



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Calabrio Monitoring and Recording Services with Avaya Aura<sup>®</sup> Communication Manager and Avaya Aura<sup>®</sup> Application Enablement Services – Issue 1.0**

## **Abstract**

These Application Notes describe the configuration steps required for the Calabrio Monitoring and Recording Services solution to interoperate with Avaya Aura<sup>®</sup> Communication Manager and Avaya Aura<sup>®</sup> Application Enablement Services.

Calabrio Monitoring and Recording Services uses the Avaya Aura<sup>®</sup> Application Enablement Services TSAPI and Device, Media and Call Control (DMCC) services to capture real-time CTI data and RTP streams from Avaya Aura<sup>®</sup> Communication Manager to produce recordings of phone activity for agents and knowledge workers.

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

# 1. Introduction

Calabrio Monitoring and Recording Services is a contact center and knowledge worker oriented recording solution. Using the Avaya Aura<sup>®</sup> Application Enablement Services System Management Services (SMS), DMCC Multiple Registrations or Single Step Conference capabilities, and JTAPI, the recorder is able to register with Avaya Aura<sup>®</sup> Communication Manager as an IP softphone and use various methods to capture audio from targeted agent's phone, with JTAPI providing call tagging data.

Before Monitoring and Recording Services can start recording, it registers with Application Enablement Services, performs an SMS service query to obtain a list of all of the Agents and Stations configured in Communication Manager. The administrator then associates this data with devices to be recorded by the application. The application uses a static assignment of Call Center agents, and Knowledge Workers, to the station that they work at. Dynamic assignment is not supported for any of the communication platforms supported by Monitoring and Recording Services.

When the services are started, the Monitoring and Recording Services server registers with Communication Manager as a Dependent registration using the DMCC service on stations that are administered with Softphone enabled in Communication Manager and administered to be recorded in Monitoring and Recording Services. Once DMCC registration is successfully completed, Communication Manager will send audio for all calls that originate or terminate on the registered stations to both the phone, and the recorder.

For stations that do not have Softphone enabled, including all station types such as SIP, IP, Digital or analog, Monitoring and Recording Services uses dedicated, virtual stations in Communication Manager to add to calls using the Single Step Conference TSAPI method. To ensure call records stored in the database are as rich as possible, the application uses the TSAPI/JTAPI capabilities of Application Enablement Services to monitor the station activity. This occurs following successful DMCC registrations. If DMCC registration fails, the JTAPI associations are not requested by the application.

## 2. General Test Approach and Test Results

The compliance test focused on the ability for calls to be recorded. Calls were manually placed from the public switched telephone network (PSTN) directly to and from recorded devices, and to ACD queues.

### 2.1. Interoperability Compliance Testing

The compliance test validated the ability of Monitoring and Recording Services to successfully record calls routed to and from Analog, Digital, IP and SIP endpoints including Call Center agents. Additional tests included the ability to record calls to and from phones with bridged appearances of other phones, and to record calls to phones with Extension to Cellular features enabled.

Additionally, testing confirmed the ability for Monitoring and Recording Services to recover from common outages such as network outages and server reboots.

### 2.2. Test Results

The objectives described in **Section 2.1** were verified, a few observations are outlined below.

- For endpoints recorded using the Multiple Registration method, calls handled by cell phone via EC500 could not be recorded when answered on the cell phone. This is a limitation of this recording method and is not supported by Avaya. Endpoints requiring this capability must be configured for Single Step Conferencing method, using this alternate approach, calls were successfully recorded on the cell phone mapped to the desk phone.

### 2.3. Support

Technical support on Calabrio Monitoring and Recording Services can be obtained through the following:

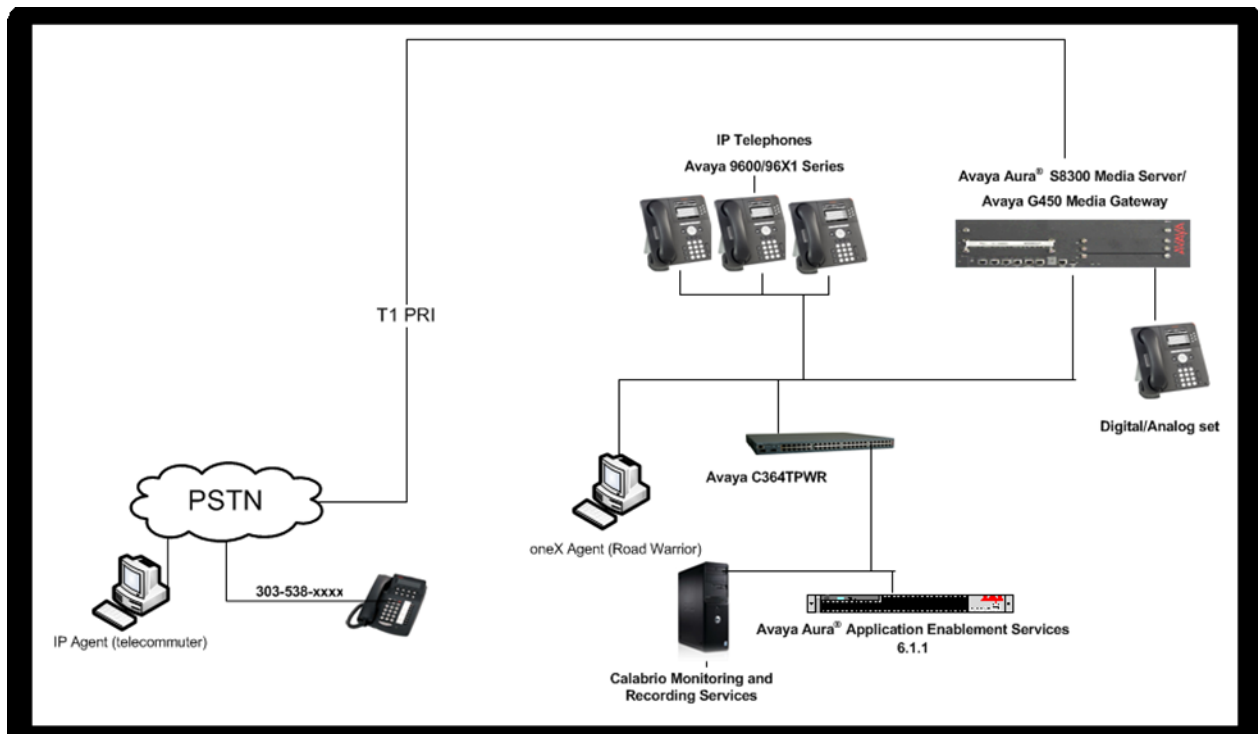
- Phone: +1 (763) 592-4680 or +1 (800) 303-1248
- Web: <http://calabrio.com/about-calabrio/services/>
- Email: [calabriosupport@calabrio.com](mailto:calabriosupport@calabrio.com)

### 3. Reference Configuration

**Figure 1** illustrates the compliance test configuration consisting of:

- Avaya Aura® Communication Manager R6.0.1
- Avaya Aura® Application Enablement Services R6.1.1
- Various IP, SIP and Digital endpoints
- IP Agent and Avaya one-X® Agent softphones
- Calabrio Monitoring and Recording Services server

Calls routed to and from Communication Manager used PRI trunks to connect to the PSTN. Calls to SIP endpoints used Avaya Aura® Session Manager (not shown in the diagram). The Session Manager configuration was in place to support SIP endpoints and did not require any configuration to accommodate this solution. Therefore, details of this part of the configuration will not be covered in these Application Notes.



**Figure 1 – Calabrio Monitoring and Recording Services Compliance Test Configuration**

## 4. Equipment and Software Validated

The following equipment and version were used in the reference configuration described above:

Equipment	Version
Avaya S8300 Server and G450 Media Gateway	Avaya Aura <sup>®</sup> Communication Manager R6.0.1 SP5 (Patch 19100)
Dell R610 Server	Avaya Aura <sup>®</sup> Application Enablement Services R6.1.1 on Avaya System Platform
Avaya Phones 9600 Series IP Phones 96x1 Series IP Phones Avaya oneX <sup>®</sup> Agent Avaya IP Agent	H.323 ver 3.11/SIP ver 2.6.4 H.323 ver 3.11/SIP ver 2.6.4 R2.5 R7.0
Windows 2008 Server, MS SQL 2008	Calabrio Monitoring and Recording Services R8.6.2.46

## **5. Configure Avaya Aura® Communication Manager**

All the configuration changes in this section for Communication Manager are performed through the System Access Terminal (SAT) interface. For more details on configuring Communication Manager, refer to the Avaya product documentation, Reference [1].

### **5.1. Configure Communication Manager Details**

This section provides the procedures for configuring Communication Manager. The procedures fall into the following areas:

- Verify Feature and License for the integration
- Administer Communication Manager System Features
- Administer Ethernet Interface for Application Enablement Services
- Administer Computer Telephony Integration (CTI) Link
- Add SMS User Account
- Verify Agent Extensions

The detailed administration of call center entities, such as VDN, Skill, Split, Logical Agents and Station Extensions are assumed to be in place and are not covered in these Application Notes.

Step	Description
1.	<p><b>Verify Feature and License for the integration</b></p> <p>Enter the <b>display system-parameters customer-options</b> command and ensure that <b>Computer Telephony Adjunct Links</b> is set to “y”. Applications that use Application Enablement Services TSAPI must have <b>Computer Telephony Adjunct Links</b> enabled on Communication Manager. This Communication Manager feature entitlement is provided with each TSAPI license. TSAPI entitlements must be activated in both the Communication Manager and Application Enablement Services licenses. If this option is not set to “y”, contact the Avaya sales team or business partner for a proper license file.</p> <pre> display system-parameters customer-options 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 </pre> <p>Each recording port or virtual extension the recorder will use to Service Observe agent phones will require an <b>IP_API_A</b> license if not licensed on Application Enablement Services.</p> <pre> display system-parameters customer-options MAXIMUM IP REGISTRATIONS BY PRODUCT ID  Product ID  Rel. Limit      Used IP_API_A    : 100          0 </pre>

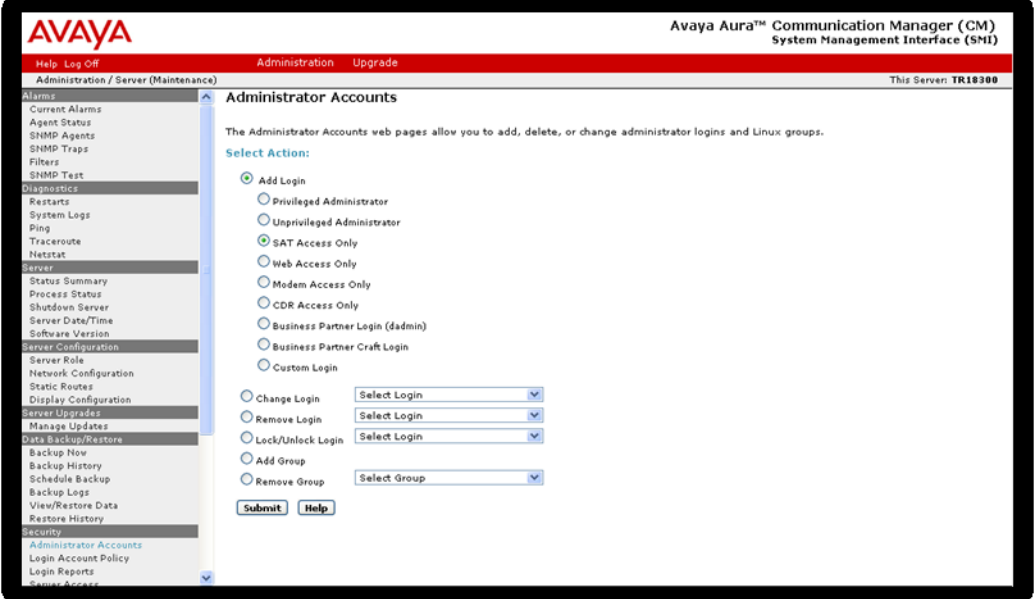
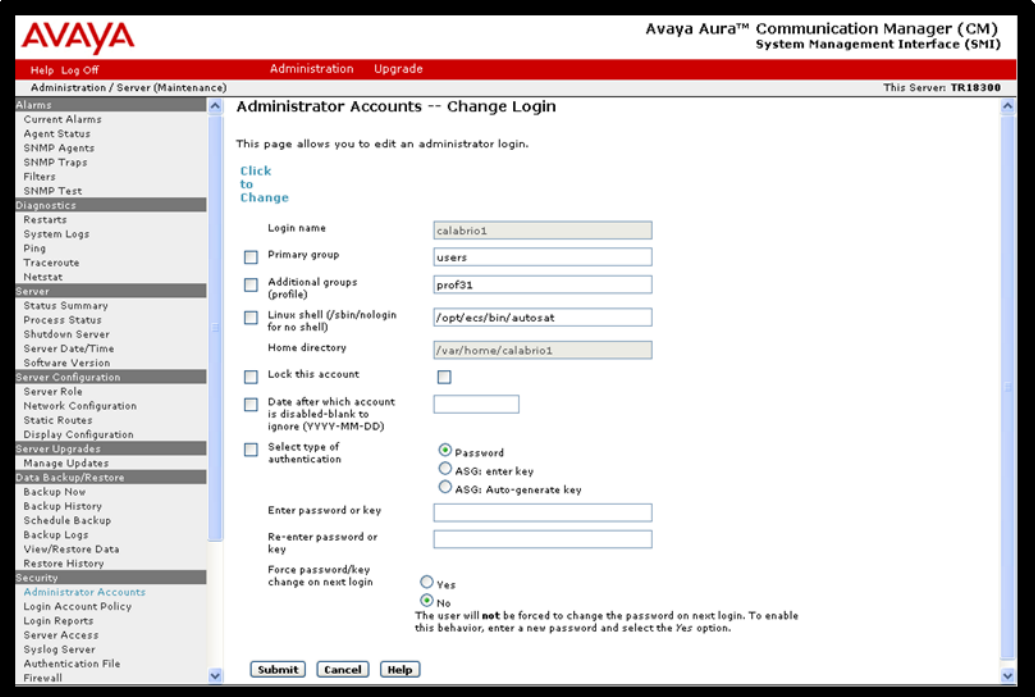
Step	Description
2.	<p><b>Administer Communication Manager System Features</b>  Enter the <b>change system-parameters features</b> command and ensure that <b>Create Universal Call ID (UCID)</b> is enabled system wide on page 5 and define a relevant <b>UCID Network Node ID</b> (<i>I</i> was used in the test) and that <b>Send UCID to ASAI</b> is set to “y” on page 13. Monitoring and Recording Services relies on UCID to track complex calls (Transfers and Conferences).</p> <pre> change system-parameters features                                     Page  5 of 19                                 FEATURE-RELATED SYSTEM PARAMETERS  SYSTEM PRINTER PARAMETERS   Endpoint:                               Lines Per Page: 60  SYSTEM-WIDE PARAMETERS                                 Switch Name:                                 Emergency Extension Forwarding (min): 10                                 Enable Inter-Gateway Alternate Routing? n                                 Enable Dial Plan Transparency in Survivable Mode? n                                 COR to Use for DPT: station  MALICIOUS CALL TRACE PARAMETERS                                 Apply MCT Warning Tone? n    MCT Voice Recorder Trunk Group:                                 Delay Sending RELease (seconds): 0  SEND ALL CALLS OPTIONS                                 Send All Calls Applies to: station    Auto Inspect on Send All Calls? n                                 Preserve previous AUX Work button states after deactivation? n  UNIVERSAL CALL ID <b>Create Universal Call ID (UCID)? yUCID Network Node ID: 1</b> </pre> <pre> change system-parameters features                                     Page 13 of 19                                 FEATURE-RELATED SYSTEM PARAMETERS  CALLCENTER MISCELLANEOUS                                 Callr-info Display Timer (sec): 10                                 Clear Callr-info: next-call                                 Allow Ringer-off with Auto-Answer? n                                  Reporting for PC Non-Predictive Calls? n                                  Interruptible Aux Notification Timer (sec): 3                                  ASAI                                 Copy ASAI UUI During Conference/Transfer? n                                 Call Classification After Answer Supervision? n <b>Send UCID to ASAI? y</b>                                 For ASAI Send DTMF Tone to Call Originator? y </pre>



Step	Description
3.	<b>Administer Ethernet Interface for Application Enablement Services</b> Enter the <b>change node-names ip</b> command. The Application Enablement Services and <b>procr</b> node-names need to be defined here.
	<pre>change node-names ip</pre> <div>Page 1 of 2</div> <pre> IP NODE NAMES  Name          IP Address aesserver2    10.64.10.21 default       0.0.0.0 procr         10.64.10.67 procr6        :: </pre>
	<p>On most servers, the Processor Ethernet Interface will already be administered in the ip-interface list. The <b>display ip-interface procr</b> command will display the parameters of the Processor Ethernet Interface.</p>
	<pre>display ip-interface procr</pre> <div>Page 1 of 2</div> <pre> IP INTERFACES  Type: PROCR  Target socket load: 4800  Enable Interface? y          Allow H.323 Endpoints? y                              Allow H.248 Gateways? y Network Region: 1           Gatekeeper Priority: 5  IPV4 PARAMETERS Node Name: procr            IP Address: 10.64.10.67 Subnet Mask: /24 </pre>
	<pre>display ip-interface procr</pre> <div>Page 2 of 2</div> <pre> IP INTERFACES  Speed: 100Mbps Duplex: Full  IPV6 PARAMETERS Node Name: procr6 IP Address: ::  Subnet Mask: /64 Enable Interface? n </pre>

Step	Description																		
	<p><b>Administer Ethernet Interface for Application Enablement Services (Continued)</b> Add an entry for Application Enablement Services as described below:</p> <ul style="list-style-type: none"><li>• Enter the <b>change ip-services</b> command.</li><li>• In the <b>Service Type</b> field, type <b>AESVCS</b>.</li><li>• In the <b>Enabled</b> field, type <b>y</b>.</li><li>• In the <b>Local Node</b> field, type the Node name <b>procr</b> for the Processor Ethernet Interface.</li><li>• In the <b>Local Port</b> field, use the default of <b>8765</b>.</li><li>• Note that in installations using CLAN connectivity, each CLAN interface would require similar configuration.</li></ul>																		
	<div><div>change ip-services</div><div>Page 1 of 4</div><table><tr><th colspan="6">IP SERVICES</th></tr><tr><th>Service Type</th><th>Enabled</th><th>Local Node</th><th>Local Port</th><th>Remote Node</th><th>Remote Port</th></tr><tr><td>AESVCS</td><td>y</td><td>procr</td><td>8765</td><td></td><td></td></tr></table></div>	IP SERVICES						Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port	AESVCS	y	procr	8765		
IP SERVICES																			
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port														
AESVCS	y	procr	8765																
	<p>On Page 4 of the IP Services form, enter the following values:</p> <ul style="list-style-type: none"><li>• In the <b>AE Services Server</b> field, type the name obtained from the Application Enablement Services server.</li><li>• In the <b>Password</b> field, type the same password to be administered on the Application Enablement Services server in Section 6.1, Step 1.</li><li>• In the <b>Enabled</b> field, type <b>y</b>.</li></ul>																		
	<div><div>change ip-services</div><div>Page 4 of 4</div><div>AE Services Administration</div><table><tr><th>Server ID</th><th>AE Services Server</th><th>Password</th><th>Enabled</th><th>Status</th></tr><tr><td>1:</td><td>aesserver2</td><td>*</td><td>y</td><td></td></tr></table></div>	Server ID	AE Services Server	Password	Enabled	Status	1:	aesserver2	*	y									
Server ID	AE Services Server	Password	Enabled	Status															
1:	aesserver2	*	y																
	<p>Note that the name and password entered for the <b>AE Services Server</b> and <b>Password</b> fields must match the name and password on the Application Enablement Services server.</p>																		
4.	<p><b>Administer Computer Telephony Integration (CTI) Link</b> Enter the <b>add cti-link &lt;link number&gt;</b> command, where <b>&lt;link number&gt;</b> is an available CTI link number.</p> <ul style="list-style-type: none"><li>• In the <b>Extension</b> field, type <b>&lt;station extension&gt;</b>, where <b>&lt;station extension&gt;</b> is a valid station extension.</li><li>• In the <b>Type</b> field, type <b>ADJ-IP</b>.</li><li>• In the <b>Name</b> field, type a descriptive name.</li></ul>																		
	<div><div>add cti-link 1</div><div>Page 1 of 3</div><div>CTI LINK</div><div>CTI Link: 1 Extension: 6201 Type: ADJ-IP Name: AES-10.64.10.21</div><div>COR: 1</div></div>																		

Step	Description
5.	<p><b>Add SMS User Account</b></p> <p>Monitoring and Recording Services uses the Application Enablement Services SMS interface to query for administered Stations and Agents for use in administering the application.</p> <p>A privileged user was used in this test, however, a local administrator would want to restrict the user account. This involves creating a user profile at the SAT, and then creating and assigning that user to the profile in the web admin pages. To illustrate, the <b>add user profile 31</b> command was used to create the profile used in the test as shown below. The <b>Call Center B</b> and <b>Stations M</b> categories were set to <b>y</b>.</p> <pre> add user-profile 31 Page 1 of 41  USER PROFILE 31  User Profile Name: Calabrio SMS  This Profile is Disabled? n          Shell Access? y Facility Test Call Notification? n    Acknowledgement Required? n Grant Un-owned Permissions? n        Extended Profile? n  Name      Cat  Enbl      Name      Cat  Enbl Adjuncts A   n      Routing and Dial Plan J   n CallCenter B y      Security K   n Features C   n      Servers L   n Hardware D   n      Stations M y Hospitality E n      System Parameters N   n IP F         n      Translations O   n Maintenance G n      Trunking P   n Measurements and Performance H n      Usage Q   n Remote Access I n      User Access R   n </pre> <p>Read only access to Agents and Stations is required. Enter <b>'r-'</b> permissions for the <b>B</b> and <b>M</b> Categories on the <b>Set Permissions for Category:</b> entry on the <b>change user-profile xx</b> form. This requires two separate transactions, so repeat for each category.</p> <pre> change user-profile 31 Page 3 of 41  USER PROFILE 31  Set Permissions For Category: M To: r-      Set All Permissions To: '-'=no access 'r'=list,display,status 'w'=add,change,remove+r 'm'=maintenance  Name      Cat  Perm aesvcs link A   -- aesvcs-server A --  agent B      r- agent-loginID B r- alarms H     --  alias station M r- alphanumeric-dial-table J   -- alternate-frl C   -- amw all G   -- amw asai G   -- amw audix G   -- amw pms G   -- analog-testcall board G   -- </pre>

Step	Description
	<p><b>Add SMS User Account (Continued)</b></p> <p>Create a user account on the Communication Manager <b>System Management Interface</b> web page by navigating to the <b>Administer Accounts</b> page and selecting the radio <b>Add Login</b>. For the Compliance Test, an account with <b>SAT Access Only</b> was used. Click <b>Submit</b> to continue the process.</p>  <p>The account was previously created, the <b>Change Login</b> screen below shows the entries used when the account was created. The account was assigned to <b>Profile 31</b> defined in Step 5 above, and a <b>Password</b> was created.</p> 

Step	Description
6.	<p><b>Verify Agent Extensions</b></p> <p>All stations that will be recorded must have <b>IP Softphone</b> enabled, and the application needs to know the <b>security code</b> in order to successfully register. For stations that are unable to support Softphone, or which the administrator prefers to record using Single Step Conference, leave the <b>IP Softphone</b> setting disabled. Use the <b>display station n</b> command to verify information, or <b>change station n</b> to make changes if necessary.</p> <pre> displaystation 6001 </pre> <p style="text-align: right;">Page 1 of 5</p> <pre> STATION  Extension: 6001                Lock Messages? n                BCC: 0     Type: 9630 Security Code: 123456            TN: 1     Port: S00008                Coverage Path 1:                COR: 1 Name: Agent 1Coverage Path 2:            COS: 1                                 Hunt-to Station:  STATION OPTIONS                                  Time of Day Lock Table:                                 Personalized Ringing Pattern: 1                                 Message Lamp Ext: 6410                                 Mute Button Enabled? y                                 Speakerphone: 2-way                                 Display Language: english Survivable GK Node Name:     Survivable COR: internal            Media Complex Ext: Survivable Trunk Dest? y                IP SoftPhone? y                                  IP Video Softphone? n                                 Short/Prefixed Registration Allowed: default </pre>

## 6. Configure Avaya Aura® Application Enablement Services

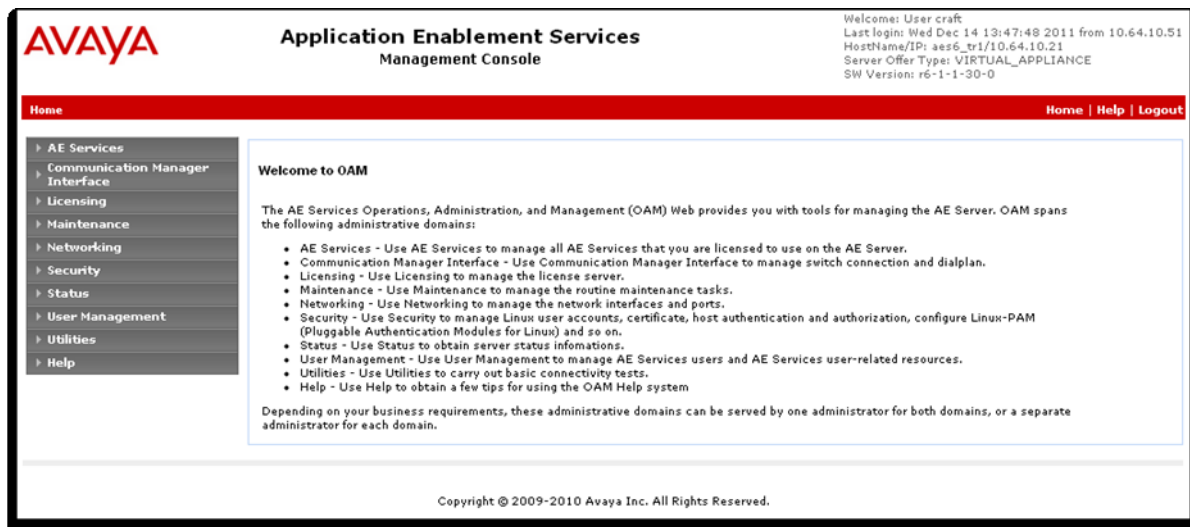
Configuration of Avaya Aura® Application Enablement Services required a user account be configured for Monitoring and Recording Services. Additional information is provided to illustrate how the connectivity with Avaya Aura® Communication Manager was previously configured.

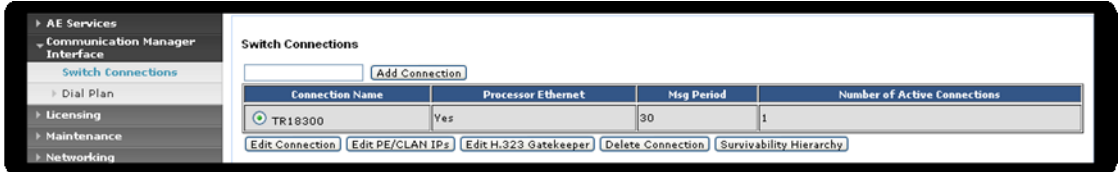
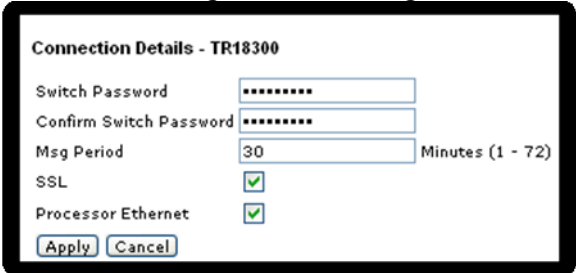


### 6.1. Configure Application Enablement Services Details

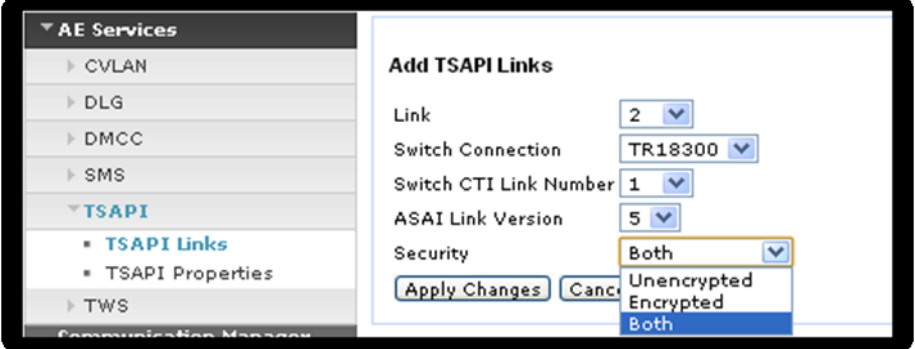
All administration is performed by web browser. Initially, users land on the Welcome to OAM page shown below. Note that all navigation is performed by clicking links in the Navigation Panel on the left side of the screen, context panels will then appear on the right side of the screen.

The procedures fall into the following areas:

- Configure Communication Manager Switch Connections
- Add TSAPI Links
- Configure Calabrio User
- Enable Unrestricted Access
- Note the TLink Information
- Confirm TSAPI and DMCC Licenses

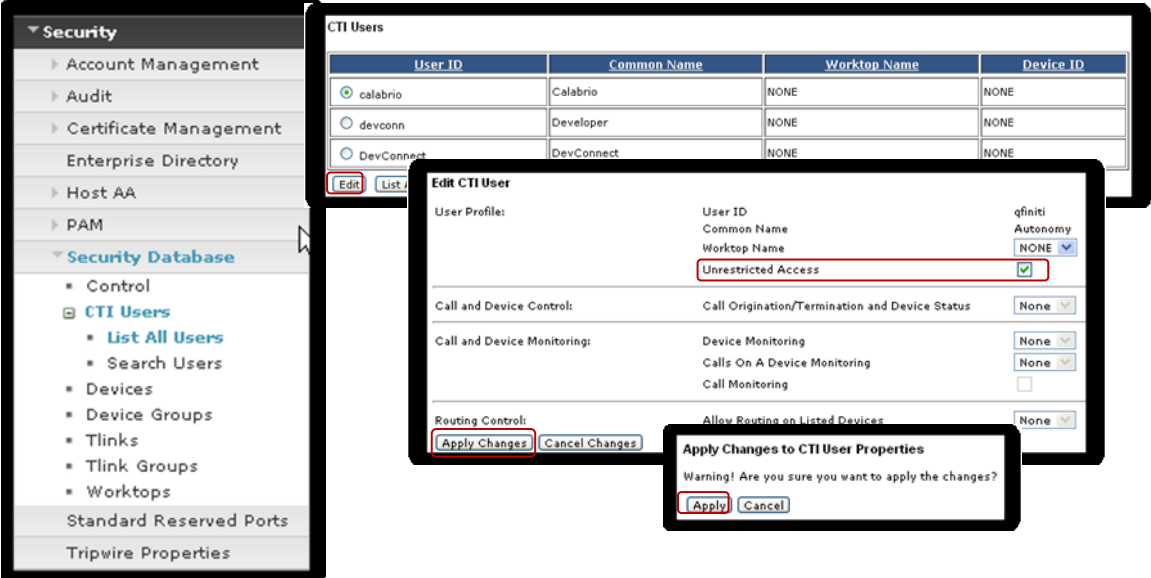


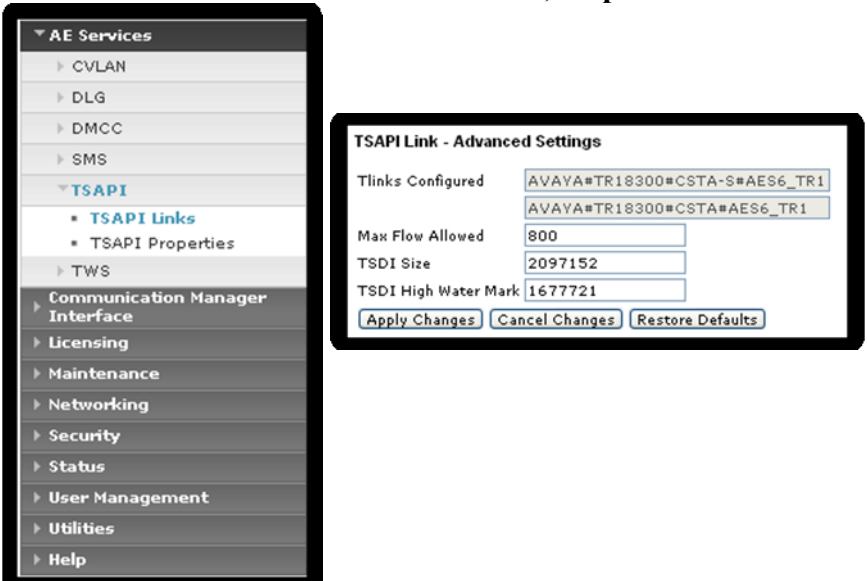
Step	Description
1.	<p><b>Configure Communication Manager Switch Connections</b></p> <p>To add links to the Communication Manager, navigate to the <b>Communication Manager Interface &gt; Switch Connections</b> page and enter a name for the new switch connection and click the Add Connection button. This was previously configured as <b>TR18300</b> for this test environment:</p>  <p>Use the <b>Edit Connection</b> button shown above to configure the connection. Enter the <b>Switch Password</b> and check the <b>Processor Ethernet</b> box if using the <b>procr</b> interface, as shown below. This must match the password configured in <b>Section 5, Step 3</b> above.</p>  <p>Use the <b>Edit PE/CLAN IPs</b> button (shown in this section's first screen shot above) to configure the <b>procr</b> or <b>CLAN IP Address(es)</b> for TSAPI message traffic.</p>  <p>Use the <b>Edit H.323 Gatekeeper</b> button (shown in this section's first screen shot above) to configure the <b>procr</b> or <b>CLAN IP Address(es)</b> for DMCC registrations.</p> 

Step	Description
2.	<p><b>Add TSAPI Links</b></p> <p>Navigate to the <b>AE Services -&gt; TSAPI -&gt; TSAPI Links</b> page to add the TSAPI CTI Link. Click <b>Add Link</b>(not shown).</p> <p>Select a Switch Connection using the drop down menu. Select the <b>Switch CTI Link Number</b> using the drop down menu. The <b>Switch CTI LinkNumber</b> must match the number configured in the <b>cti-link</b> form in <b>Section 5, Step 4</b>.</p> <p>If the application will use Encrypted Links, select <b>Encrypted</b> in the <b>Security</b> selection box.</p> <p>Click <b>Apply Changes</b>.</p> 



Step	Description
<b>3.</b>	<p><b>Configure Calabrio user</b></p> <p>In the Navigation Panel, select <b>User Management &gt; User Admin &gt; Add User</b>. The <b>Add User</b> panel will display as shown below, enter an appropriate <b>User Id</b>, <b>Common Name</b>, <b>Surname</b>, <b>User Password</b>, and <b>Confirm Password</b>. Select <b>Yes</b> from the <b>CT User</b> dropdown list.</p> <p>Click <b>Apply</b> at the bottom of the pages to save the entries.</p> <div data-bbox="276 651 1084 1449"> </div>

Step	Description
4.	<p><b>Enable Unrestricted Access</b></p> <p>If the Security Database (SDB) is enabled on Application Enablement Services, set the calabrio user account to Unrestricted Access to enable any device (station, ACD extension, DMCC port) to be used implicitly. This step avoids the need to duplicate administration.</p> <p>Navigate to <b>Security &gt; Security Database &gt; CTI Users &gt; List All Users</b> and select the <b>calabrio</b> user and click <b>Edit</b>.</p> <p>On the <b>Edit CTI User</b> panel, check the <b>Unrestricted Access</b> box and click the <b>Apply Changes</b> button.</p> <p>Click <b>Apply</b> when asked to confirm the change on the <b>Apply Changes to CTI User Properties</b> dialog.</p> <p>Note, this step requires entry on multiple panels. Each panel was superimposed below to consolidate the task.</p> 

Step	Description
5.	<p><b>Note the TLink Information</b>            Navigate to <b>AE Services &gt; TSAPI &gt; TSAPI Links</b> and note the <b>TLinks Configured</b>. This information will be used in <b>Section 7, Step 4</b>.</p>  <p>The screenshot displays the Avaya Management System interface. On the left is a navigation menu with the following items: AE Services (expanded), CVLAN, DLG, DMCC, SMS, TSAPI (expanded), TSAPI Links (selected), TSAPI Properties, TWS, Communication Manager Interface, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. On the right is the 'TSAPI Link - Advanced Settings' configuration page. It shows 'Tlinks Configured' with two entries: 'AVAYA#TR18300#CSTA-S#AES6_TR1' and 'AVAYA#TR18300#CSTA#AES6_TR1'. Other settings include 'Max Flow Allowed' (800), 'TSDI Size' (2097152), and 'TSDI High Water Mark' (1677721). At the bottom are three buttons: 'Apply Changes', 'Cancel Changes', and 'Restore Defaults'.</p>

Step	Description
6.	<p><b>Confirm TSAPI and DMCC Licenses</b></p> <p>Qfiniti uses a DMCC(VALUE_AES_DMCC_DMC) license for each recording port. Additionally, a TSAPI Basic(VALUE_AES_TSAPI_USERS) license is used for each agent station, and each skill group being monitored. If DMCC_DMC is licensed on Application Enablement Services, then an IP_API_A is generally not required on Communication Manager R5 and later. Please consult product offer documentation for more details. If the licensed quantities are not sufficient for the implementation, contact the Avaya sales team or business partner for a proper license file.</p>

AVAYA

Web License Manager (WebLM v4.6)

Logout

Install License

Licensed Products

APPL\_ENAB

Application\_Enablement

Configure Enterprise

Configure Local WebLMs

Add Local WebLM

Delete Local WebLM

Modify Local WebLM

Usage

Allocations

Periodic Status

Uninstall License

Change Password

Server Properties

Manage Users

Logout

Application Enablement (CTI) - Release: 6 - SID: 10503000 (Enterprise License File)

You are here: Licensed Products > Application Enablement (CTI) > View by Feature

License installed on: Mar 8, 2011 4:05:51 PM MST

View by Local WebLM

Feature (License Keyword)	License Capacity	Currently Available
CVLAN ASAI (VALUE_AES_CVLAN_ASAI)	16	16
Unified CC API Desktop Edition (VALUE_AES_AEC_UNIFIED_CC_DESKTOP)	1000	1000
AES ADVANCED SMALL SWITCH (VALUE_AES_AEC_SMALL_ADVANCED)	3	3
CVLAN Proprietary Links (VALUE_AES_PROPRIETARY_LINKS)	16	16
Product Notes (VALUE_NOTES)	SmallServerTypes: s8300c;s8300d;ic;premio;tn8400;laptop;CtiSmallServer MediumServerTypes: ibmx306;ibmx306m;dell1950;xen;hs20;hs20_8832_vm;CtiMediumServer LargeServerTypes: isp2100;ibmx305;dl380g3;dl385g1;dl385g2;unknown;CtiLargeServer TrustedApplications: IPS_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; 1XP_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; 1XM_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; PC_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; CIE_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; VP_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; SAMETIME_001, VALUE_AEC_UNIFIED_CC_DESKTOP,, CCE_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; CSI_T1_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; CSI_T2_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; AVAYAVERINT_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted;	Not counted
AES ADVANCED LARGE SWITCH (VALUE_AES_AEC_LARGE_ADVANCED)	3	3
TSAPI Simultaneous Users (VALUE_AES_TSAPI_USERS)	1000	1000
DLG (VALUE_AES_DLG)	16	16
Device Media and Call Control (VALUE_AES_DMCC_DMC)	1000	1000
AES ADVANCED MEDIUM SWITCH (VALUE_AES_AEC_MEDIUM_ADVANCED)	3	3

## **7. Configure Calabrio Monitoring and Recording Services**

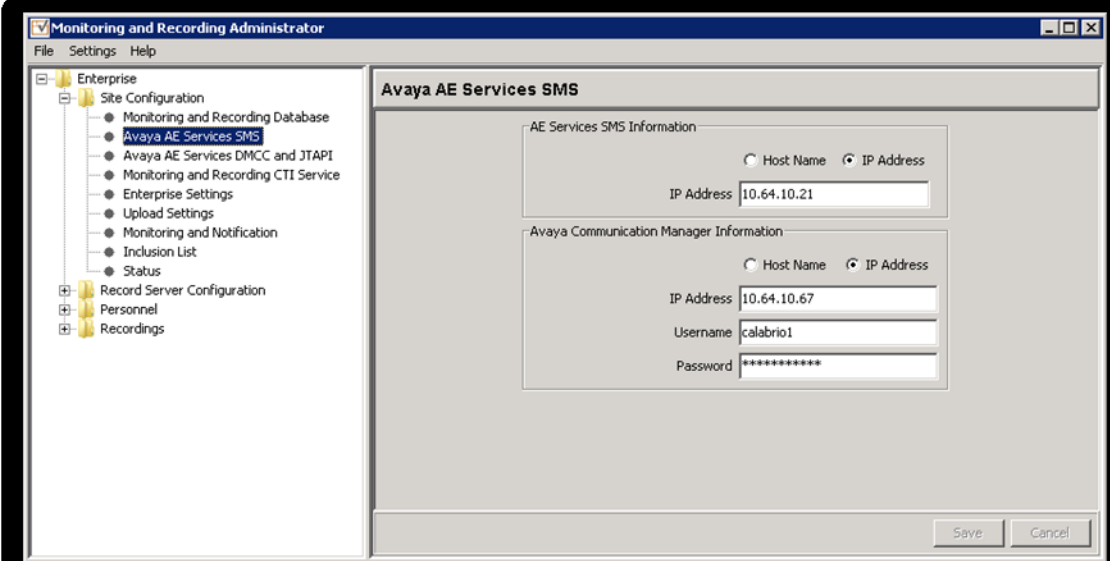
The initial configuration of the Monitoring and Recording Services server is typically performed by Calabrio technicians or authorized installers. These Application Notes will only cover the steps necessary to configure the Monitoring and Recording Services solution to interoperate with Avaya Aura<sup>®</sup> Communication Manager and Avaya Aura<sup>®</sup> Application Enablement Services.

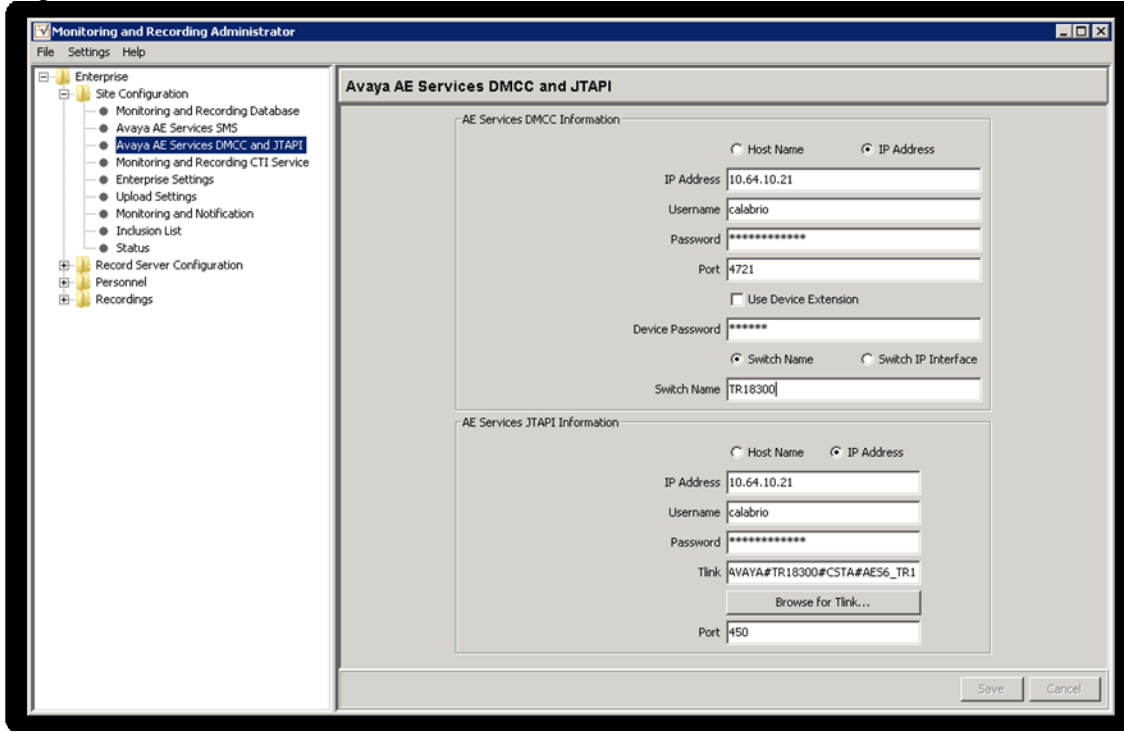
### **7.1. Monitoring and Recording Services Configuration Details**

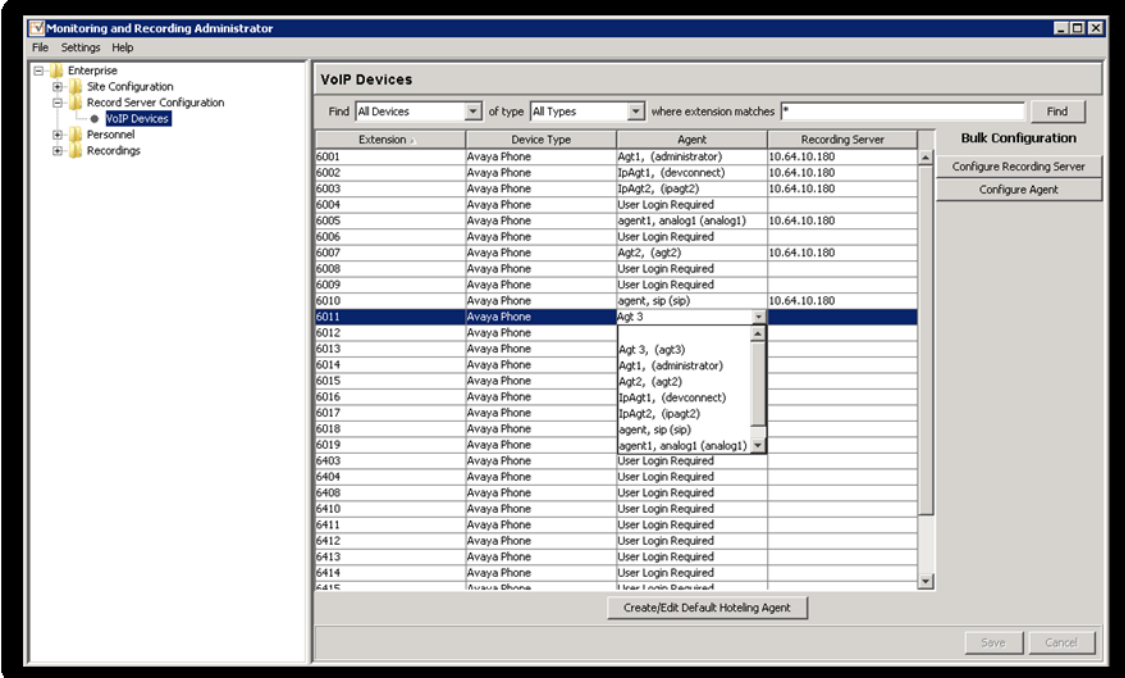
On the Calabrio Monitoring and Recording Services server, launch the Monitoring and Recording Administrator application from the Windows Programs menu and log in with the appropriate credentials.

The steps include:

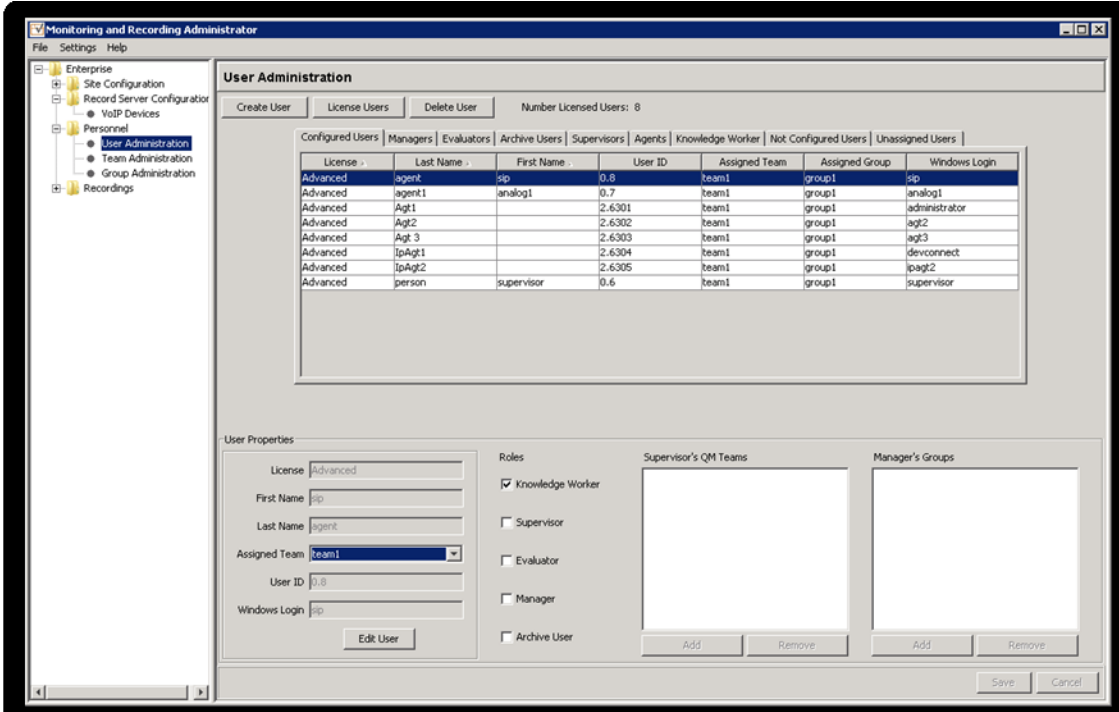
- Configuration of the Application Enablement Interfaces – SMS
- Configuration of the Application Enablement Interfaces
- Configuration of Devices
- Configuration of Agents
- Configuration of Recording Schedules (Workflows)

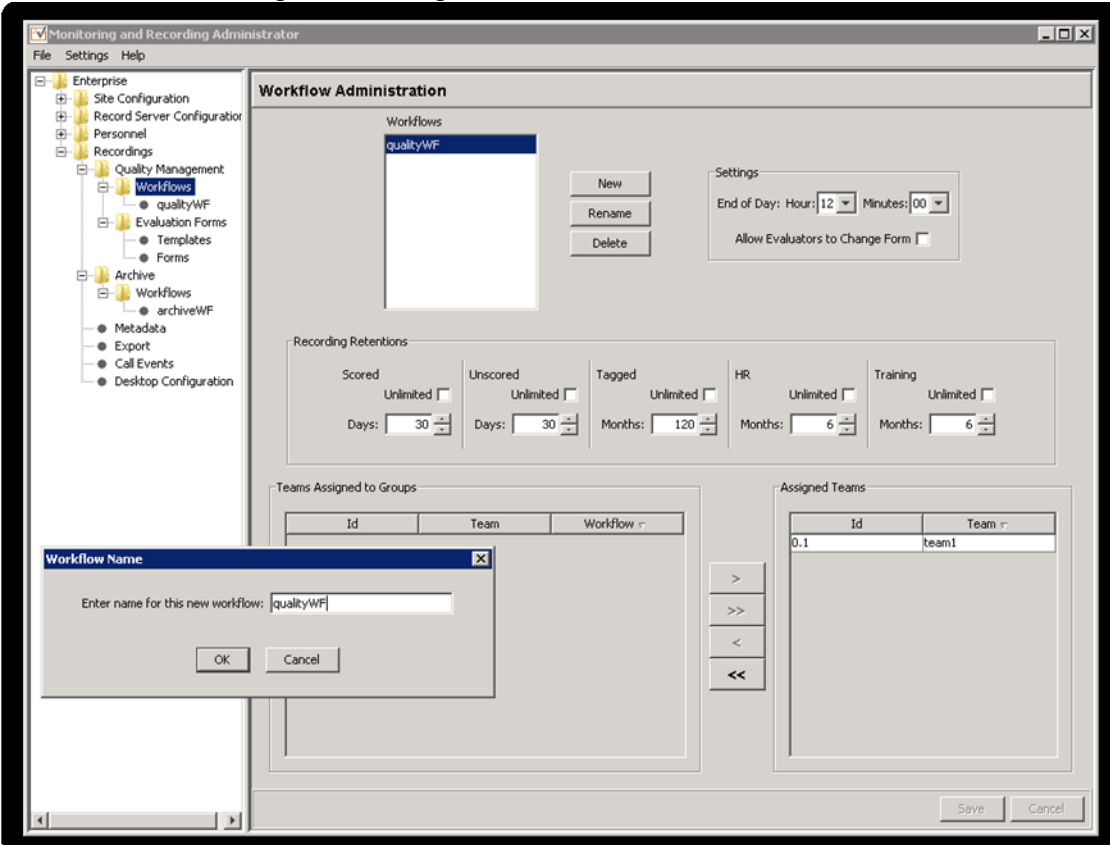
Step	Description
1.	<p><b>Configuration of the Application Enablement Interfaces – SMS</b></p> <p>Under the <b>Site Configuration</b>, select the <b>Avaya AE Services SMS</b> object in the navigation panel.</p> <p>Provide the <b>IP Address</b> or <b>Host Name</b> of the <b>Application Enablement Services</b> server in the <b>AE Services SMS Information</b> section. In the <b>Avaya Communication Manager Information</b> section, provide the <b>IP Address</b> of Communication Manager procr as well as the <b>Username</b> and <b>Password</b> configured in <b>Section 5, Step 5</b> above.</p> 

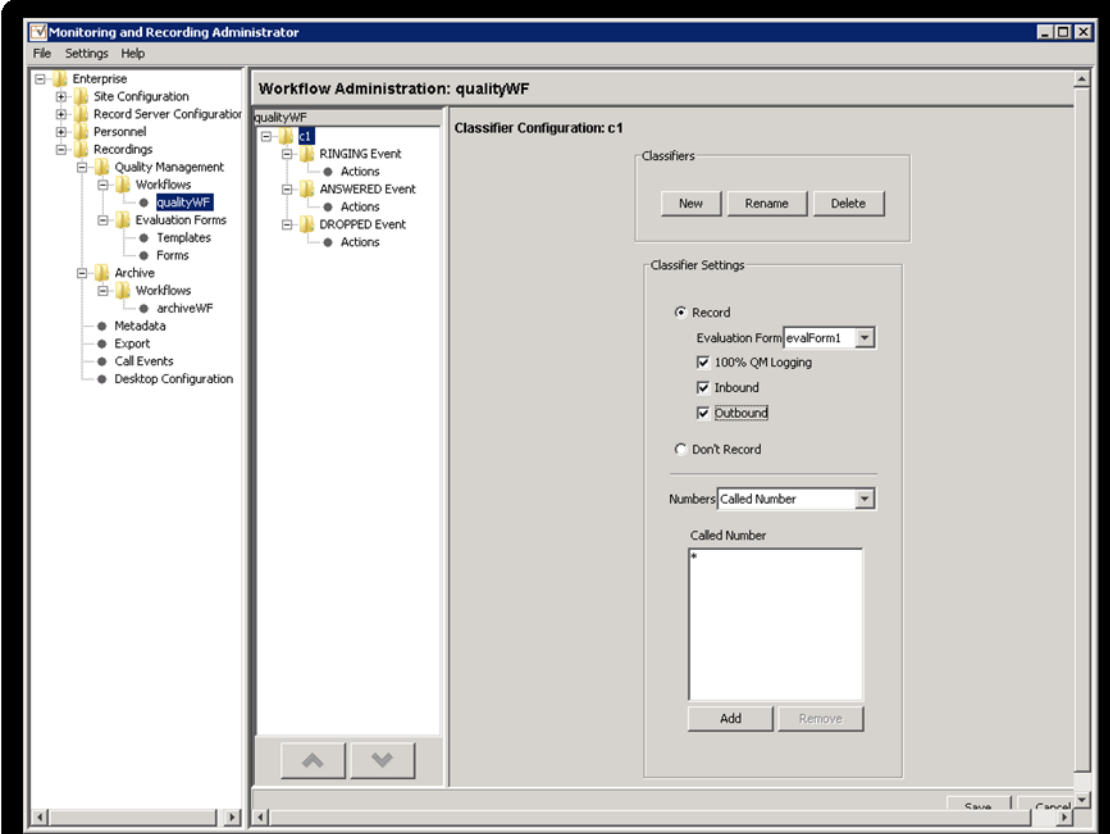
Step	Description
2.	<p data-bbox="280 233 1044 268"><b>Configuration of the Application Enablement Interfaces</b></p> <p data-bbox="280 300 1369 369">Select the <b>Avaya AE Services DMCC and JTAPI</b> object in the navigation panel. In the <b>AE Services DMCC Information</b> section, provide:</p> <ul data-bbox="337 384 1393 758" style="list-style-type: none"> <li>• <b>Host Name</b> or <b>IP Address</b> of the <b>Application Enablement Services</b> server,</li> <li>• <b>Username</b> and <b>Password</b>(from <b>Section 6.1, Step 3</b>),</li> <li>• Enter <b>Port 4721</b> (the default DMCC listen port).</li> <li>• <b>Device Password</b> for the stations. Note that all station passwords must be the same for this solution, however, check with Calabrio for alternatives if necessary.</li> <li>• <b>Switch Name</b> or <b>Switch IP Interface</b>. This entry must match the configuration in <b>Section 6.1, Step 1</b>. Switch Name (TR18300) is preferred when multiple IP Interfaces are used for H.323 Gatekeepers as it allows Application Enablement to manage registrations in a pool.</li> </ul> <p data-bbox="280 789 1019 825">In the <b>AE Services JTAPI Information</b> section, provide:</p> <ul data-bbox="337 840 1360 1056" style="list-style-type: none"> <li>• <b>Host Name</b> or <b>IP Address</b> of the procr or CLAN used for the AE Services Switch Link configured in <b>Section 6.1, Step 1</b>. Repeat the <b>Username</b> and <b>Password</b>.</li> <li>• Enter or browse for the <b>Tlink</b> information as configured in <b>Section 6 Step 5</b>.</li> <li>• Use the default <b>Port 450</b> which is the TSAPI service Listening port on Application Enablement Services.</li> </ul> <p data-bbox="280 1094 634 1163">Click <b>Save</b> to complete this step.</p> 

Step	Description
3.	<p><b>Configuration of Devices</b></p> <p>When the SMS query completes, all devices from Communication Manager are listed in the VoIP Devices page Enterprise &gt; Record Server Configuration &gt; VoIP Devices.</p> <p>A device is assigned to be recorded by assigning a <b>Recording Server</b> to each device on the <b>VoIP Devices</b> page, and then assigning an <b>Agent</b> to that device using drop down lists in each column. Agents are configured on the <b>User Administration</b> page as described in the next step.</p> <p>Click <b>Save</b> to complete this step.</p> 



Step	Description																																																															
4.	<h3>Configuration of Agents</h3> <p>Users are created and maintained on the <b>User Administration</b> page Enterprise &gt; Personnel &gt; User Administration. Users can be assigned to teams, and once created, can be statically assigned to a VoIP Device as demonstrated in <b>Step 3</b>. See product documentation for more details on this step.</p>  <table><thead><tr><th>License</th><th>Last Name</th><th>First Name</th><th>User ID</th><th>Assigned Team</th><th>Assigned Group</th><th>Windows Login</th></tr></thead><tbody><tr><td>Advanced</td><td>Agnt2</td><td>ip</td><td>0.8</td><td>team1</td><td>group1</td><td>ip2</td></tr><tr><td>Advanced</td><td>agent1</td><td>analog1</td><td>0.7</td><td>team1</td><td>group1</td><td>analog1</td></tr><tr><td>Advanced</td><td>Agnt1</td><td></td><td>2.6301</td><td>team1</td><td>group1</td><td>administrator</td></tr><tr><td>Advanced</td><td>Agnt2</td><td></td><td>2.6302</td><td>team1</td><td>group1</td><td>agt2</td></tr><tr><td>Advanced</td><td>Agnt3</td><td></td><td>2.6303</td><td>team1</td><td>group1</td><td>agt3</td></tr><tr><td>Advanced</td><td>IpAgnt1</td><td></td><td>2.6304</td><td>team1</td><td>group1</td><td>devconnect</td></tr><tr><td>Advanced</td><td>IpAgnt2</td><td></td><td>2.6305</td><td>team1</td><td>group1</td><td>ipagt2</td></tr><tr><td>Advanced</td><td>person</td><td>supervisor</td><td>0.6</td><td>team1</td><td>group1</td><td>supervisor</td></tr></tbody></table>	License	Last Name	First Name	User ID	Assigned Team	Assigned Group	Windows Login	Advanced	Agnt2	ip	0.8	team1	group1	ip2	Advanced	agent1	analog1	0.7	team1	group1	analog1	Advanced	Agnt1		2.6301	team1	group1	administrator	Advanced	Agnt2		2.6302	team1	group1	agt2	Advanced	Agnt3		2.6303	team1	group1	agt3	Advanced	IpAgnt1		2.6304	team1	group1	devconnect	Advanced	IpAgnt2		2.6305	team1	group1	ipagt2	Advanced	person	supervisor	0.6	team1	group1	supervisor
License	Last Name	First Name	User ID	Assigned Team	Assigned Group	Windows Login																																																										
Advanced	Agnt2	ip	0.8	team1	group1	ip2																																																										
Advanced	agent1	analog1	0.7	team1	group1	analog1																																																										
Advanced	Agnt1		2.6301	team1	group1	administrator																																																										
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Advanced	IpAgnt1		2.6304	team1	group1	devconnect																																																										
Advanced	IpAgnt2		2.6305	team1	group1	ipagt2																																																										
Advanced	person	supervisor	0.6	team1	group1	supervisor																																																										

Step	Description
5.	<p><b>Configuration of Recording Schedules (Workflows)</b></p> <p>For the Compliance Test, all calls were recorded, inbound and outbound using a Workflow to define the conditions.</p> <p>On the <b>Recordings &gt;Quality Management&gt;Workflows</b> page, click the <b>New</b> button to create a Workflow, enter a name for the new workflow, and click <b>OK</b>. To assign the workflow to a team, select a team from the <b>Teams Assigned to Groups</b> list on the left side of the bottom of the page, and click the &gt; button to move that group into the <b>Assigned Teams</b> for the workflow.</p> <p>Click on <b>Save</b> to complete this step.</p> 

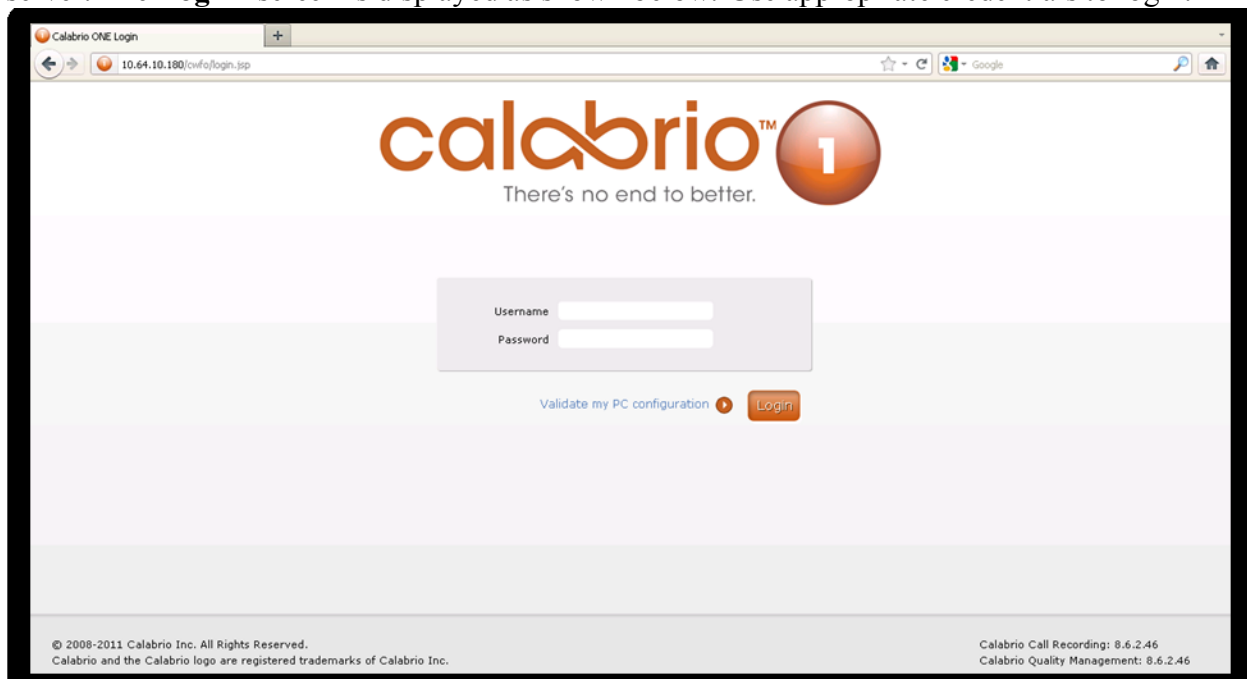
Step	Description
	<p><b>Configuration of Recording Schedules (Workflows) - Continued</b></p> <p>Click on the newly created Workflow to edit the details of the schedule. For the Compliance Test, 100% QM Logging was enabled for Inbound and Outbound calls. If an Evaluation Form is to be used by users reviewing the recordings for this workflow, then select a previously configured Evaluation Form. Configuration of Evaluation Forms is beyond the scope of these Application Notes.</p> 

## 8. Verification Steps

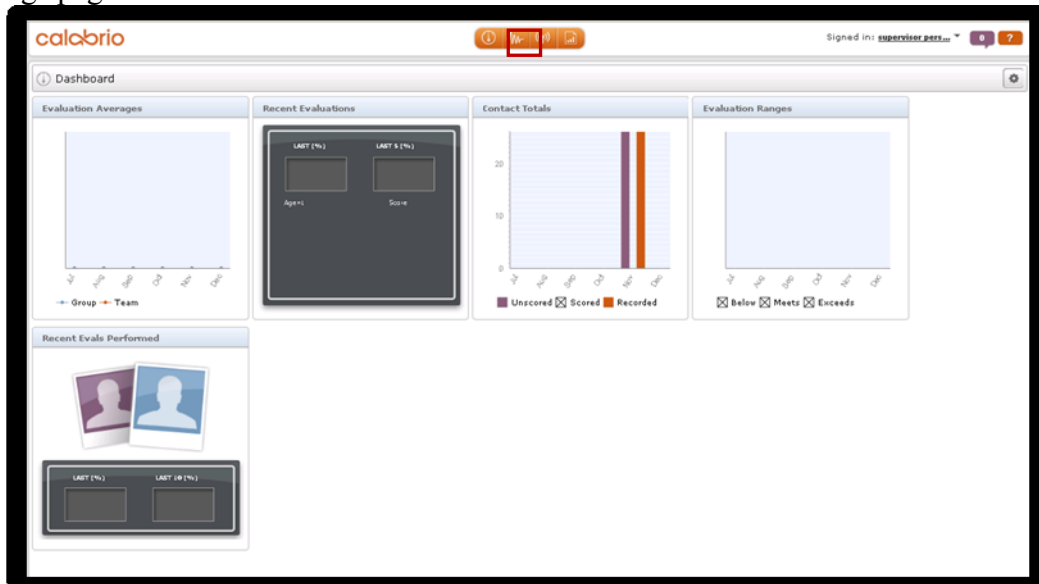
The following steps may be used to verify the configuration:

- Verify that Application Enablement Services is enabled and listening (use the **status aesvcs interface** command on the Communication Manager SAT).
- Verify communication between Avaya Aura<sup>®</sup> Communication Manager and the Application Enablement Services server (use the **status aesvcs link** command on the SAT, or navigate to **Status and Control > Switch Conn Summary** on the CTI OAM page and verify that the state of the Switch Connection is *talking*).
- Verify that the CTI link is established (use the **status aesvcs cti-link** command on the SAT).
- Verify that the Calabrio recording ports are registered as “IP\_API\_A” stations in Avaya Communication Manager (use the **list registered-ip-stations** command on the SAT).
- Verify the Calabrio has successfully monitored the agent stations using TSAPI (use the **list monitored-stations** command on the SAT).
- Verify that calls may be successfully completed to and from agents. Verify that the call recordings are accurate and complete.
- Log agents into a hunt/skill group and verify that calls may be successfully completed to and from the agents.

Access the Calabrio web-based user interface using the URL <http://<ip-address>/cwfo> in a browser window, where <ip-address> is the address of the Monitoring and Recording Services server. The **Log In** screen is displayed as shown below. Use appropriate credentials to login.



Once logged in, launch the **Recording** interface from the Dashboard to reach the Search Recordings page.

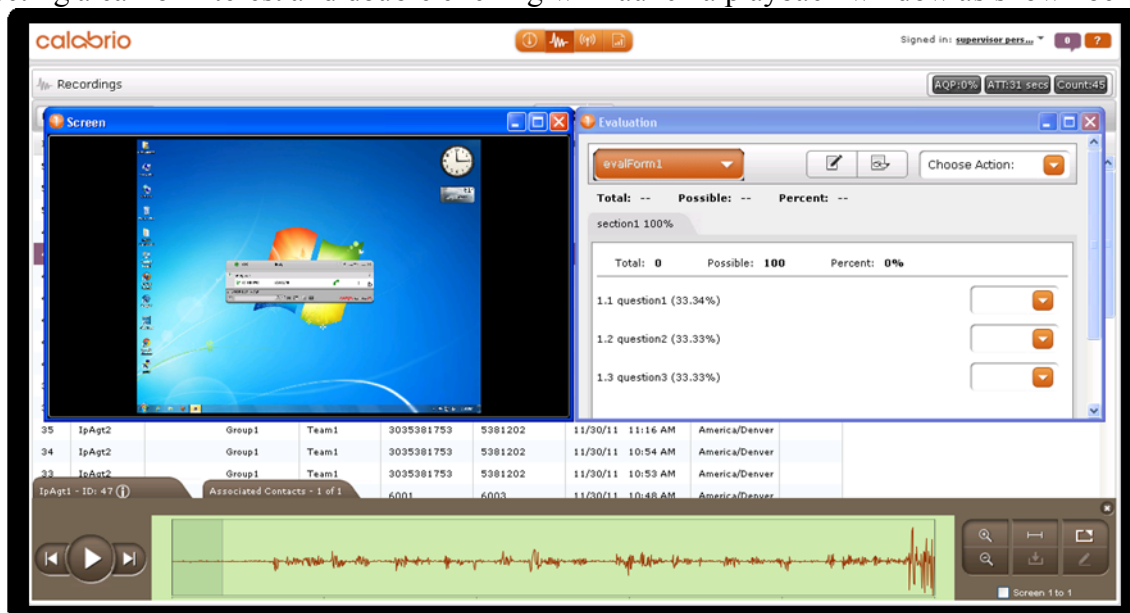


On the **Search Recordings** page, create search criteria and click **Search** to find recordings.

The screenshot shows the 'Search Recordings' page. A red box highlights the search criteria section, which includes fields for 'Group', 'Team', 'In the past month', 'All Evaluations', and 'Search Scope'. Below this, there is a table of recordings. The table has columns for 'ID', 'Last Name', 'First Name', 'Group Name', 'Team Name', 'Calling Number', 'Called Number', 'Date', 'Time', 'Time Zone', and '% Score'.

ID	Last Name	First Name	Group Name	Team Name	Calling Number	Called Number	Date	Time	Time Zone	% Score
53	Agt1		Group1	Team1	6010	6001	11/30/11	4:35 PM	America/Denver	
51	IpAgt2		Group1	Team1	6001	6003	11/30/11	3:37 PM	America/Denver	
50	Agt1		Group1	Team1	6001	6003	11/30/11	3:37 PM	America/Denver	
49	Agt1		Group1	Team1	3035381753	5381220	11/30/11	3:25 PM	America/Denver	
47	IpAgt1		Group1	Team1	3035381753	5381220	11/30/11	2:59 PM	America/Denver	
46	IpAgt1		Group1	Team1	3035381753	5381220	11/30/11	2:27 PM	America/Denver	
43	Agt1		Group1	Team1	3035381753	5381220	11/30/11	1:17 PM	America/Denver	
42	Agent1	Analog1	Group1	Team1	6013	6005	11/30/11	12:00 PM	America/Denver	
41	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	11:43 AM	America/Denver	
40	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	11:41 AM	America/Denver	
39	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	11:41 AM	America/Denver	
37	IpAgt2		Group1	Team1	6003	6404	11/30/11	11:25 AM	America/Denver	
35	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	11:16 AM	America/Denver	
34	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	10:54 AM	America/Denver	
33	IpAgt2		Group1	Team1	3035381753	5381202	11/30/11	10:53 AM	America/Denver	

Selecting a call of interest and double clicking will launch a playback window as shown below.



## 9. Conclusion

These Application Notes described the procedures for configuring Calabrio Monitoring and Recording Services to monitor and record calls placed to and from agents and phones on Avaya Aura® Communication Manager. In the configuration described in these Application Notes, Calabrio uses the Device and Media Control Services of Avaya Aura® Application Enablement Services to perform recording. During compliance testing, Calabrio successfully recorded calls placed to and from agents and station, as well as calls placed to a VDN and then queued to an agent hunt/skill group.

## 10. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

### Avaya

[1] *Administering Avaya Aura™ Communication Manager*, Doc # 03-300509, Release 6.0, Issue 6.0, June 2010.

[2] *Avaya Aura® Application Enablement Services Administration and Maintenance Guide*, Release 6.1, Issue 2, February 2011.

### Calabrio

Product information for Calabrio products can be found at <http://calabrio.com/about-calabrio/services/>

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