



Avaya Solution & Interoperability Test Lab

Application Notes for TASKE Visualizer with Avaya Aura® Communication Manager Release 8.1.3 and Avaya Aura® Application Enablement Services Release 8.1.3 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for TASKE Visualizer to interoperate with Avaya Aura® Communication Manager using Avaya Aura® Application Enablement Services.

In the compliance testing, TASKE Visualizer used the Telephony Services Application Programming Interface from Avaya Aura® Application Enablement Services to monitor contact center devices on Avaya Aura® Communication Manager, and used the event reports from the monitored devices to produce real-time and historical reports.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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

These Application Notes describe the configuration steps required for TASKE Visualizer to interoperate with Avaya Aura® Communication Manager using Avaya Aura® Application Enablement Services.

In the compliance testing, TASKE Visualizer used the Telephony Services Application Programming Interface (TSAPI) from Avaya Aura® Application Enablement Services to monitor contact center devices on Avaya Aura® Communication Manager, and used the event reports from the monitored devices to produce real-time and historical reports.

2. General Test Approach and Test Results

The feature test cases were performed manually. Upon startup of the TASKE Visualizer application, the application automatically queried for device status and requested monitoring.

For the manual part of the testing, incoming and outgoing calls were made involving the contact center devices to enable event reports to be sent to TASKE Visualizer. Manual call controls from the customer and agent telephones were exercised to verify remaining event reports and reported device status by TASKE Visualizer.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cable to the TASKE Visualizer server.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and the TASKE Visualizer did not include use of any specific encryption features.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on TASKE Contact:

- Handling of TSAPI messages in the areas of event notification and value queries.
- Proper display of monitored device status in the real-time reports.

The serviceability testing focused on verifying the ability of TASKE Visualizer to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the TASKE Visualizer server.

2.2. Test Results

All test cases were executed and passed.

2.3. Support

Technical support on TASKE Visualizer can be obtained through the following:

- **Phone:** +1 (877) 778-2753
- **Web:** <https://www.taske.com/support/>

3. Reference Configuration

The detailed administration of basic connectivity between Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services, and of contact center devices are not the focus of these Application Notes and will not be described.

In the compliance testing, the contact center devices consisted of one VDN, one skill group, one supervisor, and two agents shown in the table below. TASKE Visualizer requested monitoring on the VDN, skill group, and agent telephone extensions.

Device Type	Extension
VDN	3340
Skill Group	3320
Supervisor Telephone	3303
Agent IDs	1000, 1001, 1002
Agent Telephone	3301, 3401

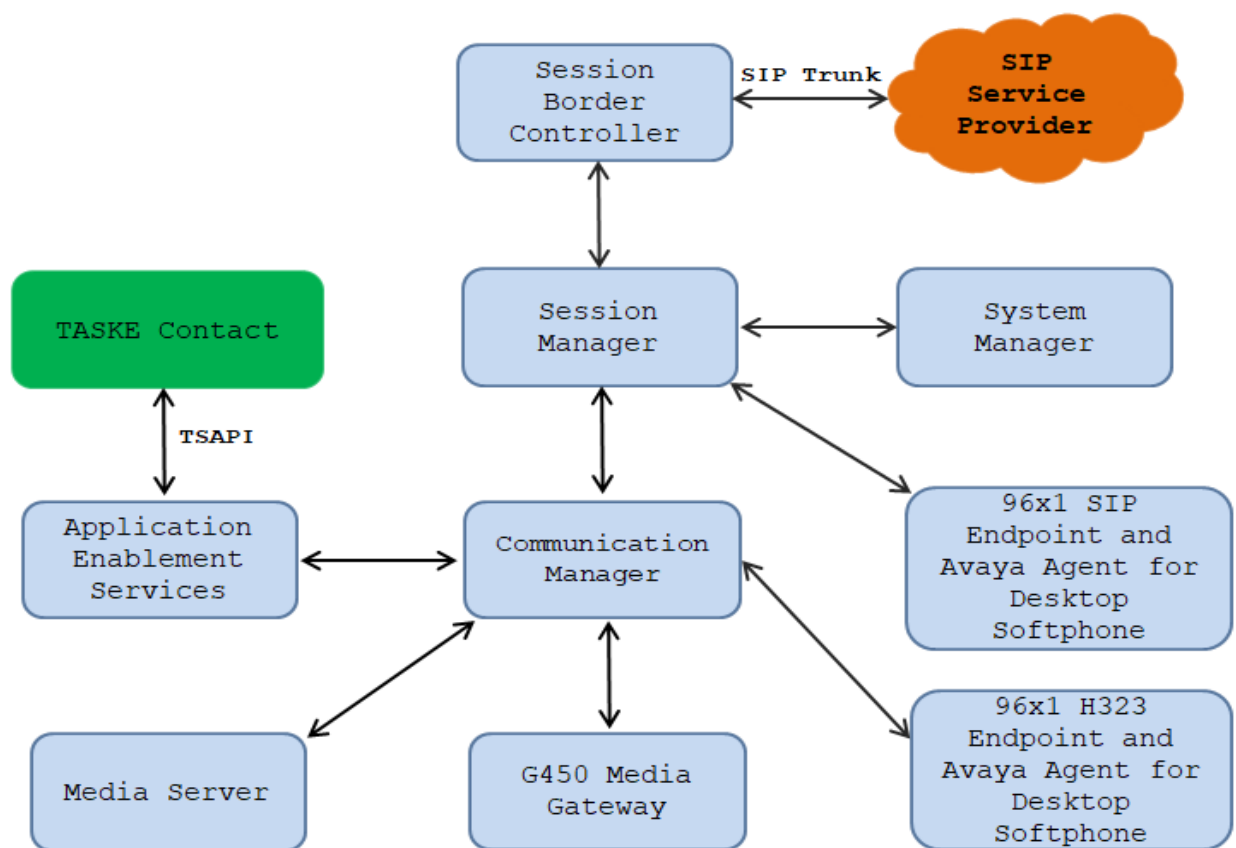


Figure 1: Avaya Network with TASKE Visualizer Server

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on virtualized environment	8.1.3 8.1.3.2.0.890.26989
Avaya Aura® Application Enablement Services running on virtualized environment	8.1.3 8.1.3.2.0.4-0
Avaya Aura® Session Manager running on virtualized environment	8.1.3 8.1.3.0.813014
Avaya Aura® System Manager running on virtualized environment	8.1.3 8.1.3.0.1011784
Avaya Aura® Media Server running on virtualized environment	8.0 8.0.2.163
Avaya Session Border Controller for Enterprise	8.1.2 8.1.2.0-37-21065
Avaya G450 Media Gateway	41.34.0
Avaya IP Deskphones <ul style="list-style-type: none">• 9608 (H.323)• 9621 (H.323)• 9641GS (SIP)• J189 (SIP)	6.8.304 6.8.304 7.1.9.0.8 4.0.7.1.5
Avaya 9404 Digital Telephone	22.0
Desktop PC running Avaya Agent for Desktop (H.323 and SIP)	2.0.6.0.10
TASKE Visualizer running on Windows 2016 Server	2021.1.1232

5. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Avaya Aura® Communication Manager. The procedures include the following areas:

- Verify Communication Manager License
- Administer CTI link
- Administer AE Services

5.1. Verify Communication Manager License

Log in to the System Access Terminal (SAT) to verify that the Communication Manager license has appropriate permissions for features illustrated in these Application Notes. Use the “display system-parameters customer-options” command to verify that the **Computer Telephony Adjunct Links** customer option is set to “y” on **Page 4**. 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 4 of 12
                                OPTIONAL FEATURES

Abbreviated Dialing Enhanced List? y      Audible Message Waiting? y
Access Security Gateway (ASG)? y          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? y          DCS Call Coverage? y
ASAI Link Plus Capabilities? y          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
```

5.2. Administer CTI Link

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. Note that the CTI link number and extension number may vary. Enter “ADJ-IP” in the **Type** field, and a descriptive name in the **Name** field. Default values may be used in the remaining fields.

```
add cti-link 1                                                         Page 1 of 3
                                CTI LINK

CTI Link: 1
Extension: 3222
Type: ADJ-IP
Name: AES80
COR: 1
```

5.3. Administer AE Services

To administer the transport link to AES, use the command “**chang ip-services**”. On **Page 1**, add an entry with the following values. Service Type should be selected as **AESVCS**, enter “**y**” in the **Enabled**, “**procr**” in the **Local Node** and **8765** in the **Local Port**.

change ip-services					Page	1 of	4
IP SERVICES							
Service	Enabled	Local	Local	Remote	Remote		
Type		Node	Port	Node	Port		
AESVCS	y	procr	8765				

Go to **Page 4**, enter the following values. **AE Services Server** should be the AES IP node name, enter a password in the Password field and select “**y**” in the **Enabled** field.

Note: The password entered for **Password** field must match the password on the AES server in the Switch Connection in **Section 6.3**. The **AE Services Server** should match with the host name of the AES server. To obtain the host name of AES server, use the command “**uname -n**” in the Linux command prompt.

change ip-services				Page	4 of	4
AE Services Administration						
Server ID	AE Services Server	Password	Enabled	Status		
1:	aes80	*	y	in use		

6. Configure Avaya Aura® Application Enablement Services

This section provides the procedures for configuring Avaya Aura® Application Enablement Services. The procedures include the following areas:

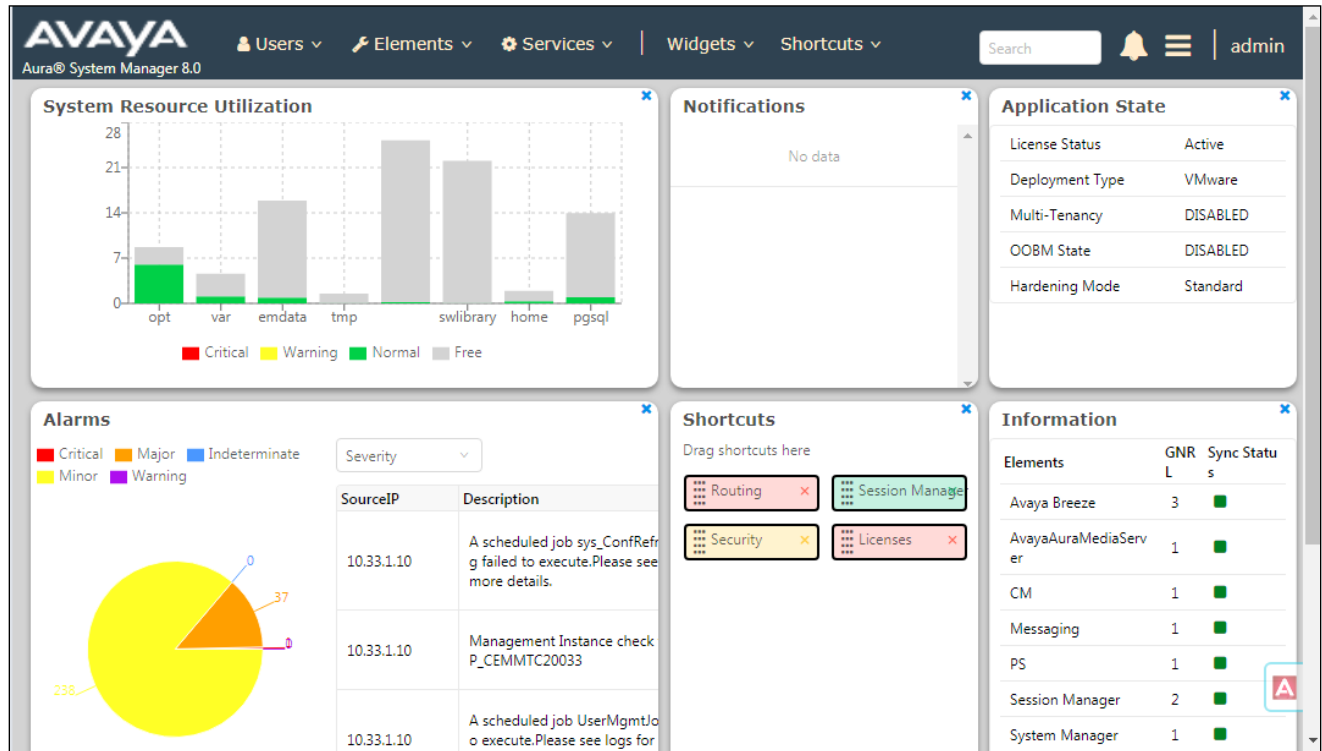
- Verify TSAPI license
- Launch OAM interface
- Administer TSAPI link
- Enable security database
- Restart TSAPI service
- Administer security database
- Obtain Tlink name
- Administer TASKE user

6.1. Verify TSAPI License

Access the Web License Manager interface by using the URL “https://ip-address/WebLM/index.jsp” in an Internet browser window, where “ip-address” is the IP address of the server hosting the Web License Manager. During compliance testing, the Web License Manager was part of Avaya Aura® System Manager (System Manager).

The Login screen of System Manager is displayed. Log in using the appropriate credentials.

From the System Manager dashboard, select the service **Licenses** under the **Services** column.



The **Licenses** screen below is displayed next. Select **Licensed Products** → **APPL_ENAB** → **Application_Enablement** in the left pane, to display the **Licensed Features** screen in the right pane.

Verify that there are sufficient licenses for **TSAPI Simultaneous Users**, as shown below.

WebLM Home	Application Enablement (CTI) - Release: 8 - SID: [REDACTED] (Enterprise license file)		
Install license	You are here: Licensed Products > Application_Enablement > View by Feature		
Licensed products	License installed on: August 15, 2018 3:22:54 PM +00:00		
APPL_ENAB	License File Host IDs: [REDACTED]		
▼ Application_Enablement			
View by feature			
View by local WebLM			
Enterprise configuration			
► Local WebLM Configuration			
► Usages			
► Allocations			
Periodic status			
ASBCE			
► Session_Border_Controller_E_AE			
CE			
► COLLABORATION_ENVIRONMENT			
COMMUNICATION_MANAGER			
► Call_Center			
► Communication_Manager			
Configure Centralized Licensing			
MESSAGING			
► Messaging			
	Feature (License Keyword)	License Capacity	Currently available
	Device Media and Call Control (VALUE_AES_DMCC_DMC)	100	100
	AES ADVANCED LARGE SWITCH (VALUE_AES_AEC_LARGE_ADVANCED)	100	100
	AES HA LARGE (VALUE_AES_HA_LARGE)	10	10
	AES ADVANCED MEDIUM SWITCH (VALUE_AES_AEC_MEDIUM_ADVANCED)	100	100
	Unified CC API Desktop Edition (VALUE_AES_AEC_UNIFIED_CC_DESKTOP)	100	97
	CVLAN ASA1 (VALUE_AES_CVLAN_ASA1)	100	100
	AES HA MEDIUM (VALUE_AES_HA_MEDIUM)	10	10
	AES ADVANCED SMALL SWITCH (VALUE_AES_AEC_SMALL_ADVANCED)	100	100
	DLG (VALUE_AES_DLG)	100	100
	TSAPI Simultaneous Users (VALUE_AES_TSAPI_USERS)	100	96
	CVLAN Proprietary Links (VALUE_AES_PROPRIETARY_LINKS)	100	100

6.2. Launch OAM Interface

Access the 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 Application Enablement Services server.

The **Please login here** screen is displayed. Log in using the appropriate credentials.



The screenshot shows the Avaya Application Enablement Services Management Console login interface. At the top left is the Avaya logo. To its right, the text "Application Enablement Services" is displayed in a large, bold font, with "Management Console" in a smaller font below it. A thick red horizontal bar spans the width of the page below the header. In the center of the page is a light gray rectangular box containing the text "Please login here:" followed by a label "Username" and a text input field. Below the input field is a button labeled "Continue". Another thick red horizontal bar is located at the bottom of the page, just above the footer. The footer text at the very bottom reads "Copyright © 2009-2020 Avaya Inc. All Rights Reserved."

The **Welcome to OAM** screen is displayed next.

The screenshot shows the Avaya Application Enablement Services Management Console. At the top left is the Avaya logo. To its right is the title "Application Enablement Services Management Console". In the top right corner, system information is displayed: "Welcome: User cust", "Last login: Tue Oct 26 02:16:29 2021 from 10.33.1.200", "Number of prior failed login attempts: 0", "HostName/IP: aes8/10.33.1.4", "Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE", "SW Version: 8.1.3.2.0.4-0", "Server Date and Time: Tue Oct 26 03:30:04 MDT 2021", and "HA Status: Not Configured". Below this is a red navigation bar with "Home" on the left and "Home | Help | Logout" on the right. A left sidebar contains a list of menu items: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. The main content area is titled "Welcome to OAM" and contains a paragraph: "The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:". This is followed by a bulleted list of domains and their functions: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help.

Welcome: User cust
Last login: Tue Oct 26 02:16:29 2021 from 10.33.1.200
Number of prior failed login attempts: 0
HostName/IP: aes8/10.33.1.4
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.2.0.4-0
Server Date and Time: Tue Oct 26 03:30:04 MDT 2021
HA Status: Not Configured

Home | Help | Logout

Home

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Status
User Management
Utilities
Help

Welcome to OAM

The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:

- AE Services - Use AE Services to manage all AE Services that you are licensed to use on the AE Server.
- Communication Manager Interface - Use Communication Manager Interface to manage switch connection and dialplan.
- High Availability - Use High Availability to manage AE Services HA.
- Licensing - Use Licensing to manage the license server.
- Maintenance - Use Maintenance to manage the routine maintenance tasks.
- Networking - Use Networking to manage the network interfaces and ports.
- Security - Use Security to manage Linux user accounts, certificate, host authentication and authorization, configure Linux-PAM (Pluggable Authentication Modules for Linux) and so on.
- Status - Use Status to obtain server status informations.
- User Management - Use User Management to manage AE Services users and AE Services user-related resources.
- Utilities - Use Utilities to carry out basic connectivity tests.
- Help - Use Help to obtain a few tips for using the OAM Help system

6.3. Administer Switch Connection

Select **Communication Manager Interface** → **Switch Connection** from the left pane of the **Management Console**, enter a name in **Switch Connection** box and click **Add** button (not shown). Enter the password as configured in **Section 5.3** in the **Switch Password** and **Confirm Switch Password** and check on **Processor Ethernet** field if the Processor Ethernet is used in Communication Manager. Click **Apply** button to save the configuration.

The screenshot shows the "Communication Manager Interface | Switch Connections" screen. The left sidebar is the same as the previous screen, but "Communication Manager Interface" is expanded, and "Switch Connections" is selected. The main content area is titled "Connection Details - interopcm" and contains a form with the following fields: "Switch Password" (password field), "Confirm Switch Password" (password field), "Msg Period" (text field with value 30 and unit "Minutes (1 - 72)"), "Provide AE Services certificate to switch" (checkbox), "Secure H323 Connection" (checkbox), and "Processor Ethernet" (checkbox, which is checked). At the bottom of the form are "Apply" and "Cancel" buttons.


Communication Manager Interface | Switch Connections | Home | Help | Logout

AE Services
Communication Manager Interface
Switch Connections
Dial Plan
High Availability
Licensing
Maintenance
Networking
Security
Status
User Management
Utilities
Help

Connection Details - interopcm

Switch Password:
Confirm Switch Password:
Msg Period: 30 Minutes (1 - 72)
Provide AE Services certificate to switch: ☐
Secure H323 Connection: ☐
Processor Ethernet: ☒
Apply Cancel

Select the **interopcm** switch connection has been added above and selects **Edit PE/CLAN IPs** to add IP address of switch connection.



Application Enablement Services
 Management Console

Welcome: User cust
 Last login: Tue Oct 26 03:29:14 2021 from 10.33.1.200
 Number of prior failed login attempts: 0
 HostName/IP: aes8/10.33.1.4
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.2.0.4-0
 Server Date and Time: Wed Oct 27 02:35:05 MDT 2021
 HA Status: Not Configured

Communication Manager Interface | Switch Connections
Home | Help | Logout

- ▶ AE Services
- ▼ Communication Manager Interface
 - Switch Connections
 - ▶ Dial Plan
 - High Availability
 - ▶ Licensing
 - ▶ Maintenance
 - ▶ Networking
 - ▶ Security
 - ▶ Status
 - ▶ User Management
 - ▶ Utilities
 - ▶ Help

Switch Connections

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
<input checked="" type="radio"/> interopcm	Yes	30	1

Enter IP address of Processor Ethernet of Communication Manager in the box and click **Add/Edit Name of IP** button to add the IP.

Communication Manager Interface | Switch Connections
Home | Help | Logout

- ▶ AE Services
- ▼ Communication Manager Interface
 - Switch Connections
 - ▶ Dial Plan
 - High Availability
 - ▶ Licensing
 - ▶ Maintenance
 - ▶ Networking
 - ▶ Security
 - ▶ Status
 - ▶ User Management
 - ▶ Utilities
 - ▶ Help

Edit Processor Ethernet IP - interopcm

Name or IP Address	Status
10.33.1.6	In Use

Select **Edit H.323 Gatekeeper** button to add an IP address of gate keeper, the Gatekeeper IP address in this case is also the Processor Ethernet.

Communication Manager Interface | Switch Connections Home | Help | Logout

AE Services
 Communication Manager Interface
 Switch Connections
 Dial Plan
 High Availability
 Licensing
 Maintenance
 Networking
 Security
 Status
 User Management
 Utilities
 Help

Edit H.323 Gatekeeper - interopcm

Name or IP Address

☒ 10.33.1.6

6.4. 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 **Add Link**.

AVAYA Application Enablement Services Management Console

Welcome: User cust
 Last login: Tue Oct 26 03:29:14 2021 from 10.33.1.200
 Number of prior failed login attempts: 0
 HostName/IP: aes8/10.33.1.4
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.2.0.4-0
 Server Date and Time: Wed Oct 27 02:38:04 MDT 2021
 HA Status: Not Configured


AE Services | TSAPI | TSAPI Links Home | Help | Logout

AE Services
 CVLAN
 DLG
 DMCC
 SMS
 TSAPI
 TSAPI Links
 TSAPI Properties
 TWS
 Communication Manager Interface

TSAPI Links

Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security
<input checked="" type="radio"/> 1	interopcm	1	8	Both

The **Link** field is only local to the Application Enablement Services server and may be set to any available number. For **Switch Connection**, select the switch connection as configured in **Section 6.3** from the drop-down list. In this case, the existing switch connection “interopcm” is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 5.2**. Retain the default values in the remaining fields.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Oct 26 03:29:14 2021 from 10.33.1.200
Number of prior failed login attempts: 0
HostName/IP: aes8/10.33.1.4
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.2.0.4-0
Server Date and Time: Wed Oct 27 02:40:51 MDT 2021
HA Status: Not Configured

AE Services | TSAPI | TSAPI LinksHome | Help | Logout

▼ AE Services

▶ CVLAN

▶ DLG

▶ DMCC

▶ SMS

▼ TSAPI

▪ TSAPI Links

▪ TSAPI Properties

▶ TWS

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

Add TSAPI Links

Link2 ▼

Switch Connectioninteropcm ▼

Switch CTI Link Number1 ▼

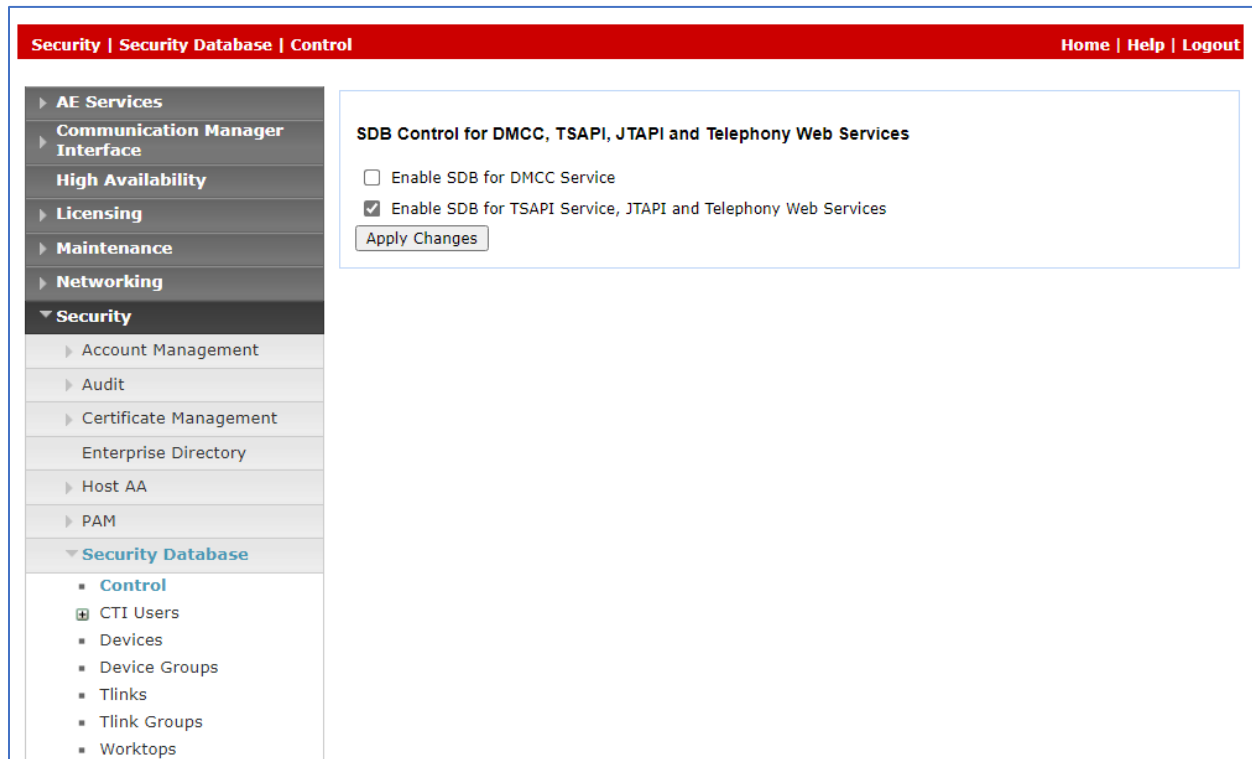
ASAI Link Version8 ▼

SecurityBoth ▼

Apply ChangesCancel Changes


6.5. Enable Security Database

Enable the security database for use by TASKE Contact. Select **Security** → **Security Database** → **Control** from the left pane, to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane. Check **Enable SDB TSAPI Service, JTAPI and Telephony Service**.



6.6. Restart TSAPI Service

Select **Maintenance** → **Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Check the **TSAPI Service**, and click **Restart Service**.



Application Enablement Services
Management Console

Welcome: User cust
Last login: Sat Oct 30 03:23:23 2021 from 10.33.1.200
Number of prior failed login attempts: 0
HostName/IP: aes8/10.33.1.4
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.2.0.4-0
Server Date and Time: Sat Oct 30 03:34:34 MDT 2021
HA Status: Not Configured

Maintenance | Service Controller

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▼ Maintenance

▶ Date Time/NTP Server

▶ Security Database

▶ Service Controller

▶ Server Data

▶ Networking

▶ Security

▶ Status

▶ User Management

Service Controller

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input type="checkbox"/> DMCC Service	Running
<input type="checkbox"/> CVLAN Service	Running
<input type="checkbox"/> DLG Service	Running
<input type="checkbox"/> Transport Layer Service	Running
<input checked="" type="checkbox"/> TSAPI Service	Running

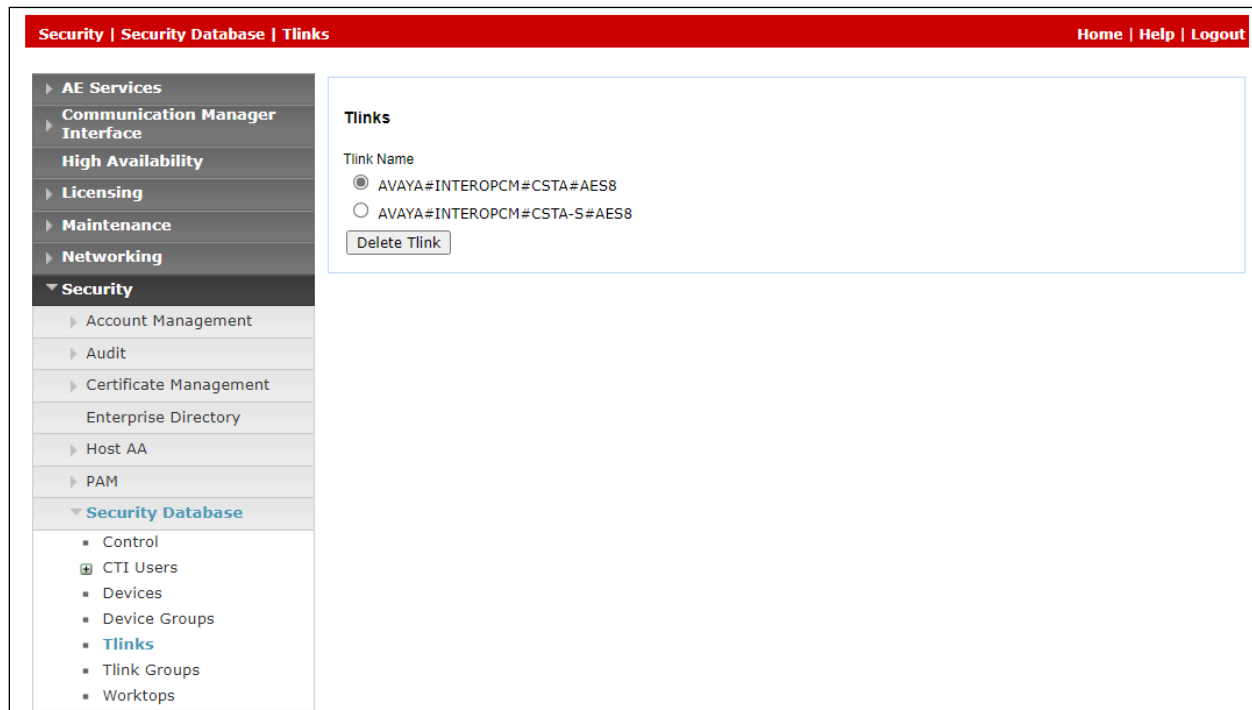
For status on actual services, please use [Status and Control](#)

StartStopRestart ServiceRestart AE ServerRestart LinuxRestart Web Server

6.7. Obtain Tlink Name

Select **Security** → **Security Database** → **Tlinks** from the left pane. The **Tlinks** screen shows a listing of the Tlink names. A new Tlink name is automatically generated for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the switch connection as part of the Tlink name. Make a note of the associated Tlink name, to be used later for configuring TASKE.

In this case, the associated Tlink name is “**AVAYA#INTEROPCM#CSTA#AES8**”. Note the use of the switch connection “**interopcm**” from **Section 6.4** as part of the Tlink name.



6.8. Administer TASKE User

Select **User Management** → **User Admin** → **Add User** from the left pane, to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select “Yes” from the drop-down list. Retain the default values in the remaining fields.

The screenshot shows a web application interface for user management. At the top, a red navigation bar contains the text "User Management | User Admin | Add User" on the left and "Home | Help | Logout" on the right. On the left side, there is a vertical menu with various categories: "AE Services", "Communication Manager Interface", "High Availability", "Licensing", "Maintenance", "Networking", "Security", "Status", "User Management" (which is expanded to show "Service Admin" and "User Admin"), "Utilities", and "Help". Under "User Admin", the "Add User" option is selected. The main content area on the right is titled "Add User" and contains a form with the following fields: "User Id" (text input with "taske"), "Common Name" (text input with "TASKE"), "Surname" (text input with "Contact"), "User Password" (password input with "*****"), "Confirm Password" (password input with "*****"), "Admin Note" (text input), "Avaya Role" (dropdown menu with "None" selected), "Business Category" (text input), "Car License" (text input), "CM Home" (text input), "Css Home" (text input), "CT User" (dropdown menu with "Yes" selected), "Department Number" (text input), "Display Name" (text input), "Employee Number" (text input), "Employee Type" (text input), "Enterprise Handle" (text input), "Given Name" (text input), and "Home Phone" (text input). A note above the form states: "Fields marked with * can not be empty."

Select **Security** → **Security Database** → **CTI Users** → **List All Users** from the left pane, and select the newly created TASKE user from the listing (not shown).

The **Edit CTI User** screen is displayed next. Set the permissions as shown below.

Security | Security Database | CTI Users | List All Users Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
▼ **Security**
Account Management
Audit
Certificate Management
Enterprise Directory
Host AA
PAM
▼ **Security Database**
Control
CTI Users
List All Users
Search Users
Devices
Device Groups
Tlinks

Edit CTI User

User Profile: User ID: taske
Common Name: TASKER
Worktop Name: NONE ▼
Unrestricted Access: ☒

Call and Device Control: Call Origination/Termination and Device Status: None ▼

Call and Device Monitoring: Device Monitoring: None ▼
Calls On A Device Monitoring: None ▼
Call Monitoring: ☐

Routing Control: Allow Routing on Listed Devices: None ▼

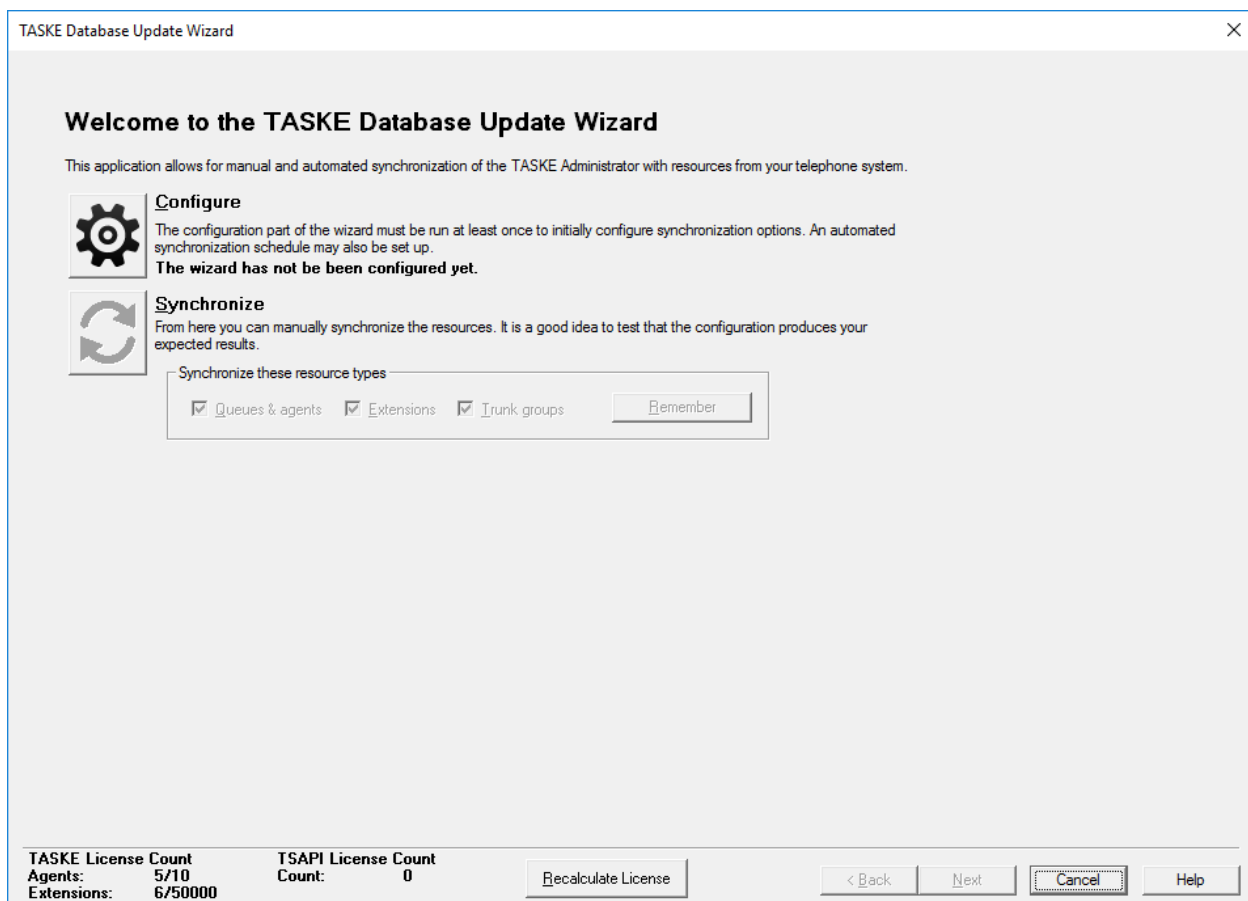
7. Configure TASKE Contact

This section provides the procedures for configuring TASKE Contact. The procedures include the following areas:

- Administer TASKE Database Update Wizard
- Administer TASKE Collector
- Administer Extensions
- Administer Agents
- Administer Agent Groups
- Administer Queues
- Administer VDN
- Restart components

7.1. Administer TASKE Database Update Wizard

At the conclusion of the TASKE Visualizer installation, the TASKE Database Update Wizard is invoked automatically and displays the **Welcome to the TASKE Database Update Wizard** screen shown below.



Navigate forward to the **PBX File Exports** screen. If Avaya Site Administration is used to obtain the configured contact center devices from Communication Manager, then the path to where the data files reside can be entered in **Folder**.

In the compliance testing, the manual method was used to configure the contact center devices on TASKE, therefore all default values were retained on the TASKE Database Update Wizard.

The screenshot shows the 'TASKE Database Update Wizard' window. The title bar says 'TASKE Database Update Wizard' with a close button. The main area is titled 'Configuration' and contains the instruction: 'TASKE can collect information about your telephone system using one of the following methods. Please select how you'd like this information collected:'. There are two options: 'PBX File Exports' with a folder and arrow icon, and 'System Management Service' with a database cylinder icon. The 'PBX File Exports' option is selected and has the description 'Create TASKE device database using exports from the Avaya Site Administration utility.' The 'System Management Service' option has the description 'Utilize the System Management Service to query the system directly to populate the TASKE device database Requires AES version 5.2 or later.' At the bottom, there is a status bar with license counts: 'TASKE License Count' (Agents: 5/10, Extensions: 6/50000) and 'TSAPI License Count' (Count: 0). To the right of these counts is a 'Recalculate License' button. Further right are four buttons: '< Back' (highlighted), 'Next', 'Cancel', and 'Help'.

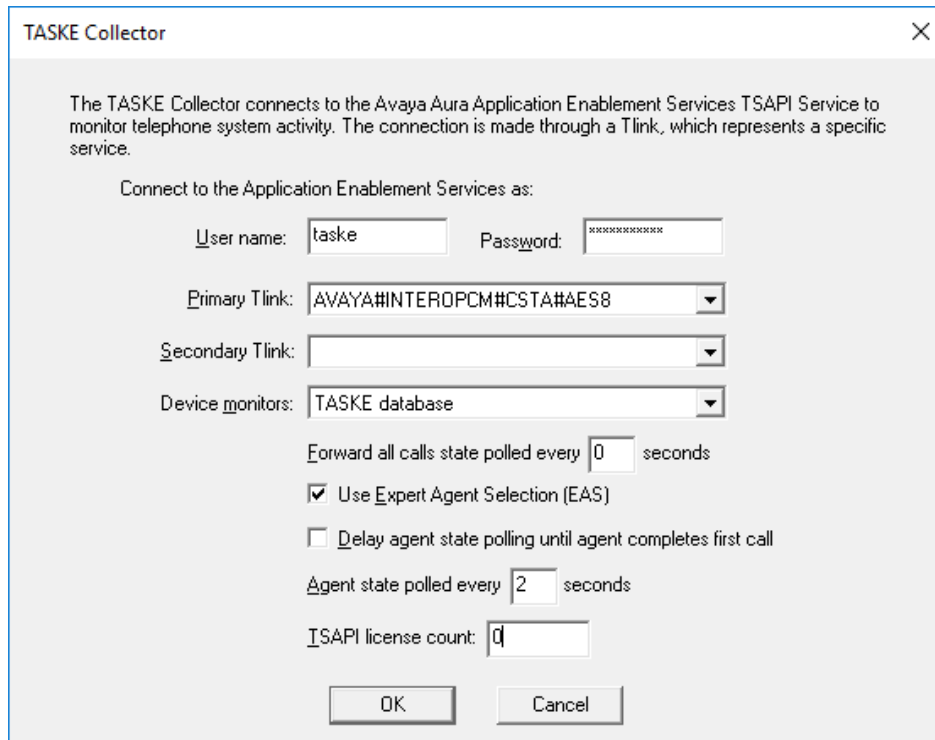
TASKE License Count		TSAPI License Count	
Agents:	5/10	Count:	0
Extensions:	6/50000		

Buttons: Recalculate License, < Back, Next, Cancel, Help

7.2. Administer TASKE Collector

After completing the TASKE Database Update Wizard, the **TASKE Collector** screen is displayed. For **Primary Tlink**, select the Tlink name from **Section 6.7**.

For **User name** and **Password**, enter the TASKE user credentials from **Section 6.8**. Check **Remember password** if desired.



The TASKE Collector connects to the Avaya Aura Application Enablement Services TSAPI Service to monitor telephone system activity. The connection is made through a Tlink, which represents a specific service.

Connect to the Application Enablement Services as:

User name: Password:

Primary Tlink:

Secondary Tlink:

Device monitors:

Forward all calls state polled every seconds

☒ Use Expert Agent Selection (EAS)

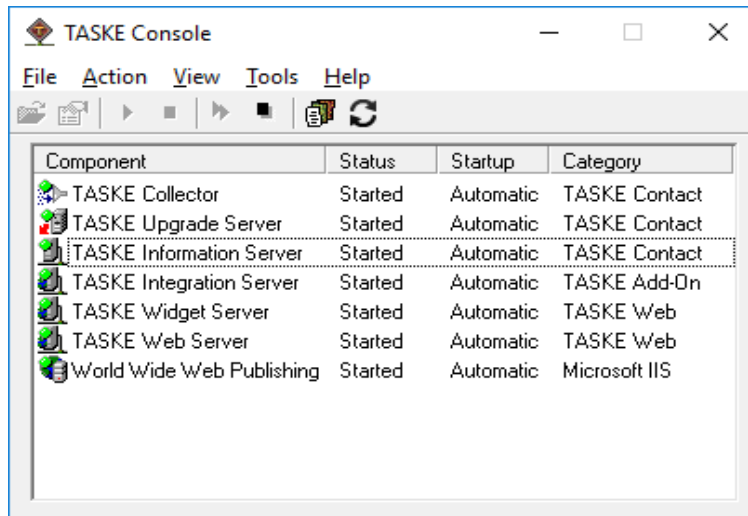
☐ Delay agent state polling until agent completes first call

Agent state polled every seconds

TSAPI license count:

OK Cancel

The **TASKE Console** screen is displayed next. Select **Tools** → **Administrator** from the top menu.



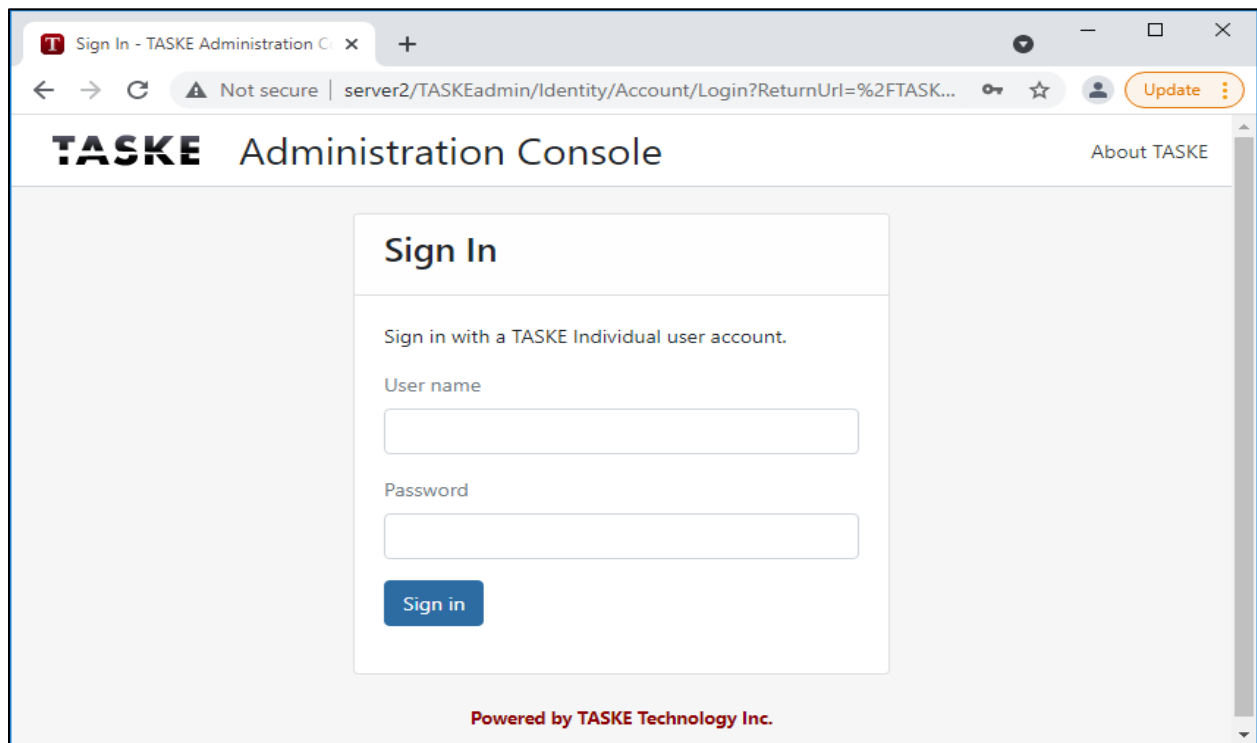
TASKE Console

File Action View Tools Help

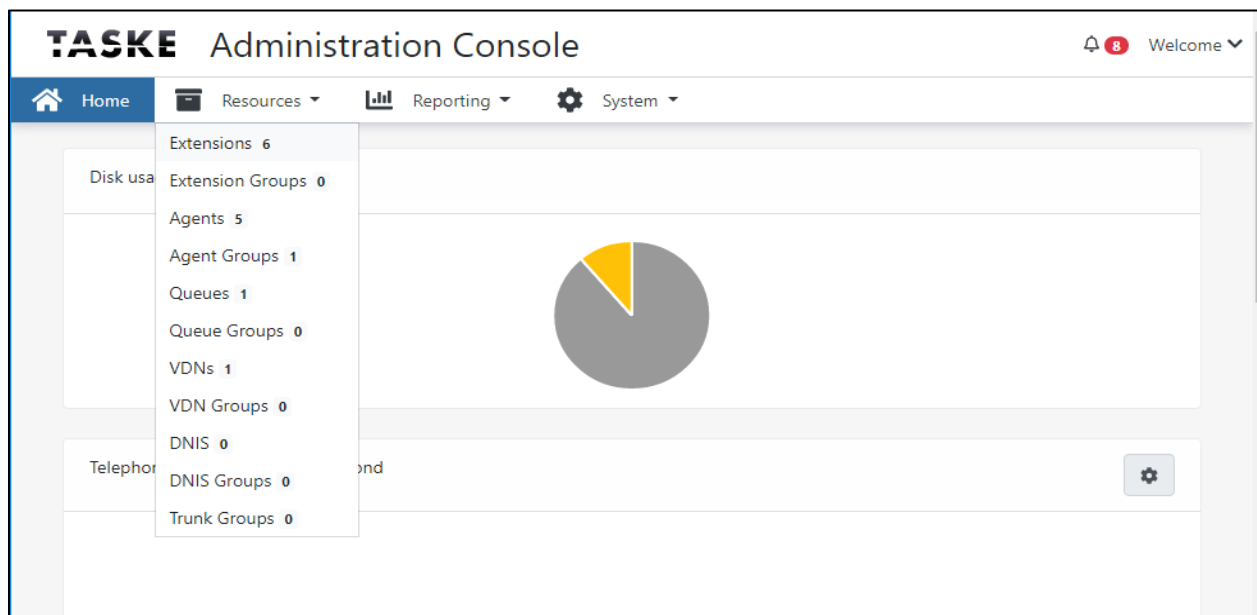
Component	Status	Startup	Category
TASKE Collector	Started	Automatic	TASKE Contact
TASKE Upgrade Server	Started	Automatic	TASKE Contact
TASKE Information Server	Started	Automatic	TASKE Contact
TASKE Integration Server	Started	Automatic	TASKE Add-On
TASKE Widget Server	Started	Automatic	TASKE Web
TASKE Web Server	Started	Automatic	TASKE Web
World Wide Web Publishing	Started	Automatic	Microsoft IIS

7.3. Administer Extensions

In order to configure the extensions, log in to the **TASKE Administration Console** from the internet browser. Enter the appropriate credentials and select the **Sign in** button.



In the **Administration Console**, navigate to **Resources → Extensions**. In the **Extension List** section, select the plus sign + button (not shown).



In the **New Extension** section, enter the station number, for example **3301**, in the **ID** box, enter a name in the **Name** box and enable the monitor by selecting the switch button **Monitor** status. Select the **Save** button (not shown) to save the change.

Below is the list of extensions that were monitored during the testing.

ID	Name	Nickname	Type	Status
3301	ext3301		Normal	Monitored
3302	ext3302		Normal	Monitored
3312	ext3312		Normal	Monitored
3401	ext3401		Normal	Monitored
3402	ext 3402		Normal	Monitored
3403	AAfD	Softphone	Normal	Monitored

7.4. Administer Agents

Follow the same procedure in **Section 7.3** above to open the **Administration Console**. Navigate to **Resources** → **Agents**, the **Agent List** page displays and select the plus sign + button (not shown) to add an agent. Enter the agent ID in the **ID** box and a name in the **Name** box. Select the **Save** button to save the new agent.

The screenshot shows the 'New Agent' form in the TASKE Administration Console. The form is titled 'New Agent' and has a 'General' section. It contains three input fields: 'ID' with the value '1000', 'Name' with the value 'agent 1000', and 'Nickname' which is empty. At the bottom of the form are 'Save' and 'Cancel' buttons. The top navigation bar includes 'Home', 'Resources', 'Reporting', and 'System'. The breadcrumb trail shows 'Resources / Agent List'.

ID	Name	Nickname
1000	agent 1000	

Below is the list of agent IDs used during the testing.

The screenshot shows the 'Agent List' page in the TASKE Administration Console. It displays a table with 5 resources. The table has columns for ID, Name, and Nickname. The data rows are as follows:

ID	Name	Nickname
1000	agent 1000	
1001	agent 1001	
1002	agent 1002	
1003	agent 1003	
1004	agent 1004	

7.5. Administer Agent Groups

Follow the same procedure in **Section 7.3** above to open the **Administration Console**. Navigate to **Resources → Group Agents**, the **Group Agent List** page displays and select the plus sign + button (not shown) to add a new group agent. Enter a group ID in the **ID** box and a name in the **Name** box. Select the **Save** button to save the new agent.

The screenshot shows the 'New Agent Group' form in the TASKE Administration Console. The form is titled 'New Agent Group' and is located under the 'Resources / Agent Group List' breadcrumb. The 'General' section contains three input fields: 'ID' with the value '3320', 'Name' with the value 'agrp3320', and 'Nickname' which is empty. Below these fields is a checkbox labeled 'Automatically generate an ID' which is unchecked. At the bottom of the form are 'Save' and 'Cancel' buttons. The top navigation bar includes 'Home', 'Resources', 'Reporting', and 'System' menus. The top right corner shows a notification bell with '11' and a 'Welcome' dropdown. The bottom right corner indicates 'Last updated: 10/30/2021 11:49:13 AM'.

Below is the group agent used during the testing.

The screenshot shows the 'Agent Group List' table in the TASKE Administration Console. The table is titled 'Agent Group List' and is located under the 'Resources' breadcrumb. The table has four columns: 'ID', 'Name', 'Nickname', and 'Member Count'. There is one row of data with the following values: '3320', 'agrp3320', and '5'. The table is located under the 'Resources' breadcrumb. The top navigation bar includes 'Home', 'Resources', 'Reporting', and 'System' menus. The top right corner shows a notification bell with '10' and a 'Welcome' dropdown. The bottom right corner indicates 'Last updated: 10/27/2021 11:55:09 AM'.

ID	Name	Nickname	Member Count
3320	agrp3320		5

7.6. Administer Queues

Follow the same procedure in **Section 7.3** above to open the **Administration Console**. Navigate to **Resources** → **Queues**, the **Queues List** page displays and select the plus sign + button (not shown) to add a new queue. Enter a queue ID in the **ID** box, a name in the **Name** box, select the agent group **3320** configured in **Section 7.5** and select **ON** in the **Monitor status**. Select the **Save** button to save the new agent.

The screenshot shows the 'New Queue' form in the TASKE Administration Console. The form is divided into three sections: General, Monitored status, and Reporting. In the General section, the ID is 330, the Name is hg3320, and the Nickname is empty. In the Monitored status section, the status is ON (indicated by a green square) and the Agent Group is 3320. In the Reporting section, the TSF time is 30 seconds.

General		
ID	Name	Nickname
330	hg3320	

Monitored status	
ON <input checked="" type="checkbox"/>	Agent Group
	3320 <input type="button" value="Browse..."/>

Reporting	
TSF time	
30	seconds

The new queue ID **3320** is added as shown below. This queue ID is matched with the skill number configured in Communication Manager.

The screenshot shows the 'Queue List' page in the TASKE Administration Console. It displays a table with one queue entry. The table has columns for ID, Name, Nickname, Status, and TSF Time. The entry has ID 3320, Name hg3320, Status Monitored (indicated by a green dot), and TSF Time 30s.

ID	Name	Nickname	Status	TSF Time
3320	hg3320		Monitored	30s

7.7. Administer VDN

Follow the same procedure in **Section 7.3** above to open the **Administration Console**. Navigate to **Resources** → **VDNs**, the **VDN List** page displays and select the plus sign + button (not shown) to add a new VDN. Enter a VDN ID in the **ID** box, a name in the **Name** box and select **ON** in the **Monitor status**. Select the **Save** button to save the new agent.

The screenshot shows the 'New VDN' form in the TASKE Administration Console. The form is titled 'New VDN' and has a 'General' section. It contains four input fields: 'ID' with the value '3340', 'Name' with the value 'v3340', 'Nickname' (empty), and 'Monitored status' with a green 'ON' button. Below these fields is a 'Vectors...' button and a checkbox labeled 'Has VDN return destination' which is unchecked. At the bottom of the form are 'Save' and 'Cancel' buttons. The top navigation bar includes 'Home', 'Resources', 'Reporting', and 'System' menus. The breadcrumb trail shows 'Resources / VDN List' and the last updated time is '10/30/2021 12:06:02 PM'.

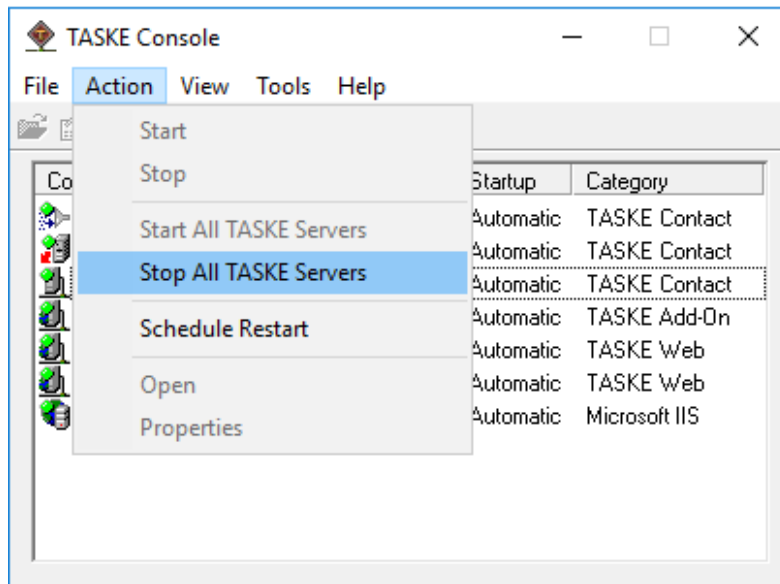
The new VDN **3340** is added as shown below.

The screenshot shows the 'VDN List' table in the TASKE Administration Console. The table has columns for 'ID', 'Name', 'Nickname', and 'Status'. It contains one row with the values '3340', 'v3340', and 'Monitored'. The top navigation bar includes 'Home', 'Resources', 'Reporting', and 'System' menus. The breadcrumb trail shows 'Resources' and the last updated time is '10/30/2021 12:08:36 PM'. The table also shows '1 resources' and 'Monitoring 1 VDN'.

ID	Name	Nickname	Status
3340	v3340		Monitored

7.8. Restart Components

The **TASKE Console** screen is displayed next. Restart all components by selecting **Action → Stop All TASKE Servers** from the top menu, followed by **Action → Start All TASKE Servers**.



8. Verification Steps

This section provides the tests that can be performed to verify the proper configuration of Avaya Aura® Communication Manager, Avaya Aura® Application Enablement Services, and TASKE Contact.

8.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify the status of the administered CTI link by using the “status aesvcs cti-link” command. Verify that the **Service State** is “established” for the CTI link number administered in **Section 5.2**, as shown below.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	8	no	aes80	established	15	15

8.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, 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 6.4**, as shown below.

Status | Status and Control | TSAPI Service SummaryHome | Help | Logout

▶ AE Services

▶ Communication Manager

▶ Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▼ **Status**

Alarm Viewer

▶ Logs

▶ Log Manager

▼ **Status and Control**

■ CVLAN Service Summary

■ DLG Services Summary

■ DMCC Service Summary

■ Switch Conn Summary

■ **TSAPI Service Summary**

▶ User Management

TSAPI Link Details

☐ Enable page refresh every **60** seconds

	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
<input checked="" type="radio"/>	1	interopcm	1	Talking	Fri Nov 26 03:15:08 2021	Online	18	8	15	15	30

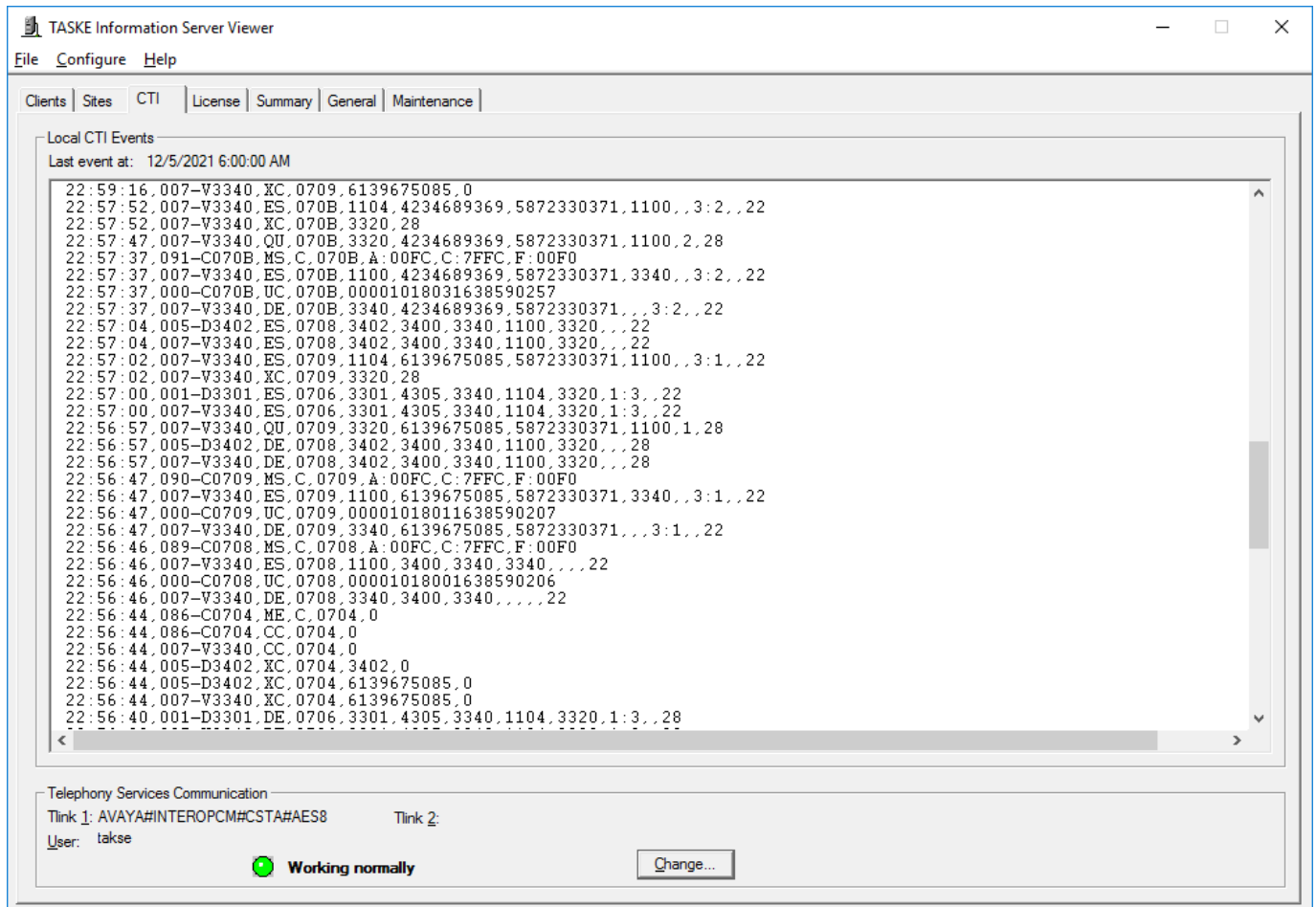
Online Offline

For service-wide information, choose one of the following:

TSAPI Service Status TLink Status User Status

8.3. Verify TASKE Visualizer

Open **TASKE Information Server Viewer** application from the **TASKE Console** window; verify the change on the physical agent phones reflected on the viewer window.



9. Conclusion

These Application Notes describe the configuration steps required for TASKE Visualizer to successfully interoperate with Avaya Aura® Communication Manager and Avaya Aura® 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.

- [1] Administering Avaya Aura® Communication Manager, Release 8.1.x, Issue 12, July 2021.
- [2] Administering Avaya Aura® Session Manager, Release 8.1.x, Issue 10, September 2021.
- [3] Administering Avaya Aura® Application Enablement Services, Release 8.1.x, Issue 11, June 2021

Product documentation for TASKE Visualizer may be found at
<http://www.taske.com/support/documentation.php>.

- [4] TASKE Installation Guide for Avaya Aura® Communication Manager with Aura® Application Enablement Services.
- [5] Administration Guide for TASKE Contact for Avaya Aura® Communication Manager with Aura® Application Enablement Services.
- [6] TASKE Contact Web Portal Report Reference Guide for Avaya Aura® Communication Manager with Aura® Application Enablement Services.
- [7] TASKE Contact Web Portal User Guide for Avaya Aura® Communication Manager with Aura® Application Enablement Services.

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