

# Troubleshoot CM Telephony Subsystem and Application Manager Service Partial Service Issue

## Contents

[Introduction](#)

[Prerequisites](#)

[Requirements](#)

[Components Used](#)

[Background Information](#)

[CM Telephony Subsystem](#)

[Most Common Reasons](#)

[Troubleshoot](#)

[Application Manager Service](#)

[Troubleshoot](#)

## Introduction

This document describes how to troubleshoot the CM Telephony Subsystem and Application Service Partial Service issue.

## Prerequisites

## Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Unified Contact Center Express (UCCX)
- Cisco Unified Communications Manager (CUCM)
- Real Time Monitoring Tool
- Real Time Reporting Tool

## Components Used

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

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Background Information

UCCX Engine is a part of two manager services:

1. Subsystem Manager
2. Manager Manager

Unified CM Telephony Subsystem is a sub-component under Subsystem Manager.

Application Manager Service is a sub-component under Manager Manager.

## CM Telephony Subsystem

CM Telephony Subsystem is a JTAPI client where you can provide Unified CM Telephony provider information, Computer Telephony Interface (CTI) port group information, Unified CM Telephony trigger information, and resynchronize Unified CM Telephony information.

Any communication between UCCX and CUCM resides on JTAPI. CTI Manager on CUCM responds to the JTAPI requests from UCCX.

JTAPI provider is created on UCCX which is replicated on the CUCM.

Quick Check:

Log in to the CCX Administration page. Navigate to **System > CM Configuration**. It lists information about axl, jtapi, and rmcm providers. The JTAPI Username and password created on this page get replicated on CUCM under the application user as shown in the image.

The screenshot displays the 'Cisco Unified CM Configuration' page in the 'Cisco Unified CCX Administration' interface. The page is divided into three main sections for configuration:

- AXL Service Provider Configuration:** This section includes a list of 'Selected AXL Service Providers' (10.127.252.213, 10.127.252.216) and 'Available AXL Service Providers'. Below this, there are 'Cluster Wide Parameters' for 'User Name' (set to 'cisco') and 'Password' (masked with asterisks).
- Unified CM Telephony Subsystem - Unified CM Telephony Provider Configuration:** This section includes a list of 'Selected CTI Managers' (10.127.252.213, 10.127.252.216) and 'Available CTI Managers'. Below this, there are 'Cluster Wide Parameters' for 'User Prefix' (set to 'jtapi'), 'Password' (masked), and 'Confirm Password' (masked).
- RmCm Subsystem - RmCm Provider Configuration:** This section includes a list of 'Selected CTI Managers' (10.127.252.213, 10.127.252.216) and 'Available CTI Managers'.

**Note:** It is always recommended to point the local CUCM node on top of the list followed by the remote CUCM node. Whenever an agent creates a CTI PORT or ROUTE POINT it gets assigned under the respective JTAPI user on CUCM.

Quick Check:

Log In to **CUCM Admin Page > User Management > Application User** in order to verify if the JTAPI and rmcM providers created on UCCX got reflected on CUCM.

<input type="checkbox"/>	User ID	Copy	User Rank
<input type="checkbox"/>	<a href="#">CCMOSTSecurityUser</a>		1
<input type="checkbox"/>	<a href="#">CCMOSTivrUser</a>		1
<input type="checkbox"/>	<a href="#">CCMISvrUser</a>		1
<input type="checkbox"/>	<a href="#">CUCService</a>		1
<input type="checkbox"/>	<a href="#">IPMASecurityUser</a>		1
<input type="checkbox"/>	<a href="#">IPMASvrUser</a>		1
<input type="checkbox"/>	<a href="#">TspSecurityUser</a>		1
<input type="checkbox"/>	<a href="#">WDSecurityUser</a>		1
<input type="checkbox"/>	<a href="#">WDSvrUser</a>		1
<input type="checkbox"/>	<a href="#">adminad</a>		1
<input type="checkbox"/>	<a href="#">aduser</a>		1
<input type="checkbox"/>	<a href="#">cisco</a>		1
<input type="checkbox"/>	<a href="#">ipcc_1</a>		1
<input type="checkbox"/>	<a href="#">ipcc_2</a>		1
<input type="checkbox"/>	<a href="#">essence@useradm</a>		1
<input type="checkbox"/>	<a href="#">rmcM</a>		1

## Most Common Reasons

- Some of the CTI ports or triggers appear to be unregistered
- In case of misconfiguration of the trigger on CCX
- Trigger on the application has no call control group
- The same translation pattern exists as the trigger
- CTI Route Point with/without the partition and device pool as per the network configuration
- Trigger deleted from CUCM

Tip: Whenever you tend to remove some trigger or cti port completely follow these recommendations.

Delete triggers from UCCX - this process automatically removes corresponding CTI Route Points on CUCM

Delete control groups from UCCX (CTI ports) - this automatically removes corresponding phone devices (CTI Ports) from CUCM

## Troubleshoot

Method 1:

With RTMT Tool, you can easily verify the trigger/cti port registration status and summary. Log in to the RTMT with admin credentials. Select **Cisco Unified CCX** on the bottom left side of the RTMT page.

**File System AnalysisManager IM and Presence Edit Window Application Help**

# Real Time Monitoring Tool

## System

- System Summary
  - System Summary
- Server
  - CPU and Memory
  - Process
  - Disk Usage
  - Critical Services
- Performance
  - Performance
  - Performance Log Viewer
- Tools
  - Alert Central
  - Trace & Log Central
  - Job Status
  - SysLog Viewer
  - VLT
  - AuditLog Viewer

### System Summary

#### Virtual Memory Usage

Time	Virtual Memory Usage
08:38:00	0%
08:39:00	0%
08:40:00	0%
08:41:00	0%

### Alert History

Time Stamp	Node
------------	------

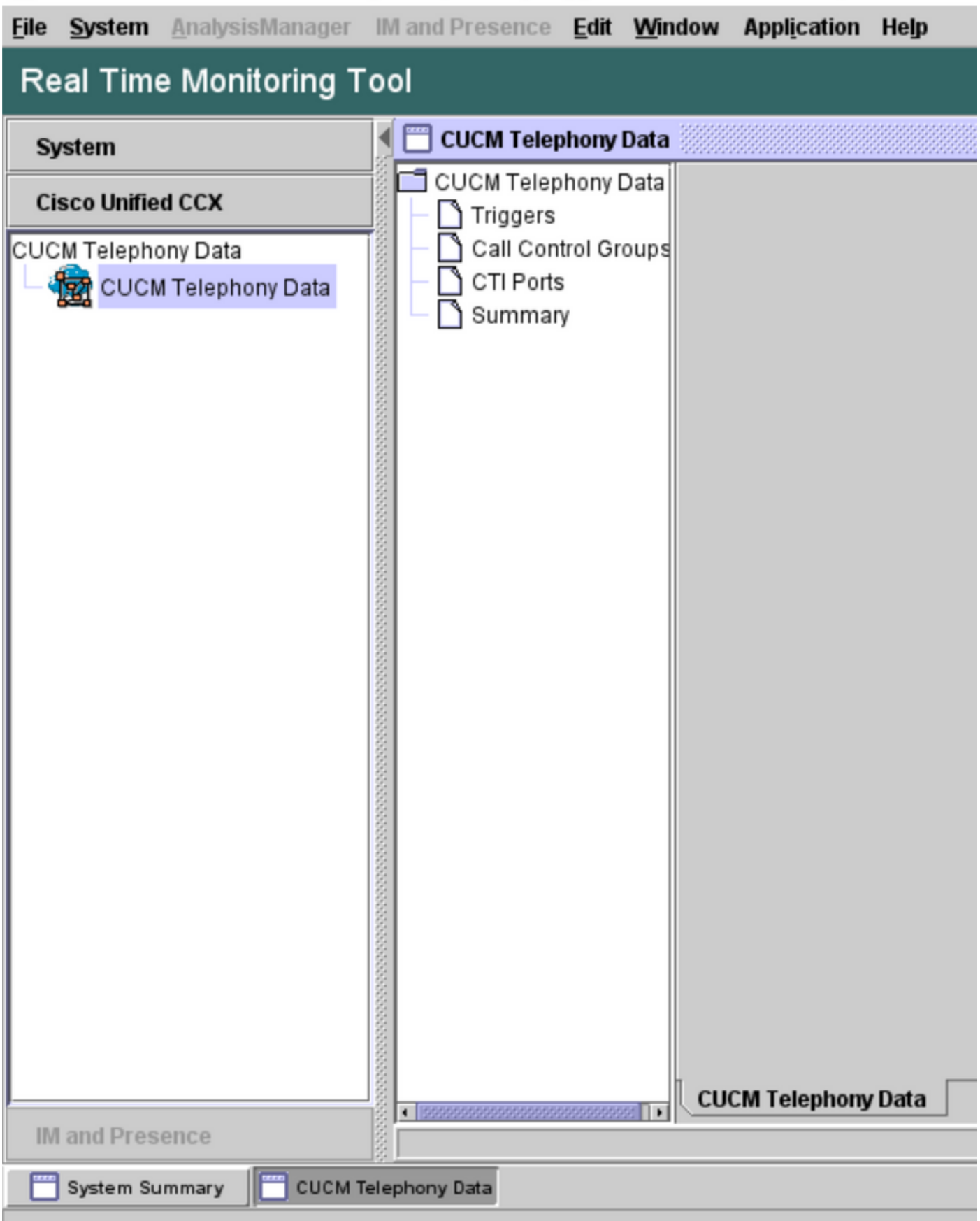
Cisco Unified CCX

IM and Presence

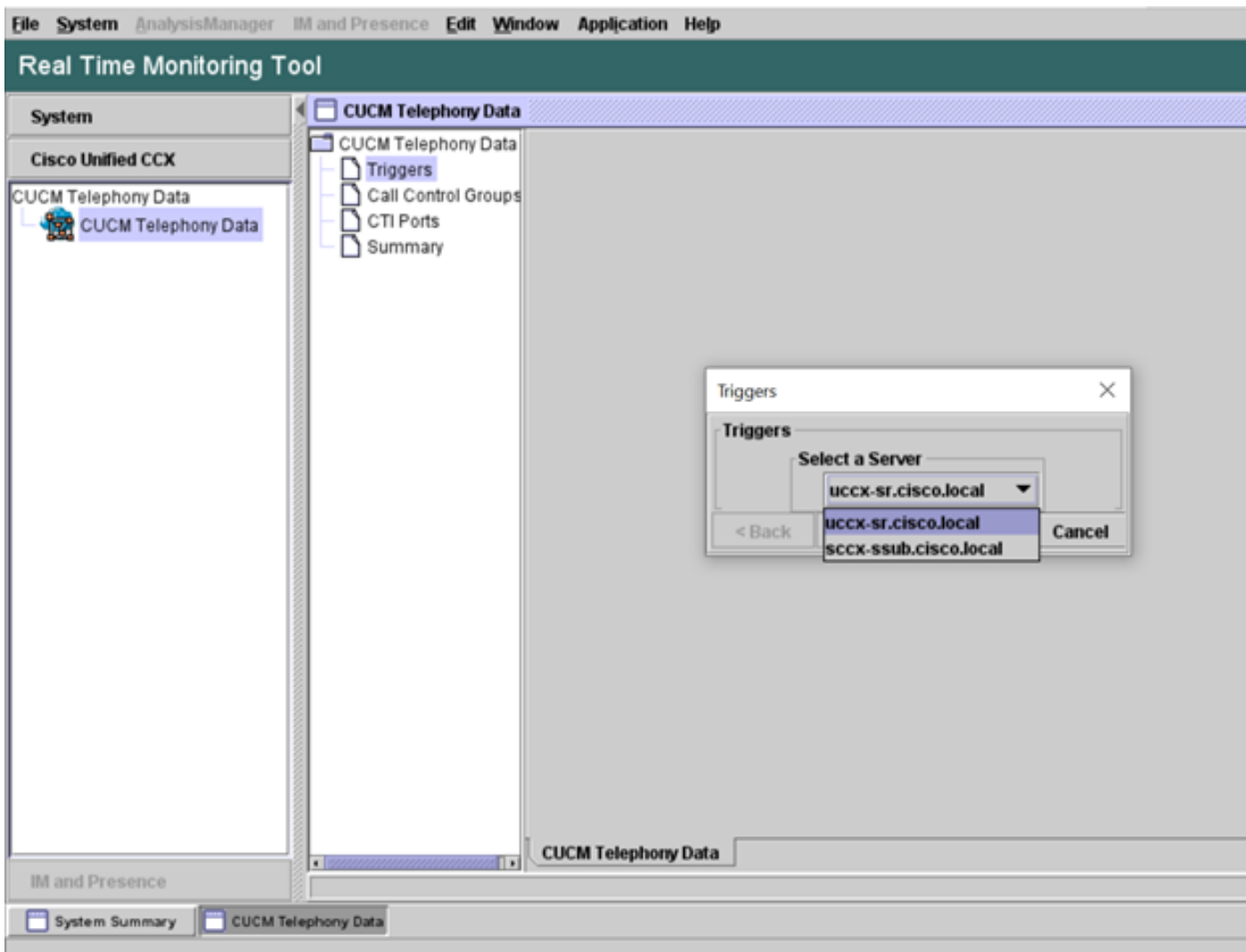
System Summary

successfully pulled data from server side

Select **CUCM Telephony Data**. Few options get listed out such as Triggers, Call Control groups, CTI ports, and Summary.



Select one of the options in order to verify its status of it. For example, Triggers. A dialog box pops out which has the option to choose the server (in the case of HA, both pub and sub are listed). Choose a server name and click **Finish** as shown in the image.



In this example, the triggers option was selected, so the triggers and their respective status along with recommendations are shown.

Server : uccx-sr.cisco.local							
Trigger DN	Trigger State	Application Na...	Ready For Call	CallControl Gro...	Media Group ID	Last State Cha...	Recommended
1111	Config Error	agent1_app	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Trigger has config...
111111	In Service	agent3	true	2	0	10/10/2021 22:28:...	
11122	Config Error	agent_app	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Trigger has config...
5555	In Service	ctiapp_user	true	5	0	10/10/2021 22:28:...	
7777	In Service	ctiuser1_app	true	6	0	10/10/2021 22:27:...	

Summary status when the summary option is selected.

Server : uccx-sr.cisco.local							
Trigger DN	Trigger State	Application Na...	Ready For Call	CallControl Gro...	Media Group ID	Last State Cha...	Recommended
20211	Out of Service	ldapuserapp	true	9	0	11/09/2021 23:18:...	Check trigger conf...
7777	Config Error	ctiuser1_app	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Trigger has config...
9999	In Service	agent_app	true	7	0	11/09/2021 23:18:...	

## Call Control Groups status.

Server : uccx125.cisco.local

CallControl Group ID	Group State	Total Ports	InService Ports	OOS Ports
2	In Service	5	5	0
3	Partial Service	2	1	1

## CTI Ports status.

Server : uccx125.cisco.local

CTI Port DN	CallControl Group ID	Port State	Call ID	Last State Change Time
100	2	In Service		11/13/2021 16:36:45 IST
101	2	In Service		11/13/2021 16:36:45 IST
102	2	In Service		11/13/2021 16:36:45 IST
103	2	In Service		11/13/2021 16:36:45 IST
104	2	In Service		11/13/2021 16:36:45 IST
76762	3	In Service		11/13/2021 17:05:19 IST
76763	3	Out of Service		11/13/2021 17:06:12 IST

Trigger status can be verified from the **CCX Admin page > Subsystems > Triggers** as shown in the image.

System Applications Subsystems Wizards Tools Help

Cisco Unified CM Telephony Trigger Configuration

Add New

Status

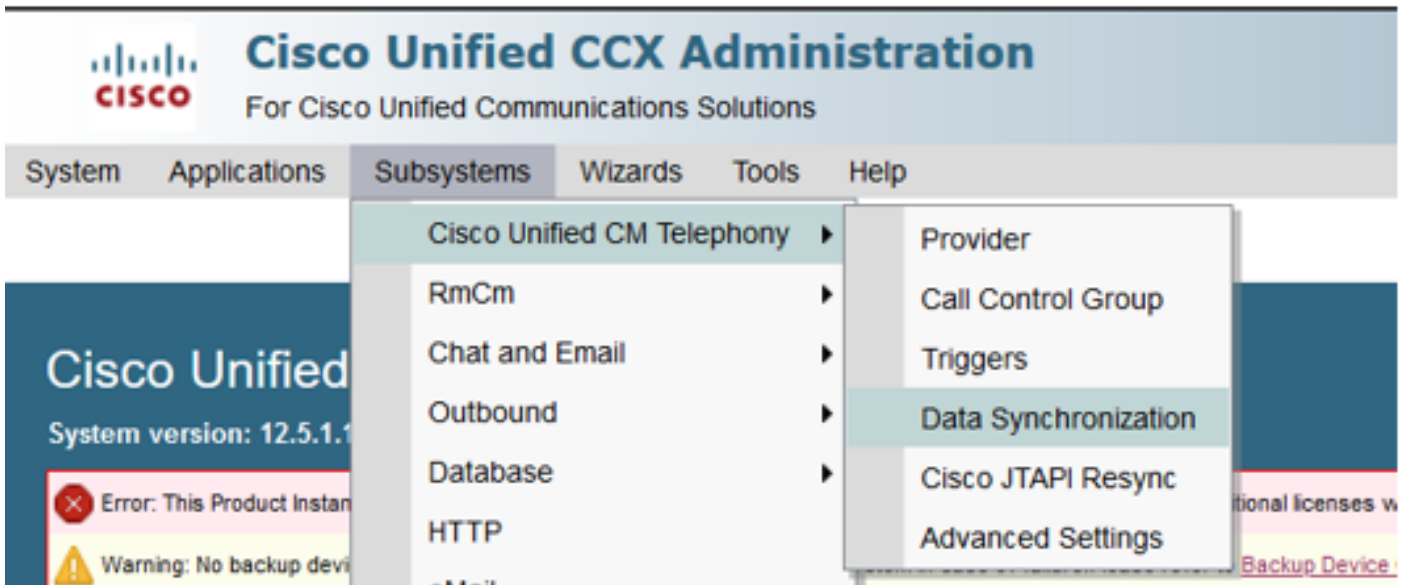
4 records found

Route Point	Application	Sessions	Enabled	Copy	Delete	Refresh
7777	ctuser1_app	2	true			
9999	agent_app	2	true			
20211	ldacuserapp	5	true			
5995	ctiapp_user	2	true			

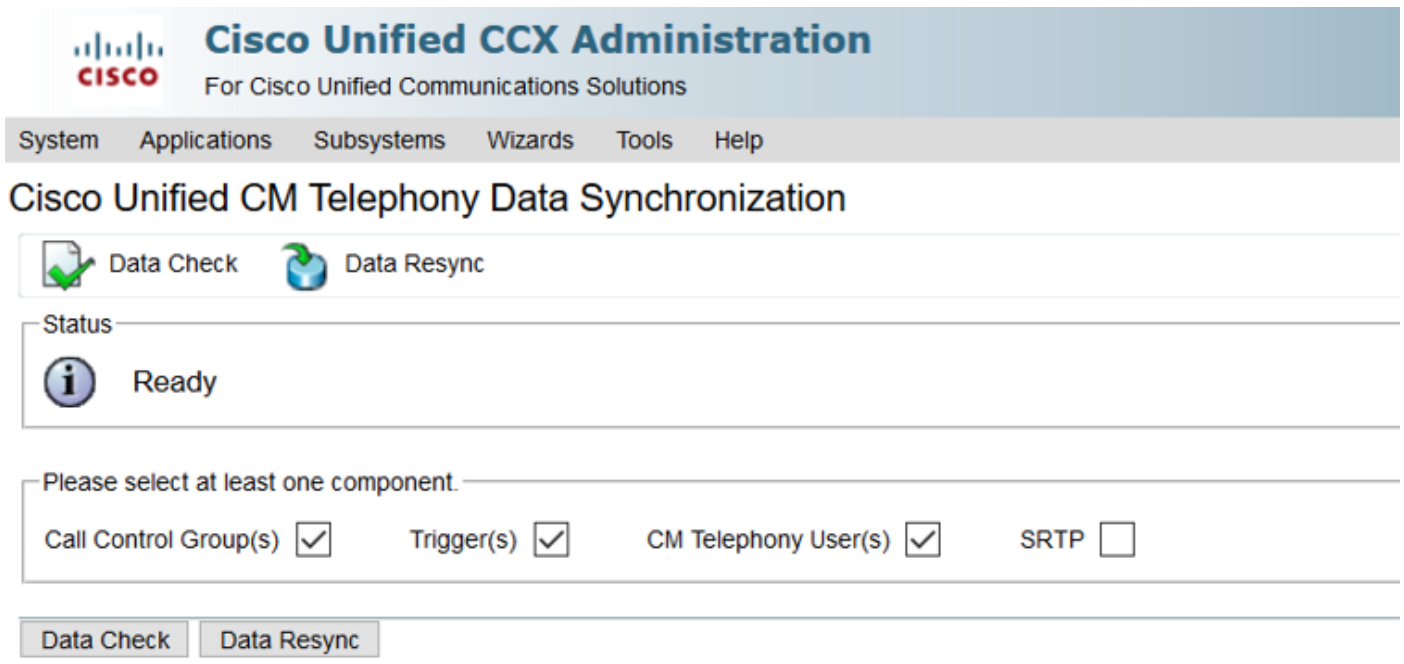
Add New

## Method 2:

From the CCX Admin page, you can perform data checks and data resync. Log in to **CCX Administration Page > Cisco Unified CM Telephony > Data Synchronization** as shown in the image.



Select **Triggers**, Call Control Groups, CM Telephony Users, and select **Data Check** this takes a considerable amount of time based on the number of triggers, CCG, and users configured on the server.



The Data check option displays the status of selected components. Once the proper action is taken against the errors, you can perform Data Resync which is recommended to run during less call volume.

Method 3:

In case there are no errors with any components. Check the CM configuration page of UCCX for a list of providers and restart CTI service on all those CUCM providers followed by CCX Engine restart on UCCX nodes.

Method 4:

Log in to **RTMT > Trace and Configuration > Collect Logs.**



UCCX:

- Cisco Unified CCX Engine (MIVR)
- JTAPI logs

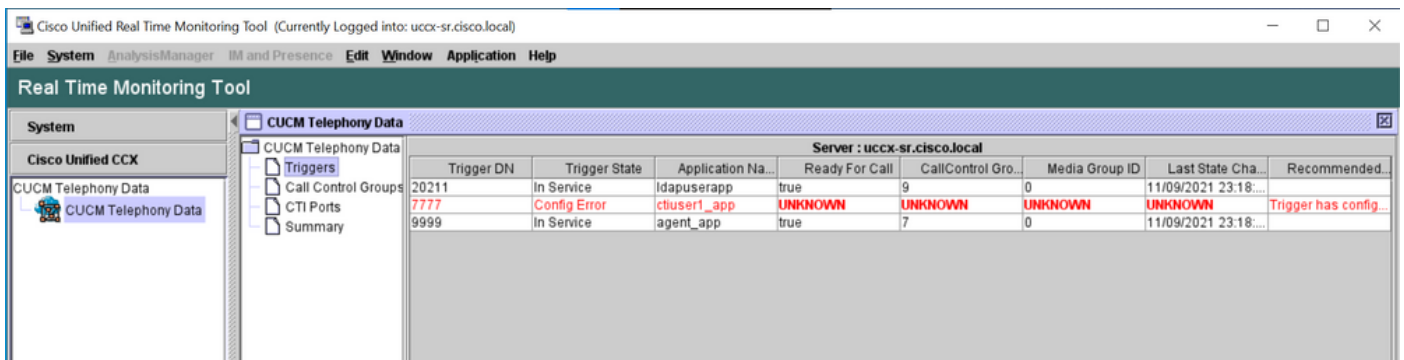
CUCM:

- Callmanager
- CTI Manager

Common Errors on RTMT:

Problem 1:

Trigger 7777 has a configuration error on **Trigger state**, **Call Control Group** is Unknown.



Trigger DN	Trigger State	Application Na...	Ready For Call	CallControl Gro...	Media Group ID	Last State Cha...	Recommended...
20211	In Service	ldapuserapp	true	9	0	11/09/2021 23:18...	
7777	Config Error	ctuser1_app	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Trigger has config...
9999	In Service	agent_app	true	7	0	11/09/2021 23:18...	

Verify the trigger status on the CCX Admin page. Navigate to **Subsystems > Cisco Unified CM Telephony > Trigger**.

As soon as the trigger is selected a dialog box pops up on the screen.

https://uccx-sr.cisco.local/appadmin/JTAPITrigger?request\_type=

### Cisco Unified CM Telephony Trigger Configuration

Save Delete Clear Cancel

Status  
Status : Ready

Directory Information  
Directory Number

Trigger Information  
Language\*  
Application Name  
Device Name\*  
Description\*  
Call Control Group\* None

Save Delete Clear Cancel Show More...

\* indicates required item

Transferring data from uccx-sr.cisco.local...

uccx-sr.cisco.local

The selected Call Control Group for this trigger has been deleted. Please update.

OK

Click **OK** and notice that there is no call control group added here.

### Cisco Unified CM Telephony Trigger Configuration

Save Delete Clear Cancel

Status  
Status : Ready

Directory Information  
Directory Number\* 7777

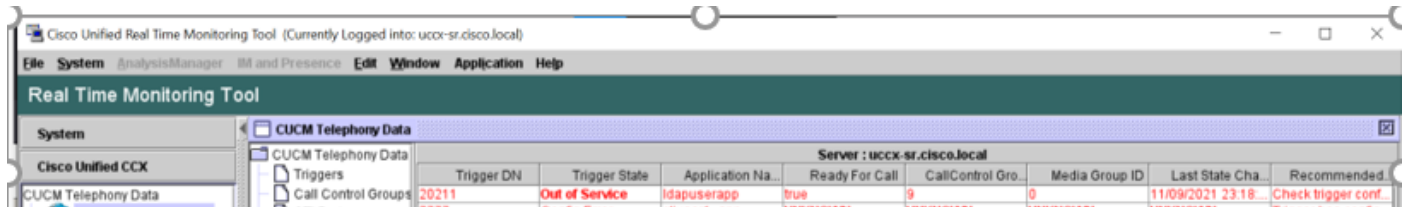
Trigger Information  
Language\* English (United States) [en\_US] Edit  
Application Name\* ctiuser1\_app  
Device Name\* ctiuser1dev  
Description\* ctiuser1dev  
Call Control Group\* None

Solution:

Update the call control group from the drop-down list. Verify trigger status. If the issue persists restart CTI Manager Service on CUCM and CCX Engine on UCCX

Problem 2:

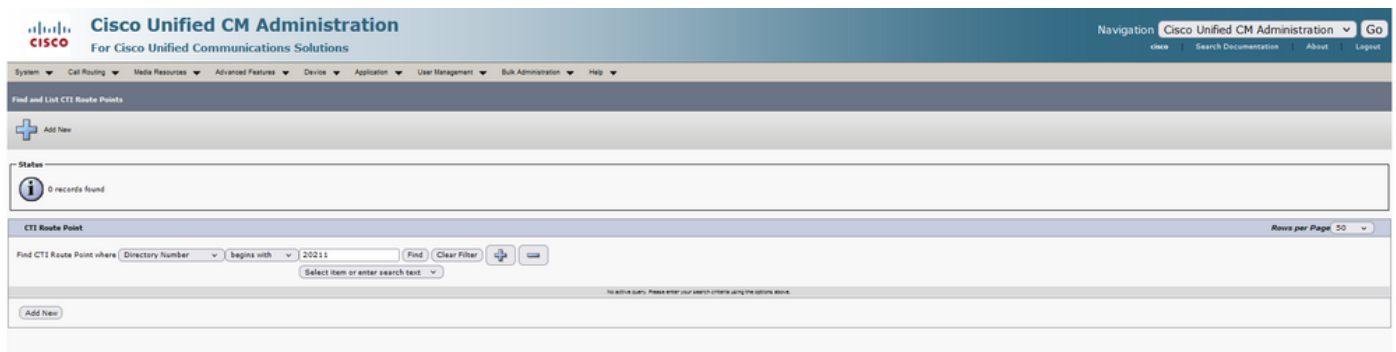
Trigger as out of service appears in 2 scenarios. Either the CTI Route point got deleted on CUCM or the directory number on the CTI route point does not exist.



Scenario 1:

Cause: On CUCM the CTI route point is deleted.

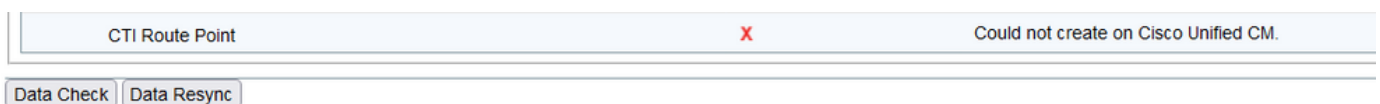
Log In to the **CM Admin page > Device > CTI Route Point** and check whether the route point exists. In this scenario, the route point listed on rtmt does not exist as shown in the image.



However, the trigger exists on CCX.

Perform Data check on Cisco Unified CM Telephony Data synchronization page and observe the error as "Could not Create on Cisco Unified CM".

The possible reason would be the route point was deleted but the directory number still exists on CUCM.



Log in to the **CM Admin page**, select **Call Routing > Route Plan Report** and search with directory number-->click delete

Navigate back to the CCX admin page, **Subsystems > Cisco Unified CM Telephony > Data Synchronization > Data Resync**, or recreate the CTI Route point on CUCM with the same device name if that specific route point/trigger is required.

If the issue persists restart CTI Manager Service on CUCM and CCX Engine on UCCX.

## Scenario 2:

Cause: The directory number 20211 is deleted on CUCM or the device is dissociated from the directory number.

In such a scenario, CTI route point appears under device > CTI route point. But, you can notice that the extension does not exist. Perform Data Check on UCCX shows the same error as the previous scenario "Doesn't exist on Cisco Unified CM" but for Director Number.

CTI Route Point	✓	In Sync
Directory Number	✗	Doesn't exist on Cisco Unified CM.
Device Association	✓	In Sync

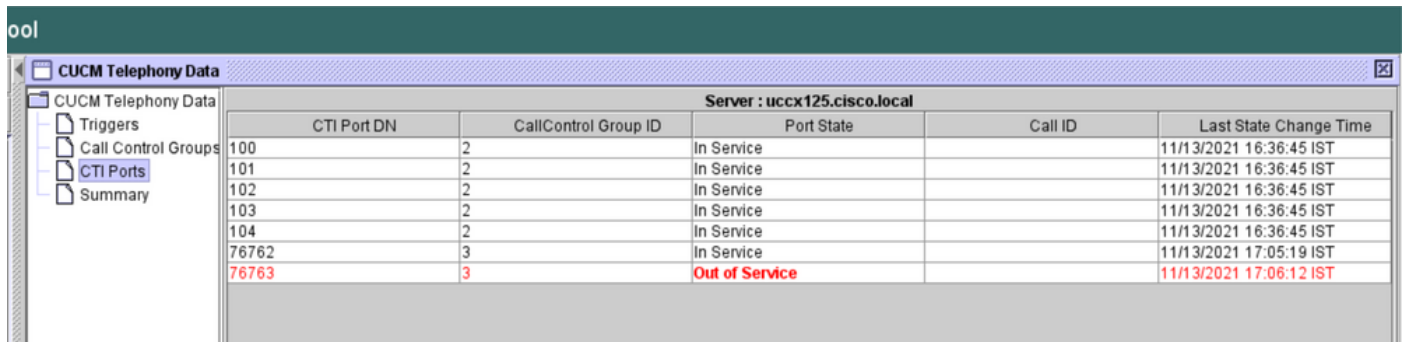
## Solution:

Navigate to the respective CTI route point and add the directory number on CUCM or perform data resync on UCCX.

If the issue persists, restart CTI Manager Service on CUCM and CCX Engine on UCCX.

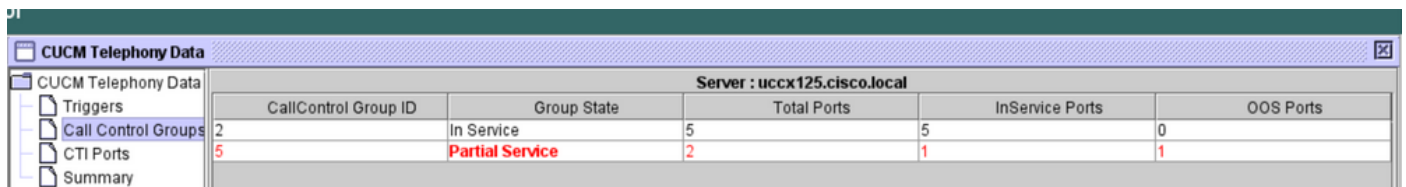
## Problem 3:

CTI PORT status appears as out of service:



CUCM Telephony Data					
Server : uccx125.cisco.local					
CTI Port DN	CallControl Group ID	Port State	Call ID	Last State Change Time	
100	2	In Service		11/13/2021 16:36:45 IST	
101	2	In Service		11/13/2021 16:36:45 IST	
102	2	In Service		11/13/2021 16:36:45 IST	
103	2	In Service		11/13/2021 16:36:45 IST	
104	2	In Service		11/13/2021 16:36:45 IST	
76762	3	In Service		11/13/2021 17:05:19 IST	
76763	3	Out of Service		11/13/2021 17:06:12 IST	

Call Control group associated with respective CTI PORT shows PARTIAL SERVICE.



CUCM Telephony Data					
Server : uccx125.cisco.local					
CallControl Group ID	Group State	Total Ports	InService Ports	OOS Ports	
2	In Service	5	5	0	
5	Partial Service	2	1	1	

Similarly, the summary page includes the error with CTI port 77661 on-call control group id=5.

Server : uccx125.cisco.local					
OVERALL TELEPHONY SUBSYSTEM STATE : <b>Partial Service</b>					
Call Control Groups In...	Call Control Groups O...	Call Control Groups In...	Enabled Triggers	Disabled Triggers	Triggers With Config E...
1	0	1	3	0	0
<p style="color: red;">Some group can only be initialized partially - Call Control Group[id=5,state=IN_SERVICE].Ports[77661]</p>					

Cause: The CTI port was dissociated from the device or deleted on CUCM.

Solution:

Restart CCX Engine if that did not fix the issue. Recreate the affected call control group, and restart CTI Manager service on CUCM and CCX Engine on UCCX.

## Application Manager Service

Under Application Management particularly you can add, configure, copy, delete, or refresh a specific application, associate trigger, script, and other parameters.

The image represents the Application manager status as a partial service.

Component	Status	Last Update	Uptime
▼Cisco Unified CCX Engine	PARTIAL SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
▼Manager Manager	PARTIAL SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Expression Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Document Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Bootstrap Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
File Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Socket Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Log Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Config Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Cluster Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Session Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
User Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Script Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
RTP Port Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Prompt Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Channel Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Grammar Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Application Manager	PARTIAL SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
Contact Manager	IN SERVICE	TUE APR 26 06:07:00 2022	00 Days 00:06:50
...	...	...	...

The most common reasons for Application Manager service partial service are:

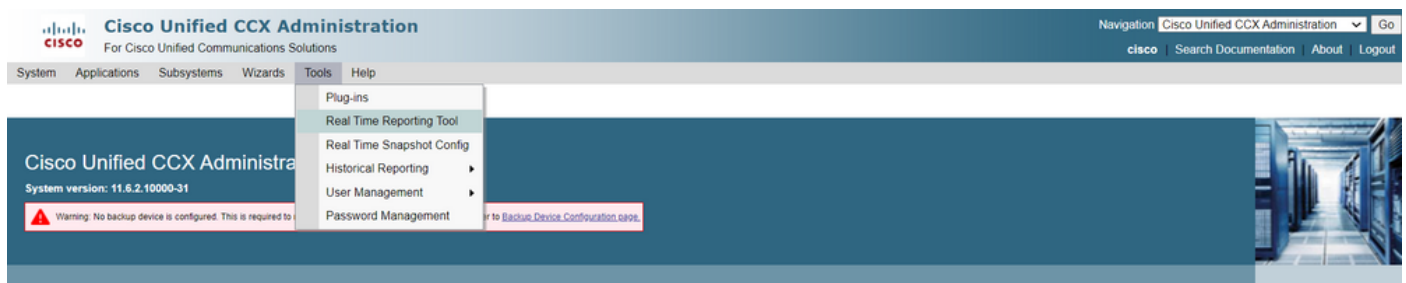
- The script does not exist on script management which was assigned to an application earlier
- Invalid Script
- Application unable to load a particular script

## Troubleshoot

Method 1:

With Real Time Reporting Tool the affected application can be identified easily.

Real Time Reporting Tool (RTR) is a Java application and hence requires Java Runtime Environment (JRE) to be installed on the client machine. Log in to CCX Administration page and navigate to **Tools > Real Time Reporting** and select **Download**.



Copyright © 1999-2018 Cisco Systems, Inc.  
All rights reserved

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

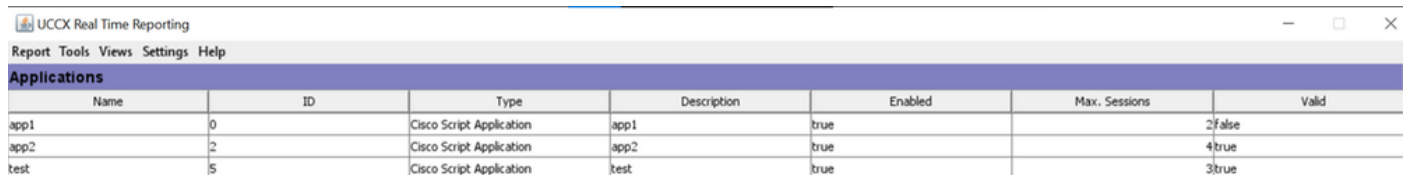
A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/www/export/crypto/tool/starp.html>  
If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com).

Note: To run the Real Time Reporting client, in the Security tab of the Java Control Panel, add the

fully qualified domain name (FQDN) of the Unified CCX server to the Exception Site List. For a high availability deployment, add the FQDN of both the Unified CCX servers to the Exception Site List.

1. Launch RTR Application on the system and log In with the Unified CCX Administrator or Supervisor credentials.
2. Navigate to Report > Applications and check the last column **Valid**.

For the problematic application, the flag "valid" appears as false



Name	ID	Type	Description	Enabled	Max. Sessions	Valid
app1	0	Cisco Script Application	app1	true	2	false
app2	2	Cisco Script Application	app2	true	4	true
test	5	Cisco Script Application	test	true	3	true

Method 2:

With the help of logs. Trace level setting

Navigate to **Cisco Unified CCX Serviceability > Trace > Configuration**. Select **Cisco Unified CCX Engine** and set the traces:

APP\_MGR - Debug, Xdebug1 ENG - Debug, Xdebug1 ICD\_CTI - Debug, Xdebug1 SS\_TEL - Debug, Xdebug1  
Restart CCX Engine and Collect Cisco Unified CCX Engine logs from RTMT. Apply filter with  
"%MIVR-APP\_MGR" on log file to find the root cause.

From CLI.

```
file search activelog /uccx/log/MIVR/* "%MIVR-APP_MGR" recurs ignorecase
```

With one of the two methods, you can get the problematic application.

Navigate to the application management on UCCX administration page, verify the problematic application and make necessary changes. Restart CCX Engine and verify the status.