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## **Technical Configuration Guide for TelStrat Engage with Avaya IP Office Contact Center – Issue 1.2**

### **Abstract**

This Technical Configuration Guide describes the configuration steps required for TelStrat Engage to interoperate with Avaya IP Office Contact Center (IPOCC) using VoIP recording. TelStrat Engage is a call recording solution.

In the testing, TelStrat Engage used the WSC interface from Avaya IP Office Contact Center to monitor contact center agents on Avaya IP Office, and the port mirroring method to capture the media associated with the monitored agents for recording.

Information in this guide has been obtained through Avaya R&D testing and additional technical discussions. Testing was conducted via the Avaya IPOCC R&D team.

# **1. Introduction**

This Technical Configuration Guide describes the configuration steps required for TelStrat Engage to interoperate with Avaya IP Office using VoIP recording and the Avaya IPOCC Contact Center using the WSC service. The TelStrat Engage application is a call recording solution.

In the testing, TelStrat Engage uses TAPI 2 in third party mode from Avaya IP Office to monitor contact center agents on Avaya IP Office, and the port mirroring method to capture the media associated with the monitored agents for recording. The TelStrat Engage also uses Web Services Collection (WSC) to interface with the Avaya IP Office Contact Center.

## **2. General Test Approach and Test Results**

The feature test cases were performed both automatically and manually. Upon start of the Engage application, the application established TAPI connectivity to IP Office for monitoring of agent stations and established WSC connection to the IP Office Contact Center.

For the manual part of the testing, each call was handled manually on the agent station with generation of unique audio content for the recordings. Necessary user actions such as hold and reconnect were performed from the agent telephones to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cable to Engage.

The verification of tests included using the Engage logs for proper message exchanges, and using the Engage Client application for proper logging and playback of calls.

## 2.1. Interoperability Testing

The interoperability test included feature and serviceability testing.

The feature testing focused on verifying the following on Engage:

- Handling of TAPI events.
- Proper recording, logging, and playback of calls for scenarios involving inbound, outbound, internal, external, ACD, hot desking, non-ACD, hold, reconnect, simultaneous, conference, and transfer.

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

## 2.2. Test Results

All test cases were executed and verified. The following were observations on Engage from the testing.

- For the attended conference scenario, two recordings are made. The first recording contains the start of the call between the agent and the customer, a silence period for when the customer was put on hold, and then the remaining call between the conferenced parties. The second recording contains the audio for when the agent is in conversation with the conferenced party.
- For an unattended conference scenario, the first recording contains the complete conversation. A second call recording is also present; this recording is zero-length as expected since there was no consult between the agent and the conferenced party (i.e. unattended conference).

## 2.3. Support

Technical support on Engage can be obtained through the following:

- **Phone:** (972) 633-4548
- **Email:** [support@telstrat.com](mailto:support@telstrat.com)

### 3. Reference Configuration

As shown in the test configuration below, the Engage Client application was running on the supervisor PC, and used for verification of proper logging and playback of calls.

In the testing, the RTP stream for contact center agents with Avaya IP Deskphones were mirrored from the layer 2 switch, and replicated over to the Engage server.

The detailed administration of contact center devices is not the focus of this Guide and will not be described. In addition, the port mirroring of the layer 2 switch is also outside the scope of this Guide and will not be described.

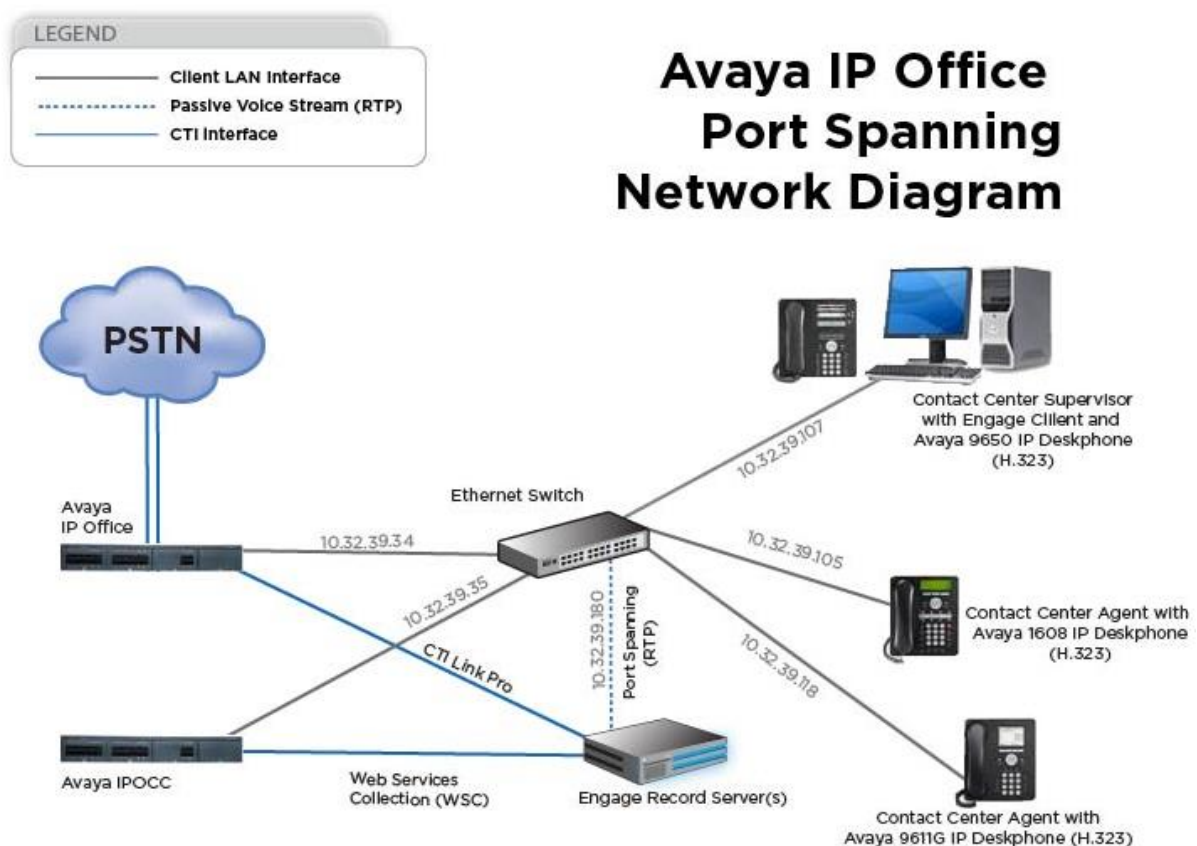


Figure 1: Testing Configuration

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office on IP500 V2	9.0.3.0 (941)
Avaya IP Office Contact Center	9.0.3
Avaya 9621 IP Deskphone (H.323)	6.000
Avaya 4621 IP Deskphone (H.323)	2.200
Avaya 4610 IP Deskphone (H.323)	2.9
TelStrat Engage on Windows 2008 Server Standard <ul style="list-style-type: none"><li>• Database Server</li><li>• VOIPEngine</li><li>• Avaya TAPI (tspi2w.tsp)</li></ul>	3.7.1.18 SP2 Microsoft SQL Server 2008 R2 3.7.1.18 1.0.0.37
TelStrat Engage Web2.0 Client on Windows 7 Professional	4.1.18

## 5. Configure Avaya IP Office

This section provides the procedures for configuring IP Office. The procedures include the following areas:

- Verify license
- Obtain phone IP addresses

### 5.1. Verify License

From a PC running the IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the application. Select the proper IP Office system, and log in using the appropriate credentials.

The **Avaya IP Office R9.0.3 Manager** screen is displayed. From the configuration tree in the left pane, select **License → CTI Link Pro**, to display the **CTI Link Pro** screen in the right pane. Verify that the **License Status** is “Valid”.

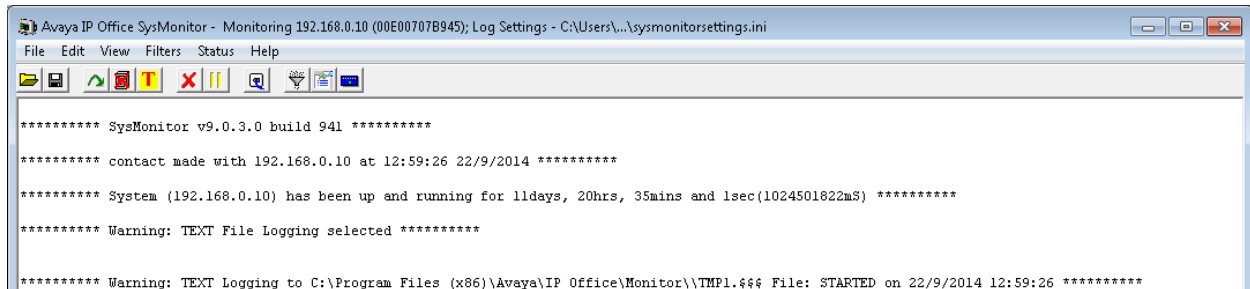
The screenshot shows the Avaya IP Office Manager application window. The title bar reads "Avaya IP Office Manager 00E00707B945 [9.0.300.941] [Administrator/Administrator]". The menu bar includes File, Edit, View, Tools, and Help. Below the menu bar is a toolbar with various icons. The main window is divided into two panes. The left pane, titled "IP Offices", contains a configuration tree with the following items: BOOTP (2), Operator (3), 00E00707B945, System (1), 00E00707B945, Line (5), Control Unit (3), Extension (14), User (22), Group (2), Short Code (76), Service (0), RAS (1), Incoming Call Route (10), WAN Port (0), Directory (0), Time Profile (0), Firewall Profile (1), IP Route (1), Account Code (0), License (23), Tunnel (0), User Rights (8), Auto Attendant (1), ARS (1), and Location (0). The right pane, titled "License", has a tab labeled "Remote Server". It displays a table with the following columns: Feature, License Key, Instances, Status, and Expiry Date. The table contains the following data:

Feature	License Key	Instances	Status	Expiry Date
VMPro Networked Messaging	A4KG6MhkMvPxUbrWwiezoI7qed07Sc_c	255	Valid	Never
R8+ Preferred Edition (VM Pro)	GnT1_c5pPjxt@3ydcmmkSFSNH8hs9NM	255	Valid	Never
Receptionist	LNNnbCtTgn8dsg9jVWSoxNmiOulsV2t	1	Valid	Never
IPSec Tunneling	IIBfol@yLEyd3xSnlrwrfqjANFT77Dx	255	Valid	Never
Advanced Edition	KIDIA6rtOZSA_GH3G8VLj4HCjWLRoC	255	Valid	Never
Essential Edition	fUc8u79NdKq3tTy1qJxnBCv5S3xHA8ZW	255	Valid	Never
Teleworker	IdeZFb@n9SSy0ej2LJf@BvSa0_u9g3@O	5	Valid	Never
AUDDX Voicemail	6hVhny@yPSwY0PmIQopE1Jf55aVqLmLB	255	Valid	Never
<b>CTI Link Pro</b>	<b>KUaI@EleQdPb0dPnXt8ZHqU_QKcePCmQ</b>	<b>255</b>	<b>Valid</b>	<b>Never</b>
SIP Trunk Channels	XIIR2A5OMS6TtcgPZHfC:9PkhYu9G2ND	5	Valid	Never
Mobile Worker	Mjpx4DgCMNUC:D45dq6kH6V6uV_WEle2	5	Valid	Never
Office Worker	TVe5_Lt5tXfdd5vKoZgrcv4LoUxorv7@	5	Valid	Never
Avaya IP endpoints	bFn3h9bGSA0thXPPiYk8rywZqIvuUqly	5	Valid	Never
Power User	VSKomtojvDjwU232rtPQLRwum87IEapa	5	Valid	Never
Customer Service Agent	LSMPHQ7LQUhSiHJkucFO9bjR6cjFA2_O	5	Valid	Never
IP500 Voice Networking Channels	xbt26WbDMNnv4cBhSIRD8d_T_07vdyVX	4	Valid	Never
Wave User	TJl38P@TPD@qFKYypKkYwCqC_qexUV_n	4	Valid	Never
Wave User	QdcHRS@wdKNJ0mHzEwk1pK85aSLHAVrX	4	Valid	Never
Customer Service Supervisor	AIDRWLyESA5pFJwq0jW0LjnWBF1EFzV	1	Valid	Never
VMPro TTS Professional	6by5uWVQtdTftMbVqfiwODDbUm1JlJO	1	Valid	Never

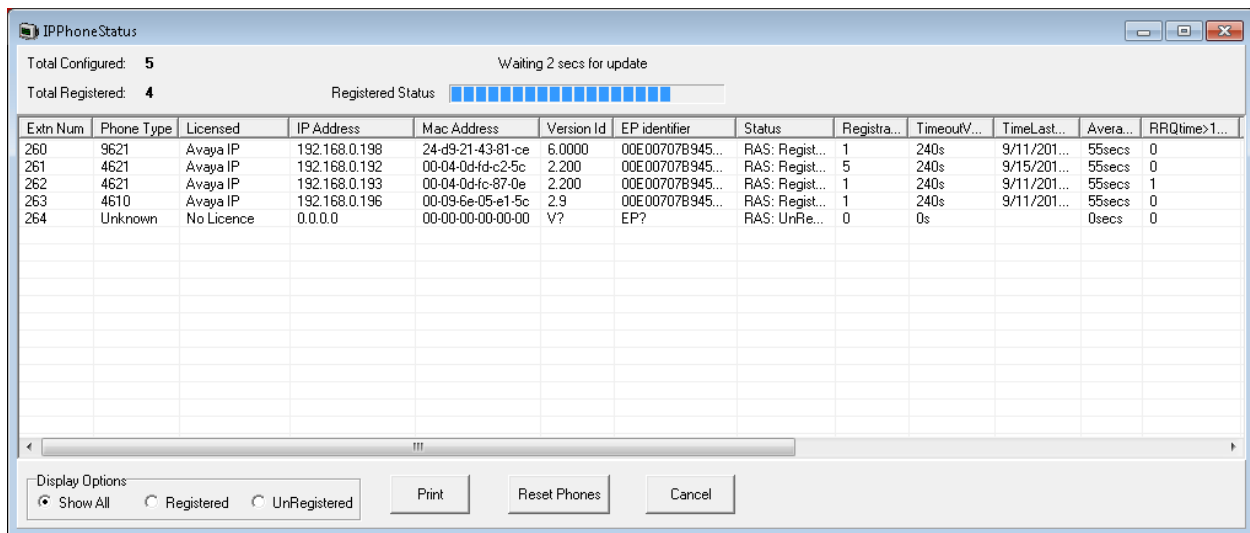
On the right side of the table, there are two buttons: "Add..." and "Remove".

## 5.2. Obtain Phone IP Address

From a PC running the IP Office Monitor application, select **Start → Programs → IP Office → Monitor** to launch the application. The **Avaya IP Office R9.0.3 SysMonitor** screen is displayed, as shown below. Select **Status → H323 Phone Status** from the top menu.



The **IPPhoneStatus** screen is displayed. Make a note of the MAC or IP address associated with each extension number the agents may be using.



## 6. Configure Avaya IP Office Contact Center (IPOCC)

This section provides the procedures for configuring the Avaya IP Office Contact Center (IPOCC). Note that the Web Service Collection (WSC) service must be installed/enabled on the Avaya IP Office Contact Center.

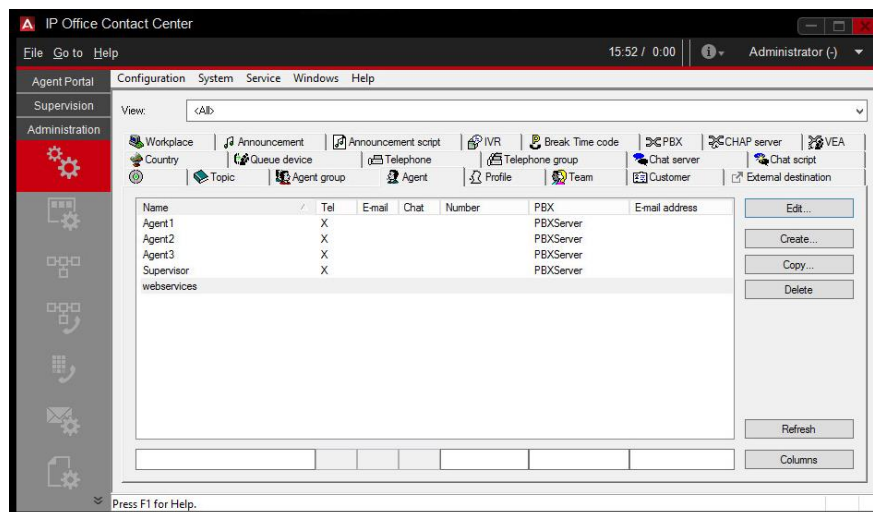
### 6.1. Required Licenses

The Engage VOIP Engine service acts as a web service client to the WSC service. The following licenses are required for the VOIP Engine to access the WSC service.

- Agent License – for accessing the Agent Task Control
- TeamLeader License – for monitoring privileges

### 6.2. Create Agent account

On the IPOCC server, log in as an administrator to the IPOCC User Interface. Select the **Administration** taskbar and select **Configuration**, and then select the **Agent** tab.

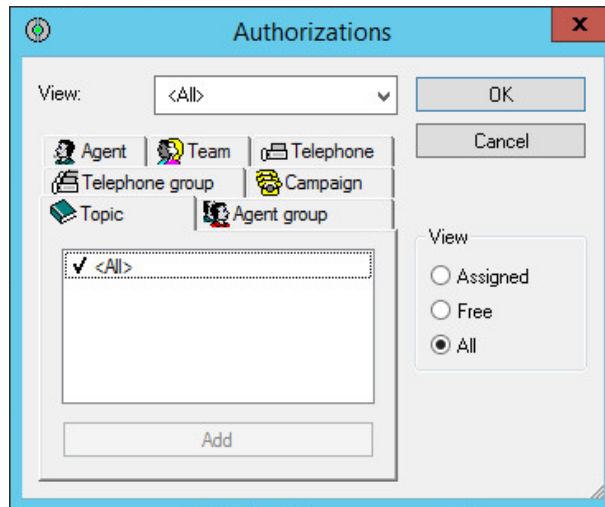


Create an Agent account and note the username and password. These credentials will be used in the Engage application.

Assign the TeamLeader license to the Agent by enabling the Realtime information privileges for the Agent. Select the **Privileges** button and **Realtime Information** tab. Select all of the checkboxes in the **Team** section.



Configure the Agent with authorization to view all object types. Select the **Authorization** tab and for each tab (Topic, Agent group, Agent, Team, etc..) select and double-click **<All>** for each type.



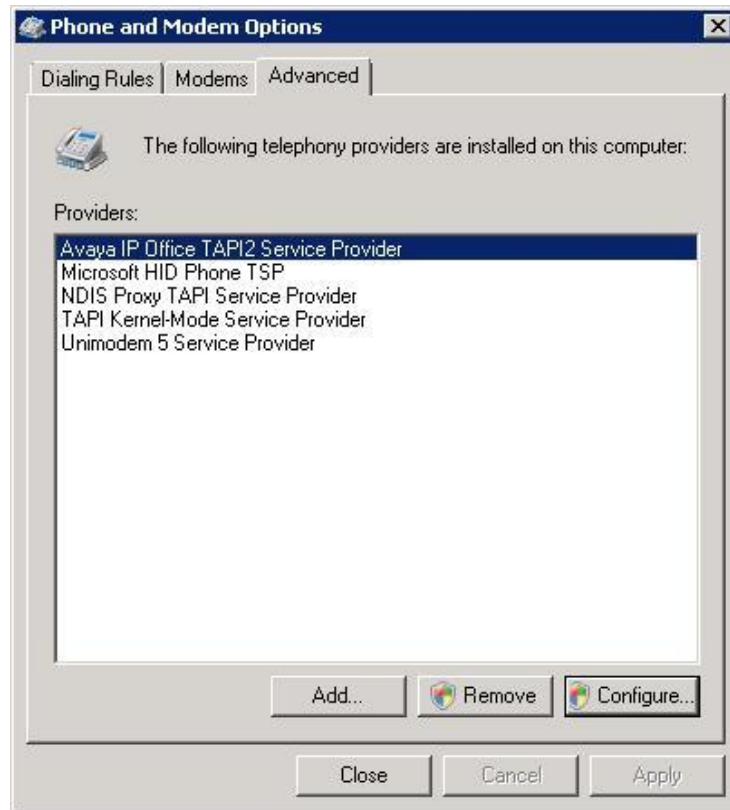
## 7. Configure TelStrat Engage

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

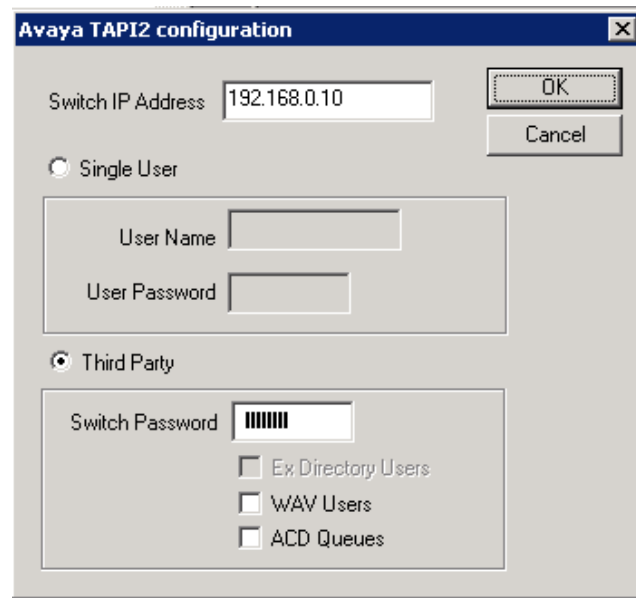
- Administer TAPI driver
- Launch VoIP Engine Configuration
- Configure IPOCC parameters
- Configure SPAN for mirroring by IP (optional)
- Administer port mapping

### 7.1. Administer TAPI Driver

From the Engage server, select **Start → Control Panel**, and click on the **Phone and Modem** icon (not shown below). In the displayed **Phone and Modem Options** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry, and click **Configure**.



The **Avaya TAPI2 configuration** screen is displayed. For **Switch IP Address**, enter the IP address of IP Office. Select the radio button for **Third Party**, and enter the IP Office password into the **Switch Password** field. Reboot the Engage server.



The image shows a Windows-style dialog box titled "Avaya TAPI2 configuration". It has a "Switch IP Address" text box containing "192.168.0.10". To the right are "OK" and "Cancel" buttons. Below is a section with two radio buttons: "Single User" (unselected) and "Third Party" (selected). Under "Single User" are "User Name" and "User Password" text boxes. Under "Third Party" is a "Switch Password" text box with masked characters, and three checkboxes: "Ex Directory Users", "WAV Users", and "ACD Queues", all of which are unchecked.

## 7.2. Launch VoIP Engine Configuration

From the Engage server, select **Start → All Programs → TelStrat Engage → VOIP Engine Configuration** to display the **Engage VoIP Engine Config Console** screen shown below. Click **Config**.



### 7.3. Configure IPOCC parameters

The **VoIP Configuration** screen is displayed. In the upper right corner, populate the IPOCC parameters –

- IPO CC Address – enter the IP address of the IPOCC server
- IPO CC Port – enter the port number of the IPOCC server
- Observer Server – enter the IP address of the VOIP Engine server where the notifications from the WSC service should be sent to
- Observe Port – enter the port number of the VOIP Engine server where the notifications from the WSC service should be sent to
- User ID – enter the Agent username that the VOIP Engine will use to connect to the WSC service
- Password – enter the Agent password that the VOIP Engine will use to connect to the WSC service

The **VoIP Configuration** dialog box is shown with the **Avaya TAPI Server** tab selected. The settings are as follows:

- CTI Option:** Avaya TAPI Server (dropdown)
- IPO CC Address:** 192.168.0.12
- IPO CC Port:** 18080
- Observer Server:** 192.168.0.168
- Observe Port:** 8765
- User ID:** webservices
- Password:** (masked)
- Recording Board ID:** 2300
- Calls To Record:** ☒ All Trunk/Internal Calls, ☐ All Trunk Calls, ☐ Calls Selected By DN
- Port Mapping:** A table with 5 columns: Recording Channel, Device ID, Mac Address, DN, and Record With.

Recording Channel	Device ID	Mac Address	DN	Record With
500	260	24D9214381CE	*	Mirroring
501	261	00040DFDC25C	*	Mirroring
502	262	00040DFC870E	*	Mirroring
503	263	00096e05e15c	*	Mirroring

At the bottom, there is a **No. of Log Files** field set to 12, and buttons for **Config File Location**, **Other Parameters**, **OK**, and **Cancel**.

If it is desired to display the Topic in the DNIS field of the call record in the Engage application, select the **More** button. Select the checkbox **Fill DNIS with Topic**, then select **OK**.

**Avaya SPAN Configuration**

☐ Mirroring By IP

Ports

SIP Server IP Port: 5060

H.323 Server IP Port: 0

Trace

☐ SIP Trace ☐ H.323 Trace

Additional Options

☐ Fill DNIS with Topic

OK Cancel

#### 7.4. Configure SPAN for mirroring by IP (optional)

By default, the Engage VOIP Engine will monitor the spanning traffic by MAC address. If the network is routed, the spanning traffic must be monitored by IP address.

From the VOIP Engine Configuration screen, select the **More** button. Select the checkbox **Mirroring By IP**, then select **OK**.

**Avaya SPAN Configuration**

☒ Mirroring By IP

Ports

SIP Server IP Port: 5060

H.323 Server IP Port: 0

Trace

☐ SIP Trace ☐ H.323 Trace

Additional Options

☐ Fill DNIS with Topic

OK Cancel

## 7.5. Administer Port Mapping

The **VoIP Configuration** screen is displayed again. Right click in the empty screen and select **ADD**.

The VoIP Configuration dialog box is shown with the 'Avaya TAPI Server' tab selected. It contains various configuration fields and a port mapping table.

**CTI Option:** Avaya TAPI Server (dropdown)

**Recording Board ID:** 2300

**IPD CC Address:** 192.168.0.12

**IPD CC Port:** 18080

**Observer Server:** 192.168.0.168

**Observe Port:** 8765

**User ID:** webservices

**Password:** xxxxxxxxxxxx

**Calls To Record:** ☒ All Trunk/Internal Calls ☐ All Trunk Calls ☐ Calls Selected By DN

**Buttons:** SoftPhone, More

**Port Mapping Table:**

	Recording Channel	Device ID	Mac Address	DN	Record With
500		260	24D9214381CE	*	Mirroring
501		261	00040DFDC25C	*	Mirroring
502		262	00040DFC870E	*	Mirroring
503		263	00096e05e15c	*	Mirroring

**Context Menu (Right Click):**

- ADD
- Delete
- Modify
- Import file
- Export File
- Acquire via TAPI

**Bottom Section:**

**No. of Log Files:** 12

**Buttons:** Config File Location, Other Parameters, OK, Cancel

The **Device And CommSrv Port Mapping** screen is displayed. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Device ID:** Physical station extension of the phoneset from **Section 5.2**
- **MAC/IP:** The corresponding station MAC or IP address from **Section 5.2**
- **DN:** Enter a (\*) in this field, as the DN is dependent on which agent logs into the phone
- **Recording Channel:** An available port

**Device And CommSrv Port Mapping**

Device ID: 264

MAC: 00097D06BC12

DN: \*

CommSrv Port Number: 504

Calls To Record:  
☐ Trunk/Internal Calls ☐ Trunk Calls

Recording Stream:  
☒ Mirroring

Beep Tone: No

☐ HotDesk DN

Add Cancel



Repeat this section to create port mappings for all stations in **Section 5**.

## 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office and Engage.

Log in an agent to the hunt group to handle and complete an ACD call. From a PC that has access to the Engage web client application, browse to and login onto the webclient and select the **Recordings**→**Playback** tab.

The **Engage** screen below is displayed. Select **Recent Calls** to refresh/update the Playback Log. Verify that there is an entry reflecting the last call, with proper values in the relevant fields. Double click on the entry and verify that the call recording can be played back.

Date	Start Time	End Time	Day	Status	Rec Duration	User First	User Last	Agent ID	Port First	Port Last	Port ID
8/13/2014	2:43:50 PM	2:43:59 PM	Wednesday		10:05			1010			0001:00
8/13/2014	2:43:45 PM	2:43:53 PM	Wednesday		09:19			1009			0001:00
8/13/2014	2:43:40 PM	2:43:47 PM	Wednesday		08:37			1008			0001:00
8/13/2014	2:43:35 PM	2:43:41 PM	Wednesday		07:03			1007			0001:00
8/13/2014	2:43:30 PM	2:43:35 PM	Wednesday		05:57			1006			0001:00
8/13/2014	2:43:25 PM	2:43:30 PM	Wednesday		05:46			1005			0001:00
8/13/2014	2:43:20 PM	2:43:24 PM	Wednesday		04:41			1004			0001:00
8/13/2014	2:43:15 PM	2:43:18 PM	Wednesday		04:10			1003			0001:00
8/13/2014	2:43:10 PM	2:43:12 PM	Wednesday		02:27			1002			0001:00
8/13/2014	2:43:05 PM	2:43:13 PM	Wednesday		08:37			1001			0001:00
8/13/2014	2:42:34 PM	2:42:35 PM	Wednesday		00:48			1008			0001:00
8/13/2014	2:42:33 PM	2:42:35 PM	Wednesday		00:00			1007			0001:00
8/13/2014	2:42:28 PM	2:42:31 PM	Wednesday		01:00			1006			0001:00
8/13/2014	2:42:23 PM	2:42:26 PM	Wednesday		01:00			1005			0001:00
8/13/2014	2:42:18 PM	2:42:21 PM	Wednesday		01:00			1004			0001:00
8/13/2014	2:42:13 PM	2:42:16 PM	Wednesday		01:00			1003			0001:00
8/13/2014	2:42:08 PM	2:42:11 PM	Wednesday		01:00			1002			0001:00
8/13/2014	2:42:03 PM	2:42:06 PM	Wednesday		01:00			1001			0001:00
8/12/2014	10:20:10 AM	10:21:14 AM	Tuesday		01:00	Shirisha	Botcha	1113			0001:00
8/12/2014	10:20:05 AM	10:21:09 AM	Tuesday		01:00	Praveen	N	1112			0001:00
8/12/2014	10:20:00 AM	10:21:05 AM	Tuesday		01:00	abhishek	Vulapu	1111			0001:00

## 9. Conclusion

This Guide describes the configuration steps required for TelStrat Engage to successfully interoperate with Avaya IP Office and the Avaya IP Office Contact Center. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

## 10. Additional References

This section references the product documentation relevant to this Guide.

1. *IP Office Manager 8.1*, Document 15-601011, Issue 25o, April 2012, available at <http://support.avaya.com>.
2. *Engage Server Installation and Administration Guide*, Product Release 3.7, Standard 1.0, available from TelStrat support.
3. *Engage Contact Center Suite System Administration Guide*, Product Release 3.7, Standard 1.0, available from TelStrat support.

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