



Release Notes for Cisco CTI OS Software Release 6.0(0)

September 2005



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Introduction

These release notes include information for the Release 6.0 version of the Cisco CTI software. These release notes contain information for the following Cisco CTI components:

- Cisco CTI Driver for Siebel 7
- CTI OS

For release notes related to the most recent previous release of CTI, see the *Release Notes for Service Release 1 for Cisco CTI OS Software Release 5.1* at

<http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm50doc/icm5cti/ctios5/index.htm>

Note to CTI Desktop Customers

Cisco CTI Desktop, which was part of Cisco CTI software in CTI Releases 4.7 and earlier, is no longer included effective with CTI Release 5.0. The Release 4.7 versions of CTI Desktop products will work with ICM Release 6.0. CTI Desktop customers should refer to the *Release Notes for Service Release 3 for Cisco CTI Software Release 4.7* for release notes relevant to CTI Desktop. These release notes are located at

<http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm46doc/ctiosdoc/ctiobsr/index.htm>



Cisco CTI Driver for Siebel 7

This section contains CTI Release 6.0 information for the Cisco CTI Driver for Siebel 7.

Supported Siebel Versions

Release 6.0 of the CTI Driver for Siebel 7 supports the following versions of Siebel: 7.0.4.x, 7.0.5.x, 7.5.2.x, 7.5.3.x, **and** 7.7.x.

**Note**

The Siebel7_5 directory on the Release 6.0 FCS Siebel Driver CD contains a driver that works with both Siebel 7.5.x **and** Siebel 7.7.x.

Version Restrictions within a Peripheral Gateway

If Siebel upgrades are in progress on a given Peripheral Gateway (PG) or PG pair, it is permissible for some agents to still be running Siebel version 7.0.x while other agents are running Siebel version 7.5.x. However, these versions of Siebel cannot share a Siebel database between them, and any given agent cannot be configured for both versions. This cross version support is allowed only for the period of migration from one version of Siebel to the other. It is strongly recommended that all agents be upgraded to the newer version of Siebel as quickly as possible.

Similar comments/restrictions apply if upgrading from 7.5.x to 7.7.x.

CTI OS/Siebel Driver Compatibility

CTI OS Release 6.0 supports Release 6.0 of the CTI Driver for Siebel 7. Customers are expected to upgrade to the Siebel Driver for Release 6.0 as soon as possible after the upgrade to CTI OS Release 6.0 is complete.

Installation Packages and Version Support

CTI Release 6.0 includes two installation packages for the Cisco CTI Driver for Siebel 7. These packages are located in two folders in the Install directory on the CTI OS CD.

- The folder Siebel 7 supports Siebel 7 releases earlier than Siebel 7.5.
- The folder Siebel7_5 supports Siebel 7.5.

Cisco Data Store

A socket version of Cisco Data Store is provided on the CTI OS CD. If you are running Cisco Data Store with the Cisco CTI Driver for Siebel 7, you must use this socket version.



Note

The Cisco Data Store must be installed on a standalone server to procure optimal performance of this component. The Cisco Data Store performance degrades when it is co-located with CTI OS Server, ICM and/or Siebel Communication Server.

To install, configure, and use the socket version of Cisco Data Store, perform the following steps:

- Follow the instructions in the *Cisco ICM Software CTI Driver for Siebel 7 Reference Guide* to install Socket CDS. The installation process sets the default listen port as 42027; you can change this value by modifying the Registry.
- Add the following parameters to the Cisco CTI Driver for Siebel 7 DEF file:

```
Driver:DataServerName = "CiscoDataStoreHostName"  
Driver:DataServerPort = "42027"
```

See the *Cisco ICM Software CTI Driver for Siebel 7 Reference Guide* for information about the DEF file.

- Start the Socket Cisco Data Store process (process name is ctiosdatastore) from ICM Service Control.

Siebel Release Restriction

All agents connected to a Cisco Data Store *must* be running the same release of Siebel (i.e., all Siebel 7.5.3, all Siebel 7.0.5, or all Siebel 6). Cisco Data Store does *not* support configurations in which agents are running different releases of Siebel.

Cisco Data Store Capacity with Siebel 7 Driver

With the Siebel 7 driver, Cisco Data Store supports a maximum of 20,000 agents. (The Cisco Data Store capacity with the Siebel 6 driver is much lower; see the *Release Notes for Service Release 3 for Cisco CTI Software Release 4.7* for specifics.)

The *actual* number of agents your Cisco Data Store will be able to support may be less than 20,000 agents, and will depend on the following factors.

- Number of transfer calls per second.
- Amount of data transferred between agents and Cisco Data Store
- CPU processor speed
- Memory size

It is important to ensure that CPU usage does not regularly exceed 50% during normal operation of the server when fully loaded. Since performance is affected by many factors including CPU capacity, it is important to monitor your system to determine the maximum number of agents you can support without exceeding the 50% CPU usage limit.

For example, Cisco testing has determined that Cisco Data Store can support 20,000 agents in the following configuration:

- Cisco Data Store residing on a Windows 2000 system that meets the recommended hardware requirements stated in the *Bill of Materials for Cisco Enterprise Contact Routing* document at <http://www.cisco.com/univercd/cc/td/doc/product/icm/index.htm>.
- Simplex system (Cisco Data Store does not support fault tolerance)
- Cisco Data Store trace mask is set to 0x7
- 200 calls per second
- A call ratio of 60% standard calls and 40% transfer calls

- 600 bytes of data transferred per call
- Call duration is 100 seconds

The Cisco Data Store cannot reside on the same machine as the ICM Peripheral Gateway (PG) or any other ICM components. It also cannot reside on the same machine as the Siebel Communication Server.

Up to 50 Siebel 7 drivers can connect to a single Cisco Data Store.

See the *Cisco ICM Software CTI Driver for Siebel 7 Reference Guide* for additional Socket CDS usage and troubleshooting information.

Cisco Data Store Data Transfer Limitation

The largest data block that Cisco Data Store can transfer in a single operation is 65,535 bytes (including a 12-byte header). The actual maximum may be less for a given transfer depending on such factors as type of data, number of data items, and number of keywords.

Caveats Resolved in this Release

This sections discusses defects that were present in the Cisco CTI Driver for Siebel 7 in CTI Releases prior to 6.0 and have been resolved in CTI Release 6.0. Defects are listed by severity. For more information on these and other resolved defects, you can go to the Bug Toolkit found at www.cisco.com/support/bugtools/Bug_root.html

Severity 2

This section discusses the CTI OS severity 2 defects that were resolved in CTI Release 6.0.

Defect Number: CSCma27282

Component: cti.siebel

Headline: The ctiosdatastore hitting 95% cpu utilization on PG

Symptom: The ctiosdatastore was found to be causing the cpu on the pg to go to 80-95%.

Condition: ICM 5.0, CTIOS 4.7.7, and Siebel 6.0.3

Defect Number: CSCma24461

Component: cti.siebel

Headline: Siebel: generated dumpfile on Rapid Agent Logout while under load

Symptom: When an agent logs out under heavy load conditions (many agents logged on and many simultaneous calls), the Siebel COMM Server may terminate abruptly due to a failure in the Cisco Siebel driver.

Condition: Using the Cisco Siebel driver under load conditions.

Defect Number: CSCma25509

Component: cti.siebel

Headline: Siebel7 Driver: unable to update ECC using UpdateCurCallData comman

Symptom: Agent1 calls agent2, and agent2 answers the call. Agent1 tries to update ECC variables for the current call but the update operation fails.

Condition: ICM, CTIOS and Siebel driver.

Severity 3

Table 1 lists the CTI OS severity 3 defects that were resolved in CTI Release 6.0.

Table 1 *Cisco CTI Driver for Siebel 7 Resolved Severity 3 Defects*

Defect Number	Component	Description
CSCma27076	cti.siebel	Data Store installation causes EMS traces to cease.
CSCma27924	cti.siebel	Stats broadcast in Siebel7 driver causes memory leak.

Known Limitations in this Release

This section discusses the known limitations of the Cisco CTI Driver for Siebel 7 in CTI Release 6.0. Many of these limitations have been entered as defects. Cisco has evaluated these defects on a case-by-case basis and has closed them. For each defect, Cisco has determined that either of the following is true:

- The software functions as designed
- The issue cannot be resolved

For more information on these and other closed defects, you can go to the Bug Toolkit found at www.cisco.com/support/bugtools/Bug_root.html

Defect Number: CSCma25375

Severity: 3

Component: cti.siebel

Headline: Cisco Outbound Option not supported with Siebel

Cisco Outbound Option, formerly called Blended Agent, is not supported with the Cisco CTI Driver for Siebel 7 and Siebel.

CTI OS

This section contains CTI Release 6.0 information for CTI OS.

Java™ CIL

The CTI OS Developer's Toolkit in CTI OS Release 6.0 now includes a Java™ Client Interface Library (Java CIL). This provides a Java programming interface for customers who wish to develop platform independent client applications to the CTI OS Server.

Functionality Not In Java CIL Release 6.0

Release 6.0 of Java CIL does not support the following CTI OS functionality.

- Media Termination
- Silent Monitor
- Multiagent Mode
- Java Bean similar to the CTI OS ActiveX Controls

Installation

On Windows systems, use the CTI OS Client installation program to copy the Java CIL files to your system. Be sure to specify CTI OS Developer's Toolkit on the Select Components screen. Refer to the *Cisco ICM Software CTI OS System Manager's Guide* for installation instructions.

**Note**

If you install the Java CIL with the CTI OS Client installation program, it will not modify your CLASSPATH environment variable. You will need to modify this environment variable yourself.

On Linux systems, copy the contents of the following directory and all its associated subdirectories from the CTI OS CD to your system:

```
installs\CTIOSClient\CTIOS_JavaCIL
```

**Note**

On Linux systems, Java CIL requires RedHat Linux Enterprise Version 3.0.

The CTIOSJavaCIL directory contains three subdirectories.

- **Javadoc.** This directory contains the Java CIL Javadoc files (see the next section).
- **Samples.** This directory contains AllAgents and JavaPhone sample Java CIL programs.
- **Tools.** This directory contains CILTest and TestPhone Java CIL test tools.

**Note**

Java 2SE SDK and Java 2RE SDK Version 1.4.2 must also be installed on the client machine prior to using Java CIL.

Java CIL Scalability for Server-to-Server Integrations

Currently, the only way for applications to connect to CTI OS in a server-to-server integration with the Java CIL is by using AgentMode connections. A separate session is opened for each agent. This scenario can be resource intensive when controlling a large number of agents from an application running in a single JVM. The Java CIL has undergone some basic testing under these conditions to provide information about performance.

Note that 500 agents is the maximum number of agents that Cisco will support connecting to CTI OS from a single Java CIL client system. While this is the maximum, the actual achievable number may be lower than that. Scalability is dependent on factors such as:

- Number of agents
- Number of calls per second
- Ratio of transfer/conference calls to standard calls
- Number of skill groups per agent
- Refresh rate of agent and skill group statistics
- Amount of statistics configured
- Number and type of CPU(s) in the client system
- RAM installed in the system

- Customer application's resource usage

It is important to ensure that CPU usage does not regularly exceed 50% during normal operation when the system fully loaded. Since performance is affected by many factors including CPU capacity, it is important to monitor your system to determine the maximum number of agents you can support without exceeding the 50% CPU usage limit.

If you are planning to implement an integration such as this, it is highly recommended that you perform laboratory testing with your application under conditions similar to those you expect to deploy under. Also, applications of this type should receive Skillgroup statistics via a separate monitor mode session rather than through each AgentMode session in order to reduce bandwidth and message processing. Please consult the CTI OS Developer's Guide section on "How to Set Up a Monitor-Mode Application to Receive Skill Group Statistics". It is also expected that the system running the customer application in this scenario will be on a server caliber system that at least meets the recommended hardware requirements in the Cisco IPCC PG BOM requirements.

Table 2 outlines the results of the basic testing that was performed. This is provided as informational only and is not intended to guarantee that you will achieve the same results. These tests were performed on a client system with the following specifications:

- **CPU:** 2.6 GHz Intel Pentium 4
- **MEM:** 1024 MB
- **OS:** Windows 2000 Server, SP 2
- **Skill Groups per Agent:** 2 SkillGroups, no statistics.

Note that these tests were performed on a client system that does *not* meet the recommended hardware requirements specified in the *Bill of Materials for Cisco Enterprise Contact Routing* document at

<http://www.cisco.com/univercd/cc/td/doc/product/icm/index.htm>.

Table 2 Java CIL Scalability Test Results

Agents Per Java CIL	CPU:Max	CPU:Min	Memory:Max	Memory:Min	Comments
60	4.3%	0.21%	31,260,672	30,531,584	15% Conference, ½ call/sec
100	4.7%	0.83%	39,219,200	33,759,232	Straight call, 1 call/sec

Table 2 Java CIL Scalability Test Results

200	8.2%	2.3%	69,898,240	66,101,248	Straight call, 2 calls/sec
300	13%	5.1%	101,449,728	91,119,616	Straight call, 3 calls/sec
400	15%	6.0%	119,447,552	118,452,224	Straight call, 3 calls/sec
500	38%	8.3%	132,345,856	130,846,720	Straight call, 4 calls/sec

Javadoc

The Java CIL Javadoc files contain information on Java CIL interfaces. In addition to the interfaces common to other programming languages that are documented in the *Cisco ICM Software CTI OS Developer's Guide*, the Javadoc contains information on the following important Java CIL only interfaces:

- Utility_Methods class methods. This class contains methods that can obtain a simple class name or stack trace string.
- LogManager class methods. These methods enable ILogListeners to register to receive log events and enable posting of trace events.
- LogWrapper class methods. This class contains methods that write trace files.
- CtiOs_EnumStrings methods. This class contains static methods that convert various IDs from CIL interfaces into Strings
- AddEventListener and RemoveEventListener methods. These Java CIL only session object methods subscribe and unsubscribe an IGenericEvents object as a listener on a particular subscriber list.
- CtiOs_IKeywordIDs. This interface provides an enumeration for known CTI OS Java CIL keywords.
- CtiOs_Enums. This interface contains enumerations of various codes used throughout the Java CIL.

Agent Availability

CTI OS Release 6.0 includes the Agent Availability feature. This feature enables the CTI OS Desktop for IPCC Enterprise to track the availability of an agent on the supervisor's team across multiple ICM media domains (email, web collaboration, and voice). The Team State Information grid in the CTI OS

Desktop for IPCC Enterprise now contains an additional column, Available for Call. The value in this column is listed as No if an agent is busy with a customer contact on any ICM media domain. See the *Cisco ICM Software CTI OS Desktop for IPCC Enterprise User Guide* for more information.

Silent Monitor

Known Silent Monitor Limitations in Release 6.0

The following limitations exist in the Release 6.0 version of the Silent Monitor feature.

- Silent Monitor is supported for use on Cisco IPCC Enterprise *only*. It is *not* supported for use on other ACDs.
- An agent can be monitored only by one supervisor at a time.
- A supervisor can monitor only a single agent at a time.
- A supervisor needs to log on to a hardphone when silent monitoring via the IPCC Supervisor Softphone. The following Cisco IP Phones are supported for use with Silent Monitor.
 - 7910+SW
 - 7940
 - 7960

The 7912 phone does not work, since it does not replicate voice packets on the second port

- Agents need to be logged on to a supported hardphone with the Agent desktop PC connected to the second port of the phone (see the *Cisco ICM Software CTI OS System Manager's Guide*) or via Media Termination.
- Every active Silent Monitor session causes the same amount of network traffic as an additional voice call on the network. The network needs to be provisioned accordingly; see the *Cisco ICM Software CTI OS System Manager's Guide* for guidelines.
- There is no hard limit for concurrent Silent Monitor sessions. However, the maximum number of concurrent Silent Monitor sessions may be limited by the number of agents and supervisors, as well as the network's ability to handle the additional network traffic (see previous item).

- If agents are using IP hardphones, they need to be left in the default configuration, where voice traffic is replicated on the second port.
- The only supported audio codecs for Silent Monitoring are G.711 and G.729.
- If you unplug a USB digital headset from the USB port during a silent monitoring session and then plug the headset back in, the CTI OS Desktop for IPCC Enterprise application may freeze. Use an analog headset if your environment may require unplugging the headset while monitoring an agent on a call.
- On XP systems, the Internet Connection Firewall (ICF) needs to be disabled.

Silent Monitor Does Not Work With All NIC Cards

If agents use supported IP hardphones with their desktops connected to the second port of the phone *and* if the network is configured to use a VLAN for voice traffic, the network card and driver in the agent desktop PC need to be capable of capturing packets on a different VLAN in order for Silent Monitor to work. This restriction does *not* apply if the network is not configured for VLANs.

Cisco testing has determined that several NIC cards manufactured by Intel are not capable of capturing packets from a different VLAN. No workaround exists for and the Intel 8255x-based PCI Ethernet Adapter cards. A workaround is available for the Intel Pro/1000 and Intel Pro/100 NIC cards; see the following Intel website for information:

<http://support.intel.com/support/network/sb/cs-005897-prd38.htm>

For NIC cards from other manufacturers, there are procedures you can run to determine if your NIC card can capture packets on a different VLAN.

- If you have Cisco CallManager installed, perform the procedure listed in the *Cisco ICM Software CTI OS Troubleshooting Guide*, Chapter 1, section “Silent Monitor Problems”, symptom “A Silent Monitor session failed message box appears because the PC cannot capture the voice packets sent from the phone.”. Ensure that the PC is connected to the second port of the hard phone when you perform this procedure.

Silent Monitor: Developer Information

**Note**

This section pertains only to developers creating custom applications using Silent Monitor. The out-of-the-box CTI OS Supervisor Desktop and CTI OS Agent Desktop install applications perform all required configuration automatically.

For supervisor desktops using silent monitor, you need to install the following files:

- `ccnsmt.dll` - this file is the COM dll that transmits monitored audio via the sound card. It must be registered. (e.g. `regsvr32 ccnsmt.dll`)
- `libg723.dll` - this file is a dependency of `ccnsmt.dll`. `ccnsmt` will fail to register without it
- `traceserver.dll` - this is the tracing mechanism for `ccnsmt.dll`

For agent desktops using silent monitor you need to run the WinPcap install executable:

- `WinPcap_3_0_nogui.exe`

The CTIOS silent monitor feature requires that you modify a WinPcap registry setting after installing (or reinstalling) WinPcap. In the Windows registry go to the following registry key:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NPF

Change the value of the Start setting under this key from 0x00000003 to 0x00000002. Reboot the PC.

Cisco Secure Agent (CSA) Limitation

You cannot run Cisco Secure Agent (CSA) on a machine that contains CTI OS Client libraries. CSA can run only on machines where CTI OS Servers exist.

Volume Control Removed

The Volume Control has been removed from the Cisco CTI OS Client install program in CTI OS Release 6.0. Refer to CSCma29846. Please disregard any references to this control that may remain in the Release 6.0 documentation.

Citrix and Windows Terminal Services Not Supported

CTI OS does not support either Citrix or Windows Terminal Services.

Supervisor Controls and Agent Not Ready

Making a monitored agent Not Ready is not supported by the supervisor controls. This may be somewhat confusing to the user since the option is not grayed out like other unsupported features.

Important Notes about Server to Server Integration

If you are planning to use CTI OS to do a server to server integration in Agent mode, please note the following design considerations.

- Server integrations will need to use a separate AgentMode session per agent. This means that there are resource considerations for the machine since each session has four threads and one socket. Depending on the capabilities of the system in areas such as RAM and processing power, the limit for the number of agents that is practical will vary.
- If Skillgroup statistics are desired, a separate MonitorMode session should be used to receive them. You must then open a MonitorMode session and set a special filter "filtarget=skillgroupstats". Then, use the EnableSkillGroupStatistics method on the Session object (NOT use the one on the Agent object). Call it once for each SkillGroup you want to receive statistics for. Each time you will provide the SkillGroup Number and Peripheral ID. See the section "Filtering Skillgroup Statistics" in the *Cisco ICM Software CTI OS Developer's Guide*.

- After a failover you need to re-enable the SkillGroup statistics because the CIL will not automatically do this for the MonitorMode session. If you receive an OnConnectionFailed the CIL will go into failover. If this happens, wait for an OnConnection event before calling the EnableSkillGroupStatistics method.

Development Environments Not Supported

CTI OS Release 6.0 does not support the Visual Studio 7 or .NET development environments.

CTI OS Agents and CAD Agents Cannot Share a PG

If both a CTI OS desktop and a Cisco Agent Desktop (CAD) are used, the CTI OS agents and the CAD agents must be placed on separate PGs.

CTI OS Release 6.0 Compatibility

This section discusses CTI OS Release 6.0 compatibility and interoperability with related Cisco and third party hardware and software.

Interoperability with Previous CTI OS Versions

CTI OS Server Release 6.0 is compatible with CTI OS Client Releases 4.7, 5.0, 5.1, and 6.0. In other words, you may continue to run agent and supervisor desktops with CTI OS Releases 4.7, 5.0, 5.1, and 6.0 after upgrading CTI OS Server to Release 6.0.

Supported CTI OS Server Platforms

CTI OS Server Release 6.0 is supported only on Windows 2000. It is not supported on Windows NT or Windows XP.

Supported CTI OS Client Component Platforms

The CTI OS Agent Desktop is supported on Windows 98, Windows NT 4.0, Windows 2000, and Windows XP.

The CTI OS Supervisor Desktop for IPCC Enterprise is supported on Windows 2000, Windows XP, and Windows 98. The CTI OS Supervisor Desktop for IPCC Enterprise is also supported on Windows NT 4.0 *if* the desktop is *not* using the Silent Monitor feature.

Java CIL is supported on Windows 2000, Windows XP, and RedHat Linux Enterprise Version 3.0.

CTI OS Server/ICM Compatibility

CTI OS Server Release 6.0 is supported only with ICM Release 6.0 Peripheral Gateways (PGs). If you are running an earlier ICM Release, you must upgrade your ICM PGs to Release 6.0 prior to installing CTI OS Release 6.0.

Hardware Requirements

For minimum and recommended hardware requirements for CTI OS Release 6.0 components, see the *Bill of Materials for Cisco Enterprise Contact Routing* document at <http://www.cisco.com/univercd/cc/td/doc/product/icm/index.htm>

CTI OS Server Capacity

This section discusses the capacity of the CTI OS Server in CTI OS Release 6.0. It covers the following topics.

- Maximum number of agents
- Additional limits
- Configuration considerations
- Peer servers
- Monitor Mode application considerations
- CTI OS Server trace masks under load

Maximum Number of Agents

CTI OS Release 6.0 supports a *maximum* of 500 agent-mode connections. The *actual* number of agents your CTI OS Server will be able to support may be less than 500, and depends on the following factors.

- Number of calls per second.
- Ratio of transfer/conference calls to standard calls. Transfer and conference calls require more resources to process than standard calls.
- Number of skill groups per agent.
- Refresh rate of agent and skill group statistics.
- Amount of statistics configured.
- CPU processor speed.
- Number of secondary supervisors per team.

It is important to ensure that CPU usage does not regularly exceed 50% during normal operation of the server when fully loaded. Since performance is affected by many factors including CPU capacity, whether the CTI OS Server is co-located with the PG, as well as the factors above, it is important to monitor your system to determine the maximum numbers of agents you can support without exceeding the 50% CPU usage limit.

For example, Cisco testing has determined that CTI OS Server can support 500 agents in the following configuration:

- PG (IPCC PIM), CG, and CTI OS Server on one machine that meets the *recommended* hardware requirements stated in the *Bill of Materials for Cisco Enterprise Contact Routing* document at <http://www.cisco.com/univercd/cc/td/doc/product/icm/index.htm>.
- Duplex system
- 5 calls per second with call data
- 5 skill groups per agent
- Agent Statistics and Skill Group Statistics enabled for all agents
- A call ratio of 60% standard calls and 40% transfer calls

It is also worth noting that Cisco testing has determined that CTI OS Server can support 450 agents and 50 supervisors in the following configuration:

- PG (IPCC PIM + VRU PIM), CG, and CTI OS Server on one machine with the following spec:
MCS 7845H-3.0 with Dual 3.1 Ghz Xeon CPU with HyperThreading turned ON and 4 Gb of RAM
- 14000 BHCA without call data and only agents handling calls
- 5 configured skill groups per agent
- Agent Statistics and Skill Group Statistics enabled for all agents and supervisors
- A call ratio of 85% standard calls, 10% transfer calls, and 5% conference calls
- 5 teams with 90 agents and 10 supervisors per team
- 60 seconds talk time

Additional Limits

The following additional limits apply to the capacity of the CTI OS Server in CTI OS Release 6.0.

- Maximum number of skill groups per agent: 20.
- Maximum number of agent statistics items: default items (6 items).
- Maximum number of skill group statistics items: default items (14 items).
- Refresh rate of agent statistics updates: at the end of every call (this is the default).
- Refresh rate of the skill group statistics updates: 10 seconds. This is the fastest refresh rate possible.
- Maximum number of agents per team: 64.
- Maximum number of concurrent agents and supervisors per CTIOS Server pair: 500.
- Maximum number of skill groups per agent: 20.
- Maximum number of configured agents and supervisors per site: 1000.
- Maximum number of teams per site: 50.
- Maximum number of team members: 100.
- Maximum number of supervisors per team: 10.
- Maximum number of agents per supervisor: 100.

Configuration Considerations

The preferred configuration is to co-locate the CTI OS Server on the same machine as the ICM PG and the CTI Server. However, if this configuration does not provide sufficient performance, you can get faster performance by locating the CTI OS Server on its own high performance system.

For fault tolerance, you must deploy redundant CTI OS Servers. Each redundant pair of CTIOS servers supports 500 agents. The preferred configuration is to co-locate each CTI OS Server on the same machine as the ICM PG and the CTI Server. To support deployments between 500 and 1000 agents on Call Manager (CCM), the preferred configuration consists of deploying two separate PG pairs, with a CTIOS server co-located on each PG. Note this has the following restrictions:

- IPCC skill groups cannot span across multiple PGs
- Agents on one PG cannot chat with agents on another PG

Peer Servers

Defining two CTI OS Servers as peer servers makes it possible to perform desktop functions between agents and supervisors that reside on different CTI OS Servers. For example, agents who reside on CTI OS Servers that are defined as peers can chat with each other, or a supervisor can silent monitor an agent on a peer server.

You can define two CTI OS Servers as peer servers only if they are connected to the same CTI Server or CTI Server pair. You cannot define two CTI OS Servers as peer servers if they are connected to CTI Servers that reside on different PGs.

See the Configuration chapter of the *Cisco ICM Software CTI OS System Manager's Guide* for information on the registry settings needed to define CTI OS Servers as peer servers.

Monitor Mode Application Considerations

When a monitor mode application connects to CTI OS server, the server performs a CPU intensive sequence of operation to provide the application with a snapshot of the state of the system. Thus a large number of monitor-mode applications connecting to CTI OS server at the same time, such as in a fail-over scenario, may cause significant performance degradation on CTI OS server. To minimize the

likelihood of this monitor mode performance impact, **keep the number of monitor mode applications (such as AllAgents or AllCalls) connecting to CTIOS server to a minimum.**

CTI OS Server Tracing Under Load

To ensure optimal CTI OS performance, the trace masks for both the CTI OS Server and CtiDriver processes should be set to 0x0 under load.

In addition, the UserDump utility on both the CTI OS Server and CtiDriver processes of a production system should be turned off. This utility should be used **only** for debugging purposes.

Supported ACDs

CTI OS Release 6.0 supports the following Automatic Call Distributors (ACDs).

- Alcatel 4400
- Aspect Contact Server
- Avaya DEFINITY ECS
- IPCC Enterprise
- Nortel Meridian
- Nortel Symposium
- Rockwell Spectrum
- Siemens Hicom, North American version only. The European version (Siemens Hicom 300 E) is *not* supported.



Note

Silent Monitoring and supervisor functionality are supported for use on IPCC Enterprise *only*.

CTI OS/Call Manager Compatibility

CTI OS Release 6.0 is compatible with Cisco Call Manager Releases 3.3.3 and 4.0. CTI OS Release 6.0 is not supported with earlier versions of Cisco CallManager.

IPCC Media Termination Limitation

IPCC Media Termination is not supported on networks that are configured to use a VLAN for voice traffic.

Documentation

The following manuals on the CTI OS CD have been updated for Release 6.0.

- *Cisco ICM Software CTI OS Developer's Guide*
- *Cisco ICM Software CTI OS System Manager's Guide*
- *Cisco ICM Software CTI OS Troubleshooting Guide*
- *Cisco ICM Software CTI Product Description*
- *Cisco ICM Software CTI OS Agent Desktop User Guide*
- *Cisco ICM Software CTI OS Desktop for IPCC Enterprise User Guide*

Technical Notes

Network Address Translation (NAT) Configurations

Cisco CTI OS does not work with all Network Address Translation (NAT) configurations.

If Cisco CTI OS is to be deployed on a network environment where more than one disjoint network is interconnected using NAT, then Cisco CallManager, the Physical IP Phone, Cisco CTI OS Server, Cisco CTI OS Agent Desktop, and the Cisco CTI OS IPCC Supervisor Desktop must be on the same network.

Skill Group Statistics and the Default Skill Group

Certain calls are not naturally associated with a given skill group—for example, a direct call to an agent's phone. For reporting purposes, each call must be associated with a skill group. To provide for this, IPCC creates a default skill

group. This default skill group is numbered and named by IPCC with what looks like a random string of digits, so as not to conflict with skill groups that users might create.

The default skill group appears, of necessity, in the CTI OS Skill Group Statistics. As explained, IPCC requires the existence of the default skill group and there is no mechanism for renumbering/renaming it.

For more information on the default skill group, see the *Cisco IP Contact Center Enterprise Edition Installation and Configuration Guide* and the *Cisco IP Contact Center Enterprise Edition Reporting Guide*.

Caveats Resolved in this Release

This section discusses CTI OS defects that were present in CTI releases prior to Release 6.0 and have been resolved in CTI Release 6.0. Defects are listed by severity.

For more information on these and other resolved defects, you can go to the Bug Toolkit found at www.cisco.com/support/bugtools/Bug_root.html

Severity 1

This section discusses the CTI OS severity1 defects that were resolved in CTI Release 6.0.

Defect Number: CSCma26358

Component: ctios.ctiosclient

Headline: "AllAgents, AllCalls, Agent and Supervisor desktop leak memory"

Symptom: AllCalls and AllAgents monitoring tools, Agent and IPCC Supervisor desktops, as well as any applications using the COM layer, have a client side memory leak.

Condition: Cisco CTIOS client applications that utilize the COM layer

Severity 2

This section discusses the CTI OS severity 2 defects that were resolved in CTI Release 6.0.

Defect Number: CSCma22657

Component: ctios.ctidriver

Headline: CTI OS-based supervisor apps display incorrect info in multimedia environment

Symptom: Agent states as indicated on the Release 5.0 CTI OS Desktop for IPCC Enterprise Screen pertain only to the voice media routing domain (MRD). This means that this screen does not accurately reflect the following situations:

- An agent who is listed as Available may actually be busy on a task from another MRD (such as a non-interruptible chat session).
- An agent who is listed as NotReady may actually be available to accept tasks from other MRDs.
- The skill group statistic “AgentsAvail” indicates the number of agents that are not busy in the voice domain. A subset of these agents may actually be busy with tasks from other domains (such as non-interruptible chat sessions). You can obtain the correct number of available agents from the ICMAvailable statistic in the ICM skill_group_real_time table, which you can view with the WebView tool.

Condition: CTI OS Releases 5.1 and earlier.

Defect Number: CSCma27557

Component: ctios.server

Headline: CTIOS went down for unknown reason. Exit code 0xff

Symptom: After receiving a CALL_TRANSFERRED_EVENT with the SecondaryCallID field set to -1, the CTIOS ServerNode process exited abruptly causing the CTI Driver process to also exit.

Condition: ICM Aspect Event Bridge PIM 4.6.2 HF 93 CTIOS 4.7, 4.7(0) SR1 and SR2, 5.0, and 5.1 Aspect 8.33

Defect Number: CSCma26149

Component: cti.ctisim

Headline: ctiserversim crashes when you start the client desktop

Symptom: The simulator tool ctiserversim terminates abnormally when the CTIOS Agent desktop is launched.

Condition: CTIOS 5.0 ctiserversim VBPhone

Defect Number: CSCma27830

Component: ctios.ctiosclient

Headline: Cannot dial single digit extension from CTIOS Desktop

Symptom: Cannot dial a single digit extension number when making a call using the Cisco CTIOS softphone applications (Agent Desktop or Supervisor Desktop).

Condition: CTIOS Desktop applications or applications built using the CTIOS ActiveX Controls to make calls.

Defect Number: CSCma28872

Component: ctios.server

Headline: CTIOS Server crash scenario when client connects in Monitor mode

Symptom: A CTIOS Client is connected to a CTIOS Server in Monitor mode, with a message filter that requires a call snapshot, the shallow snapshot results in a CTIOS Server crash. This only happens with shallow snapshot mode.

Condition: ICM with CTIOS Client connected in Monitor mode.

Defect Number: CSCeb51009

Component: ctios.supervisor

Headline: Silent Monitor Button disables permanently with Agent State Change

Symptom: While a supervisor silent monitoring an agent, logout the monitored agent from CTIOS agent desktop. Nothing happens when clicking the stop monitor button to stop the silent monitor session, and the button enablements of both start monitor and stop monitor are wrong.

Condition: IPCC with CTIOS Silent Monitor.

Defect Number: CSCma29215

Component: cti.setup

Headline: Upgrade from 4.7 to 6.0 functions like fresh install

Symptom: Upgrading from CTIOS Server version 4.7 to CTIOS Server version 6.0 fails when the instance name has the string "icm" or "icr" in it, because the CTIOS Server setup program cannot identify the old instance name.

Condition: ICM PG and CTIOS server co-located on the same box ICM version 4.6.2 CTIOS server version 4.7

Defect Number: CSCma26708

Component: ctios.server

Headline: CTI OS Server critical failure on an established event

Symptom: The following error is occurring at the CTIOS Server while processing a call established event for an outbound call: SYSTEM CRITICAL: Exception in ServiceBroker::ProcessEvent (eCallEstablishedEvent) : pBaseObject->OnEvent()

Condition: First seen in CTIOS 4.7, 4.7(0) SR1, and 5.0

Defect Number: CSCma25258

Component: ctios.server

Severity: 2

Headline: Agents unable to connect to either CTIOS Server

Symptom: Removing IPCC team supervisors from the ICM configuration might cause the CTIOS Server to become unresponsive to CTIOS clients if it was running during the configuration changes. This problem does not occur if the CTIOS Server is started after the configuration changes are done.

Severity 3

Table 3 lists the CTI OS severity 3 defects that were resolved in CTI Release 6.0.

Table 3 *CTI OS Resolved Severity 3 Defects*

Defect Number	Component	Description
CSCma23387	ctios.setup	The Ciscoization did not complete correctly for CTIOS setup
CSCma25867	ctios.ctiosclient	Fatal error in the module ctiosclient.dll
CSCma26040	ctios.mediatermination	Media Termination setup: kill.exe can't be registered on Windows98
CSCma26045	ctios.supervisor	CTIOS Desktop statistics lists cannot be enlarged
CSCma26081	ctios.server	Removing agent skill groups from switch not reflected in softphone
CSCma26528	ctios.server	CTIOS Server sends wrong button enablement mask with end call event
CSCma26625	ctios.supervisor	CTIOS Supervisor real-time status window steals focus.
CSCma26839	ctios.softphone	Supervisor cannot silent monitor agent with power user privileges
CSCma26904	ctios.server	Transfer complete button briefly re-enables after transfer
CSCma27001	ctios.server	Error when agent clicks Reconnect more than once
CSCma27004	ctios.server	Duplicate events in Monitor Mode if message filter is set twice.

Table 3 *CTI OS Resolved Severity 3 Defects (continued)*

Defect Number	Component	Description
CSCma27126	ctios.server	Monitor mode session connect should not request snapshots on PG
CSCma27004	ctios.server	Duplicate events in Monitor Mode if message filter is set twice.
CSCma27143	ctios.server	Second attempt Xfer causing a wrong button enablement
CSCma27147	ctios.server	IPCCSilentMonitor desktop settings are never pushed to CTIOS clients
CSCma27163	ctios.clientlib	SetCurrentCall causes a long delay in processing other events
CSCma27417	ctios.ctiosclient	AllCalls doesn't clear the gridcontrol on transfer/conference
CSCma27222	ctios.server	Ctios server terminates abruptly due to exception
CSCma27631	ctios.setup	Wrong version is being written in the Registry by CTIOS Client setup
CSCma27700	ctios.ctiosclient	BC99-G3 - 6 party conference, CTIOS loses status of call
CSCma27807	ctios.server	If Trunk Ext/Agent Ext match - Phantom events get sent to that ext.
CSCma27932	ctios.server	CTIOS not enabling the Wrapup button while agent on call.
CSCma27988	ctios.clientlib	OnSnapshotCallConf does not persist data.
CSCma28277	ctios.server	IPCC: Disable TransComplt & ConfComplt when other party holds.
CSCma28390	ctios.softphone	Support Brazilian Portuguese Localization
CSCma28530	ctios.softphone	VB Softphone sample needs to show how to handle mutliple calls.
CSCma28626	ctios.ctidriver	ControllerDeviceID is missing from the CallConferenced event.

Table 3 *CTI OS Resolved Severity 3 Defects (continued)*

Defect Number	Component	Description
CSCma28656	ctios.setup	CTIOS Client setup needs a few changes
CSCma28843	ctios.api	Unique IDs in CIL objects can get out of sync
CSCma29058	ctios.ctiosclient	CILTest does not support Alternate or Reconnect
CSCma29182	ctios.ctiosclient	Supervisor agent performs unwanted monitoring after failover
CSCma29523	ctios.setup	SupervisorSoftphone.exe not installed in toolkit

Known Limitations in this Release

This section discusses the known limitations of CTI OS in CTI Release 6.0. Many of these limitations have been entered as defects. Cisco has evaluated these defects on a case-by-case basis and has closed them. For each defect, Cisco has determined that either of the following is true:

- The software functions as designed
- The issue cannot be resolved

For more information on these and other closed defects, you can go to the Bug Toolkit found at www.cisco.com/support/bugtools/Bug_root.html

Defect Number: CSCma21728

Severity: 3

Component: ctios.clientlib

Headline: CtiosSession::Disconnect API sometimes does not work

Symptom: Under certain conditions, the CTIOS Client interface library (CIL) CtiosSession::Disconnect method will not disconnect the client_socket connection to CTIOS server. Disconnect will only occur correctly if the CIL connection mode is set or if the CIL has requested settings download prior to

disconnect. This defect will not be seen in the CTIOS softphones or the CTI Driver for Siebel 7 as they always set the CIL connection mode, but it may be seen in a custom application.

Condition: First seen in CTIOS Toolkit 4.7

Workaround: The application programmer can ensure that disconnect occurs properly by calling Disconnect with a flag of CTIOS_FORCEDDISCONNECT. Usage of this method is described in the *Cisco ICM Software CTI OS Developer's Guide*.

Defect Number: CSCma25138

Severity: 1

Component: ctios.ctiosclient

Headline: Agent-mode CTI OS client app stops receiving events after logout

Symptom: Agent-mode CTI OS client app stops receiving events after logout

Condition: In custom applications written using the CTI OS CIL API, the CIL sets a flag to prevent further object creation when the agent logs out. This is a terminal state for the CIL, which is not reset until the connection is closed and re-opened.

Workaround: To reset the CIL, close the connection (waiting on the OnConnectionClosedEvent), reopen the connection, and call Session::SetAgent again.

Known Caveats in this Release

This section contains a list of significant known CTI OS defects in CTI OS Release 6.0. These defects are listed by severity. For more information on known defects, use the Bug Toolkit found at www.cisco.com/support/bugtools/Bug_root.html.

Severity 2

This section discusses the CTI OS severity 2 defects that are unresolved in CTI OS Release 6.0

Defect Number: CSCma29953

Component: ctios.server

Headline: Cannot complete a transfer if the consult call is in the queued state.

Symptom: Cannot complete a transfer if the consult call is in the queued state. This only happens when no agent is available in the skill group that the transfer is targetting. Transfer request does not go through. Call remains with agent that initiated transfer.

Conditions: CTI OS 5.1

Workaround: None

Severity 3

This section discusses the CTI OS severity 3 defects that are unresolved in CTI OS Release 6.0.

Defect Number: CSCma16794

Component: ctios.softphone

Headline: Agent on hold after redirecting emergency call to another Supervisor

Symptom: When an agent places a call on hold and then makes a blind emergency call to a supervisor who does not answer, and then a RONA (redirect on no answer) takes place to a secondary supervisor, the original agent cannot retrieve his held call.

Condition: First seen in CTI OS Release 4.6.2 with ICM Release 4.6.2.

Workaround: None. Blind conference is not supported in IPCC at this time.

Defect Number: CSCma23079

Component: ctios.supervisor

Headline: Can't barge in after CTI OS failover during unanswered consult

Symptom: In the following failover scenario, the IPCC Supervisor Desktop cannot complete a barge-in operation:

1. Supervisor selects team member Agent B in the Team Real-Time Status window of the IPCC Supervisor Desktop
2. Customer places a call to Agent B
3. Agent B answers the call
4. Agent B places consult conference call to Agent A, A does not answer the call
5. The CTI OS Server to which the supervisor is connected fails
6. After recovery, Agent A answers the call and Agent B completes the conference
7. Supervisor clicks barge-in icon in Team Real-Time Status window to barge into Agent B's conference call.

Condition: First seen in IPCC Supervisor Desktop version 5.0 with IPCC.

Workaround: The supervisor should select a different agent and then reselect agent B. The supervisor may then barge into the new call that appears in the monitored calls grid.

Defect Number: CSCma25488

Component: cti.misc

Headline: Can't complete a transfer call when the CTI Manager has restarted.

Symptom: In the middle of a call transfer, after the consult call has been made, but before the transfer has been completed, if the CTI Manager is cycled, after it comes back up, clicking Transfer Complete causes a bad state for the consult agent. His state is talking, but the CallStatus of the transferred call is “Cleared”.

Condition: First seen in 5.0 SR2 IPCC using 5.1 CTI OS.

Workaround: Drop and remake the consult call. The transfer will then be able to be completed.

Defect Number: CSCma25395

Component: ctios.softphone

Headline: Unable to Complete a Conference call when restarting jtapi gateway

Symptom: In the middle of a call conference, after the conference call has been made, but before the conference has been completed, if any one or more of the following is cycled: the CTI Manager, Jtapi, PIM, OPC, after the processes come back up, if the agent clicks Complete Conference, the button will gray out, but the parties will not be conferenced.

Condition: First seen in 5.0 SR2 IPCC using 5.1 CTIOS

Workaround: Drop and remake the consult call. The conference will then be able to be completed successfully.

Defect Number: CSCma27697

Component: ctios.ctiosclient

Headline: BC87 - Blind conference using Service (vdn) gives incorrect

Symptom: When Blind conferencing using a service (VDN), the CTI warning message: “Unable to perform requested operation: Reorder/Denial” appears. The call appears on the phone that is being blind conferenced.

Condition: Blind conference using services (vdns)

Workaround: None

Defect Number: CSCma26648

Component: ctios.server

Headline: Sup. stops rceiving skill group stats for shared team/sup skill group

Symptom: By default, the CTIOS supervisor desktop will receive skill group statistics for all the skill groups to which the supervisor belongs as well as all the skill groups to which the supervisor's team members belong. 1. If a supervisor is reskilled out of a skill group to which team members still belong, the supervisor will no longer receive statistics for that skill group. 2. Likewise, if a team member is reskilled out of a skill group to which the supervisor belongs and there are no more team members in that skill group, the supervisor will no longer receive statistics for that skill group.

Condition: CTIOS Server 6.0 CTIOS Supervisor Desktop 6.0 IPCC 6.0

Workaround: Logout the supervisor and login again. After this the supervisor desktop skill group statistics will again accurately reflect the membership of the team and the supervisor.

Defect Number: CSCma26368

Component: ctios.clientlib

Symptom: The OnMonitorModeEstablished event is generated when Monitor Mode is established or released. There is no corresponding OnAgentModeEstablished for Agent Mode (despite documentation). Documentation also stays that OnMonitorModeEstablished event returns the current state of the Monitor Mode, either SERVER_MONITORMODE, or SERVER_MONITORMODE_EXIT, but in fact there are no corresponding keywords/ constants for SERVER_MONITORMODE_EXIT or SERVER_MONITORMODE.

Condition: Custom applications that use C++ CIL or Java CIL API

Workaround:

1. Agent mode can be identified by the first OnSetAgentMode event.
 2. Use OnConnectionClosed to identify that Session is disconnected
-

Defect Number: CSCma26610

Component: ctios.clientlib

Headline: OnSetAgentMode event should be part of ISession Interface

Symptom: There is an inconsistency between the C CIL and COM CIL in which interfaces fire the OnSetAgentMode event. In both CILs this event will be fired if an application subscribes to the IAllInOne interface. However, an application using the COM CIL will receive this event if it subscribes to ISessionEvents, while an application using the C CIL will receive it if it subscribes to IAgentEvents. They should be consistent.

Condition: Building a custom application using the COM CIL or the C CIL API.

Workaround: Always subscribe to IAllInOne event interface.

Defect Number: CSCma29832

Component: ctios.ctidriver

Headline: "After ctidriver failover, agent in not_ready state became ready"

Symptom: 1. Agent1 goes NotReady. 2. Agent1 makes a call, called party answers and they are now talking. 3. Cause a failure by either disconnecting the network cable from the agent's machine or killing any of the following processes: CTIOS Server, CtiDriver, CTIserver, OPC, Jtapi, pim. 4. After recovery, the current call is back to active, but after Agent1 hangs up the call, he goes to the Ready state. 5. The expected behavior is that he would go to the NotReady state which was the state before the call.

Condition: IPCC and CTIOS.

Workaround: Agent can use CTIOS Agent Desktop to change its state from ready to not_ready after failover. "

Defect Number: CSCma28021

Component: ctios.ctiosclient

Headline: Changed tracemask on ctios cticlient, hit drwtsn

Symptom: Using the CilTest application, log in agents. While there is no activity for these agents (i.e. no calls in progress), turn down tracing for the CTIOS Client from 0xfff to 0x7. This causes CilTest to generate an application error and a drwtsn file, but CilTest does not exit.

Condition: Using CTIOS with ICM 5.0 SR4.

Workaround: Set trace mask to 0x7 before starting CilTest."

Defect Number: CSCma27371

Component: ctios.ctiosclient

DE Manager: donblair

Engineer: juacosta

Found: dev-test

Headline: CIL retrieves profile info from registry to check for Reject Login

Symptom: A custom application which uses the default registry value for RejectIfAlreadyLoggedIn does not behave as expected -- it does not prevent an agent from logging in if his AgentID is already logged in.

Condition: Writing a custom application using the CTIOS C CIL API.

Workaround: Use a custom value (i.e. ""Custom_RejectIfAlreadyLoggedIn"") that can either be received via OnGlobalSettingsDownload from CTI OS Server or from some other means for this behavior. For more information on the recommended way to do this, see the CTI OS Developer's Guide.

Defect Number: CSCsa18455

Component: ctios.javacil

Headline: Missing enumerated values for Supervisory Action

Symptom: The CTIOS Developers Guide instructs programmers to use eSuperviseBargeIn or eSuperviseIntercept as values for the SupervisoryAction parameter of the SuperviseCall method. These values are not defined for the Java CIL. Custom Java code will fail to compile if it uses these values.

Condition: Developing a custom application using Java CIL.

Workaround: The following integers may be substituted instead of the symbolic constants: 3 for eSuperviseBargeIn 4 for eSuperviseIntercept

Defect Number: CSCsa18469

Component: ctios.javacil

Headline: Session object sets monitored call as current call for the supervisor

Symptom: A custom supervisor application receives an OnCurrentCallChanged event for a call that is not active on the supervisor but is active on the monitored agent. If the supervisor code uses the button enablement mask in that event, it may incorrectly enable or disable buttons.

Condition: Java CIL

Workaround: Supervisor applications should ignore the OnCurrentCallChanged event if it contains the ""Monitored"" keyword in its parameter list."

Defect Number: CSCma29795

Component: ctios.mediatermination

Headline: Media Termination devices - Mute function is not working

Symptom: There are Registry keys which are supposed to control whether or not the microphone is muted as well as the volume level for the wavefiles that are played (i.e. ringin, ringback, etc), however changing these values is not effective since they do not result in any behavior difference.

Condition: Using MediaTermination for device.

Workaround: None

Defect Number: CSCsa19415

Component: ctios.server

Headline: CTIOS sends 3 EventTransferred events for one Transfer command

Symptom: One of the events we need is ""EventTransferred"" to invoke a cleanup in the Siebel application but CTIOS sends 3 ""EventTransferred"" events for one ""Transfer"" command . This occurs with blind and consultative transfers

Condition: Converting the Siebel 6 application running on ICM 4.6.2 to Siebel 7.5.3 running on ICM 4.6.2. CTIOS version 4.7.4042.0 ACD: Definity with EAS.

Workaround: None

Defect Number: CSCsa17676

Component: ctios.server

Headline: Avaya: Cannot Control Desktop After Failover and Entering 2 CallVars

Symptom: The agent is unable to control a call and the desktop after entering two call variables. The agent is not able to control the call, change ready state, logout, or share call variables.

Condition: Version 6.0 of ICM in simplex mode Version 6.0 of CTIOS Server in simplex mode Version 6.0 of CTIOS Agent Desktop Avaya G3 The symptom described above happens when a PG is cycled while an agent is on a call. A PG may be cycled when a PG process fails and restarts. If an agent shares two call variables after the PG cycles, the agent will lose control as described above.

Workaround: In order to regain control of the desktop and the call, the agent must close CTIOS Agent Desktop and then restart CTIOS Agent Desktop. Once the desktop restarts and the agent logs in, the desktop and the call can be controlled."

Defect Number: CSCma26647

Component: ctios.server

Headline: CTIOS Server does not distinguish between skill group priorities

Symptom: Skill group statistics are sometimes incorrect for agents that are logged into sub-skillgroups. The skill group number displayed in the skill group statistics grid is correct but statistics are displayed for the wrong sub-skill.

Condition: CTIOS server with IPCC agents configured into different sub-skills within the same base skill group.

Workaround: None.

Defect Number: CSCma29529

Component: ctios.setup

Headline: CTIOSserver/Siebel driver setup:computing disk space needed

Symptom: Because the setup program does not compare the amount of disk space needed vs. the amount of space available on the drive, the installs of both products (CTIOS Server & CTIOS Cisco-Siebel Driver) hang at some point while copying files and there is no indication as to what the problem is.

Condition: Installing CTIOS Server or CTIOS Cisco-Siebel Driver on a machine that does not have enough disk space for the files being installed.

Workaround: Check manually to see if disk has enough space before running CTIOS Server or Siebel Driver setup.

Defect Number: CSCma29015

Component: ctios.softphone

Headline: NotReady statistics seem to be zeroed out after EndCall

Symptom: Set agent NotReady for a length of time, then set him Ready. Agent receives and answers a call. After hanging up a call a QUERY_AGENT_STATISTICS_REQ is made, but the resulting QUERY_AGENT_STATISTICS_CONF includes statistics called NotReadyTimeToday & NotReadyTimeSession and they are both set to 0. Actually it appears that there are other statistics set to 0 that should have a value as well.

Condition: Using 5.0 SR5 ICM under Meridian switch.

Workaround: None

Defect Number: CSCma30029

Component: ctios.supervisor

Headline: CTIOS Supervisor Desktop Real-time State Information Freezes

Symptom: CTIOS Supervisor Desktop for IPCC real time state information freezes periodically. Supervisor otherwise operates normally.

Condition: ICM 5.0 SR4 CTIOS 5.0.0 CallManager 3.3(3)sr2 Desktop Windows XP SP1

Workaround: Restart CTIOS Supervisor Desktop for IPCC.

Defect Number: CSCma25978

Component: ctios.supervisor

Headline: Supervisor Desktop memory leak on login/logout

Symptom: CTIOS Supervisor Desktop is taking up a large amount of memory (200meg).

Condition: CTIOS Supervisor Desktop seems to take more memory each time a login occurs.

Workaround: Close CTIOS Supervisor Desktop after each logout.

Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages

- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The type of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration. There is little or no impact to your business operations.
- Priority level 3 (P3)—Operational performance of the network is impaired, but most business operations remain functional. You and Cisco are willing to commit resources during normal business hours to restore service to satisfactory levels.
- Priority level 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively impacted by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.
- Priority level 1 (P1)—An existing network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Cisco TAC Website

The Cisco TAC website provides online documents and tools to help troubleshoot and resolve technical issues with Cisco products and technologies. To access the Cisco TAC website, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases online so that you can fully describe the situation and attach any necessary files.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:

http://www.cisco.com/en/US/products/products_catalog_links_launch.html

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access *Packet* magazine at this URL:

<http://www.cisco.com/go/packet>

- iQ Magazine is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- Internet Protocol Journal is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html

