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Avaya Solution & Interoperability Test Lab

Application Notes for OAISYS Tracer Station Side Recording with Avaya Aura^{TM} Communication Manager using Avaya Aura^{TM} Application Enablement Services – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the OAISYS Tracer Station Side Recording application to interoperate with Avaya Aura^{TM} Communication Manager and Avaya Aura^{TM} Application Enablement Services. OAISYS Tracer utilizes a hub or switch to monitor network traffic and record VoIP calls. OAISY Tracer interfaces with Avaya Aura^{TM} Communication Manager via Avaya Aura^{TM} Application Enablement Services, using TSAPI to associate VoIP recordings with important data, such as agent extensions/IDs, obtained from CTI events.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe the configuration steps required for the OAISYS Tracer Station Side Recording application to interoperate with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services. OAISYS Tracer utilizes a hub or switch to monitor IP traffic and record VoIP calls. OAISY Tracer interfaces with Avaya Aura™ Communication Manager via Avaya Aura™ Application Enablement Services, using TSAPI to associate VoIP recordings with important data, such as agent extensions/IDs, obtained from CTI events.

To ensure Tracer records VoIP calls properly, the network must be configured so that all VoIP packets pass through a device capable of replicating those packets to Tracer, such as a hub or a switch. When using a hub, each hub port repeats every packet transmitted to and from that port to every other port. If all VoIP traffic passes through a hub that Tracer is connected to, then Tracer is capable of capturing all VoIP packets. If a switch is used instead of a hub, the switch will not (by default) repeat every packet from one port to all other ports. Therefore, port mirroring is utilized on a switch to send a copy of network packets seen on one switch port (or an entire VLAN) to a network monitoring connection (such as Tracer) on another switch port.

1.1. Interoperability Compliance Testing

The interoperability compliance testing included both feature and serviceability testing.

The feature testing focused on verifying OAISYS Tracer could properly record, log, and playback various calls including: internal enterprise calls, inbound/outbound trunk calls, and calls involving basic telephony features (such as hold, mute, transfer, and conference).

The serviceability testing focused on verifying OAISYS Tracer could properly recover from adverse conditions, such as busying out the CTI link, disconnecting the Ethernet cable from the three servers (OAISYS Tracer, Communication Manager, and Application Enablement Services), and power failures of the three servers.
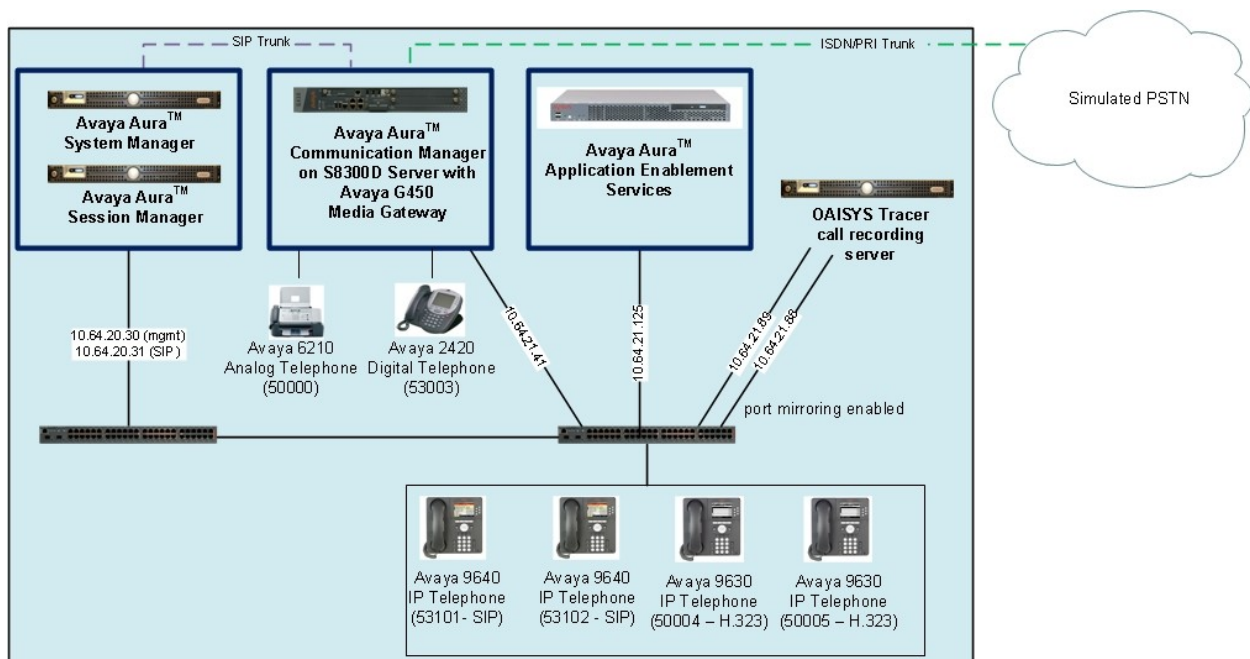
1.2. Support

Technical support for OAISYS Tracer can be obtained through the following:

- **Web:**   http://www.oaisys.com/technical_support.aspx
- **Phone:** 1-888-496-9040
- **Email:**   support@oaisys.com

2. Reference Configuration

Figure 1 illustrates the configuration used during compliance testing as described in these Application Notes. All VoIP traffic was mirrored to a second NIC on the OAISYS Tracer.

Figure 1: OAISYS Tracer with Avaya Aura^{TM} Communication Manager and Avaya Aura^{TM} Application Enablement Services

3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Software
Avaya S8300D Server with an Avaya G450 Media Gateway	Avaya Aura^{TM} Communication Manager 6.0, R016x.00.0.345.0, Update 18444 (Avaya Aura^{TM} System Platform: 6.0.1.0.5)
Avaya S8800 Server	Avaya Aura^{TM} System Platform : 6.0.1.0.5 Avaya Aura^{TM} System Manager : 6.0.7.0
Avaya S8800 Server	Avaya Aura^{TM} System Platform : 6.0.1.0.5 Avaya Aura^{TM} Session Manager 6.0.0.0.600020
Avaya S8500B Server	Avaya Aura^{TM} Application Enablement Services 5.2.2
Avaya 9600 Series IP Telephones: • H.323 • SIP	 3.1.1 2.6
Avaya 2400 Series Digital Telephones	-
Avaya 6200 Series Analog Telephones	-
OAISYS Tracer Recording Server	6.1 (running on a Windows 7 PC)

4. Configure Avaya Aura^{TM} Communication Manager

The detailed administration of Communication Manager and connectivity to Application Enablement Services is not the focus of these Application Notes, and will not be described here. For details regarding that specific administration, refer to the appropriate documentation listed in **Section 10**.

This section provides the procedures to do the following:

- Verify Communication Manager License
- Administer CTI link for TSAPI Service
- Save translations

4.1. Verify Communication Manager License

Log into the System Access Terminal (SAT) to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that the **Computer Telephony Adjunct Links** is set to "y" on **Page 3**. If this option is not set to "y", then contact the Avaya sales team or business partner for a proper license file.

```
display system-parameters customer-options                      Page   3 of  11
                                OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? y           Audible Message Waiting? y
        Access Security Gateway (ASG)? n             Authorization Codes? y
        Analog Trunk Incoming Call ID? y                       CAS Branch? n
 A/D Grp/Sys List Dialing Start at 01? y                         CAS Main? n
Answer Supervision by Call Classifier? y             Change COR by FAC? n
                                  ARS? y  Computer Telephony Adjunct Links? y
                   ARS/AAR Partitioning? y  Cvg Of Calls Redirected Off-net? y
            ARS/AAR Dialing without FAC? n                      DCS (Basic)? y
           ASAI Link Core Capabilities? n               DCS Call Coverage? y
           ASAI Link Plus Capabilities? n               DCS with Rerouting? y
        Async. Transfer Mode (ATM) PNC? n
    Async. Transfer Mode (ATM) Trunking? n    Digital Loss Plan Modification? y
               ATM WAN Spare Processor? n                         DS1 MSP? y
                                 ATMS? y        DS1 Echo Cancellation? y
                   Attendant Vectoring? y




          (NOTE: You must logoff & login to effect the permission changes.)
```

4.2. Administer CTI Link for TSAPI Service

Add a CTI link using the "add cti-link n" command, where "n" is an available CTI link number. Enter an available extension number in the **Extension** field. Enter "ADJ-IP" in the **Type** field, and a descriptive name in the **Name** field (optional). Default values may be used in the remaining fields. Submit these changes.

```
add cti-link 1                                           Page   1 of   3
                                CTI LINK
 CTI Link: 1
Extension: 55001
     Type: ADJ-IP
                                                          COR: 1
     Name: TSAPI link to AES
```

4.3. Save Avaya Aura™ Communication Manager Provisioning

Enter the *save translation* command to make the changes permanent.

5. Configure Avaya Aura™ Application Enablement Services

The detailed administration of connectivity between Application Enablement Services and Communication Manager is not the focus of these Application Notes and will not be described here. For details regarding that specific administration, refer to the appropriate documentation listed in **Section 10**.

This section provides the procedures to do the following:

- Verify Application Enablement Services license
- Administer TSAPI link
- Administer Devices
- Administer Device Groups
- Administer OAISYS user
- Edit CTI User
- Restart TSAPI service
- Obtain Tlink Name

5.1. Verify Avaya Aura™ Application Enablement Services License

Access the AES OAM web based interface by using the URL "https://ip-address" in an Internet browser window, where "ip-address" is the IP address of the AES server. Click the "Continue to Login" link (not shown). The **Login** screen is displayed as shown below. Log in using appropriate credentials.

The **Welcome to OAM** screen is displayed, as shown below. Select **AE Services** from the left pane.

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The **AE Services** screen is displayed next. Verify that Application Enablement Services is licensed for the TSAPI and DMCC Services, as shown in the screen below (License Mode = NORMAL MODE). If the TSAPI and DMCC services are not licensed, contact the Avaya sales team or business partner for a proper license file.

5.2. Administer TSAPI Link

To administer a TSAPI link, select **AE Services → TSAPI → TSAPI Links** from the left pane. The **TSAPI Links** screen is displayed, as shown below. Click the **Add Link** button.

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The **Add TSAPI Links** screen is displayed next. The **Link** field may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop down list. In this case, the existing switch connection "G450" is selected. The "G450" switch connection was configured to establish a connection to the Communication Manager processor Ethernet (IP address 10.64.21.41). For **Switch CTI Link Number**, select the CTI link number configured in **Section 4.2**. Click on **Apply Changes**.

The **Apply Changes to Link** screen is displayed. Click on **Apply**.

5.3. Administer Devices

Configure devices to be monitored by OAISYS Tracer by navigating to **Security → Security Database → Devices**. Enter a device extension in the text box and click **Add Device**.

Select the appropriate **Location**, **Device Type**, and **Tlink** Group for the configuration. Click **Apply Changes**.

A warning screen will appear. Click **Apply**.

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5.4. Administer Device Groups

Configure a Device Group for OAISYS Tracer to use. The device group should contain all of the devices that OAISYS Tracer can monitor. Navigate to **Security** → **Security Database** → **Device Groups**. Enter a device group name in the text box and click **Add Device Group**.

Select all of the devices that OAISYS Tracer should be able to monitor. Tracer will not be able to monitor any devices not selected. Click **Apply Changes**.

5.5. Administer OAISYS User

Administer a user account for OAISYS Tracer. Select **User Management** → **User Admin** →**Add User** from the left pane. The **Add User** screen is displayed, as shown below. Enter descriptive values for the **User Id**, **Common Name**, and **Surname**. Enter appropriate values for the **User Password** and **Confirm Password** fields. Retain the default value of "None" for **Avaya Role**, and select "Yes" from the **CT User** drop down list. Click on **Apply** at the bottom of the screen (not shown).

Select **Security** → **Security Database** → **CTI Users** → **List All Users** to get a listing of all CTI users, as shown below. Select the user ID created for OAISYS, and click the **Edit** button.

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The **Edit CTI User** screen is displayed, as shown below. Verify the **Unrestricted Access** checkbox is not checked. Set the following values for the specified fields:

- **Call Origination and Termination / Device Status** - "Any"
- **Call and Device Monitoring**
  - **Device** – Select the OAISYS device group administered in **Section 5.4**.
  - **Call / Device** – Select "Any".
  - **Call** – Check this box.

Default values may be used for the remaining fields. Click **Apply Changes**.

5.6. Restart TSAPI Service

Select **Maintenance → Service Controller**. The **Service Controller** screen shows a listing of the services and their associated status. Check the **TSAPI Service**, and click on **Restart Service**.

The following **Restart Service** screen is displayed. Click on **Restart** to confirm.

5.7. Obtain Tlink Name

Select **Security** → **Security Database** → **Tlinks**. Note the name of the Tlink to be used by OAISYS Tracer.

6. Configure OAISYS Tracer

This section provides the procedures for configuring OAISYS Tracer.

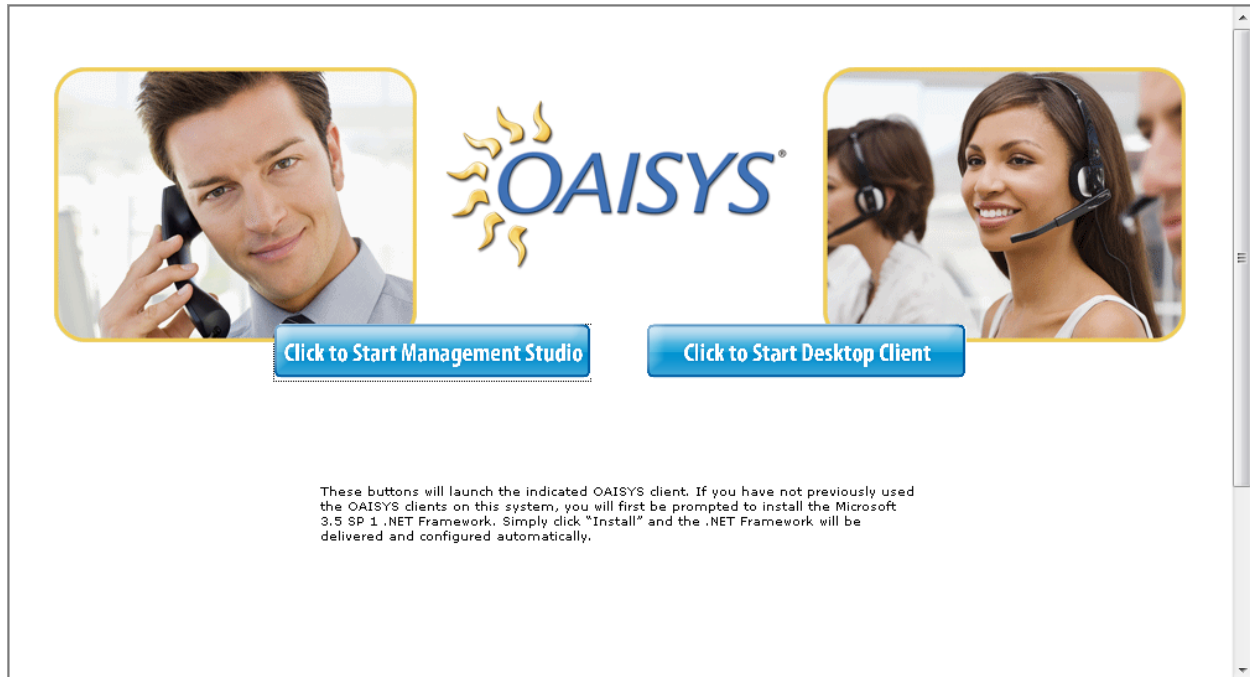Navigate to the Services window of the Windows PC where OAISYS Tracer is installed. Set the **OAISYSLevel2OAIAvaya TSAPI** service **Startup Type** to "Automatic".
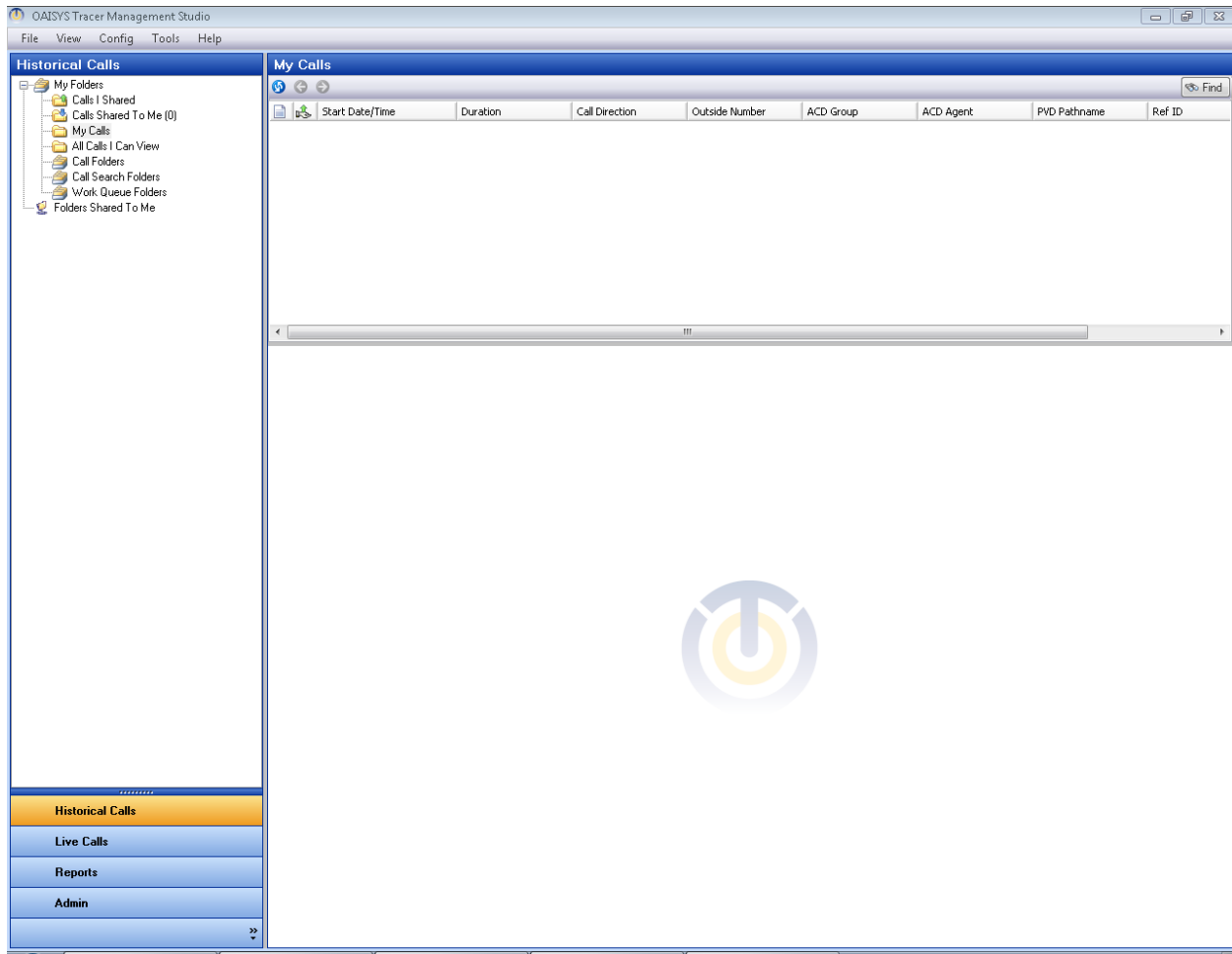
Open a browser to the main page of the OAISYS server's default website by entering the following URL:

http://$TracerServerName$ or http://localhost (if logged into the server locally)

Click the **Click to Start Management Studio** button.

The screen below is displayed.

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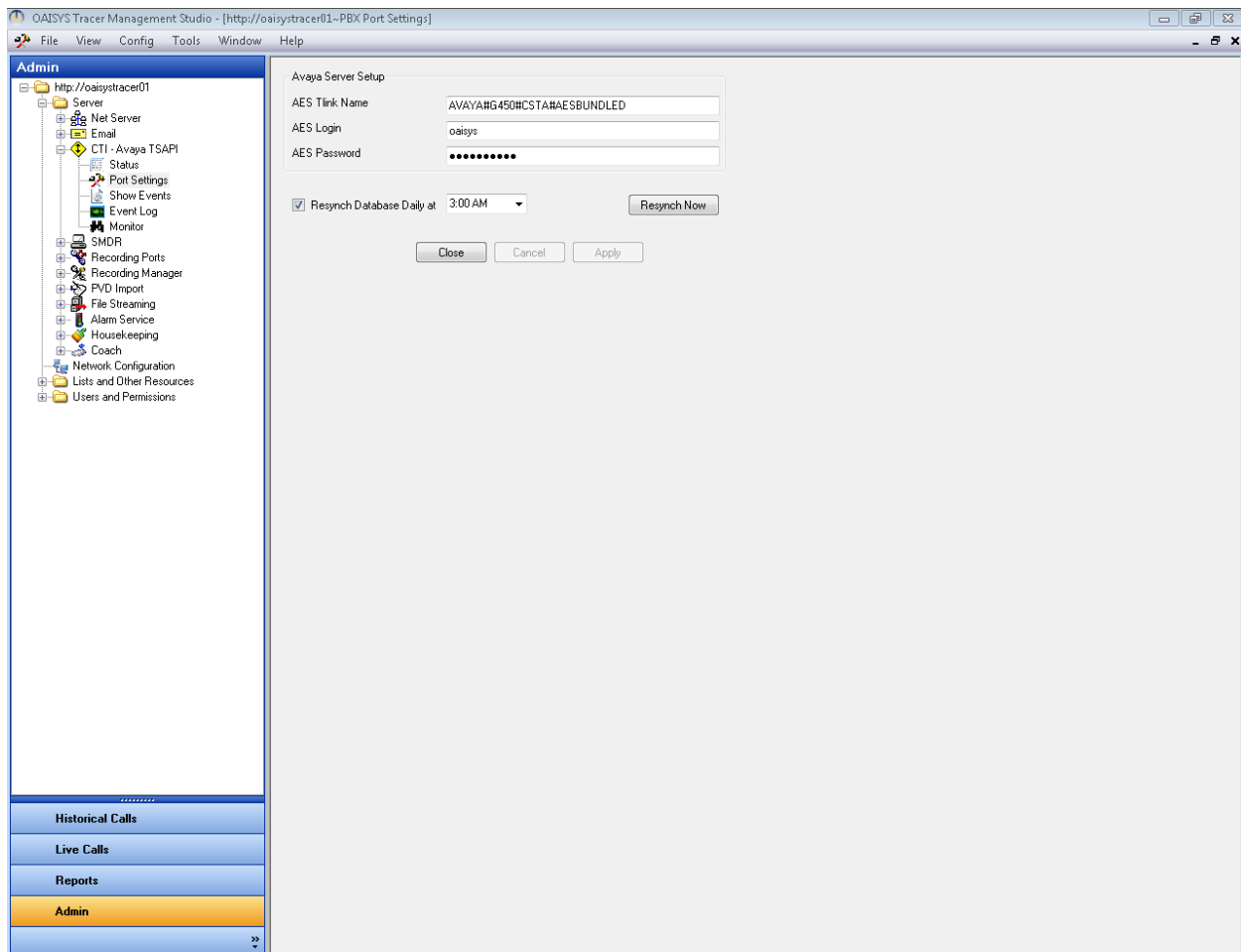
Click the **Admin** tab on the bottom left and select **CTI – Avaya TSAPI → Port Settings** from the navigation pane on the left. Enter the following values for the specified fields:

- **AES Tlink Name**:   Enter the Tlink name obtained in **Section 5.7**.
- **AES Login**:   Enter the username created in **Section 5.5**.
- **AES Password**:   Enter the password created in **Section 5.5**.

Default values may be used for the remaining fields. Click **Apply**. Note that the **Apply** button shown below is not enabled because the screen capture was taken after the changes were already applied.

Select **Recording Ports → Port** from the menu on the left. Enter the following values for the specified fields:

- **Port**: Select valid port number.
- **Enabled**: Check this box.
- **Port Type**: Select **VoIP**.
- **Trunk Type**: Select **VoIP Tap**.
- **Extension**: Enter a device from **Section 5.3**.
- **VoIP Tap Type**: Select **RTP Capture**.
- **VoIP Device Static IP Address**: Enter IP Address of **Extension**.

Default values may be used for the remaining fields. Click **Apply**.

7. General Test Approach and Test Results

The interoperability compliance testing included feature and serviceability testing.

The feature testing focused on verifying OAISYS Tracer could properly record, log, and playback various calls including: internal enterprise calls, inbound/outbound trunk calls, and calls involving basic telephony features (such as hold, mute, transfer, and conference).

All calls were placed manually. After each call, the data records and recordings were verified.

The serviceability testing focused on verifying OAISYS Tracer could properly recover from adverse conditions, such as busying out the CTI link, disconnecting the Ethernet cable from the three servers (OAISYS Tracer, Communication Manager, and Application Enablement Services), and power failures of the three servers.

All test cases were executed and passed.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Application Enablement Services, Communication Manager, and OAISYS Tracer.

8.1. Verify Avaya Application Enablement Services

On Application Enablement Services, verify the status of the switch connection by selecting **Status** → **Status and Control** → **Switch Conn Summary** from the left pane. Verify that the **Conn State** is "Talking" for the relevant switch connection. In this case, the switch connection is "G450".

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Verify the status of the TSAPI link by selecting **Status** → **Status and Control** → **TSAPI Service Summary** from the left pane. The **TSAPI Link Details** screen is displayed. Verify the **Status** is "Talking" for the TSAPI link administered in **Section 4.2**, as shown below.

8.2. Verify OAISYS Tracer

Place several calls to and from devices monitored by OAISYS Tracer. Click the **Historical Calls** tab, and open the **All Calls I can View** folder. Verify there is a recording for each call placed. Play each recording to verify the entire call has been recorded with good voice quality.

9. Conclusion

These Application Notes describe the configuration steps required for the OAISYS Tracer station side recording application to interoperate with Avaya Aura^{TM} Communication Manager using Avaya Aura^{TM} Application Enablement Services. All feature and serviceability test cases were completed successfully.

10. Additional References

This section references the product documentation relevant to these Application Notes.

- *Administering Avaya Aura™ Communication Manager*, Document 03-300509, Release 6.0, Issue 6.0, June 2010, available at http://support.avaya.com

- *Avaya Aura™ Application Enablement Services Administration and Maintenance Guide*, Document ID 02-300357, Release 5.2, Issue 11, November 2009, available at http://support.avaya.com.

- *OAISYS Tracer with AVAYA AES Installation Guide*, Release 6.1, August 21, 2010, available at http://www.oaisys.com

- *OAISYS Tracer Administrator Guide*, Release 6.1, August 26, 2010, available at http://www.oaisys.com

- *OAISYS Management Studio User Guide*, Release 6.1, August 23, 2010, available at http://www.oaisys.com

- *OAISYS Tracer VoIP Recording Info*, 2006, available at http://www.oaisys.com

- *OAISYS Installation Troubleshooting Guide*, Release 6.1, April 20, 2010, available at http://www.oaisys.com