

# AVVID TAC Cases: Collecting Troubleshooting Information

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## **Introduction**

### **Prerequisites**

- Requirements
- Components Used
- Conventions

### **General Guidelines**

- Technical Support Site Area
- Cisco.com Cases
- Cisco Live!
- Attachments
- Remote Access
- Sniffer Traces
- Debugs
- CallManager Traces
- Phone Statistics
- General

### **Standard Required Information**

- Network Layout
- Problem Description
- General Information

### **Problem Types and Specific Required Information**

- CallManager: System/OS
- CallManager: Administration
- CallManager: Call Processing/Signaling
- CallManager: One-way Audio
- CallManager: Echo
- CallManager: Sub-optimal Voice Quality
- CallManager: Upgrade or Install Failure
- CallManager: Backup Utility
- CallManager: Other
- Applications: Attendant Console
- Applications: Customer Response Solutions (CRA/CRS, IPCC Express, IP Autoattendant, ICD)
- Applications: Issue-specific Required Information

### **Related Information**

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## **Introduction**

When you open a case with Cisco Technical Support, some preliminary information is required in order to identify and qualify the issue in a better way. Some of this information is always required

Other information depends on the nature of the issue. If you wait until the engineer requests that you collect the information after you open your case, it causes the delay of resolution results.

This document identifies the required preliminary information with regard to the type of issue so that it can be provided to the engineer immediately. This document also provides general guidelines that you can follow

when information is collected for the Technical Support engineer in order to avoid repetitive testing and recollection of identical data.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

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

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## General Guidelines

This section defines the guidelines for the various tools, products, and processes involved in order to troubleshoot AVVID Technical Support cases.

### Technical Support Site Area

The Technical Support site area contains a detailed collection of tools and technical documents written by engineers in order to analyze common issues and provide solutions. Technical Support Training Resources contains links to various training resources that include Cisco Learning Connection and various seminars.

View the Voice Technology Support and Voice and IP Communications Product support pages before you contact Technical Support.

### Cisco.com Cases

When you open a case through Contact Technical Support, it gives you priority over all other case-opening methods. Make sure you use the web in order to open and follow up your cases. High priority cases (P1/P2) are an exception to this rule.

**Note:** It is important to provide an accurate description of the problem when you open a Cisco.com case as you are presented with several URLs, the selection of which is based on that description. Follow each and every one of these links while you wait for the Technical Support engineer to contact you, as in many cases they can provide you with an immediate solution.

### Cisco Live!

Cisco Live! is a secure, encrypted Java applet that allows you and your Technical Support engineer to work together more effectively with the help of Collaborative Web Browsing / URL sharing, whiteboard, Telnet, and clipboard tools.

## Attachments

Any document larger than 100 Kb needs to be zipped. You can attach documents to a case and send it by e-mail to the engineer. In order to do so, use the web-based Update a Technical Support Case option.

## Remote Access

**Note:** When you set up dial-in, do not use **login:cisco** or **password:cisco** as they constitute a vulnerability.

Issues can be resolved quickly when you allow the Technical Support engineer to remotely access the devices through one of these methods:

- Equipment with public IP address
- Dial-in access
  - ◆ In the decreasing order of preference analog modem, ISDN modem, Microsoft PPTP, VPN
- NAT (Network Address Translation)
  - ◆ Cisco IOS® Software and Private Internet Exchange (PIX) in order to allow access to equipment with private IP addresses

Remote access needs to provide the ability to establish Terminal Services (remote port 3389), HTTP (remote port 80), and Telnet (remote port 23) sessions to all concerned equipment.

Pay special attention in order to ensure that firewalls do not obstruct Cisco IOS Software traffic and PIX traffic during the intervention of the engineer and that all necessary services, such as Terminal Services, start on the servers.

All access information is handled with the utmost discretion and no changes are made to the system without the consent of the customer.

## Sniffer Traces

Sniffer traces can typically be collected by the connection of a laptop or other sniffer-equipped device on a Catalyst port, configured to span the VLAN or port(s) (CatOS, Cat6K-IOS, XL-IOS) that contains the remarkable information. If no free port is available, another possibility is to connect the sniffer-equipped device on a hub inserted between the switch and the device.

**Note:** For issues with IP Telephony, connect the sniffer to the PC port off the back of the Cisco IP Phone.

**Note:** You can trace the collection with the help of Sniffer Pro software as it is widely used in Cisco Technical Support. It also facilitates the comprehension and interpretation of the traces by the engineer. You must mention the IP or MAC addresses of all equipment involved, such as, IP phones, gateways, and Cisco CallManagers.

## Debugs

**Note:** Collection of debugs in a live environment during operation hours needs to be avoided. It is preferable that debugs are collected during non-working hours. If they have to be collected in a live environment, issue the **no logging console** and **logging buffered** commands. In order to collect the debugs, issue the **show log** command.

Before you run any Cisco IOS Software voice gateway debugs, make sure that you configure the **service timestamps debug datetime msec** command globally on the gateway.

Some debugs are very verbose. Therefore, collect them directly on the console port (default **logging console** or on the buffer (**logging buffer**). If you collect them over a Telnet session it can have an impact on the performance of the device and the resultant debugs can be incomplete. This results in the need to recollect them.

## CallManager Traces

Cisco CallManager traces are very important in the process used to troubleshoot an IP Telephony issue. For guidelines to collect Cisco CallManager traces, refer to Set Up Cisco CallManager Traces for Cisco Technical Support.

## Phone Statistics

Press the **I** button twice during an active call in order to obtain phone statistics on a Cisco IP Phone 79xx.

You can also configure the "QRT" service within the Cisco CallManager Administration page and subscribe your phones to this service. For more information, refer to Phone Problem Reports Viewer.

## General

When you run a test in order to reproduce the issue and produce information, this data is crucial in order to understand this issue:

- Calling number/Called number.
- Any other number involved along with its role in the specific scenario.
- Whether or not the call is placed from an H.323 gateway or Media Gateway Control Protocol (MGCP) gateway.
- Whether the problem is experienced on inbound/outbound calls to/from the PSTN or IP phone to IP phone.
- Time of call Time synchronization of all equipment is important.

## Standard Required Information

For all issues, the information always needs to be provided to Cisco Technical Support. You also need to collect and save this information for further use upon opening a case. Additionally, you need to update it regularly with any changes.

## Network Layout

This is a detailed description of the physical and logical setup, as well as all the network elements involved in the voice network (if applicable).

- Cisco CallManager(s) Version (**CCMAdmin > Details**), any service patches, number of CallManagers, setup (stand-alone, cluster)
- Cisco Unity Version (main admin page), integration type
- Applications Version
- IP/Voice gateways Operating System (OS) version, **show tech** command (Cisco IOS gateway), CM load (Skinny gateway), H.323 or MGCP
- Switch OS version, VLAN configuration

- Dial plan Numbering scheme, call routing

Ideally, a visual or other detailed diagram, such as JPG, needs to be submitted. The diagram can also be provided through a Cisco Live! session, with use of the whiteboard of the tool.

## Problem Description

Provide step-by-step detail of actions performed by the user when the issue occurs. The detailed information needs to include:

- Expected behavior
- Detailed observed behavior

## General Information

This information needs to be readily available.

- Is this a new installation?
  - ◆ If it is an old installation, has this issue occurred since it was installed?
    - ◇ If not, what changes were made lately to the system?
- Is the issue reproducible?
  - ◆ If it is reproducible, is it under normal or special circumstances?
  - ◆ If it is not reproducible, is there anything special about the time it does occur?
  - ◆ What is the frequency of occurrence?
- What are the affected devices?
  - ◆ If specific devices are affected (not random), what do they have in common?
- What devices are on the Call-Path (if applicable)?

## Problem Types and Specific Required Information

This section provides information on the type of problems and specific information required in order to submit a case to Technical Support.

**Note:** The shaded areas in these tables represent information that is needed when you submit a case to Cisco Technical Support.

### CallManager: System/OS

Provide this information:

- Network layout
- Problem description
- General information

|  |                       |          |                  |                     |             |
|--|-----------------------|----------|------------------|---------------------|-------------|
|  | System/OS             |          |                  |                     |             |
|  | Services not Starting | High CPU | Event Log Errors | System Crash/Freeze | Memory Leak |

|   |   |             |                 |                        |                |
|---|---|-------------|-----------------|------------------------|----------------|
| <b>Event Log (app/sys/sec)</b>                | xxx   |             |                 | xxx                    |                |
| <b>IIS and Cisco Services Status</b>          | xxx   |             | xxx             |                        |                |
| <b>Performance Monitor Log (MS – Q248345)</b> |   | CPU percent |                 | CPU percent and Memory | Memory counter |
| <b>Common</b>                                 | Software versions, installed service packs, add-ons, hot fixes, patches |             |                 |                        |                |
| <b>Additional Information</b>                 |   |             | RED X'ed errors |                        |                |

## CallManager: Administration

This information needs to be provided:

- Network layout
- Problem description
- General information

|                                      | Cisco CallManager Administration  |               |
|--------------------------------------|---|---------------|
|                                      | Access to CCMAAdmin   | Configuration |
| <b>Event Log (app/sys/sec)</b>       | xxx   |               |
| <b>IIS and Cisco Services Status</b> |   |               |
| <b>IIS Logs (MS Q158721)</b>         | xxx   |               |
| <b>DBL Traces</b>                    |   | xxx           |
| <b>Common</b>                        | Software versions, installed service packs, add-ons, hot fixes, patches |               |
| <b>Additional Information</b>        |   |               |

## CallManager: Call Processing/Signaling

This information needs to be provided:

- Network layout
- Problem description
- General information

Perform one call and collect all adequate information simultaneously based on this table. Follow the general guidelines in the Debugs section of this document.

|  |  |
|--|--|
|  |  |
|--|--|

| Cisco CallManager: Call Processing/ Establishment / Drops |                                   |   |                             |   |
|---|-----------------------------------|---|-----------------------------|---|
|   | IP Phone to IP Phone <sup>1</sup> | MGCP Gateway <sup>2</sup>   | Skinny Gateway <sup>3</sup> | H.323 Gateway <sup>4</sup>                                      |
| debug   | <b>show version</b>               | IOS gateway   |                             | IOS gateway   |
|   | <b>show run</b>                   | IOS gateway   |                             | IOS gateway   |
|   | Cisco CallManager Traces          | All Cisco CallManagers involved   |                             |   |
|   | <b>cch323</b>                     |   |                             |   |
|   | <b>h225</b>                       |   |                             | IOS gateway   |
|   | <b>voice ccapi inout</b>          |   |                             | IOS gateway   |
|   | <b>mgcp all</b>                   | IOS gateway   |                             |   |
|   | <b>isdn q931</b>                  |   |                             | IOS gateway with Primary Rate Interface(PRI)                    |
|   | <b>vtsp all</b>                   | IOS gateway/ Foreign Exchange Station (FXS)   |                             | IOS gateway with R2, channel associated signaling (CAS), or FXS |
|   | <b>vpm all</b>                    | IOS gateway/FXS   |                             | IOS gateway with R2, CAS, or FXS                                |
|   |                                   |   |                             | Non-IOS gateway traffic<br>Cisco CallManager<br><->gateway      |
|   | Common                            | Calling number, called number, other number(s) involved, time of call, observed behavior<br><br><b>Note:</b> When you collect multiple debugs, collect them all at the same time. |                             |   |
| Additional Information                                    |                                   |   |                             |   |

<sup>1</sup> IP Phone skinny protocol CallManager skinny protocol IP Phone

<sup>2</sup> IP Phone skinny protocol CallManager MGCP protocol MGCP gateway PSTN

<sup>3</sup> IP Phone skinny protocol CallManager skinny protocol Skinny gateway PSTN

<sup>4</sup> IP Phone skinny protocol CallManager H.323 H.323 gateway PSTN

## CallManager: One-way Audio

This information needs to be provided:

- Network layout
- Problem description
- General information

Perform one call and collect all adequate information simultaneously based on this table. Ensure you follow the debug general guidelines.

|       |                                     | CallManager: One-way Voice                                    |                           |                             |   |
|-------|-------------------------------------|---|---------------------------|-----------------------------|---|
|       |                                     | IP Phone to IP Phone <sup>1</sup>                             | MGCP Gateway <sup>2</sup> | Skinny Gateway <sup>3</sup> | H.323 Gateway <sup>4</sup>                                      |
| debug | <b>show version</b>                 |   | IOS gateway <sup>2</sup>  |                             | IOS gateway <sup>4</sup>  |
|       | <b>show run</b>                     |   | IOS gateway               |                             | IOS gateway   |
|       | CallManager Traces                  | Attenuation settings for gateway                              |                           |                             |   |
|       | <b>cch323</b>                       |   |                           |                             |   |
|       | <b>h245</b>                         |   |                           |                             | IOS gateway   |
|       | <b>cch323 rtp</b>                   |   |                           |                             | IOS gateway   |
|       | <b>voice ccapi inout</b>            |   |                           |                             | IOS gateway   |
|       | <b>mgcp packets</b>                 |   | IOS gateway               |                             |   |
|       | <b>vtsp all</b>                     |   | IOS gateway               |                             | IOS gateway   |
|       | <b>show call active voice brief</b> |   |                           |                             | IOS gateway if call over PRI, FXS, Foreign Exchange Office(FXO) |
|       |                                     | If 7960/7940 present behavior of RxCnt, TxCnt, RxLost, MaxJtr |                           |                             |   |
|       |                                     | Traffic between audio endpoints and endpoints <->CallManager  |                           |                             |   |

|  |                        |   |
|--|------------------------|---|
|  | Common                 | Calling number, called number, other number(s) involved, time of call, observed behavior<br><br><b>Note:</b> When you collect multiple debugs, collect them all at the same time. |
|  | Additional Information | Which party does not hear the audio? Is one-way audio permanent? If not, does it happen at the launch of the call? After a while? How long does it last?                          |

1. **IP Phone** skinny protocol **CallManager** skinny protocol **IP Phone**
2. **IP Phone** skinny protocol **CallManager** MGCP **MGCP gateway** PSTN
3. **IP Phone** skinny protocol **CallManager** skinny protocol **Skinny gateway** PSTN
4. **IP Phone** skinny protocol **CallManager** H.323 **H.323 gateway** PSTN

## CallManager: Echo

This information needs to be provided:

- Network layout
- Problem description
- General information

Perform one call and collect all adequate information simultaneously based on this table. Follow the general guidelines in the Debugs section of this document.

|                               | IP Phone to IP Phone <sup>1</sup> | MGCP                                | MGCP                               | MGCP                                |
|-------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>show version</b>           |                                   | Gateway <sup>2</sup><br>IOS gateway | Gateway <sup>3</sup>               | Gateway <sup>4</sup><br>IOS gateway |
| <b>show run</b>               |                                   | IOS gateway                         |                                    | IOS gateway                         |
| CallManager config            | Attenuation settings for gateway  |                                     |                                    |                                     |
| <b>show call active voice</b> |                                   | IOS gateway (while tone testing)    |                                    | IOS gateway (while tone testing)    |
| <b>show port voice active</b> |                                   |                                     | Catalyst 6000 (while tone testing) |                                     |

|                        |  |
|------------------------|--|
|                        | Traffic between audio endpoints and endpoints<br><-> Cisco CallManager   |
| Common                 | Calling number, called number, other number(s) involved, time of call, observed behavior<br><br><b>Note:</b> When you collect multiple debugs, collect all of them at the same time.   |
| Additional Information | Which party hears the echo? Is the echo permanent? If not, does it happen at the start of the call? After a while? How long does it last? Is it long or short echo? Is it loud or low? |

<sup>1</sup> **IP Phone** skinny protocol **CallManager** skinny protocol **IP Phone**

<sup>2</sup> **IP Phone** skinny protocol **CallManager** MGCP **MGCP gateway** PSTN

<sup>3</sup> **IP Phone** skinny protocol **CallManager** skinny protocol **Skinny gateway** PSTN

<sup>4</sup> **IP Phone** skinny protocol **CallManager** H.323 **H.323 gateway** PSTN

## CallManager: Sub-optimal Voice Quality

This information needs to be provided:

- Network layout
- Problem description
- General information

Perform one call and collect all adequate information simultaneously based on this table. Follow the general guidelines in the Debugs section of this document.

|   | Cisco CallManager: Sub-optimal Voice Quality |                                     |                      |                                     |
|---|--|-------------------------------------|----------------------|-------------------------------------|
|   | IP Phone to IP Phone <sup>1</sup>            | MGCP                                | MGCP                 | MGCP                                |
| <b>show version</b>                     |  | Gateway <sup>2</sup><br>IOS gateway | Gateway <sup>3</sup> | Gateway <sup>4</sup><br>IOS gateway |
| <b>show run</b>                         |  | IOS gateway                         |                      | IOS gateway                         |
| Cisco CallManager Traces                | All Cisco CallManagers involved              |                                     |                      |                                     |
| CallManager config                      | Attenuation settings for gateway             |                                     |                      |                                     |
| <b>show call active voice   inc los</b> |  |                                     |                      | IOS gateway if call over PRI, FXS,  |

|                        |   |  |  |  |     |
|------------------------|---|--|--|--|-----|
|                        |   |  |  |  | FXO |
|                        | If 7960/7940 present behavior of RxCnt, TxCnt, RxLost, MaxJtr   |  |  |  |     |
|                        | Traffic between audio endpoints and endpoints <-> Cisco CallManager   |  |  |  |     |
| Common                 | Calling number, called number, other number(s) involved, time of call, observed behavior<br><br><b>Note:</b> When you collect multiple debugs, collect them all at the same time. |  |  |  |     |
| Additional Information | Which party hears sub-optimal audio? Is the issue permanent? If not, does it happen at the start of the call? After a while? How long does it last?                               |  |  |  |     |

<sup>1</sup> **IP Phone** skinny protocol **CallManager** skinny protocol **IP Phone**

<sup>2</sup> **IP Phone** skinny protocol **CallManager** MGCP **MGCP gateway** PSTN

<sup>3</sup> **IP Phone** skinny protocol **CallManager** skinny protocol **Skinny gateway** PSTN

<sup>4</sup> **IP Phone** skinny protocol **CallManager** H.323 **H.323 gateway** PSTN

## CallManager: Upgrade or Install Failure

In case of an upgrade or install failure, this information needs to be provided:

- Original version of Cisco CallManager
- Upgrade/Installation version
- Any error messages that appeared during the process

Collect the logs under these paths:

1. C:\\*.log
2. C:\\*.txt
3. C:\Winnt\sti\*.\*
4. C:\dcdsrvr\log\\*.\*
5. C:\Install\DBInstall\\*.\*
6. C:\Program Files\Common Files\Cisco\Logs\\*.\*

If this is a Service Pack or Engineering Special install, include the file C:\Program Files\Cisco\ciscoupdate.txt.

## CallManager: Backup Utility

This information needs to be provided:

- Cisco CallManager version
- C:\Winnt\sti\*.txt
- C:\Winnt\Catalog.txt

In order to create this file, right click on the **Backup** utility icon at the bottom right hand corner of the screen and select **Create Catalog of Backup**.

## CallManager: Other

This information needs to be provided:

- Network layout
- Problem description
- General information

|                          | Cisco CallManager: Other  |                                     |
|--------------------------|---|-------------------------------------|
|                          | IP Phones<br>Unregistering/Reregistering <sup>1</sup>               | IP Phones<br>Rebooting <sup>1</sup> |
| Cisco CallManager Traces | All Cisco CallManagers involved                                     |                                     |
|                          | Traffic between Cisco CallManagers and IP phones                    |                                     |
| Common                   | IP and MAC address of involved phones                               |                                     |
| Additional Information   | How are the phones powered (inline power or external power supply)? |                                     |

<sup>1</sup>. **IP Phone** skinny protocol **CallManager**

## Applications: Attendant Console

Before you open a case, refer to Cisco CallManager Attendant Console Frequently Asked Questions

Collect these informations:

- **Cisco CallManager** version
- **Attendant Console** version
- **Pilot** point DN, Hunt group members in order
- From the server side, provide the complete **logs** folder located at  
C:\ProgramFiles\Cisco\CallManagerAttendant\
- Cisco CallManager traces from all involved CallManagers
- The computer telephony integration (CTI) traces from all involved Cisco CallManagers
- Telephony Call Dispatcher (TCD) traces from all involved Cisco CallManagers
- From the client side, provide the logs located at:
  - ◆ C:\ProgramFiles\Cisco\CallManager Attendant Console\\*.txt
  - ◆ C:\ProgramFiles\Cisco\CallManager Attendant Console\jtapi\\*.txt
  - ◆ UserID used to log into the client

**Note:** For the client side, this path is valid only if you chose the default path during installation. If this is not the case, substitute C:\ProgramFiles\ with the path that you had chosen.

# Applications: Customer Response Solutions (CRA/CRS, IPCC Express, IP Autoattendant, ICD)

Trace masks for:

- **AutoAttendant:** *SS\_TEL*
- **ICD:** *SS\_RM, SS\_CM, SS\_TEL, SS\_RMCM, ICD\_CTI, ICD\_RTDM, STEP\_ICD*
- **Extension Mobility:** *GENERAL\_STEPS\*, LIB\_LDAP, CCUSER\_STEPS\*, SS\_HTTP\*, LIB\_DIRECTORY\**

\* Only available in full CRA/CRS versions.

## Applications: Issue-specific Required Information

### Administrative Reporting Tool (ART)

On the ART server, extract these application, system, and security event logs:

- **ErrorLog.txt** Located at C:/ciscowebs/art
- **ARTSchError.log** Located at C:/ciscowebs/art/SchedulerService
- **ARTSchOutput.log** Located at C:/ciscowebs/art/SchedulerService
- **wrapper.properties** Located at C:/ciscowebs/art/SchedulerService

### Tool for Auto-Registered Phone Support (TAPS)

These logs are generated for TAPS:

- C:\CiscoWebs\BAT\Taps\TAPSTrace.txt
- C:\CiscoWebs\BAT\Taps\LogFiles\Taps log file.txt

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## Related Information

- **Voice Technology Support**
- **Voice and IP Communications Product Support**
- **Recommended Reading: Troubleshooting Cisco IP Telephony**
- **Technical Support & Documentation – Cisco Systems**

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