inContact

Customer Guide to Avaya TSAPI Integrations

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Recording

Customer Guide to Avaya TSAPI Integrations

- **Version** — This guide should be used with inContact WFO v5.6 or later
- **Revision** — February 2016
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Introduction

Audience

This document is written for customers and prospective customers interested in using inContact WFO for call recording in an Avaya telephony environment where TSAPI will be used for CTI. Readers who will perform procedures in this guide should have a basic level of familiarity with IP telephony, general networking, the Windows operating system, Avaya telephony, and inContact WFO.

Goals

The goal of this document is to provide knowledge, reference, and procedural information necessary to understand a proposed Avaya/inContact WFO integration using TSAPI, and to configure the Avaya equipment to support the integration. The information is presented in the following order:

- Overview of recording methods using Avaya TSAPI integration
- Customer knowledge and procedures related to integration tasks
- Customer knowledge and procedures for maintaining the recording integration

This document is NOT intended as a specific system or network design document. If further clarification is needed, consult with your telephony vendor(s).

Assumptions

This document assumes the reader has access to an inContact WFO Sales Engineer, Project Manager, or other resource to assist in applying this information to the reader's environment.

Need-to-Knows

To facilitate ease of use, this document takes advantage of PDF bookmarks. By opening the bookmark pane, readers can easily refer to the portion(s) of the guide that are relevant to their needs. For example, the inContact WFO application administrator can click on the **Customer Administration Tasks** bookmark to jump directly to that section.

To expand and collapse the bookmark pane, click on the bookmark icon on the left side of the document window.

For questions related to inContact WFO configuration, consult the inContact WFO installation team.

inContact WFO only uses Avaya TSAPI to receive CTI events and metadata. Therefore, TSAPI integration must be paired with a separate audio capture source. In addition, Avaya TSAPI is used as part of a number of other integrations, such as those using service observe or single step conferencing. You may need to refer to other customer guides for audio capture methods or integrations for additional limitations, licensing requirements, and customer integration tasks.

Terminology

To ensure a common frame of reference, this guide uses the following terms in conjunction with this Avaya integration:

- **AACC:** Avaya Aura Contact Center. AACC is an Avaya contact center product that is common in VoIP environments and in multi-channel call centers due to its support for non-voice interactions.
- **AES:** Application Enablement Services. The AES server in an Avaya contact center hosts software that provides CTI events.
- **Avaya CMS:** Avaya Call Management System. This contact center product is designed for businesses with complex contact center operations and high call volume. Sometimes referred to as Avaya CM.
- **DMCC:** Device Media Call Control. Avaya AES and AACC functionality that provides inContact WFO with a means of active recording via VoIP, even for endpoints that are not IP telephones.
- **GEDI:** Graphically-Enhanced DEFINITY Interface. Used by the customer or Avaya vendor to configure the Avaya CMS.
- **MR:** Multiple Registration. Avaya functionality that allows the customer to register up to three devices against a single softphone extension.
- **SO:** Service Observe. Avaya functionality that allows a person or device to listen to a call in progress.
- **SSC:** Single Step Conference. Avaya functionality that can be used to establish a conference between a recording device, the agent's phone and a corresponding softphone on the AES server.
- **TDM:** Formally, Time Division Multiplexing. In the context of this guide, traditional telephony using analog or digital lines (as opposed to VoIP).
- **TSAPI:** Telephone Services Application Programming Interface. Avaya TSAPI is software provides the call control events and metadata to inContact WFO.
- **S8300, S8500, S8700:** Common models of Avaya PBX equipment.

Customer Responsibilities

You are responsible for supplying the physical and/or IP connection(s) to your telephone system and LAN, and for obtaining and loading any licensing required by Avaya. You are also responsible for configuring Avaya system components to support the recording integration. See the Customer Integration Tasks section for additional information.

Avaya TSAPI Integration Overview

The Avaya TSAPI integration allows inContact WFO to receive call-related events and metadata from the AES. This integration must be paired with an audio capture method to provide an audio source for recordings. inContact WFO supports the following audio capture methods in conjunction with TSAPI:

- Passive VoIP
- DMCC (using either SSC, SO, or MR)
- TDM (using Ai-Logix audio capture cards)
- SSC and SO over active T1 trunks

For additional details on these audio capture methods, refer to the inContact WFO customer guide for the specific audio integration. To see examples of how a recording solution might be designed using TSAPI in various telephony environments, see Appendix: TSAPI Integration Examples.

Known Limitations

inContact WFO does not support using bridged appearances in an Avaya TSAPI-based recording environment due to the way TSAPI handles call notification events for bridged calls. Avaya sends established messages on all CTI monitors which have bridged appearances. Consider this example scenario:

1. Stations A, B, and C all have Bridge Appearance 1 programmed.
2. A call is delivered to Appearance 1.
3. The call rings to Stations A, B, and C on the bridged line.
4. Station A answers the call on Bridged Appearance 1
5. The call begins recording when Station A answers the call.

If Station A remains active for the entire duration of the call, the entire call is recorded. If Station B joins the call and Station A remains in the call, the entire call is recorded. However, if Station A leaves the bridge, recording ends. Further, recording will not resume even if Station A later returns to the bridge and if additional recorded parties enter the established bridge, they will not be recorded.

This limitation applies to any recording integration that uses TSAPI for CTI, and is in addition to limitations specific to the audio acquisition method.

Avaya Requirements

ℹ If you are using Avaya TSAPI in conjunction with another integration, refer to integration's customer guide as well for additional software and licensing requirements.

Hardware

- Avaya S8300, S8500, or S8700 PBX

Software

- Avaya CM v3.1 through 6.3
- Avaya AES v3.1 with SP 4 or later through 6.3
- Avaya TSAPI (or CVCT) Client v1.2 or newer

ℹ Avaya has published the following statement on their DevConnect site regarding version 7.0:

All DMCC, Web Services, JTAPI and TSAPI applications created with the AE Services 5.2, 6.1, 6.2 or 6.3 SDKs and client libraries will work seamlessly on AE Services 7.0 without the need to recompile code and without the need to replace any third-party library components.

Based on this statement, we anticipate our software integration will be compatible with CM/AES 7.0. We will be completing additional testing in the near future to confirm this.

Licensing

- One (1) TSAPI Basic license for each device or group that will be monitored for events.
- For TSAPI as part of a DMCC integration, one (1) additional TSAPI basic license per recording channel. For example, a DMCC integration recording 800 agents on 600 recording channels would require 1400 TSAPI licenses.

inContact WFO Requirements

inContact WFO requirements are outlined in the appropriate inContact WFO Customer Guide for your audio capture method.

Customer Configuration Overview

The following table provides a high-level overview of the customer configuration steps in Avaya TSAPI integrations. Links are provided for tasks that are covered in this guide.

Customer Configuration Steps for Avaya TSAPI Integrations	
1	Complete all necessary physical and IP connections between the recording server(s) and the LAN.
2	Obtain any necessary Avaya software and licensing.
3	Configure the CTI Link on the Avaya CM.
4	Create the CTI User Account on the AES Server.
5	Verify the TSAPI Link on the AES Server.
6	Verify TSAPI License Availability.
7	Configure UCID (Optional).
8	Complete the tasks and procedures detailed in the *Customer Guide* for your audio acquisition method.

Customer Integration Tasks

The information in this section is provided for your reference only. Detailed steps for the Avaya configuration can be found in Avaya's documentation, which is available on the Avaya website. You should always use the appropriate manuals and/or guides from Avaya to install and configure Avaya components.

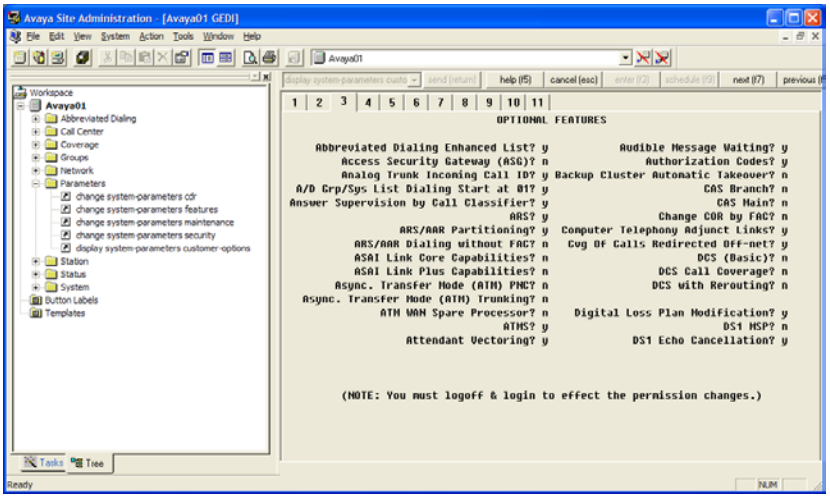
Configure the CTI Link on the Avaya CM

A CTI Link (also known as a T-Link) between the Avaya Communication Manager and AES is required for communication of events via TSAPI. The Avaya CM can be configured via the Avaya Site Administration tool (GEDI) or through a telnet session.

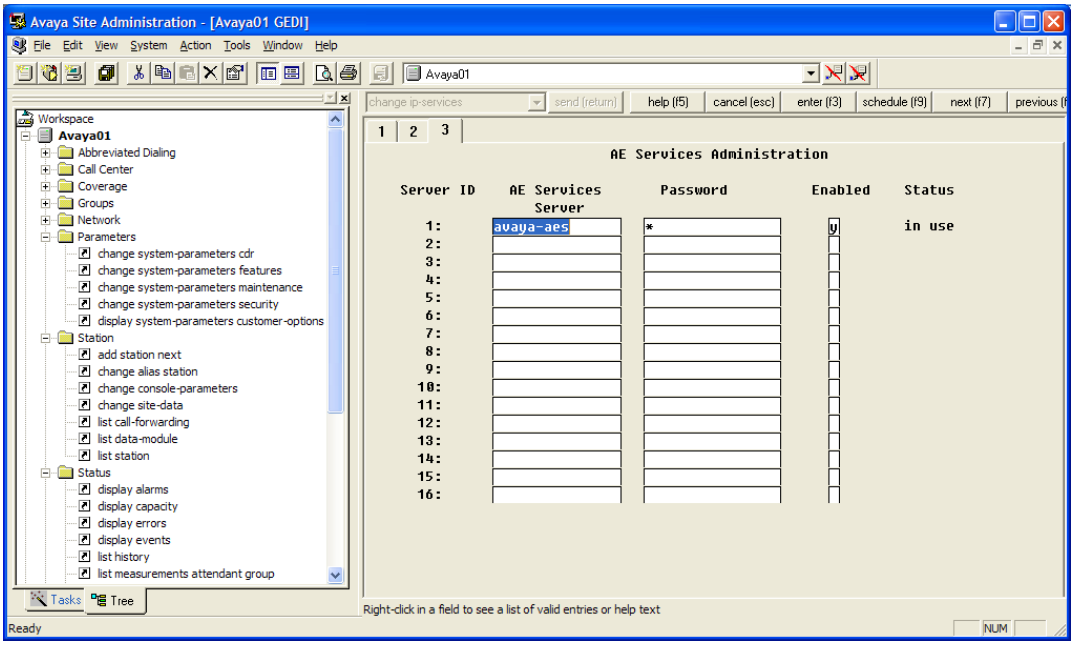
The following instructions use CM 5.2.1. Other software versions may differ.

To configure the CTI link (T-Link):

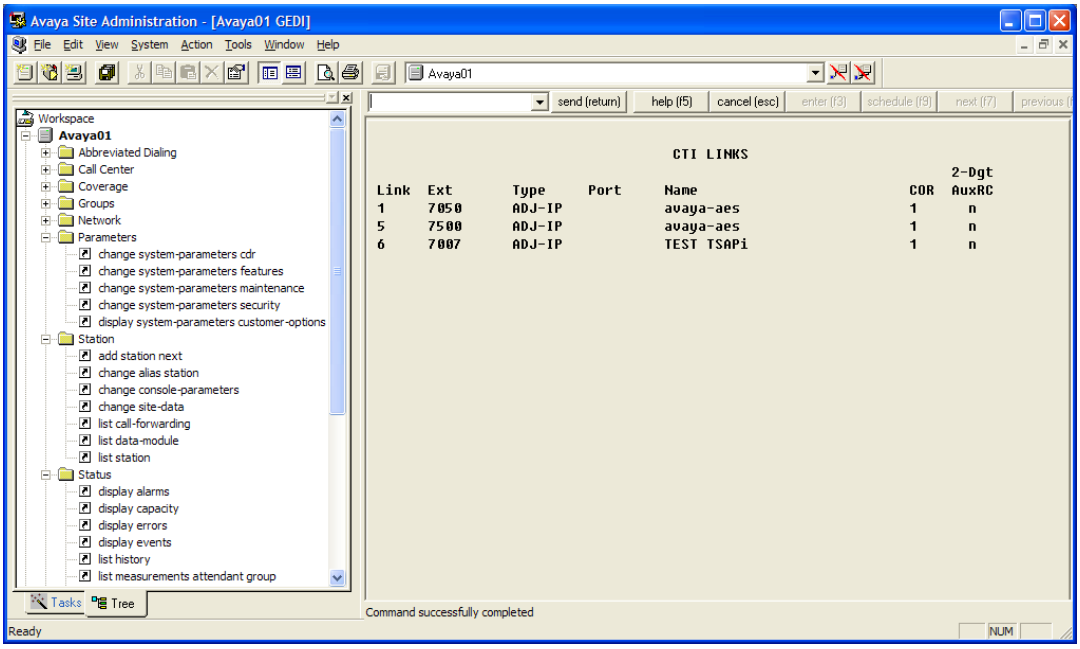
1. In GEDI, select the **Parameters-> display system-parameters customer-options** command.
2. On page 3 of the display, verify that the **Computer Telephony Adjunct Links** is set to "y". If this parameter is set to "n", contact your Avaya Representative to obtain licensing for this feature.



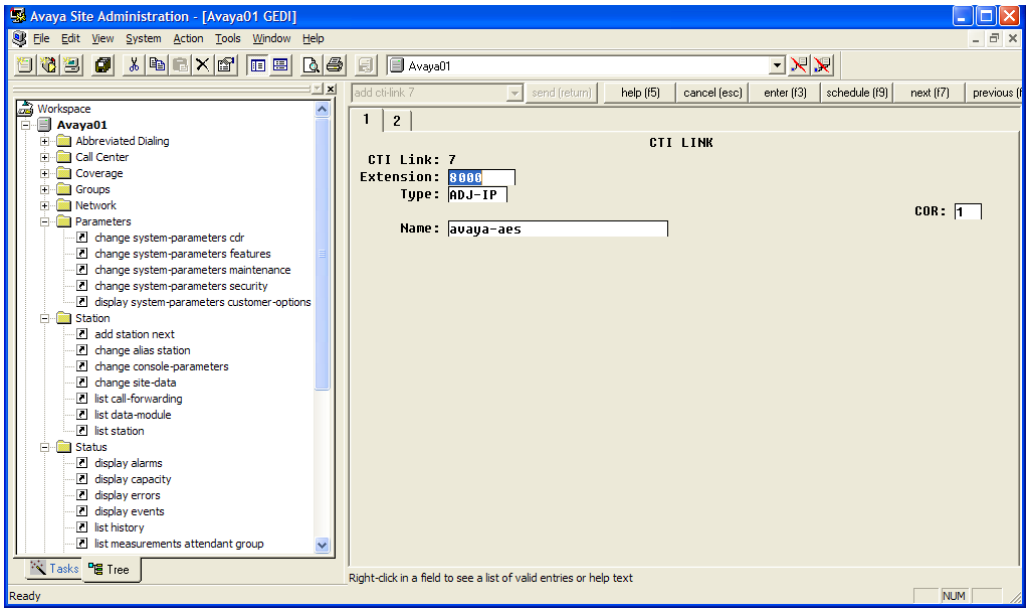
3. Enter the **change ip-services** command and go to page 3 of the display. Verify the AE Services Server is configured and enabled.



4. To view existing CTI links, enter the **list cti-link** command.



5. If no valid CTI link is available, enter the **add cti-link m** command, where "m" is a valid link number that is not already in use.
6. In the **Extension** field, enter a valid extension number for the link.
7. In the **Type** field, select **ADJ-IP** from the available types.
8. In the **Name** field, enter a descriptive name for the link.



When you have completed this procedure, return to the Customer Configuration Overview.

Create the CTI User Account on the AES Server

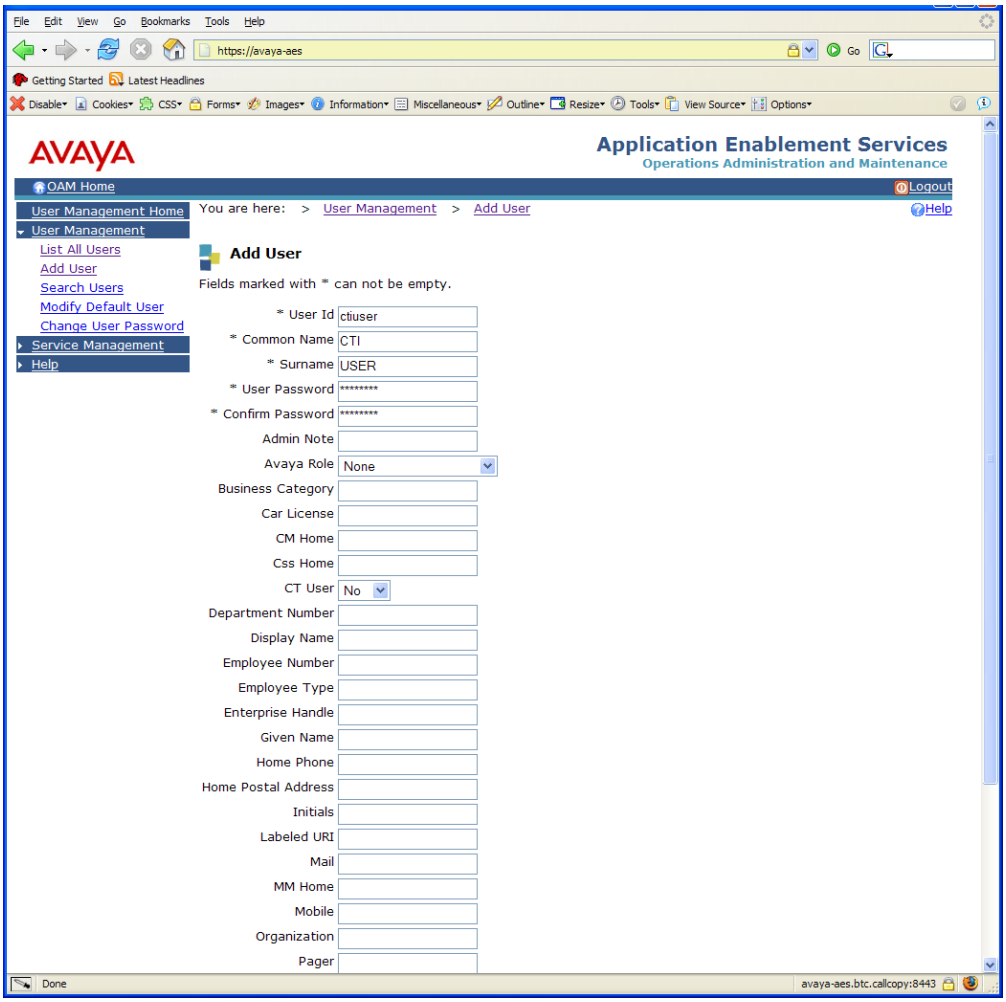
inContact WFO requires a CTI User account with proper permissions on the AES server in order to connect to the TSAPI service via the CTI Link. You can create and configure this account on the AES Operations Administration & Maintenance (OAM) site.

These instructions use AES 5.2.1. Other software versions may differ.

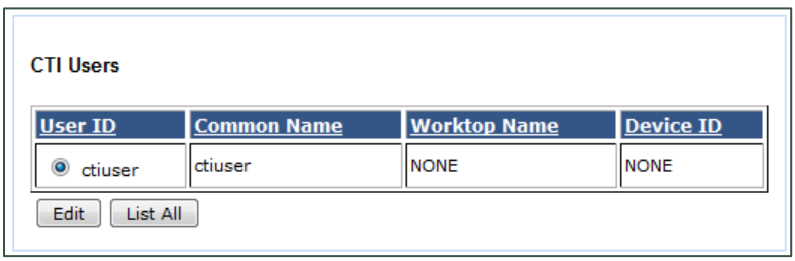
To create a CTI User account on the AES server:

1. Enter the IP address or hostname of your AES server in a web browser.
2. Log in to the OAM site with a User Admin-level account.

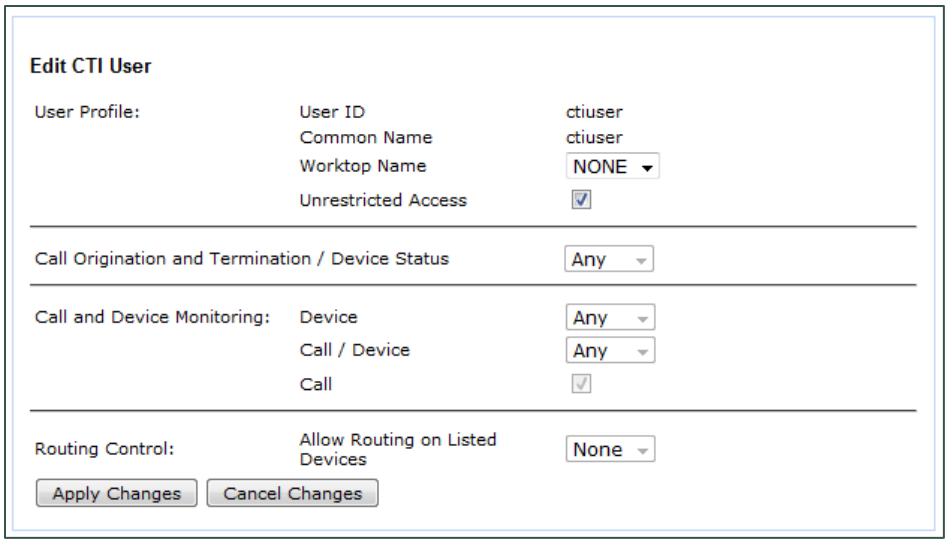
3. Expand the **User Management** section in the left menu and click **Add User**.



4. On the Add User page, create a User ID and Password for the inContact WFO CTI User by entering information in all required (*) fields.
5. For **CT User**, select **Yes** from the drop-down list.
6. Click **Apply**.
7. Expand **Administration** in the left menu and click **Security Database**.
8. Click **List All**.



9. Select the desired user account and click **Edit** to display the CTI User settings.



10. Select the **Unrestricted Access** check box.

> ℹ If the inContact WFO user cannot have permission to monitor all devices (Unrestricted Access), you must ensure that this user account is allowed to monitor all relevant extensions, hunt groups, and VDNs, both initially and on a continuing basis.

11. Click **Apply Changes**.

When you have completed this procedure, return to the Customer Configuration Overview.

Verify the TSAPI Link on the AES Server

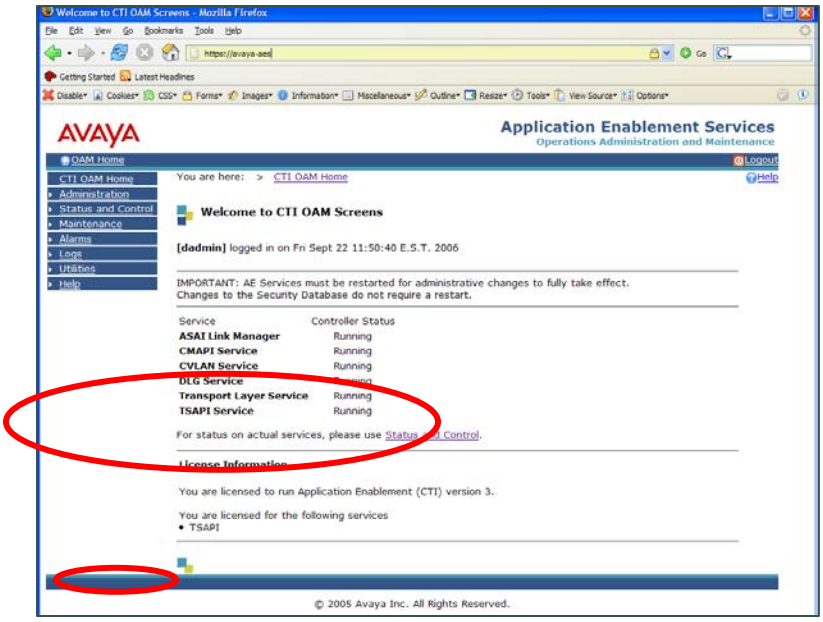
A CTI Link (also known as a T-Link) between the Avaya Communication Manager (CM) and AES is required for communication of events via TSAPI. This link is configured on the Avaya CM. For details, see Configure the CTI Link on the Avaya CM.

These instructions use AES 5.2.1. Other software versions may differ.

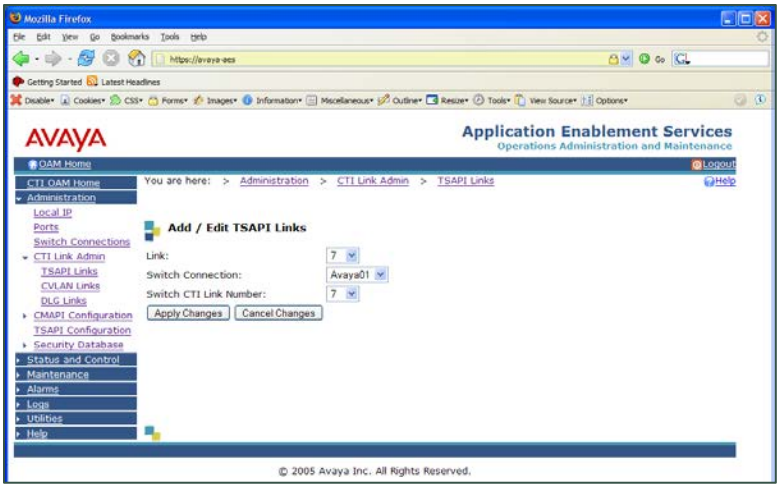
To verify from the AES server that the CTI link (T-Link) exists:

1. Enter the IP address or hostname of your AES server in a web browser.
2. Log in to the OAM site with a User Admin-level account.

3. Click **CTI OAM Home** in the left menu.



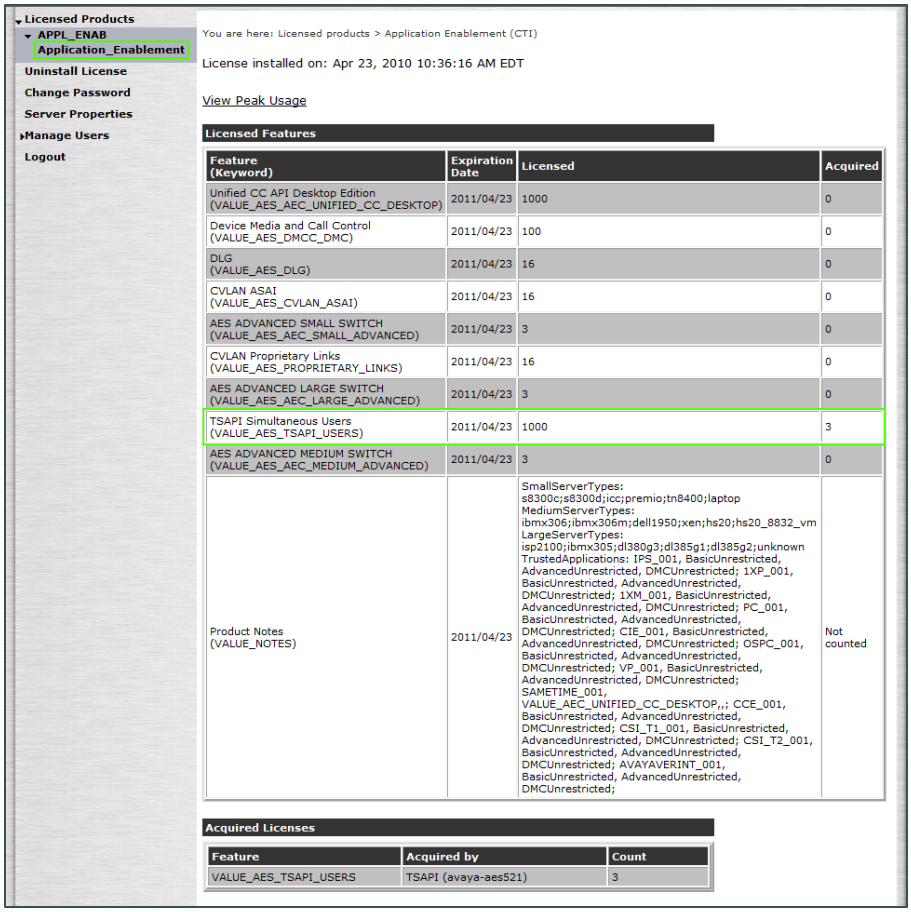
4. Verify the TSAPI service is listed and the Controller Status reports as **Running**.
5. Under the **License Information** section, verify TSAPI is listed as a licensed service.
6. Expand **Administration** in the left menu and click **CTI Link Admin.**
7. Click **TSAPI Links** to display the **Add/Edit TSAPI** Links page.



8. Verify the appropriate **Link Number** and **Switch Connection** settings for your telephony network are listed and click the **Apply Changes** button.

When you have completed this procedure, return to the Customer Configuration Overview.

Verify TSAPI License Availability



For this integration, Avaya requires that one TSAPI License be available for every station that inContact WFO will monitor for audio. Licensing on the AES is managed through the Web License Manager (WebLM) interface. This site is located at the following address: http://aes-server/WebLM/, where "aes-server" is the hostname or IP Address of your AES server.

To verify availability of TSAPI licensing in the WebLM interface:

1. Browse to the WebLM site for your AES server in a web browser and log in with an administrative account.
2. Under the Licensed Products menu section, click Application Enablement.
3. On the **Licensed Features** table, the **TSAPI Simultaneous Users** entry will list the Licensed (total) and Acquired (used) values for TSAPI licenses.

When you have completed this procedure, return to the Customer Configuration Overview.

Optional: Configure UCID

The inContact WFO integration with Avaya TSAPI optionally supports Call Segments. This functionality allows users to locate and play separate, related recording files that are part of the same call interaction. If you want to use the Call Segments feature, you must configure the Avaya CM to send the Universal Call ID (UCID) to inContact WFO so that it is captured on every call.

To configure UCID settings;

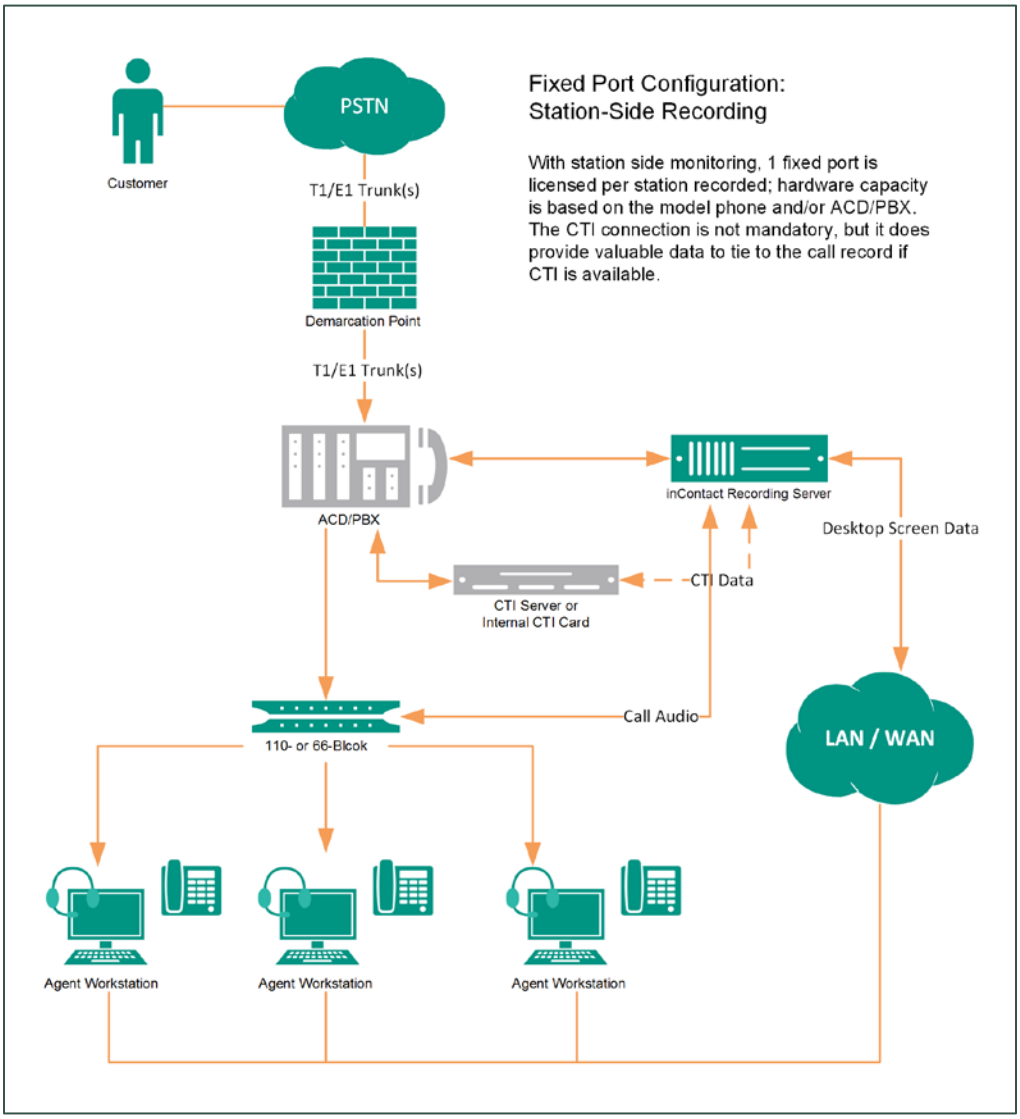
1. Log into the Avaya CM.
2. Run the following command: change system-parameters features.
3. On screen 5 of Feature-Related System Parameters, set **Create Universal Call ID (UCID)?** to **Y**.
4. On screen 5 of Feature-Related System Parameters, enter a value in the **UCID Network Node ID** field (the system may not save changes if this field is blank).
5. On screen 13 of Feature-Related System Parameters, set **Send UCID to ASAI?** to **Y**.

When you have completed this procedure, return to the Customer Configuration Overview.

Appendix: TSAPI Integration Examples

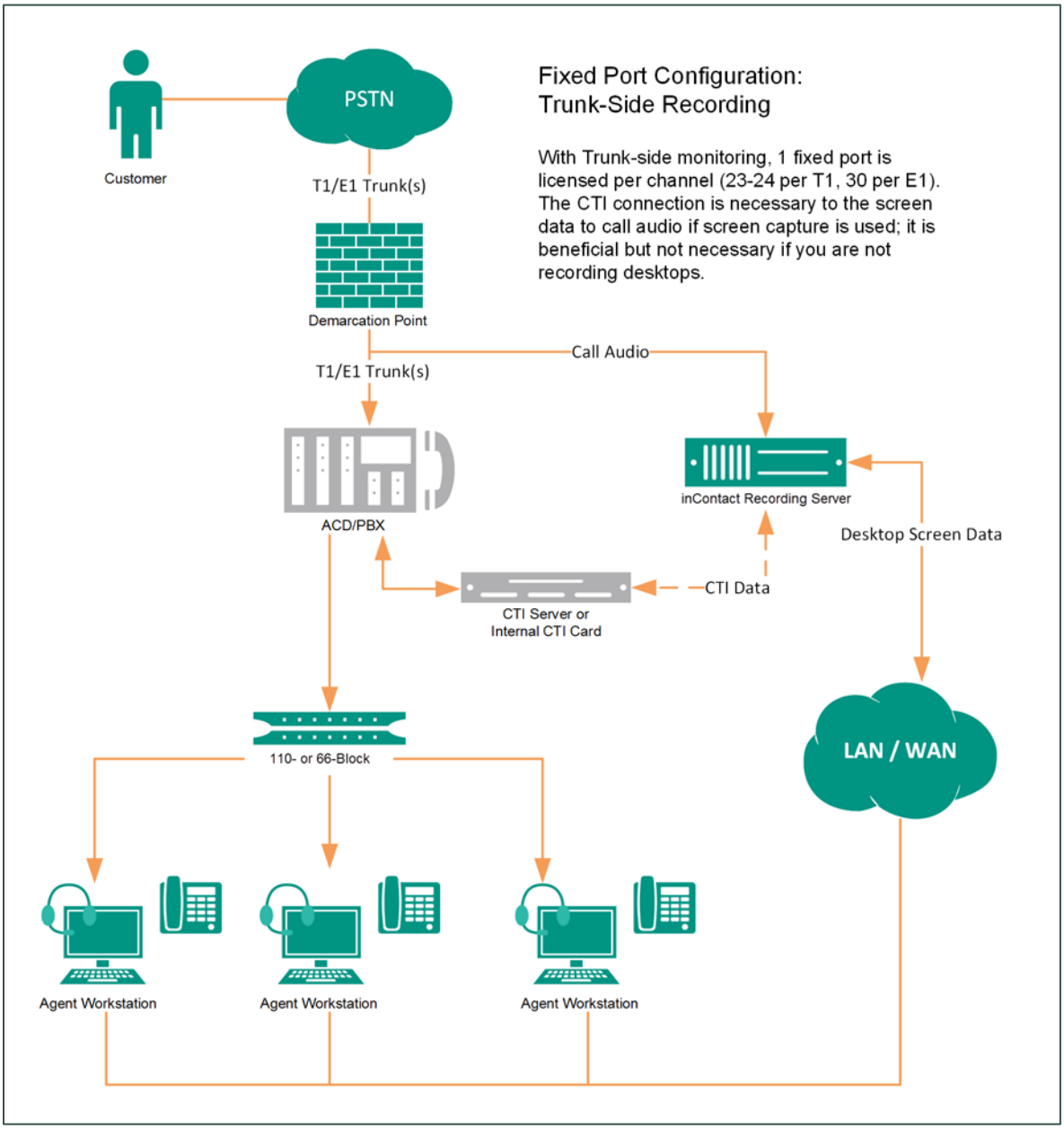
Passive Recording Scenarios

TDM Station-Side



In a station-side recording scenario, inContact WFO acquires audio from the agent-station side of the conversation. Physical audio capture cards installed in the inContact WFO recording server have a wired connection to each recorded phone. A CTI connection using TSAPI can provide tighter call control and additional metadata for each call.

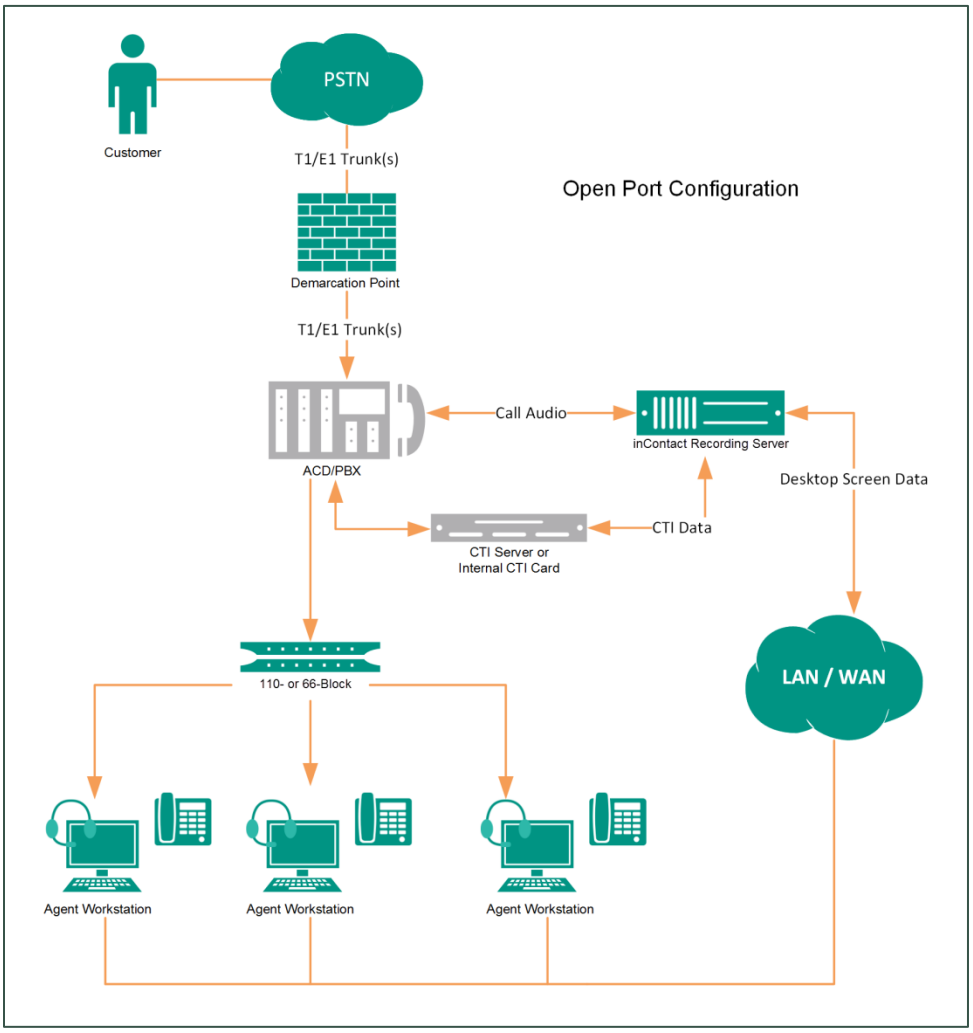
TDM Trunk-Side



In a trunk-side recording scenario, physical audio capture cards installed in the inContact WFO recording server have a wired connection to each T1/E1 trunk to be recorded, and record from the trunk side of the conversation. A CTI connection using TSAPI can provide events on which to base recording decisions as well as additional metadata for each call.

Active Recording Methods

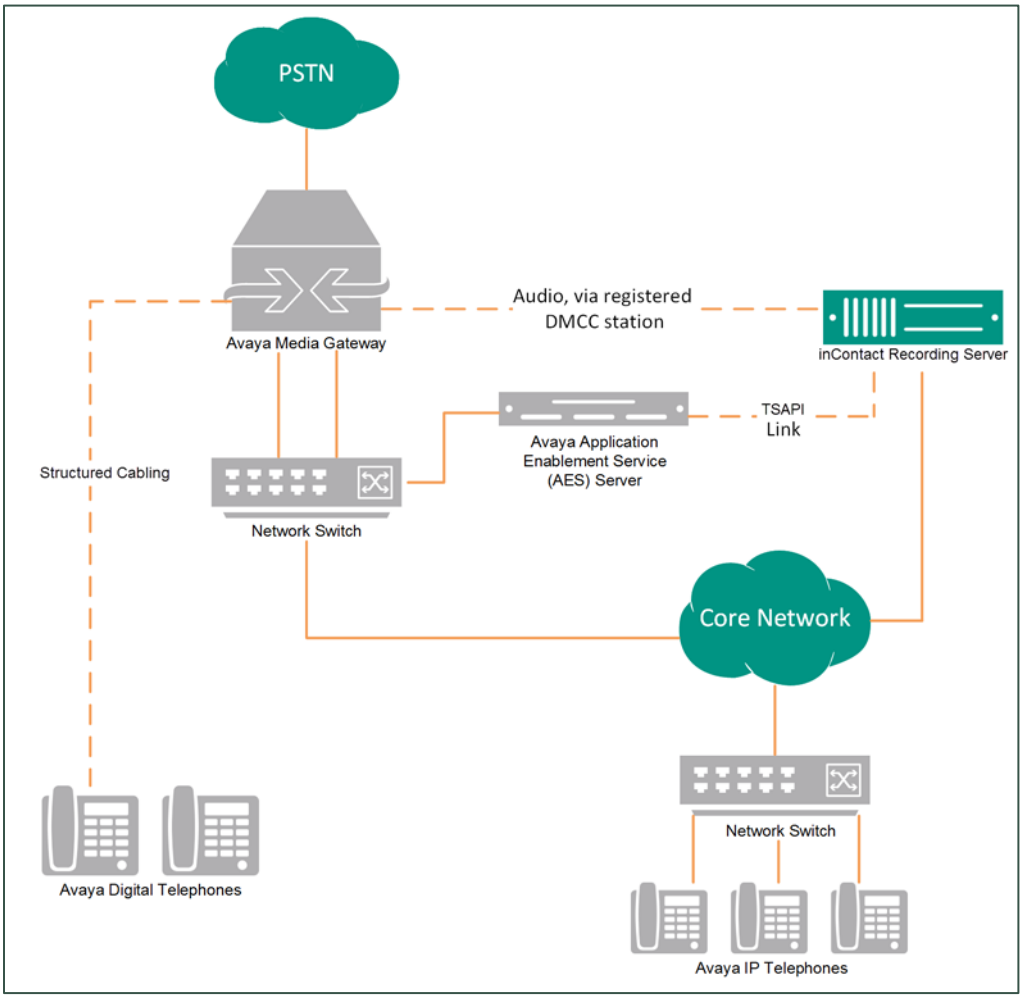
Service Observe/SSC Trunk Recording (TDM)



In an Open Port/Service Observe recording scenario, inContact WFO uses the Avaya Service Observe or Single Step Conference feature to record. Audio capture cards in the recording server are connected to the Avaya PBX through a T1/E1 tie line or through direct analog lines. With appropriate ACD/PBX permissions, these ports can record any device in the system. Since these channels have dial tone at the PBX level, they can also be used to play audio back to specified devices.

This method has some limitations. The preferred method for recording open ports is single step conferencing. A CTI connection using TSAPI provides events to trigger recording and call control, as well as additional metadata for each call.

Service Observe/SSC DMCC Recording (VoIP)



A DMCC recording scenario uses media redirection from Avaya to record calls without the use of physical connections to the inContact WFO recording server other than standard network connections. inContact WFO supports DMCC using service observe (SO), single step conference (SSC), and multiple registration (MR). TSAPI is used in all DMCC recording integrations for call control, messaging, and metadata.

Document Revision History

Revision	Change Description	Effective Date
0	Initial version for this release	2015-04-30
1	Rebranded content.	2016-02-05