REM server	<ol style="list-style-type: none"> 1. Check REAC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > d) REAC Logs: reac.log 2. Verify if RESC services are available by invoking "https://<REM_IP>:8443/resc/services/listServices"
Remote call to xxxx returned an empty response	Occurs when REM server sends invalid response	Check RESC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) RESC Logs: resc.log

Table 2-3 Cluster Management Errors

Error/Alert	Description	Solution
The requested operation cannot be executed due to incomplete configuration	Occurs if the REM server details and DB details are missing in REM configuration file	<ol style="list-style-type: none"> 1. Verify the values of <code>\$_[NODE_IP_1]</code> and <code>\$_[DATABASE_1]</code> in the REM Properties file by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties 2. Use the TUI: Main Menu > REM Server Administration > c) Run Configuration Tool
The selected operation failed	Occurs if there is an error while activating the DB	Check the REAC log file for the specific error condition by using the TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > d) REAC Logs: reac.log
The selected node "{0}" is not found	Occurs if the REM server details and DB details are missing in REM configuration file	<ol style="list-style-type: none"> 1. Verify the values of <code>\$_[NODE_IP_1]</code> and <code>\$_[DATABASE_1]</code> in REM Properties location by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties 2. Use the TUI: Main Menu > REM Server Administration > c) Run Configuration Tool

Errors and Alerts from READ

The errors generated by the READ application can be grouped in two scenarios:

1. Direct Connect (DC) errors in the READ application
2. Errors or alerts from the READ application

Table 2-4 Direct Connect Errors

Error/Alert	Description	Solution
DC pops up in READ and after clicking on the Start sharing button but it remains in the Waiting state	The 'cv_service_url' in DirectConnect.exe.config is incorrect. File direction C:\CSI\DirectConnect\bin\DirectConnect is incorrect	1) Fix 'cv_service_url' to point to the correct REM IP address 2) Restart the DC Server from the desktop
	The Expert is not registered in REM	Verify in the Expert tab in REAC that the expert is added
	DC license has expired. The error displayed in error.log available at C:\CSI\DirectConnect\Server\tomcat\logs\error.log is the following: 2012-04-13 11:46:47,584 ERROR [/] Exception sending context initialized event to listener instance of class pureweb.servlet.ContextListener java.lang.RuntimeException: com.reprisesoftware.rlm.RlmException : License has expired (-3) at pureweb.servlet.ContextListener.contextInitialized(ContextListener.java:88) ~[ContextListener.class:na]	Renew DC license

Table 2-5 READ Errors

Error/Alert	Description	Solution
READ not initialized	Occurs when READ is unable to contact RESC	Verify if services of RESC are available by invoking “https://<REM_IP>:8443/resc/services/listServices”
Previous collaboration request is still in progress	Occurs if trying to start a READ module when the current one is still in progress	In READ, check job status if Document Camera, Scan, Signature Capture, or DirectConnect are running before trying to start another module
Checking for an active session...	Occurs if CAD Admin has incorrect values	Refer to the <i>CAD Administration Guide</i>
Communication Failure: Please contact Administrator	Occurs if the REM server goes down during the session	Bring the REM server up by using the TUI: Main Menu > Services Control > Application Server > b) Start Service

Error/Alert	Description	Solution
404 error in document sharing panel for local file upload	Unable to fetch the url of the uploaded file	Check if the 'docstore.url' or 'docstore.path' parameter is configured properly in READ properties by using the TUI: Main Menu > REM Server Administration > Edit REM Templates > f) READ properties
No route to host	Occurs when printing a local file	Check if the 'webservice.url' parameter is missing in READ properties by using the TUI: Main Menu > REM Server Administration > Edit REM Templates > f) READ properties

Errors and Alerts from REIC

There are different types of error pages used in REIC. All the error codes with detailed description are tabulated below. A message specific to particular error code is displayed on the REIC screen. If there is no message associated with the error code, REIC displays the error code itself on the touch screen collaboration panel.

Table 2-6 REIC Errors

Error/Alert	Description	Solution
System is not available, Please try after some time	Occurs due to the following reasons: <ol style="list-style-type: none"> 1. If TP details (TP Directory Number or TP Type) is incorrect 2. TP MAC address is not added in CUCM> Application user 3. IVR Phone Number is incorrect 	<ol style="list-style-type: none"> 1. Verify the TP details in REAC > Kiosk 2. Add the TP MAC address in CUCM >Application user 3. Check IVR Phone Number in REAC > Expert Type
Kiosk phone is out of service	Occurs if connection within the Kiosk phone is not available	<ol style="list-style-type: none"> 1. Verify the values of CUCM in REM Properties by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties 2. Kiosk phone is not reachable. Please check the connection status.
Sorry, there is already an active call to an Expert. Please try again after the current call ends	Occurs when an expert is engaged in another call	Make sure that the current call ends on the TP and try again after some time
Locale File does not exist	Occurs if the file is missing in the system	Make sure Message Bundle is added in REAC > Locale

Error/Alert	Description	Solution
Kiosk serial number is not configured, cannot start a call	Occurs when Kiosk serial number is not configured properly	Verify the IEC Serial Number in REAC > Kiosk
Selected Locale is not associated to any expert type. Please contact admin	Occurs if the locale associated to the kiosk is not associated with any expert type	Associate the Expert Type with locale in REAC > Expert Type
Agents are not available currently. Please try after sometime	Occurs when all agents are busy	Try again after a period of time
Expert not Available	Occurs when <ol style="list-style-type: none"> TP is down TP IP address in REAC > Kiosk is incorrect 	<ol style="list-style-type: none"> Power on the TP and restart IEC from the IEM Edit TP details (TP IP address in REAC > Kiosk)
Server is down	REM server is down	Bring the REM server up by using the TUI: Main Menu > Services Control > Application Server > b) Start Service
Kiosk is not registered	Occurs if the particular device number is not added in REAC	Make sure this kiosk is added in REAC > Kiosk
SYSTEM ERROR Please contact admin. Probable reasons for this error: <ul style="list-style-type: none"> RESC is not running 	Occurs during the loading of Kiosk home page	<ol style="list-style-type: none"> Verify if services of RESC are available by invoking “https://<REM_IP>:8443/resc/services/listServices” Verify the values of CUCM in REM Properties by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties Restart the REM server by using the TUI: Main Menu > Services Control > Application Server > c) Stop Service > b) Start Service
Improper loading of REIC	<ol style="list-style-type: none"> Occurs if the value of \$*[RESC_IP]* in rem.properties is incorrect Expert type is not configured properly in REAC If Startup URL in IEM is incorrect 	<ol style="list-style-type: none"> Check RESC IP by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties > REM Core Properties Check Expert type in REAC > Expert Type Check Startup URL in the IEM
REIC hangs	Occurs if there are un-terminated sessions	Terminate sessions in REAC > Clean Call Cache

Error/Alert	Description	Solution
REIC is showing Cobra browser page with message “Startup URL is not configured.”	Occurs if the policy is missing in IEM	Check if the IEM has correct policy assigned to this Kiosk
REIC is showing “Service Temporarily Unavailable”	Occurs if the Startup URL in IEM is incorrect or REM server is unable to make connection to the IEM	<ol style="list-style-type: none"> 1. Verify if the IEM IP address is correct in REM Properties by using the TUI: Main Menu > REM Server Administration > b) Edit REM Properties 2. Verify correct Startup URL in the IEM policy

REM Server (RESC) Errors

- In order to check if RESC is running properly, run this URL in the browser: https://<REM_IP>:8443/resc/services/AdminService/getVersionInfo
- If RESC is deployed or running properly, then you will see a result similar to the following:

```
<ns:getVersionInfoResponse>
  <ns:return>REM-1.9.6</ns:return>
</ns:getVersionInfoResponse>
```

- If RESC is not deployed or running properly, then you will see a different result such as:

```
<soapenv:Reason>
  <soapenv:Text xml:lang="en-US">
    The service cannot be found for the endpoint reference (EPR)
    /resc/services/AdminService/getVersionInfo
  </soapenv:Text>
</soapenv:Reason>
```

Refer to the “Call Related Errors” section of this chapter to troubleshoot these issues.

Log Monitoring

The log files for all the REM components are tabulated below.

Table 2-7 Log Files

Component Name	Log File Location
RESC	TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) RESC Logs: resc.log
REAC	TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) REAC Logs: reac.log
REIC	Refer to the “Events Tab in the IEM” for REIC log location
READ	TUI: Main Menu > Troubleshooting > Logs > Remote Expert Logs > a) READ Logs: read.log

Look into the respective log files mentioned above if there are any errors in any of the REM components.

Events Tab in the IEM

The IEM allows you to do the following:

- View all the IECs registered with the IEM
- Check the REIC logs

To perform the tasks above, follow these steps:

-
- Step 1** Enter `http://<IEM_IP>` in a browser.
 - Step 2** Enter the credentials and click **Enter**.
 - Step 3** Click **Devices** on the left navigation pane.
All the IECs registered with the IEM in your account are visible in both the left and center panes.
 - Step 4** Click the **Show screenshots** button on the top right corner of the display view to view the screenshot of each of the IECs registered with the IEM.
The screenshots are pulled from the last time that the IECs were polled by the IEM.
The REIC displays the welcome screen and the dual content TelePresence screen.
 - Step 5** Default polling time for each IEC image is 10 minutes. The most recent image for the specific IEC can be obtained by clicking the **Refresh** button beneath the IEC's screenshot.
 - Step 6** In order to enlarge the screenshot of the IEC, click the **Zoom** button beneath the IEC's screenshot.
Now you will check the logs in the IEM.
 - Step 7** In the Devices menu (left pane), choose the IEC by double-clicking on the icon for that particular IEC.
 - Step 8** Click the **Events** tab.
 - Step 9** You can filter the logs related to REIC by checking the **browser** check box in the Facilities list. Click **Apply**.
-

Call Related Errors

When call is initiated from REIC, all call flow related information is generated in the database.

The different flows of a call both successful and failed are:

- Call Connect
- Call Hold
- Call Resume
- Call Transfer
- Call Conference
- Call Disconnect

The duration of each event can also be seen in the queries.

All the call related errors for each failed event are listed in the `resc.log` under the `$REM_HOME/resc/logs` directory.

The following are examples of how system administrators can search for the errors using Unix commands:

1. The error for a particular event can be extracted from the `resc.log` located under the `$REM_HOME/resc/logs` directory. Go to the logs folder within the `$REM_HOME` directory by executing the command: `cd $REM_HOME/resc/logs/`
2. Use the `grep` command to find all Call Connect related errors.
3. To search for errors at a specified time, use the command `vi <log_name>|grep <time>`. For example, `cat resc.log|grep 00:53:18`
4. To search for errors that occurred on a particular device, use the command `vi <log_name>|grep <device>` and enter the IEC or TP serial number. For example, `cat resc.log|grep 656015030030`
5. To search for call related errors that occurred, use the command `vi <log_name>|grep <string>`. to fetch all the lines containing the string "call". For example, `cat resc.log|grep -i call`

JTAPI Issues

Agent Registration When Done From REAC Shows a Red Status

1. Check if the correct CUCM IP and credentials were provided when the REM was setup.
2. For a call connection to work properly, the JTAPI adapter should be configured correctly.
 - a. The IP address and TP details should be configured properly to initiate the call.
 - b. To receive the call, the agent DN must be configured in REAC. The registration status of the agent DN is available in the Expert tab of REAC. Refer to the *Cisco Remote Expert Manager Administration Guide* for instructions on how to configure the agent DN.

If the parameters above are not configured properly then log messages are logged in the `resc.log` file under `$REM_HOME/resc/logs`.

To check if incorrect CUCM IP or credentials have been setup, check for the error in the `resc.log`. Check the IP address of CUCM in the `rem.properties` using the TUI. Go to Main Menu > REM Server Administration > Edit REM Properties.

REIC Displays the Error Message "System error, please try after some time"

If the REIC displays the error message "System error, please try after some time", the TP details (TP DN or TP type) in REAC are incorrect. To fix this issue, refer to the *Cisco Remote Expert Manager Administration Guide* to configure SSH in REAC.

Customer Pod Displays "Expert not Available" Message

The customer pod displays the "Expert not Available" error message when the video endpoint IP Address is incorrect. As a result, the Virtual Agent Services failed to function properly. To fix this issue, refer to the *Cisco Remote Expert Manager Administration Guide* to configure SSH host name in REAC.

Customer Pod Displays “Kiosk phone is out of service” Message

If the customer pod displays the “Kiosk phone is out of service”, the video endpoint IP phone terminals are not registered in CUCM.

Expert Registration Issue

The expert registration on one of the nodes or both is shown as red. This occurs when the REM database is not in sync.

To correct this issue, perform database synchronization and re-start Postgres on the node where the expert registration has failed by following these steps:

-
- Step 1** SSH into REM via the TUI.
 - Step 2** In the Main Menu, select **c) Services Control**.
 - Step 3** In the Services Control menu, select **c) Database Server**.
 - Step 4** In the Database Server menu, select **c) Stop Service** and follow the on-screen instructions.
 - Step 5** In the Database Server menu, select **a) Start Service** and follow the on-screen instructions.
 - Step 6** Go to REAC and click the **DB Cluster** tab.
 - Step 7** Choose the DB node and click the **Activate** button.
-

Rsync Command Failure

An rsync command failure occurs when a RSA fingerprinting issue happens (e.g. it goes out of sync). This occurs during a file transfer when handshaking between the two nodes fail.

```

@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@ WARNING: REMOTE HOST IDENTIFICATION HAS CHANGED! @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
IT IS POSSIBLE THAT SOMEONE IS DOING SOMETHING NASTY!
Someone could be eavesdropping on you right now (man-in-the-middle attack)!
It is also possible that the RSA host key has just been changed.
The fingerprint for the RSA key sent by the remote host is
30:2b:2c:e4:34:7d:3f:88:05:50:09:5b:5e:13:1f:fc.
Please contact your system administrator.
Add correct host key in /root/.ssh/known_hosts to get rid of this message.
Offending key in /root/.ssh/known_hosts:1
RSA host key for 10.76.8.192 has changed and you have requested strict checking.
Host key verification failed.

```

To fix this solution, remove the known host keys from all the other nodes in the REM HA cluster and set up the rsync utility again by following these steps:

-
- Step 1** SSH into REM via the TAC account.
 - Step 2** Execute the following commands:


```

sudo cp /root/.ssh/known_hosts /root/.ssh/known_hosts.bak
sudo vi /root/.ssh/known_hosts

```
 - Step 3** In the VI editor, delete all entries.

Step 4 Save the file and exit the VI editor.

REM Node Failure

REM node failure occurs when the sequence of REM node restoration is incorrect:

- Incorrect approach of shutting down the nodes: If Node 1 (Database 1 has outdated data), which is the first node to go down, is started first then followed by the startup of Node 2, the online recovery will sync the data from Database 1 (outdated) to Database 2 (updated). With this sequence, you will lose the updated data which was available in Database 2 though both nodes will have synched up data. No operational issue will be experienced but any change to Node 2 when Node 1 was down is lost.
- Correct approach of shutting down the nodes: The correct approach of shutting down the nodes to ensure no data loss is to first start the database that is the last to go down (Database 2 in this case) since it will have extra data. Once Node 2 is up, then start Node 1.

After both nodes are running, online-recovery (i.e. click the Activate button for the nodes in the DB Cluster tab of REAC) will sync (copy) data from Node 2: Database 2 to Node1: Database 1. This will ensure that both the nodes have updated data and no data is lost.

Communication Failure

Communication failure occurs when the communication between two nodes has failed due to a network issue. In the following text, you can observe the following in the haz.log.

```
2013-02-07 09:38:58,646 INFO [hz._hzInstance_1_dev.ServiceThread]
com.hazelcast.cluster.ClusterManager - [192.168.2.4]:5701 [dev]
Members [1] {
    Member [192.168.2.4]:5701 this
}
2013-02-07 09:38:58,650 DEBUG [hz._hzInstance_1_dev.ServiceThread]
com.hazelcast.impl.ListenerManager - [192.168.2.4]:5701 [dev] AddListenerOperation
from Address[192.168.2.4]:5701, local=true key:null op:REMOVE_LISTENER
2013-02-07 09:38:59,637 DEBUG [hz._hzInstance_1_dev.cached.thread-5]
com.hazelcast.impl.SplitBrainHandler - [192.168.2.4]:5701 [dev] Searching for other
clusters.
2013-02-07 09:38:59,637 DEBUG [hz._hzInstance_1_dev.cached.thread-5]
com.hazelcast.impl.TcpIpJoiner - [192.168.2.4]:5701 [dev] Address[192.168.2.3]:5701 is
local? False
2013-02-07 09:38:59,637 DEBUG [hz._hzInstance_1_dev.cached.thread-5]
com.hazelcast.impl.TcpIpJoiner - [192.168.2.4]:5701 [dev] Address[192.168.2.4]:5701 is
local? true
2013-02-07 09:38:59,637 DEBUG [hz._hzInstance_1_dev.cached.thread-5]
com.hazelcast.impl.TcpIpJoiner - [192.168.2.4]:5701 [dev] Address[192.168.2.4]:5701 is
connecting to Address[192.168.2.3]:5701
2013-02-07 09:38:59,638 DEBUG [hz._hzInstance_1_dev.cached.thread-4]
com.hazelcast.nio.SocketConnector - [192.168.2.4]:5701 [dev] Starting to connect to
Address[192.168.2.3]:5701
2013-02-07 09:38:59,638 DEBUG [hz._hzInstance_1_dev.cached.thread-4]
com.hazelcast.nio.SocketConnector - [192.168.2.4]:5701 [dev] Connecting to
/192.168.2.3:5701, timeout: 0, bind-any: true
2013-02-07 09:38:59,638 DEBUG [hz._hzInstance_1_dev.cached.thread-4]
com.hazelcast.nio.SocketConnector - [192.168.2.4]:5701 [dev] Could not connect to:
/192.168.2.3:5701. Reason: ConnectException[Connection refused]
2013-02-07 09:38:59,638 DEBUG [hz._hzInstance_1_dev.cached.thread-4]
com.hazelcast.nio.SocketConnector - [192.168.2.4]:5701 [dev] Connection refused
java.net.ConnectException: Connection refused
```

```

at sun.nio.ch.Net.connect(Native Method)
at sun.nio.ch.SocketChannelImpl.connect(Unknown Source)
at com.hazelcast.nio.SocketConnector.tryToConnect(SocketConnector.java:106)
at com.hazelcast.nio.SocketConnector.run(SocketConnector.java:55)
at java.util.concurrent.ThreadPoolExecutor$Worker.runTask(Unknown Source)

```

Call Connect

The following log shows that the call from the customer is connected successfully to the agent.

```

2013-02-07 09:36:31,153 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3cdf672a)]
com.cisco.big.sm.impl.SessionManager - Session Activated :21594114
2013-02-07 09:36:31,153 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3cdf672a)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Adding GCID :2600
2013-02-07 09:36:31,158 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3cdf672a)]
com.cisco.big.call.cm.observer.BaseObserver - Lock Acquired
2013-02-07 09:36:31,158 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3cdf672a)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Session added to Agent and Lock
tried

```

Call Disconnect

The following log shows that the call is disconnected successfully.

```

2013-02-07 09:11:05,996 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@7ab2f62)]
com.cisco.big.call.cm.observer.AgentObserver - 1005 Event : CallObservationEndedEv
2013-02-07 09:11:05,996 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@7ab2f62)]
com.cisco.big.call.cm.observer.AgentObserver - 1005 Call:1036 --> 1005 Call Id :2591
2013-02-07 09:11:05,996 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@7ab2f62)]
com.cisco.big.call.cm.observer.AgentObserver - 1005 Call Key:1036

```

Call Hold and Release from Hold

The following log shows that the call is placed on hold and is released from hold successfully.

```

2013-02-07 09:13:12,037 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3612afd8)]
com.cisco.big.sm.impl.SessionManager - Session onHoldSession :21594113
2013-02-07 09:13:12,037 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3612afd8)]
com.cisco.big.call.cm.observer.AgentObserver - Call Put on Hold

2013-02-07 09:14:11,849 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3612afd8)]
com.cisco.big.sm.impl.SessionManager - Session resumeSession :21594113
2013-02-07 09:14:11,849 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@3612afd8)]
com.cisco.big.call.cm.observer.AgentObserver - 1005Call Put on Talking

```

Call Transfer

The following log shows that the call is transferred successfully.

```

2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallTransferEventHandler - 1004Transfer
Sequence Handler Event : CallObservationEndedEv
2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallTransferEventHandler - 1004
2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - ----- Agent Observer - DN:
1004 -----
2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Event : CiscoTransferEndEv
2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Call:1036 --> 1005 Call Id :2593
2013-02-07 09:33:41,836 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Connections :1036 1005
2013-02-07 09:33:41,851 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Call Key:1036
2013-02-07 09:33:41,851 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Sequence Handler exists
2013-02-07 09:33:41,851 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallTransferEventHandler -
1004----- Transfer Sequence Destruction Handler -----
2013-02-07 09:33:41,851 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallTransferEventHandler - 1004Detected
Parts: Transfer Dn :1005 Kiosk dn :null
2013-02-07 09:33:41,863 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallTransferEventHandler - Kiosk Dn
Assigned

```

Call Conference

The following log shows that the call is successfully added to a conference call.

```

2013-02-07 09:31:01,637 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - ----- Agent Observer - DN:
1004
2013-02-07 09:31:01,637 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Event : CiscoConferenceEndEv
2013-02-07 09:31:01,637 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Call:1005 --> Unknown Call Id
:2593
2013-02-07 09:31:01,637 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Connections :1036 1004 1005

```

```

2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004 Call Key:null
2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.AgentObserver - 1004Sequence Handler exists
2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallConferenceEventHandler - Received
handleDestructionEvent
2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallConferenceEventHandler -
Destroying this handler
2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallConferenceEventHandler -
1004----- Conference Sequence Destruction Handler
2013-02-07 09:31:01,642 INFO
[ObserverThread(com.cisco.big.call.cm.observer.AgentObserver@75775dde)]
com.cisco.big.call.cm.observer.sequencehandler.CallConferenceEventHandler - 1004
Detected Parts: Target DN :1005 Kiosk DN :1036

```

Web Service

The web service correctly loads if the configurations for web service in `rem.properties` are correct. The contents of `rem.properties` are the following:

```

$*[REM_VIRTUAL_IP]*= Virtual IP denotes the Cisco ACE Load Balancer Virtual IP. In case of
Single Node provide the same IP as that of $*[RESC_IP]*
$*[RESC_IP]*= Provide the IP address of REM

# For a Call Flow via CCX set the below property to true
$*[IS_CCX]*=True, if the call flow is via UCCX. False, if the call flow is via UCCE

# For a Call Flow via CVP set the below property to true
$*[IS_CVP]*=False, if the call flow is via UCCX. True, if the call flow is via UCCE

#CUCM Credentials
$*[CUCM_HOST]*= Provide CUCM Host name or IP address.It can have multiple addresses
separated by comma, if you have CUCM HA setup

# ----- HA Properties -----
$*[Total_Nodes_In_Cluster]*=1 if you have single node; 2 if you have REM HA
# REM Server IP & database details
$*[NODE_IP_1]*=same as RESC_IP if it is for a single node; private IP of node 1 if it is
for a HA setup
...
...
$*[NODE_IP_2]*= ignore this one if it is for a single node; private IP of node 2 if it is
for a HA setup
# RSYNC true in clustered setup, false in single node setup
$*[RSYNC_ENABLED]*=false if it is for a single node; true if it is for a REM HA

# REIC Customer logo and background image can be configured using below properties file
$*[REIC_BIG_CUSTOMER_LOGO]*=This is required to customize the kiosk screen. Refer REIC UI
configuration
$*[REIC_SMALL_CUSTOMER_LOGO]*= This is required to customize the kiosk screen. Refer REIC
UI configuration
$*[REIC_BACKGROUND_IMAGE]*= This is required to customize the kiosk screen. Refer REIC UI
configuration

```

```

$*[EXPERT_TYPE_WIDTH]*= This is required to customize the kiosk screen. Refer REIC UI
configuration
$*[REIC_SCREEN_MODULE]*=null is for regular RE; keyboard is for keypad support; magstripe
is for card reader
$*[EXTENSION_MOBILITY]*=false is for regular RE; true is for Connected Justice

```



Warning

Providing incorrect REAC credentials will result in a file transfer error.



Warning

Providing incorrect CUCM credentials will result in a call connect error due to a JTAPI issue.

Dual Content Issue

Refer to the “Events Tab in the IEM” section to monitor whether dual content is displaying properly in the secondary screen attached to the IEC. If dual content is not loaded, follow the steps below to troubleshoot the issue.

-
- Step 1** Check if the dual screen image and time are configured properly in the REAC. (Refer to the *Cisco Remote Expert Manager Administration Guide*.)
 - Step 2** Enter `https://<REM_IP>:8443/resc/services/AdminService/getContentByTimeInterval?time=<dd-MM-yyyy HH:mm:ss>` in a browser (e.g. `https://10.76.8.171:8443/resc/services/AdminService/getContentByTimeInterval?time=22-06-2012 09:52:00`).
 - Step 3** Verify that the status code indicates “SUCCESS”.
 - Step 4** Enter `https://<REM_IP>:8443/reic/dualcontent.html` in the Firefox browser.
 - Step 5** Check whether the image loads.



Note

You can use the Firebug tool in Firefox to track the flow in loading the dual content URL.

- Step 6** If the image loaded in the browser, go to the IEM and choose the IEC in question.
 - Step 7** Look at the screenshot of the IEC. The REIC application screen and the dual screen image should be displayed in the IEC screenshot pane.
-

Failure of RESC Web (API) Services

Sometimes after the reboot of the REM VM, services provided by the REM Server fail to start due to delay in setting up of the \$REM_HOME environment variable path.

In order to circumvent the problem above, perform the following steps after the REM VM server is rebooted:

-
- Step 1** Run the main.sh file from the bash shell using the following command:

```
#. $REM_HOME/tools/ias/scripts/main.sh
```

Step 2 Check whether all the services are up and running by accessing the list of services provided by the RESC server by navigating to the following URL:
`https://<REM_IP>:8443/resc/services/AdminService/getVersionInfo`

Step 3 If web services are running properly, then you will see a result similar to:

```
<ns:getVersionInfoResponse>
  <ns:return>REM-1.9.6</ns:return>
</ns:getVersionInfoResponse>
```

Verifying VM Settings

Installation of a virtual machine is done using the vSphere client. The REM VM setup requires some of the settings to be configured and maintained, such as time zone setup, master configuration setup, NTP and SMTP server configuration, etc. For installation of the VM, refer to the *Cisco Remote Expert Manager Installation Guide*.

To troubleshoot time-related errors (e.g. dual content is not working or file timestamp mismatch), REM components configuration-related errors, connectivity errors, or mail-related errors, review the following topics.

Master Configuration

The master configuration file contains all the required settings that are required to get the system up and running. At the time of installation of the REM ISO, some basic inputs are required to be configured before the environment could be prepared for the successful execution of the various REM applications (i.e. REIC, RESC, READ, and REAC) and third-party services like Postgres and Tomcat.

All the variables or inputs required are enlisted in the Master template which needs to be populated beforehand or by the administrator at the time of installation. The Master template is located at `$REM_HOME/tools/ias/templates/rem.properties`. Refer to the *Cisco Remote Expert Manager Installation Guide*.

NTP

NTP setup is part of the REM ISO installation. NTP synchronizes the clock of the local server with the NTP server. This is required for synchronization of files with timestamps. All NTP-related settings can be found in `/etc/ntp.conf`.

If you plan to use internal NTP servers, follow the steps below. Otherwise, you may skip this step.

Step 1 Using the TUI, choose **a) System Settings** in the Main Menu.

Step 2 In the System Settings menu, choose **b) Date and Time Settings**.

Step 3 In the Date and Time Settings, choose **a) Setup NTP Source**.

Step 4 A VI window will open. Replace the IPs or hostname of your NTP servers in the following entries. If you only use one or two NTP servers, comment out the unused entries by adding `#` at the beginning of lines.

```
server 0.rhel.pool.ntp.org
server 1.rhel.pool.ntp.org
```

```
server 2.rhel.pool.ntp.org
```

Step 5 Save and exit the VI.

Network Configuration

- Step 1** To set up the network, SSH into REM via TUI.
- Step 2** In the Main Menu, type **a** to choose the System Settings menu.
- Step 3** In the System Settings menu, type **a** to choose Network Settings.
- Step 4** In the Network Settings menu, type **a** to choose Setup Network Information.
- Step 5** In the Setup Network Information screen, press any key to continue.
- Step 6** Configure for either Single Node or REM HA setup.
- a. Single Node:
 1. Within the Select Action screen, choose **Edit Devices**.
 2. Select **eth0** to configure. Press the Enter key.
 3. Uncheck the **Use DHCP** check box.
 4. Enter the desired IP addresses for the Static IP address, Netmask IP address, and Default gateway IP address fields. Select **Ok**.
 5. Choose **Save** and press the Enter key.
 6. Choose **Edit DNS Configuration**.
 7. Enter the Hostname, Primary DNS, Secondary DNS, Tertiary DNS, and Search fields. Select **Ok**.
 8. Select **Save and Quit**.
 9. Go back to the Main Menu.
 10. To restart network service, select **c) Services Control** in the Main Menu. Then choose **a) Networking** in the Services Control menu. Finally, choose **a) Restart networking** in the Networking menu.

If network is set up properly, you should see a message similar to “Updating REM DB with IP Address: 172.20.20.20”.
 - b. REM HA (Dual Node):
 1. Choose **Edit Devices**.
 2. Select **eth0** to configure. Press the Enter key.
 3. Uncheck the **Use DHCP** check box.
 4. Enter a public IP address in the Static IP address, Netmask IP address, and Default gateway IP address fields. Select **Ok**.
 5. Select **eth1** to configure. Press the Enter key.
 6. Uncheck the **Use DHCP** check box.

7. Enter a private IP address (e.g. 192.168.10.100) in the Static IP address field. In the Netmask IP address field, enter **255.255.255.0**. Leave the Default gateway IP address field empty. Select **Ok**.
8. Choose **Save** and press the Enter key.
9. Choose **Edit DNS Configuration** and enter the Hostname. Leave the Primary DNS, Secondary DNS, Tertiary DNS, and Search fields empty. Select **Ok**.



Note Each node should be given a unique hostname.

10. Select **Save and Quit**.
11. Go back to the Main Menu.
12. To restart network service, select **c) Services Control** in the Main Menu. Then choose **a) Networking** in the Services Control menu. Finally, choose **a) Restart networking** in the Networking menu.
13. If network is set up properly, you should see a message similar to “Updating REM DB with IP Address: 172.20.20.20”.
14. Repeat substeps 1-13 for the second node.

- Step 7** To verify if the network is configured properly:
- a. In the Main Menu, type **a** to choose the System Settings menu.
 - b. In the System Settings menu, type **d** to choose System Information.



Note If the IP address needs to be changed later, you may need to follow this section to reconfigure your network.

Effect on Database

First, make sure that you SSH to REM via the TAC account. Execute the commands below on the Shell prompt of REM server to check the REM DB Details:

- Step 1** On the Shell prompt of the REM server, execute `/etc/init.d/postgresql-<version> status` to check Postgres status.
- Step 2** Log into the node where REM DB is running.
- Step 3** At the DB prompt of the REM server, execute the following:


```
[REM1-9]$ sudo su -l postgres
-bash-3.2$ psql postgres
```
- Step 4** Check the list of tables available in REM_DB.
- Step 5** At the DB prompt, execute `\d` to list the REM database tables.
- Step 6** To take a database schema backup, enter `pg_dump -Upostgres -hlocalhost --schema-only -f <location/of/backup.sql> REM_DB`.

- Step 7** To take a database data backup, enter `pg_dump -Upostgres -hlocalhost --data-only -f <location/of/backup.sql> REM_DB`.
- Step 8** Restore the schema from the sql file by entering the `psql -Upostgres -hlocalhost -d REM_DB -f <location/of/dumpfile.sql>` command.
- Step 9** Log into the database.
- Step 10** Execute the `\i <location/of/backup.sql>` command to restore the data from the sql dump file.
- Step 11** Drop the database using the `DB dropdb -Upostgres -hlocalhost REM_DB` command.
- Step 12** Create the database using the `createdb -Upostgres -hlocalhost 'REM_DB'` command.
- Step 13** Check the list of data available in the table.
- Step 14** At the DB prompt, execute `Select * from <table_name>`.
- Step 15** To logout from REM database, enter `\q` at the REM_DB prompt.
-

Document

After adding the document from REAC, the document will be added in the database with creation date (in the doc_table it is called 'added_date'). If time zone is not configured properly, it is very difficult to maintain the database.

Call Session

When customer touches an expert type button on the REIC, a call is initiated. This call will come to the remote expert desk. After answering the call, a session has been established. This call session information can be found in the session table of the database.



Note

The session information contains the time when the session was generated. This information is generated from RESC. If the time zone is not configured properly, then this call start time will not be correct compared to the local time where the server is located. If that is the case, it is very difficult to inspect the time when the session was generated.

Video

All the videos added by REAC are added into the REM database. The video is added to the database with the time when it was added to the REAC. For maintaining the database time zone, the VM should be configured properly.

REM Events

When a call is initiated from the REIC, all the call related information such as call connect, call on hold, or call disconnect are visible in the database.

The start time for each call status is also added to the database. An incorrectly configured time zone affects this time.

Log Files

The following logs are available:

- Tomcat Catalina log
- REAC log
- READ log
- REM Backup log
- REM Restore log

**Note**

Time zone affects the generation of log files. Logs are generated with current time and date in the log files.

TUI Troubleshooting Tools

This section explains how to use the Troubleshooting tools in the TUI that is accessed by a SSH client.

Ping

Use the Ping utility to verify that the REM servers are up. This is particularly useful for HA where there are four IP addresses that should be verified.

-
- Step 1** In the Main menu, type **e** to access the Troubleshooting menu.
- Step 2** In the Troubleshooting menu, type **a** to ping a host.
- Step 3** Enter the IP address of the REM server.
The host will be pinged and the results are displayed.
- Step 4** When finished, press any key to return to the previous menu.
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System, RE, and Application Server Logs

There are a number of logs that are generated that can help you with troubleshooting issues.

- System logs: These are basically hardware-related logs including system console messages, authentication and authorization logs, and driver messages.
- Remote Expert logs: The majority of logs that you will use are located in this menu which includes logs for all the REM components (REAC, READ, RESC), IAS tool, and Report Generation tool as well as logs for Backup and Restore.
- Application Server logs: These are the Tomcat and Postgres logs.

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- Step 1** In the Troubleshooting menu, type **b** to access logs.

Step 2 Choose a log menu: **System**, **Remote Expert**, or **Application Server**.

**Note**

For security reasons, the TUI will disconnect after three minutes of no activity on the part of the administrator. If the administrator wants to view log activity for more than three minutes, the administrator needs to interact with the TUI in some way such as press the Enter key in order to keep a connection.

Step 3 Press **ESC :q!** to stop watching a log.

Step 4 When finished, press the **R**, **<**, or **,** key to return to the previous menu.

Troubleshooting Tools in REAC

The Download Logs tab in REAC contains lists of logs that can be used for troubleshooting issues:

1. Admin Console: Contains the reac.log from this REAC
2. Agent Desktop: Contains the read.log from READ
3. Session Manager: Contains the resc.log from the RESC
4. RE Events: Capture RE events during a specified time
5. Tomcat: Contains the catalina log for the Tomcat service

Refer to the “Downloading Logs” section of the *Cisco Remote Expert Manager Administration Guide* for instructions on how to download those logs.