



Avaya Solution & Interoperability Test Lab

Application Notes for configuring Scantalk TeamView® Unified Operator V2.5 with Avaya IP Office R10.1 using Centralized CTI Web Services for Presence Services - Issue 1.0

Abstract

These Application Notes describe the configuration steps for configuring Scantalk TeamView® Unified Operator with Avaya IP Office using the Centralized CTI Web Services API to give Presence information to the Unified Operator. Scantalk TeamView® Unified Operator integrates with Avaya IP Office using the TAPI interface.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as the 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 for configuring Scantalk TeamView® Unified Operator with Avaya IP Office R10.1 using the Centralized CTI Web Services API to provide presence information to Unified Operator. The Avaya IP Office consists of a primary server which is the Avaya IP Office Server Edition and a secondary server that being the Avaya IP Office IP500 V2 Expansion. Scantalk TeamView® Unified Operator integrates with Avaya IP Office using TAPI on IP Office.

Centralized CTI Web Services API was introduced on IP Office Server Edition R10.1 and will provide, along with other services, presence services to the third party. With previous versions of IP Office a TAPI connection to each IP Office node was required in order to provide 'Presence'. With the introduction of Centralized CTI Web Services API a single third party server is now the requirement which will provide presence for all IP Office nodes. Centralized CTI Web Services API has also been called "OpenAPI". Centralized CTI Web Services uses one-X® Portal, which is installed with IP Office Server edition by default and this must be configured along with some security settings on IP Office, (see **Section 5**).

TeamView® Unified Operator as part of the TeamView® application suite is a dedicated application for employees in the company's reception/switchboard function, where it is used to manage all communications. The application provides the user with a complete organizational overview, advanced search functions, together with the current status of colleagues' availability. Finally, it takes care of relevant telephone functions and integrated information services so that customers see the organization as service-oriented, efficient and professional.

The many features can be categorized within the following 3 sub-processes:

- Identify an employee by means of comprehensive advanced search function with phonetic search, free text search and partial search in many flavours.
- Observe the employee's availability with information such as status for fixed and mobile phone, PC status (login/out and screensaver), physical presence (from in/out system), calendar appointments and cause of absence.
- Serve the caller in this context, including directly or announced transfer to landline or mobile phone, call waiting on busy station, call on hold, or transfer call to vacant department colleague (all dept. colleagues can readily be observed when an employee is identified, including their current phone status). Alternatively, send message to staff via e-mail or SMS, or paste text message on employees for the information of colleagues (not tested).

TeamView® Unified Operator is usually installed on a client PC which is part of the same domain as the TeamView® server. The client PC will also have installed an Avaya IP Office Telephony Application Programming Interface (TAPI) configured in 'Third Party' mode.

2. General Test Approach and Test Results

This section describes the compliance testing used to verify interoperability of Scantalk TeamView® Unified Operator (Unified Operator) with IP Office and covers the general test approach and the test results. The general test approach was to configure the Unified Operator to communicate with IP Office as implemented on a typical customer's premises.

IP Office Telephony Application Programming Interface (TAPI) is used to control an Avaya deskphone (used as the switchboard). A Hunt Group is configured on IP Office which contains the extension of the deskphone to be used as the switchboard and a Short Code for Call Queue is configured to allow Unified Operator display the queue information. Centralized CTI Web Services API is used to provide presence information to Unified Operator, with one server connecting to the IP Office Server Edition. Note that some configuration of one-X® Portal is required on the Server Edition which is covered in **Section 5.7**.

Unified Operator uses Microsoft SQL or PostGreSQL Server via a direct connection or ODBC. TeamView® AD LookUp acquires user information from Microsoft Active Directory; TeamView® Calendar LookUp acquires calendar information from Microsoft Exchange/Notes and puts both into the SQL Server. Unified Operator is usually installed on a client PC which is part of a domain. The Unified Operator is configured to connect to the TeamView® Status Server to get phone status information of all contacts in the database. Because Centralized CTI Web Services is used there is no need for any additional TeamView® servers on this occasion.

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 TeamView® Unified Operator did not include use of any specific encryption features as requested by Scantalk.

2.1 Interoperability Compliance Testing

The interoperability compliance testing evaluates the ability of Unified Operator to control Avaya endpoints on IP Office using the TAPI interface. The testing included typical functions including:

- Answer internal/external calls
- Make calls using TeamView® AD LookUp
- Transfers, Blind/Supervised
- Transfers to External/Mobile numbers
- Calls to busy numbers
- Hold/Unhold
- Set/Cancel Call Forwards
- Serviceability/simulated LAN failures

2.2 Test Results

Tests were performed to insure full interoperability between Unified Operator and IP Office. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully with the following observations noted.

1. When using a SIP phone as the Operator the caller is placed on hold when transferred to a busy number as the SIP phones do not support transferring to the Short Code for Call Queueing (camp on).
2. When using a SIP phone as the Operator and transferring (supervised) to an external number (PSTN), this requires that the Unified Operator highlights the incoming caller on the screen before a transfer can be made.

2.3 Support

Technical support from Scantalk can be obtained through the following:

Web: www.scantalk.com

Phone: Sales: +45 48 10 49 10 or Support: +45 48 10 49 11

E-mail: Sales@scantalk.com or Support@scantalk.com

3. Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. Unified Operator was configured to connect to either IP Office Server Edition or the IP Office IP500 V2 expansion using Avaya IP Office TAPI configured in third party mode. Two hunt groups were configured on the IP Office to route calls to the switchboard but more importantly to give information on the calls being presented using the “Call Queue” short code. Both SIP and H323 phones registered to both the Server Edition and the IP500 V2 were used as the switchboard phone. One TeamView® server was added to the network in order to get status information on the users on both the IP Office Server Edition and the IP500 V2 using Centralized CTI Web Services.

Note: On a typical customer site Unified Operator is installed on a client PC, which would be added to the same domain as the TeamView® Server. The Avaya IP Office TAPI driver can be configured in either ‘Single User’ mode or ‘Third Party’ mode must also be installed on the same PC. On configurations with less than 200 endpoints and only one operator, it could altogether be installed on the client PC.

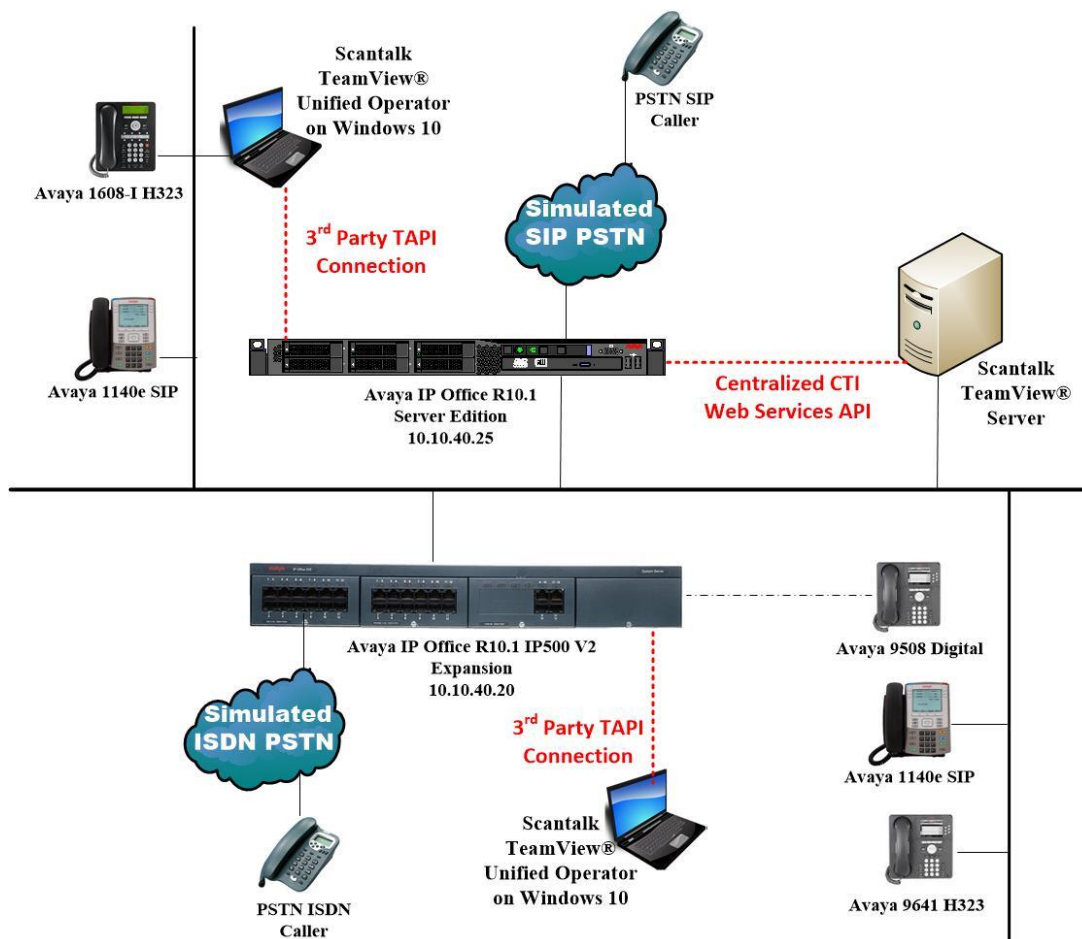


Figure 1: Scantalk TeamView® Unified Operator with Avaya IP Office Server Edition and IP Office IP500 V2

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition running on a Virtual Platform	R10.1.0.1.0 Build 3
Avaya IP Office IP500 V2	R10.1.0.1.0 Build 3
Avaya IP Office Manager running on a Windows 7 PC	R10.1.0.1.0 Build 3
Avaya 1608-I H323 Deskphone	1608UA1_350B.bin
Avaya 9641 H323 Deskphone	R6.6115
Avaya 1140e SIP Deskphone	R04.04.28.00
Avaya 9508 Digital Deskphone	R0.60
Scantalk TeamView® Unified Operator running on a Windows 10 PC: TeamView® Unified Operator	2.5.1.548
Scantalk TeamView Server running on Windows 2016 server: TeamView Unified Solutions 2017 with postGreSQL TeamView® AD LookUp TeamView® Calendar LookUp (optional) TeamView® Status Server PostGreSQL Microsoft .Net Framework Microsoft Windows Installer Microsoft PowerShell	1.0.0.7 3.2.0.174 3.4.0.204 3.0.0.64 9.6.2 4.0 SP1 4.5 1.0

Note: Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office IP500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configuration of Avaya IP Office

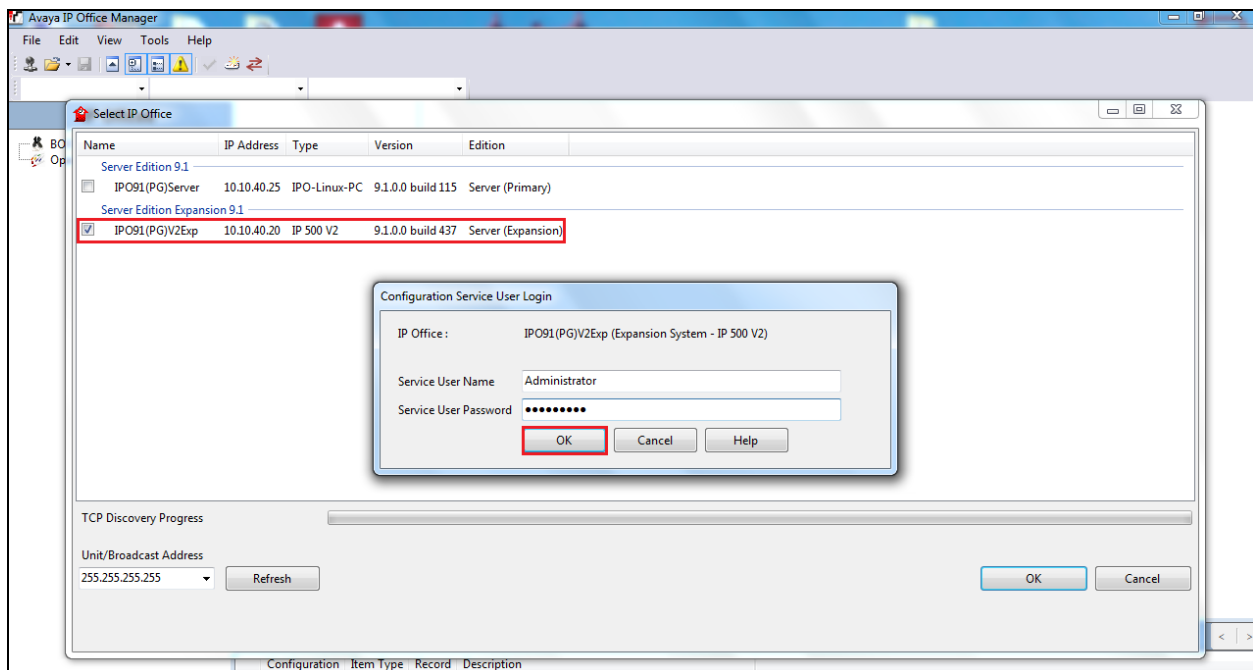
Configuration and verification operations on the IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the IP Office for this solution. It is implied that a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager
- Enable TAPI/DevLink3
- Check for CTI Pro Licenses
- Create Hunt Groups
- Add Short Code
- Save Configuration
- Configure Centralized CTI Web Services

Note: TAPI may need to be enabled under Security. This procedure should be carried out by the IP Office Administrator. It is outlined here in **Section 5.2**.

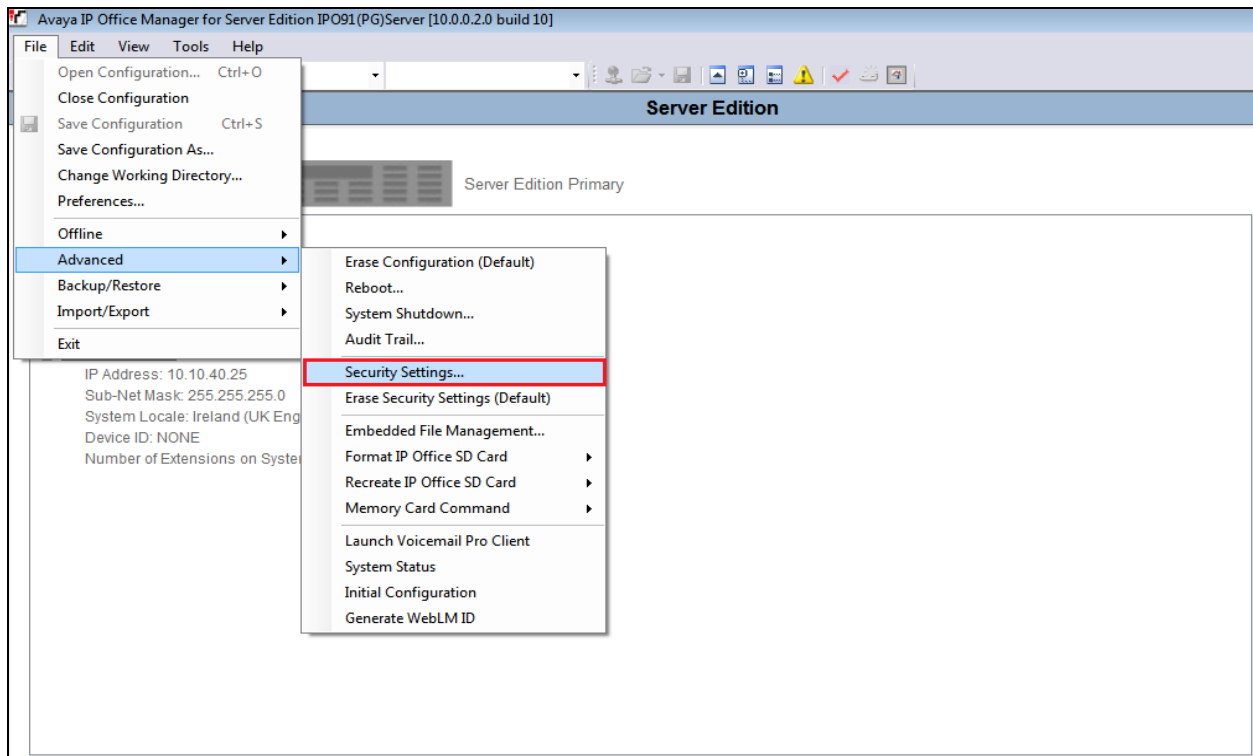
5.1 Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start → Programs → IP Office → Manager** to launch the Manager application (not shown). Tick the required server to log in to, this will be the IP Office IP500 V2, then log in using the appropriate credentials to receive the configuration.



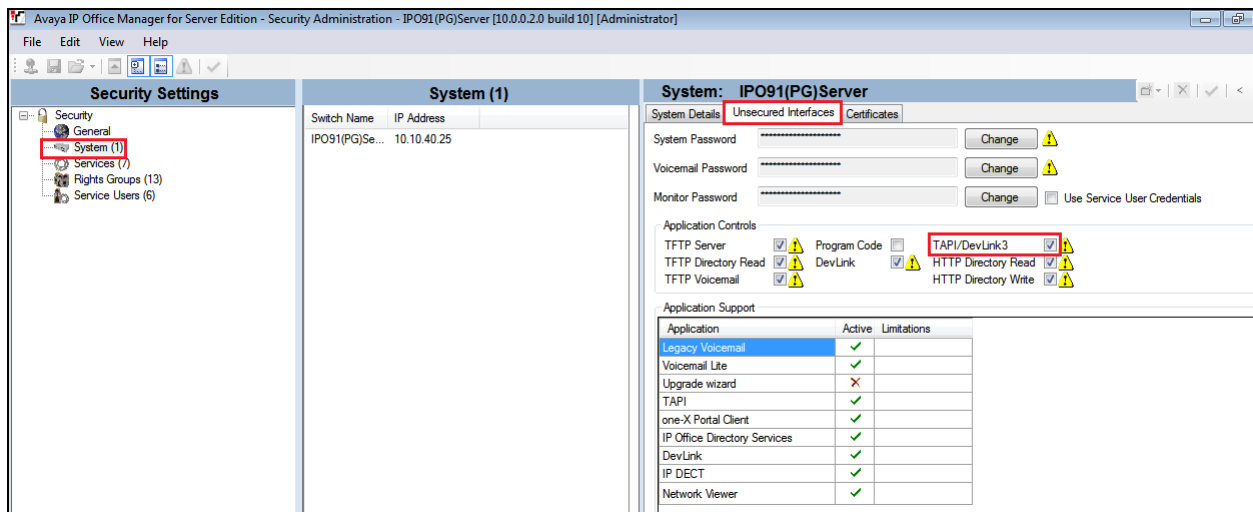
5.2 Enable TAPI/DevLink3

Once logged in, click on **Advanced** → **Security Settings**.



Click on **System** in the left window and in the main window ensure that **TAPI/DevLink3** is ticked as shown below. Click on **Save** (not shown) at the top of the screen once this is done.

Note: The **System Password** can be set here if required, as this password will be required in order to configure the TAPI driver throughout **Section 6**.



5.3 Check for CTI Pro Licenses

Click on **License** in the left window and ensure that the **License** tab is selected in the main window. All the licenses should be displayed as shown below.

The screenshot shows the Avaya configuration interface. On the left, the 'License (33)' option is selected in the tree. The main window displays the 'License' tab with the following details:

- License Mode: License Normal
- Licensed Version: 9.1
- Serial Number (AD): 1327297258
- PLDS Host ID: 111327297258
- PLDS File Status: Not Present / Invalid

Below these details is a table of installed licenses:

Feature	License Key	Instances	Status	Expiry Date
Avaya IP endpoints	U4u9VvmXds22dorkDubByqrS3LFXPF5	255	Valid	Never
Essential Edition Additional Voice...	It1N9PhLvjj04b3C5Qxwx4VphdcOeVe	255	Obsolete	Never
Teleworker	nXD69yBrtscUDh1wUewL2kcsk_OVfle	255	Obsolete	Never
Mobile Worker	IAHz1WB_ASh0Z7FCCle@H4dMwL2NRZW	255	Obsolete	Never
Power User	IvBhsPheAdicS7nW5Mu9_q8rO3sEDuuc	255	Valid	Never
Advanced Edition	DXBhsy9cXUINSs45Buer6tZ9MGZzOWb9	255	Obsolete	Never
Office Worker	IXHD9AdxXvFxi2uJqcb114OV39OKMsx	255	Valid	Never
Essential Edition	AX@wchBCvd3Nb@axHuiG_Abdpwb9IuMB	255	Obsolete	Never
Office Worker Upgrade	4y@M9@vJtdsNqL29YYx1gk_9p6ZpKf@9	255	Valid	Never
VMP Pro TTS Professional	hha9cvhcvGbei7FuQic3HBRVWwbuIW7Q	255	Obsolete	Never
R8+ Preferred Edition (VM Pro)	GhKY5AacXiiC73ufCxtxakVSaZpVR0B	255	Obsolete	Never
CTI Link Pro	OX0c55hxAUdKjdWMP CxsHvFrE39FDMrQ	255	Valid	Never
1600 Series Phones	dTBoV75MvUF2nD_6wWuxweRrNw_IeFz	255	Obsolete	Never
Avaya SIP Softphone	Virtual Avaya Legacy Softphone	254	Valid	Never
Avaya IP endpoints	Virtual Avaya IP Endpoints Local	12	Valid	Never
Server Edition for Russia R9.1	Virtual Server Edition for Russia R9.1	1	Valid	Never

A closer look at this **CTI Link Pro** license shows that there are 255 CTI Link Pro Licenses available and so in theory **255** simultaneous call recordings could be achieved.

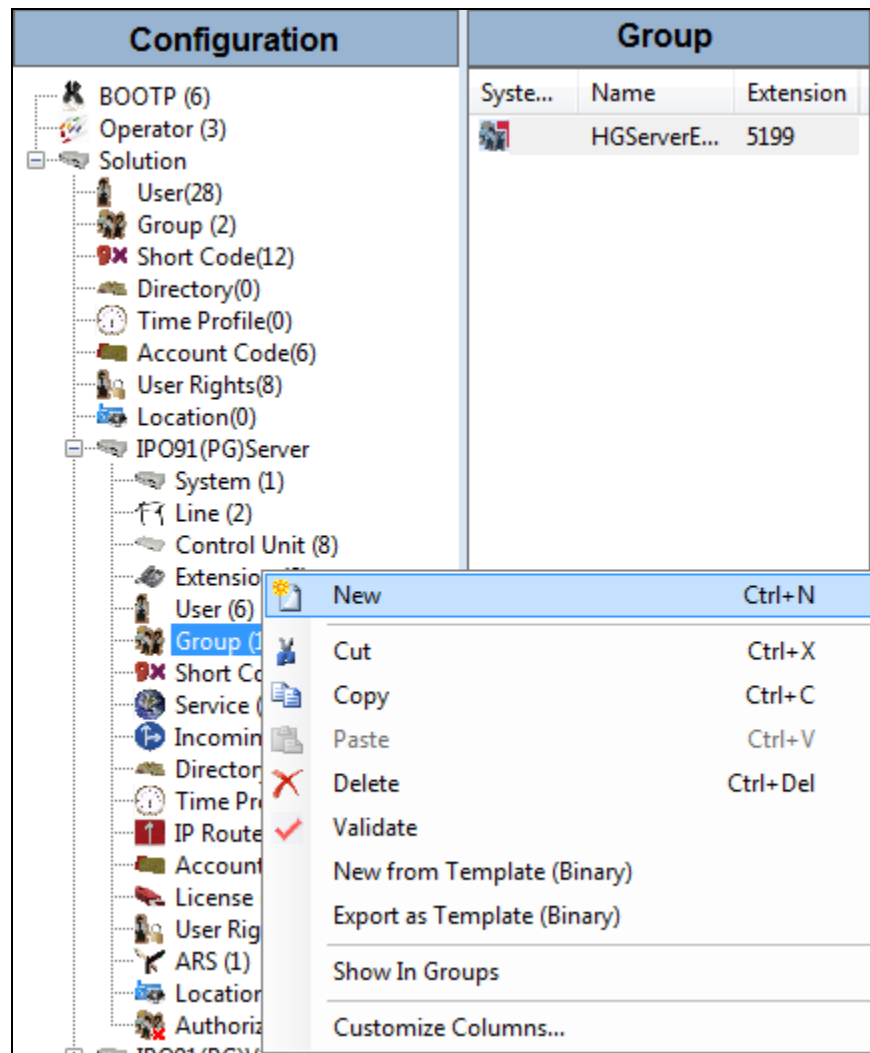
Feature	License Key	Instances	Status	Expiry Date
Avaya IP endpoints	U4u9VvmXds22dorkDubByqrS3LFXPF5	255	Valid	Never
Essential Edition Additional Voice...	It1N9PhLvjj04b3C5Qxwx4VphdcOeVe	255	Obsolete	Never
Teleworker	nXD69yBrtscUDh1wUewL2kcsk_OVfle	255	Obsolete	Never
Mobile Worker	IAHz1WB_ASh0Z7FCCle@H4dMwL2NRZW	255	Obsolete	Never
Power User	IvBhsPheAdicS7nW5Mu9_q8rO3sEDuuc	255	Valid	Never
Advanced Edition	DXBhsy9cXUINSs45Buer6tZ9MGZzOWb9	255	Obsolete	Never
Office Worker	IXHD9AdxXvFxi2uJqcb114OV39OKMsx	255	Valid	Never
Essential Edition	AX@wchBCvd3Nb@axHuiG_Abdpwb9IuMB	255	Obsolete	Never
Office Worker Upgrade	4y@M9@vJtdsNqL29YYx1gk_9p6ZpKf@9	255	Valid	Never
VMP Pro TTS Professional	hha9cvhcvGbei7FuQic3HBRVWwbuIW7Q	255	Obsolete	Never
R8+ Preferred Edition (VM Pro)	GhKY5AacXiiC73ufCxtxakVSaZpVR0B	255	Obsolete	Never
CTI Link Pro	OX0c55hxAUdKjdWMP CxsHvFrE39FDMrQ	255	Valid	Never
1600 Series Phones	dTBoV75MvUF2nD_6wWuxweRrNw_IeFz	255	Obsolete	Never
Avaya SIP Softphone	Virtual Avaya Legacy Softphone	254	Valid	Never
Avaya IP endpoints	Virtual Avaya IP Endpoints Local	12	Valid	Never
Server Edition for Russia R9.1	Virtual Server Edition for Russia R9.1	1	Valid	Never

5.4 Create Hunt Groups on Avaya IP Office

A hunt group is created with a single user added so that calls can be queued to the single user. Because compliance testing included both the Server Edition and the IP500 V2, two hunt groups were created each containing a single user that was to be associated with the Unified Operator as the “Switchboard phone set”.

5.4.1 Create a Hunt Group on the IP Office Server Edition

Expand the IP Office Server Edition system and right click on **Group** and select **New** as shown below.



Within the Group tab enter the following information:

- **Name** Enter an informative name (i.e., **HGServerEdition**).
- **Extension** Enter the extension which will be dialed to reach the switchboard Operator. (i.e., **5199**).
- **Ring Mode** Select **Sequential** from the dropdown box.

Scroll down the page. Click on the **Edit** button (not shown).

Group | Queuing | Overflow | Fallback | Voicemail | Voice Recording | Announcements | SIP

Name: HGServerEdition | Profile: Standard Hunt Group

Extension: 5199 | ☐ Ex Directory

Ring Mode: Sequential | No Answer Time (secs): 6

Hold Music Source: No Change

Ring Tone Override: None

Agent's Status on No-Answer Applies To: None

Central System: IPO91(PG)Server | ☒ Advertize Group

User List

Extension	Name	System
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OK Cancel Help

The following window appears allowing the addition of any IP Office extension into the group, for compliance testing extension **5101** was added. Click on **OK** to continue.

Sequential | Hunt Group | 5199 HGServerEdition - Select Members

Filters: Extn Name, Extn Number, PBX Name, PBX Address

Available Users (28/28)

Name	Extn	PBX Name	PBX Address
3535250	3535250	IPO91(PG)V2Exp	10.10.40.20
5100	5100	IPO91(PG)Server	10.10.40.25
5101	5101	IPO91(PG)Server	10.10.40.25
5102	5102	IPO91(PG)Server	10.10.40.25
5150	5150	IPO91(PG)Server	10.10.40.25
5151	5151	IPO91(PG)Server	10.10.40.25
5201	5201	IPO91(PG)V2Exp	10.10.40.20
5202	5202	IPO91(PG)V2Exp	10.10.40.20
5220	5220	IPO91(PG)V2Exp	10.10.40.20
5221	5221	IPO91(PG)V2Exp	10.10.40.20
5222	5222	IPO91(PG)V2Exp	10.10.40.20
5250	5250	IPO91(PG)V2Exp	10.10.40.20
5251	5251	IPO91(PG)V2Exp	10.10.40.20
5252	5252	IPO91(PG)V2Exp	10.10.40.20
5255550	5255550	IPO91(PG)V2Exp	10.10.40.20
5280	5280	IPO91(PG)V2Exp	10.10.40.20
5281	5281	IPO91(PG)V2Exp	10.10.40.20
5282	5282	IPO91(PG)V2Exp	10.10.40.20
5283	5283	IPO91(PG)V2Exp	10.10.40.20
5284	5284	IPO91(PG)V2Exp	10.10.40.20
5285	5285	IPO91(PG)V2Exp	10.10.40.20

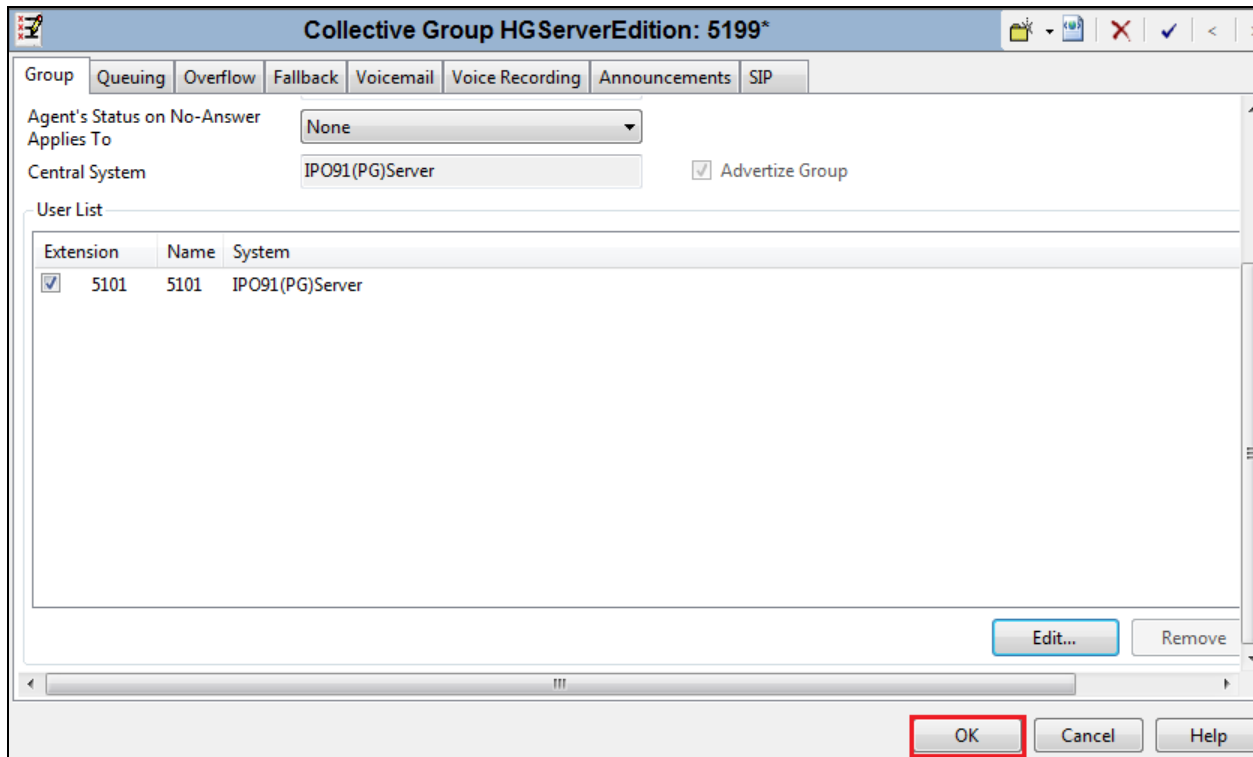
Members (1/1)

Order	Enabled	Name	Extn	PBX Name	PBX Address
1	<input checked="" type="checkbox"/>	5101	5101	IPO91(PG)Server	10.10.40.25

Add Before, Add After, Append, Remove

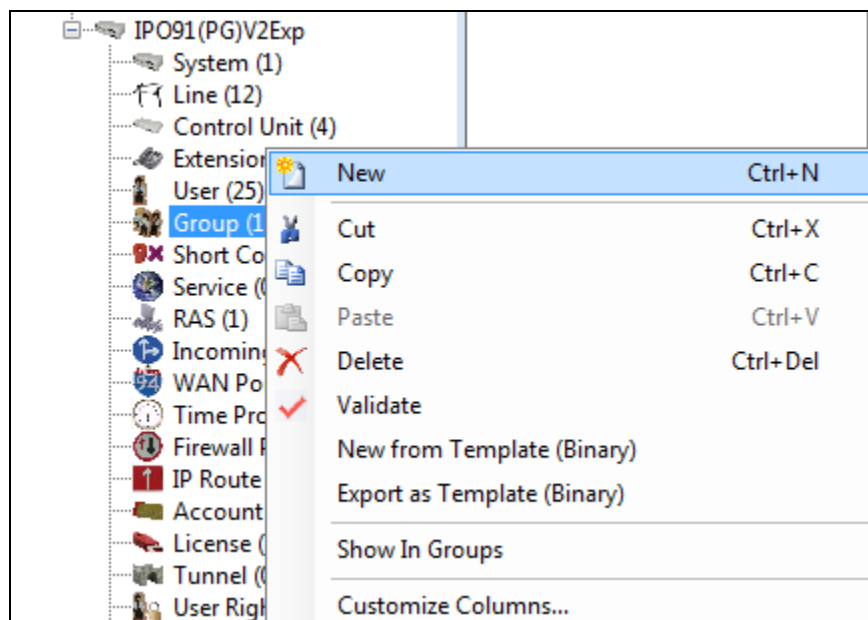
OK Cancel Help

Click on **OK** again to save the new hunt group.



5.4.2 Create a Hunt Group on the Avaya IP Office IP500 V2 Expansion

The same procedure is used to create a hunt group on the IP Office IP500 V2. Expand the IP Office IP500 V2 system and right click on **Group** as shown below. Select **New**.



Within the Group tab enter the following information:

- **Name** Enter an informative name (i.e., **HG500V2**).
- **Extension** Enter the extension which will be dialed to reach the switchboard Operator. (i.e., **5299**).
- **Ring Mode** Select **Sequential** from the dropdown box.

Scroll down the page. Click on the **Edit** button (not shown).

Sequential Group HG500V2: 5299

Group | Queuing | Overflow | Fallback | Voicemail | Voice Recording | Announcements | SIP

Name: HG500V2
Extension: 5299
Ring Mode: Sequential
Hold Music Source: No Change
Ring Tone Override: None
Agent's Status on No-Answer Applies To: None

Profile: Standard Hunt Group
☐ Ex Directory
No Answer Time (secs): System Default (11)
☒ Advertise Group

User List

Extension	Name
<input checked="" type="checkbox"/> 5250	5250

OK Cancel Help

On this occasion extension **5250** is associated with hunt group 5299.

Sequential | Hunt Group | 5299 HG500V2 - Select Members

Filters
Extn Name Extn Number

Available Users (28/28)

Name	Extn
3535250	3535250
5100	5100
5101	5101
5102	5102
5150	5150
5151	5151
5201	5201
5202	5202
5220	5220
5221	5221
5222	5222
5250	5250
5251	5251
5252	5252
5255550	5255550
5280	5280
5281	5281
5282	5282
5283	5283
5284	5284
5285	5285

Members (1/1)

Order	Enabled	Name	Extn
1	<input checked="" type="checkbox"/>	5250	5250

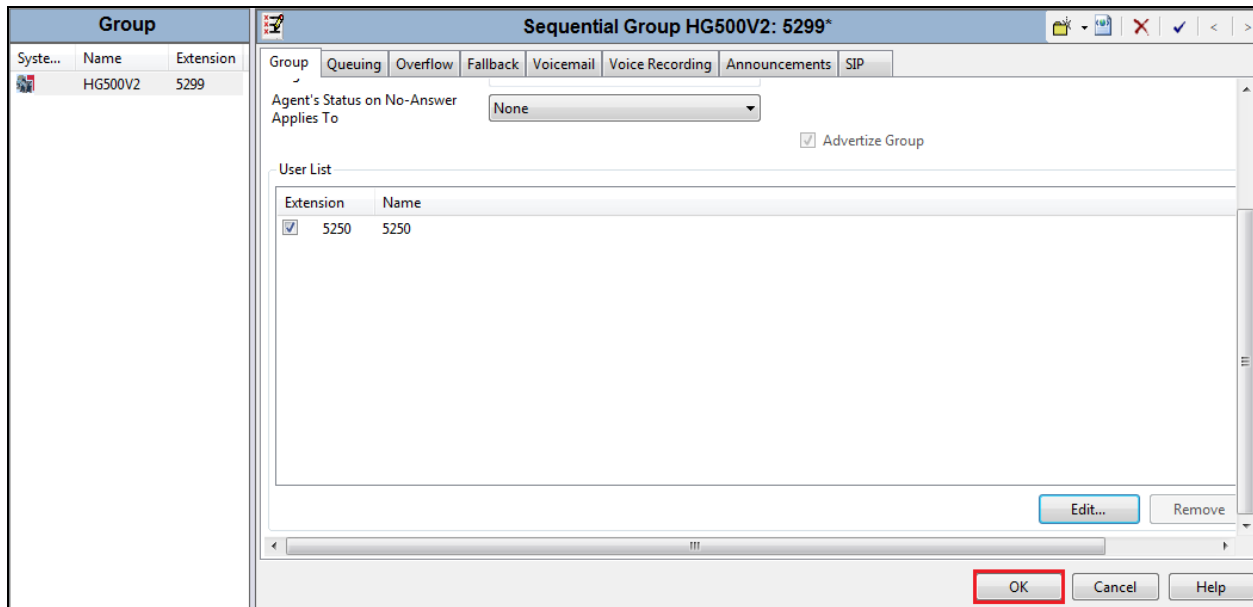
↑

Add Before
Add After
Append
Remove

↓

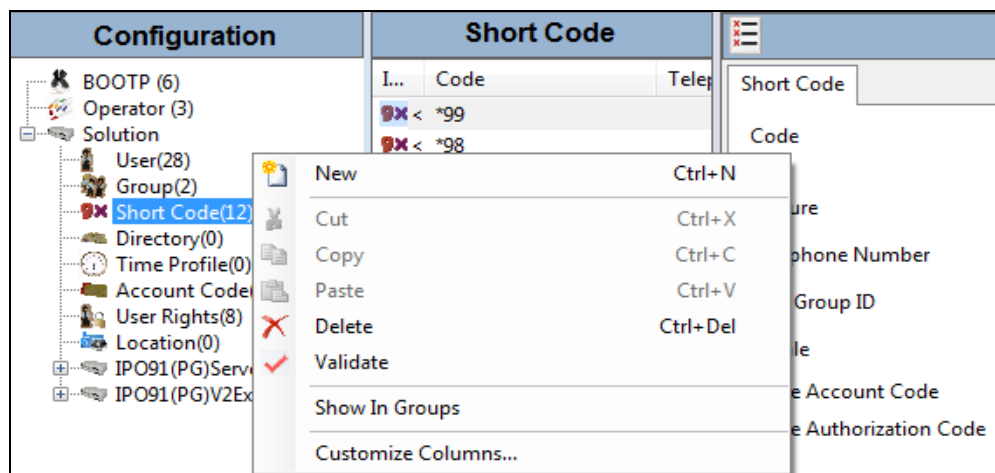
OK Cancel Help

With this hunt group created click on **OK** to submit these changes.



5.5 Add Short Code for Call Queue

A short code needs to be created in order for Unified Operator to use the “Call Queue” function in order to show the waiting time while queueing on the switchboard. In the Manager window, go to the Configuration Tree, right-click **Short Code** and select **New**.



Enter the following:

- **Code** Enter ***33*N#**
- **Feature** Select **Call Queue** from the dropdown box
- **Telephone Number** Enter **N**
- **Line Group ID** Enter **0**

Click **OK** button.

Note: The Code ***33*N#** is used as the **Camp on** short code in **Section 6.2.2** (system tab).

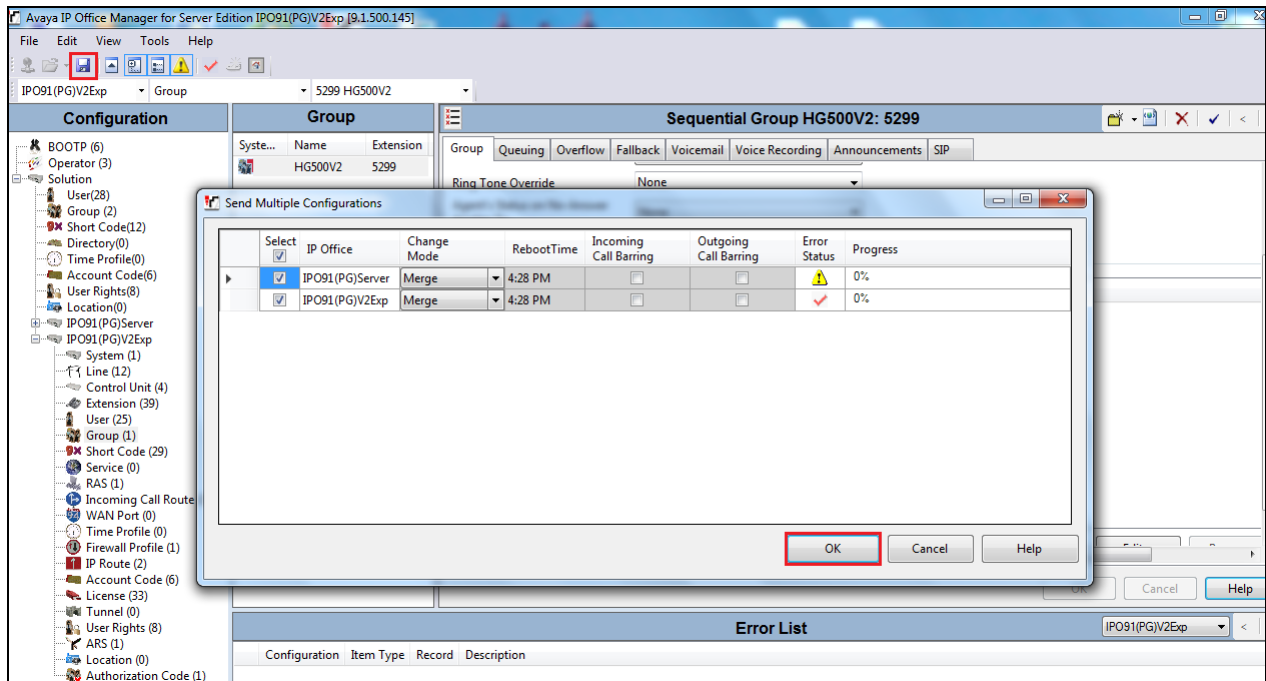
The screenshot shows a software window titled "Short Code" with a subtitle "*33*N#: Call Queue*". On the left is a list of short codes with columns "L...", "Code", and "Tele...". The code "*33*N#" is selected. On the right is a configuration form with the following fields:

- Code: *33*N# (with a red note: "* This Short Code is common to all systems.")
- Feature: Call Queue (dropdown menu)
- Telephone Number: N
- Line Group ID: 0 (dropdown menu)
- Locale: (empty dropdown menu)
- Force Account Code: ☐
- Force Authorization Code: ☐

At the bottom right, there are three buttons: "OK" (highlighted with a red box), "Cancel", and "Help".

5.6 Save Configuration

Click on the **Save** icon at the top left of the screen and this will save the configurations to both the IP Office Server Edition and the IP Office IP500 V2. Click on **OK** at the bottom of the screen to complete this.



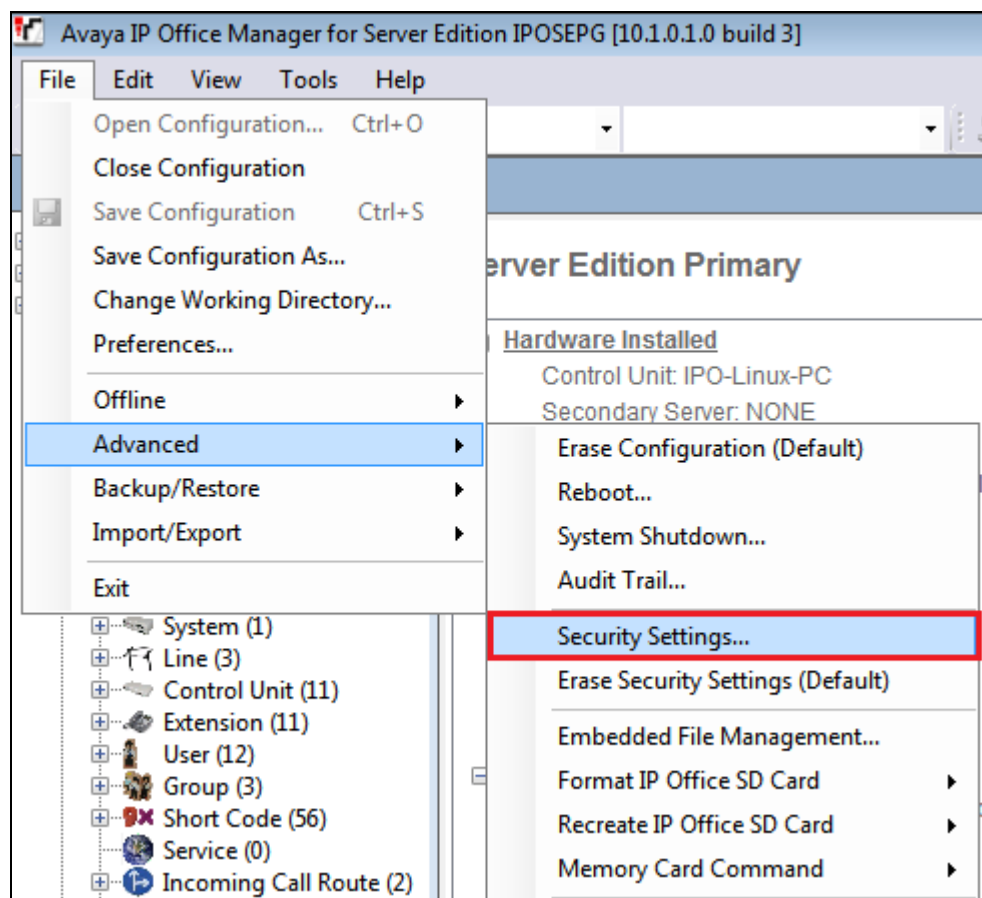
5.7 Configure Centralized CTI Web Services

This section goes through the steps required in order to setup Centralized CTI Web Services on IP Office in order to provide Presence information to Unified Operator via the TeamView® server.

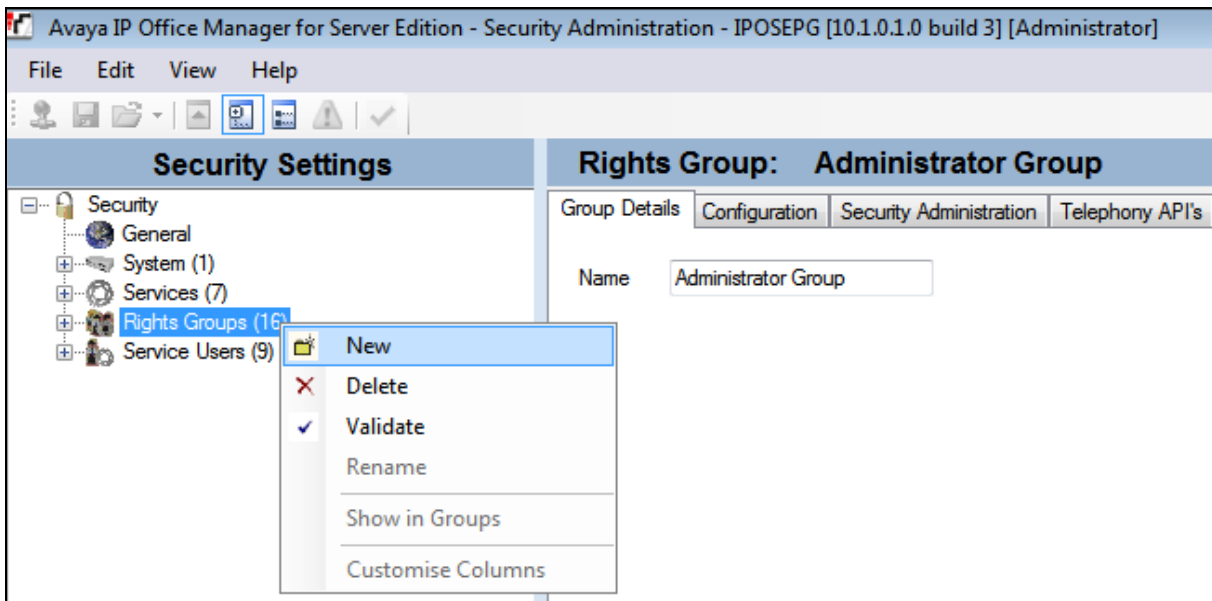
5.7.1 Configure CTI Web Services on IP Office

To get access to CTI Web Services from the TeamView® server an application user must be created for this purpose. This user must not have the same name as an ordinary One-X® Portal user, so create a unique user group and user as shown in the following steps.

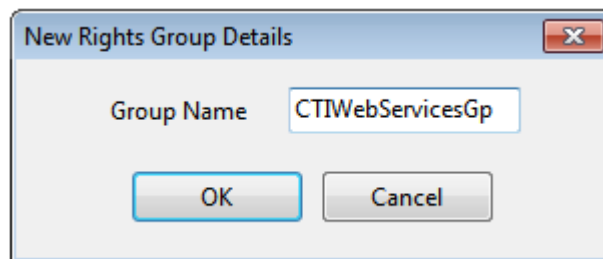
Open **Security Settings** in the IP Office Manager as shown.



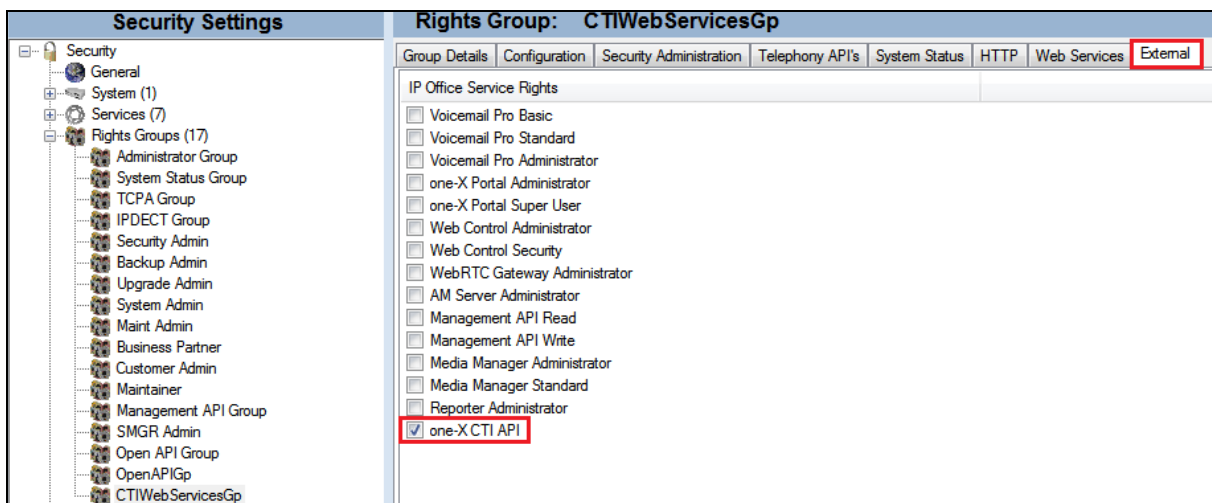
Create a new Rights Group and give that group rights to external interface one-X CTI API. Right-click on **Rights Groups** and select **New**, as shown below.



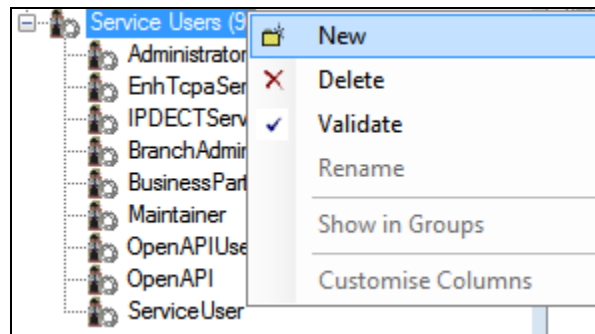
Give the new group a suitable **Group Name**.



Click on the **External** tab and tick the **one-X CTI API** box as shown below.



Right-click on **Service Users** and select **New**, as shown, this will create a new user that can be used by the TeamView® server as per **Section 6.1**



Enter a suitable name and password for the user as shown and click on **OK**.

A screenshot of a 'New Service User Details' dialog box. It contains three input fields: 'New User Name' with the value 'ScantalkWS', 'New User Password' with masked characters, and 'Re-enter New User Password' with masked characters. At the bottom are 'OK' and 'Cancel' buttons.

Ensure that the user is part of the group that was configured previously and that **No Account Expiry** is ticked as shown. Click on **OK** at the bottom of the screen (not shown below).

A screenshot of the 'Service User: ScantalkWS' configuration page. The 'Service User Details' tab is active. The 'Name' field is 'ScantalkWS'. The 'Password' field is masked. The 'Account Status' is 'Enabled'. The 'Account Expiry' section has 'No Account Expiry' checked. Below this is a calendar for February 2018, with the 14th highlighted. At the bottom, the 'Rights Group Membership' section shows a list of groups, with 'CTIWebServicesGp' selected.

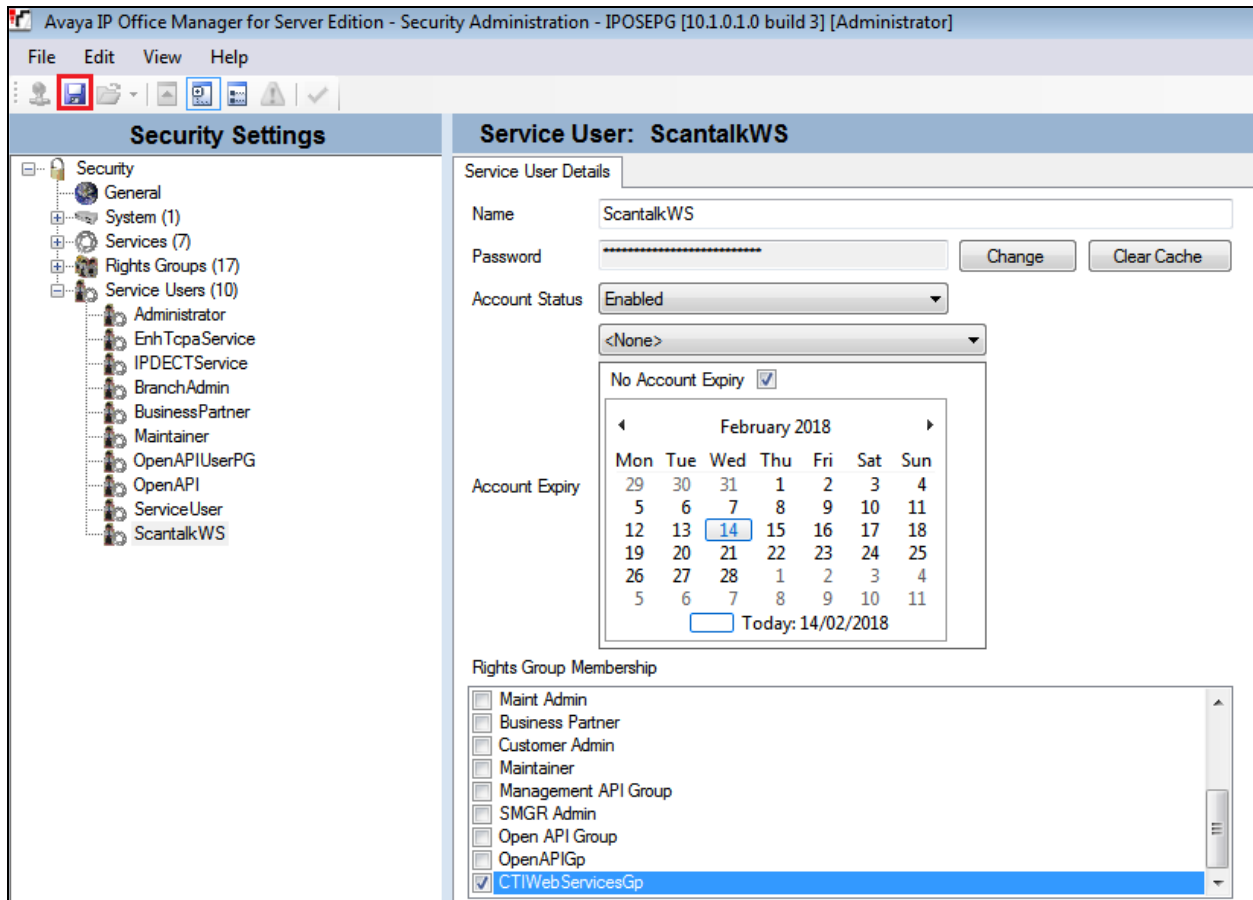
Mon	Tue	Wed	Thu	Fri	Sat	Sun
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	1	2	3	4
5	6	7	8	9	10	11

Today: 14/02/2018

Rights Group Membership

- ☐ Maint Admin
- ☐ Business Partner
- ☐ Customer Admin
- ☐ Maintainer
- ☐ Management API Group
- ☐ SMGR Admin
- ☐ Open API Group
- ☐ OpenAPIGp
- ☒ CTIWebServicesGp

Click on the **Save** icon at the top of the screen, as shown.



5.7.2 Configure one-X® Portal

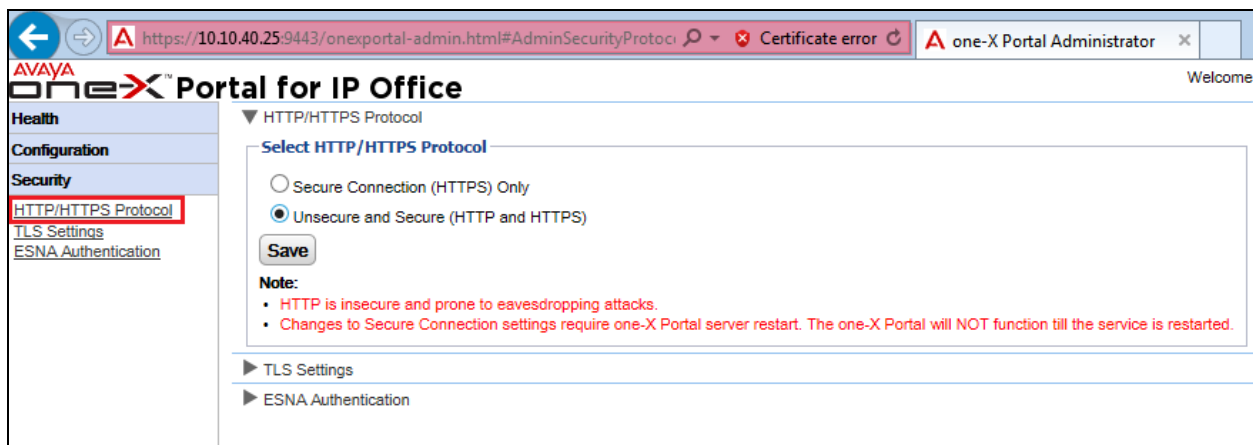
As for now, the interface is not using SSL and you must allow the service to accept HTTP on port 8080. This is done in the One-X Portal Administrator under security.

Open a web browser to the IP Office Server Edition specifically

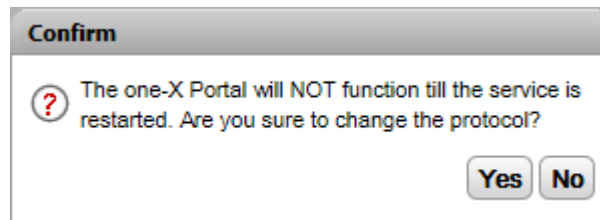
https://<Server IP>:9443/onexportal-admin.html. Enter the appropriate credentials and click on **Login**.



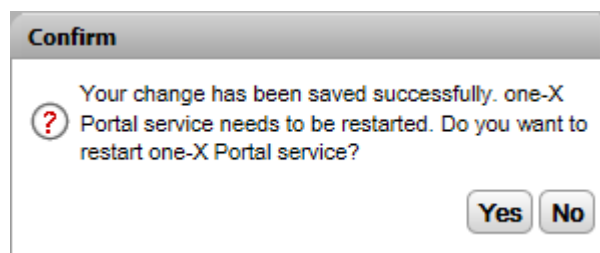
Click on **Security** in the left window and on **HTTP/HTTPS Protocol** and ensure that that **Unsecure and Secure (HTTP and HTTPS)** button is selected and click on **Save**.



Once Save is pressed above the following message is displayed, click on **Yes**.



Once Yes is pressed above the following message is displayed, click on **Yes** again. The One-X® Portal will now restart and will log out the user automatically and will be offline for 2-3 mins.



This concludes the setup on IP Office for both the TAPI and CTI Web Services connections.

6. Configure Scantalk TeamView® Unified Operator

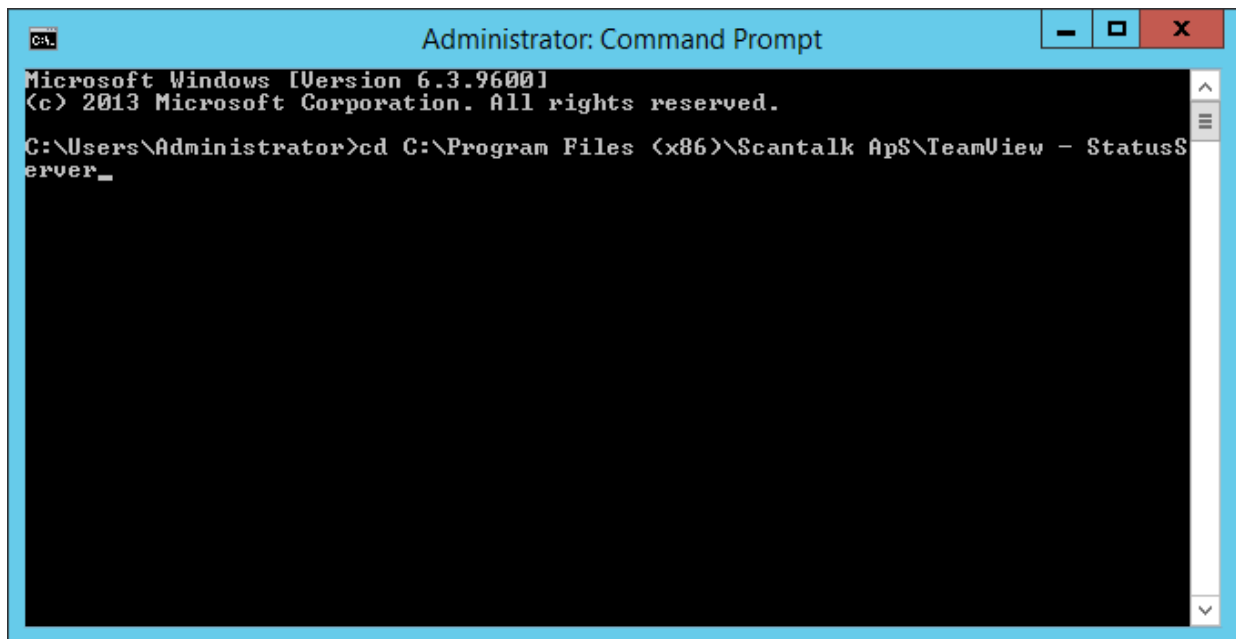
This section describes the steps performed to configure the Unified Operator. It is implied that the Unified Operator software is already installed. It is also implied that the TeamView® AD LookUp application and prerequisite software is installed and configured. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. These configurations can be summarised as follows:

Note: In order to provide Presence Services to the Unified Operator, one TeamView® server was installed connecting to the IP Office Server Edition using CTI Web Services. Unified Operator was installed on a Windows 10 client PC connected separately to both the IP Office Server Edition and the IP Office IP500 V2 also using third party TAPI.

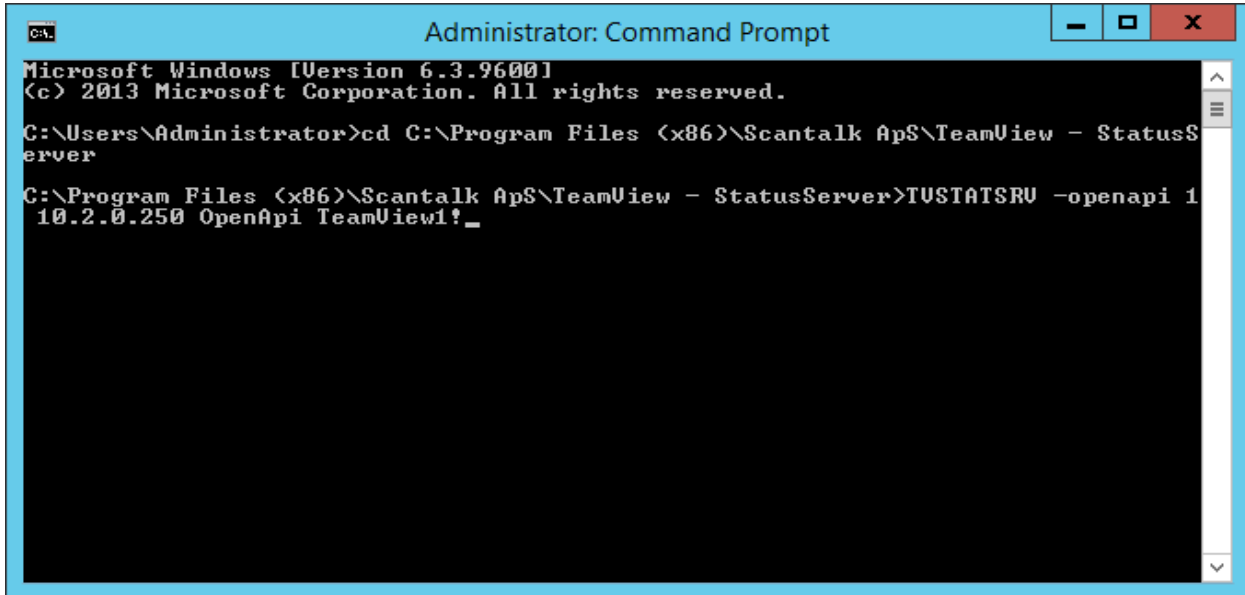
6.1 Configure TeamView® Server for CTI Web Services

These are the steps required to configure the TeamView® Status server in order to use the OpenAPI function. Open up a windows command prompt as Administrator. Use the command **cd C:\Program Files (x86)\Scantalk ApS\TeamView – StatusServer** and hit enter.

Note: Centralized CTI Web Services API has also been called “OpenAPI”.



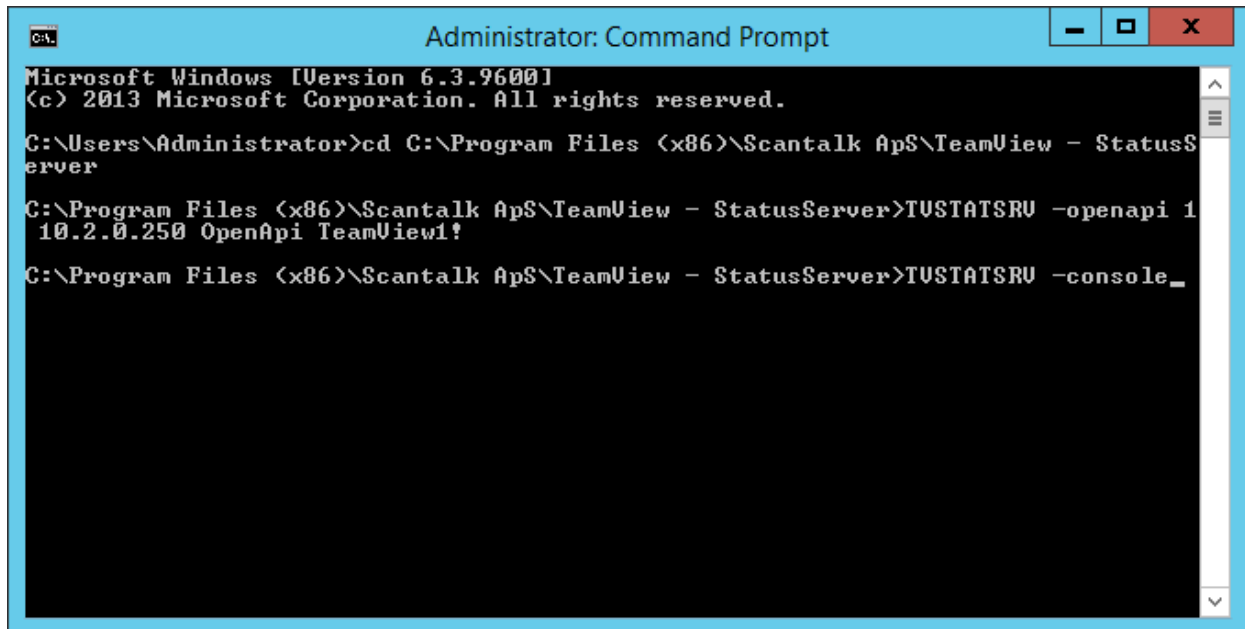
Type in **TVSTATSRV -openapi 1 xx.xx.xx.xx OpenApi password** where “xx.xx.xx” is the IP for the PBX and “password” is the password for the PBX and hit enter.



```
Administrator: Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cd C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer
C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer>TVSTATSRV -openapi 1
10.2.0.250 OpenApi TeamView1!_
```

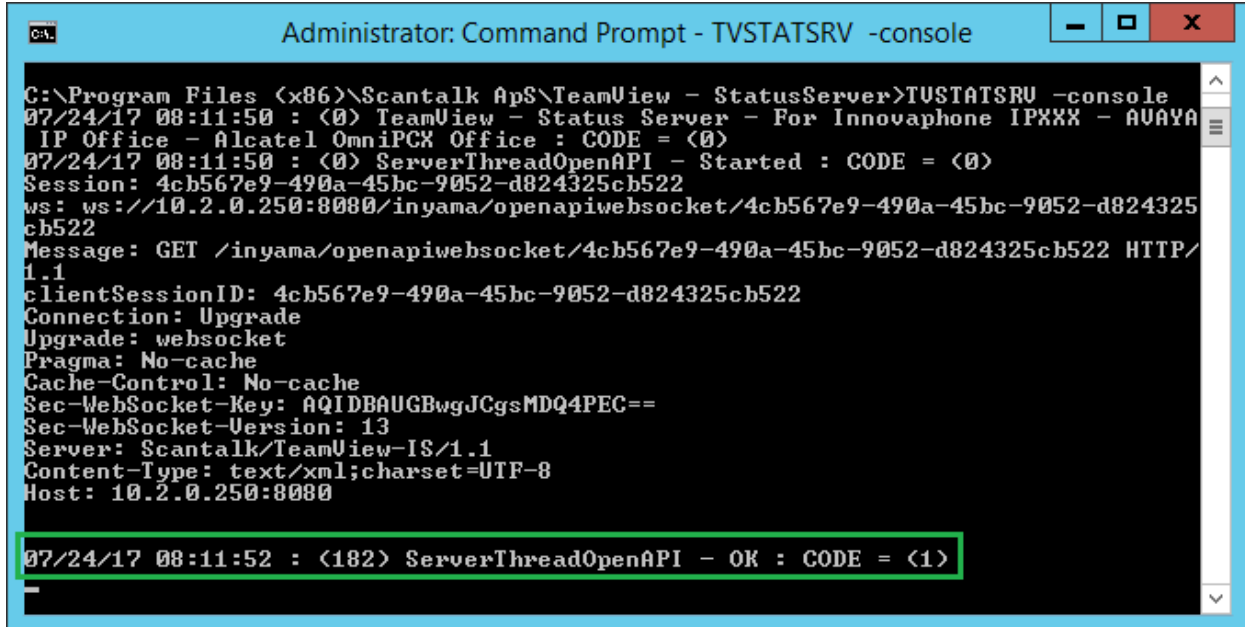
Type in **TVSTATSRV -console** and hit enter to run console.



```
Administrator: Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cd C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer
C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer>TVSTATSRV -openapi 1
10.2.0.250 OpenApi TeamView1!
C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer>TVSTATSRV -console_
```

Here we can see that the openAPI has a connection with IP Office.



```
C:\Program Files (x86)\Scantalk ApS\TeamView - StatusServer>TVSTATSRV -console
07/24/17 08:11:50 : (0) TeamView - Status Server - For Innovaphone IPXXX - AVAYA
IP Office - Alcatel OmniPCX Office : CODE = (0)
07/24/17 08:11:50 : (0) ServerThreadOpenAPI - Started : CODE = (0)
Session: 4cb567e9-490a-45bc-9052-d824325cb522
ws: ws://10.2.0.250:8080/inయా/openapiwebsocket/4cb567e9-490a-45bc-9052-d824325cb522
Message: GET /inయా/openapiwebsocket/4cb567e9-490a-45bc-9052-d824325cb522 HTTP/1.1
clientSessionID: 4cb567e9-490a-45bc-9052-d824325cb522
Connection: Upgrade
Upgrade: websocket
Pragma: No-cache
Cache-Control: No-cache
Sec-WebSocket-Key: AQIDBAUGBwgJCgsMDQ4PEC==
Sec-WebSocket-Version: 13
Server: Scantalk/TeamView-IS/1.1
Content-Type: text/xml; charset=UTF-8
Host: 10.2.0.250:8080

07/24/17 08:11:52 : (182) ServerThreadOpenAPI - OK : CODE = (1)
```

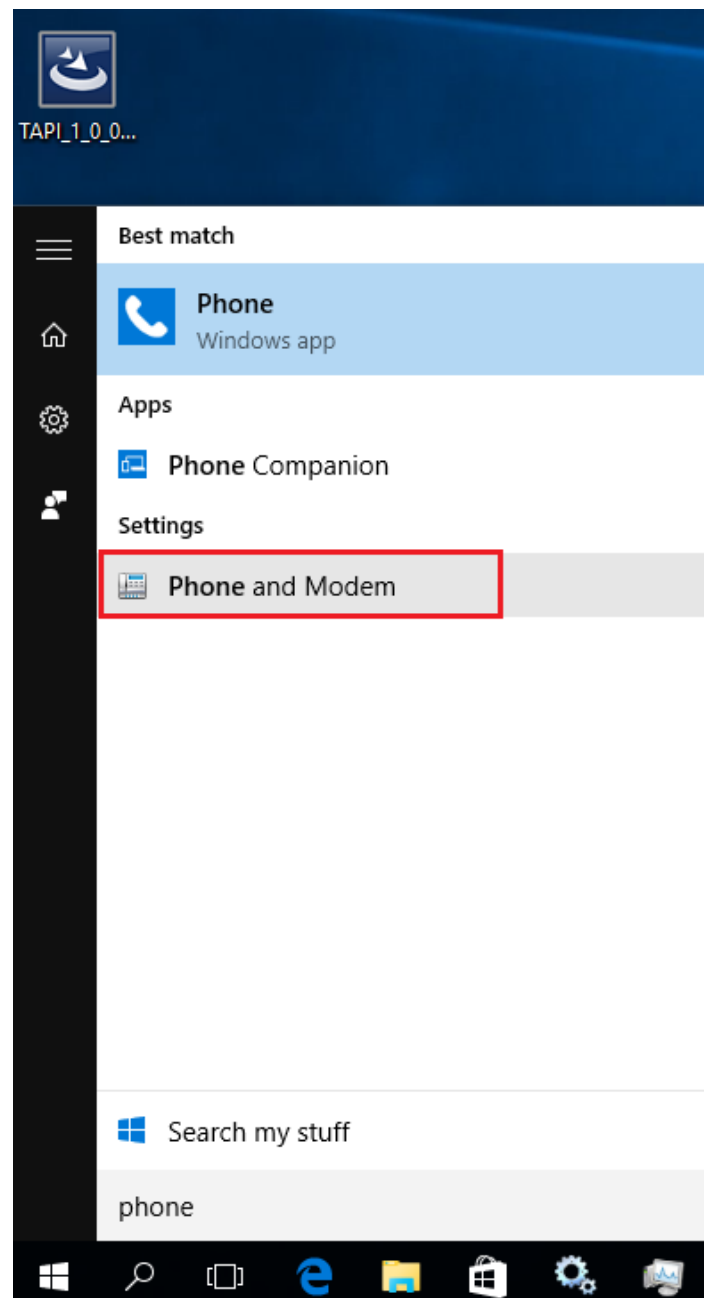
The confirmation above proves the connection to use the Centralized CTI Web Services API also called “OpenAPI” has been setup correctly.

6.2 Configure TeamView® Unified Operator

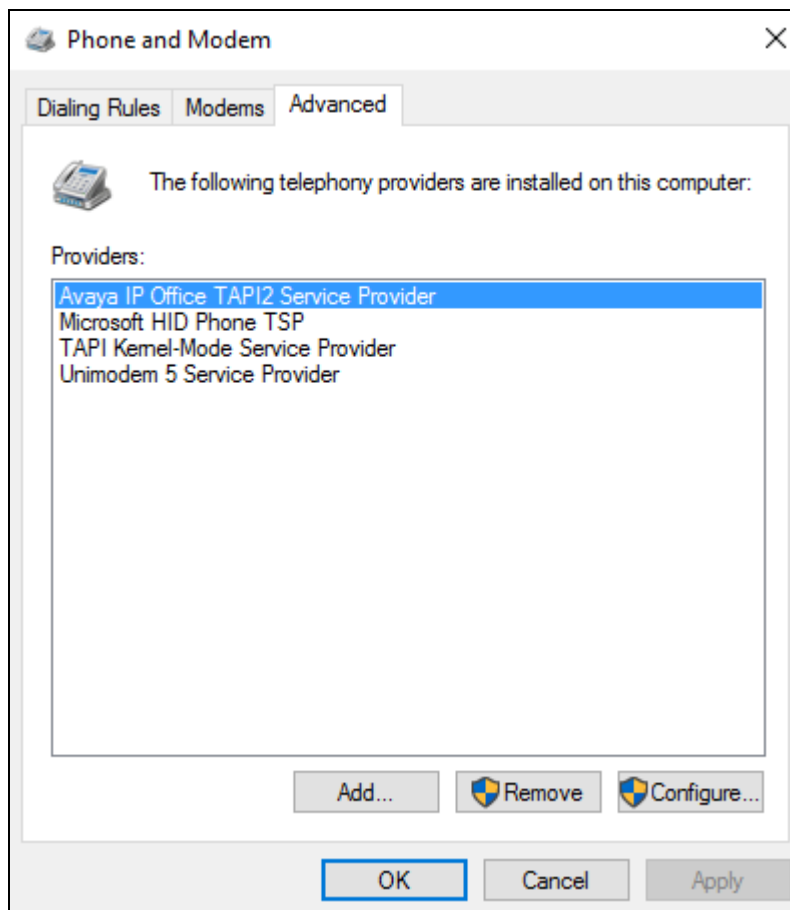
The configuration of the Unified Operator involves the configuration of the TAPI driver as well as some configuration of the Unified Operator application.

6.2.1 Configure the TAPI driver

Click on the Windows icon at the bottom left of the screen and type **phone** and the following should appear showing the various phone settings. Click on **Phone and Modem**, highlighted below.



The TAPI driver must also be installed on the client PC. TAPI can be configured in Single User mode or Third Party mode and for compliance testing, Third Party mode was selected. Select the **Advanced** tab and click on **Configure**.



Once the **Avaya TAPI2 configuration** window opens, enter the following:

- **Switch IP address** Enter the IP address of the IP Office.
- **Third Party** Click on the **Third Party** radio button.
- **Switch Password** Enter the IP Office System Password (this can be found in **Section 5.2**).
- **ACD Queues** Ensure that **ACD Queues** is ticked.

Avaya TAPI2 configuration

Switch IP Address 10.10.40.20

OK

Cancel

☐ Single User

User Name

User Password

☒ Third Party

Switch Password xxxxxxx

☐ Ex Directory Users

☐ WAV Users

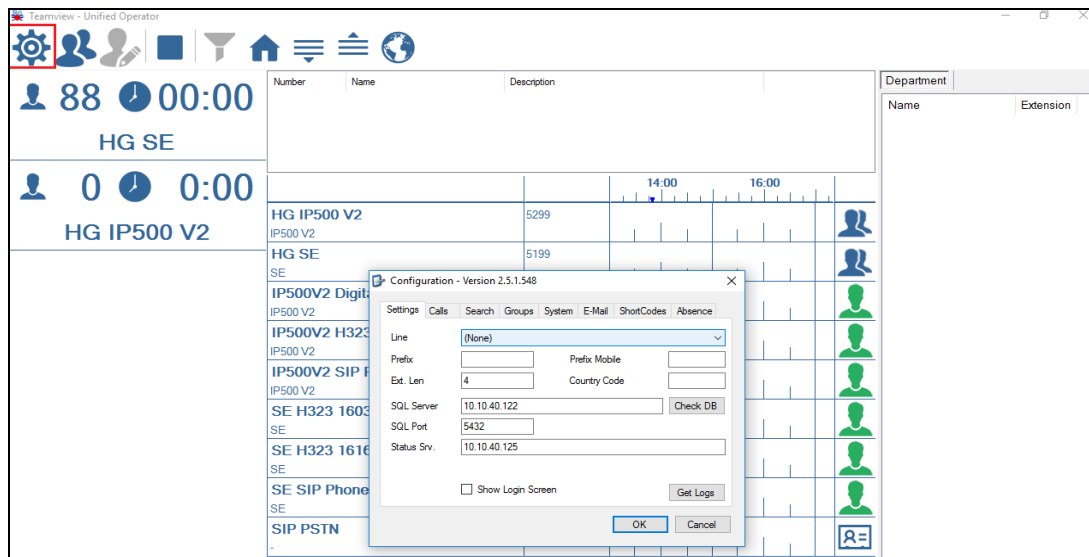
☒ ACD Queues

Advanced settings

Ping Timeout (5 to 420 seconds) 5

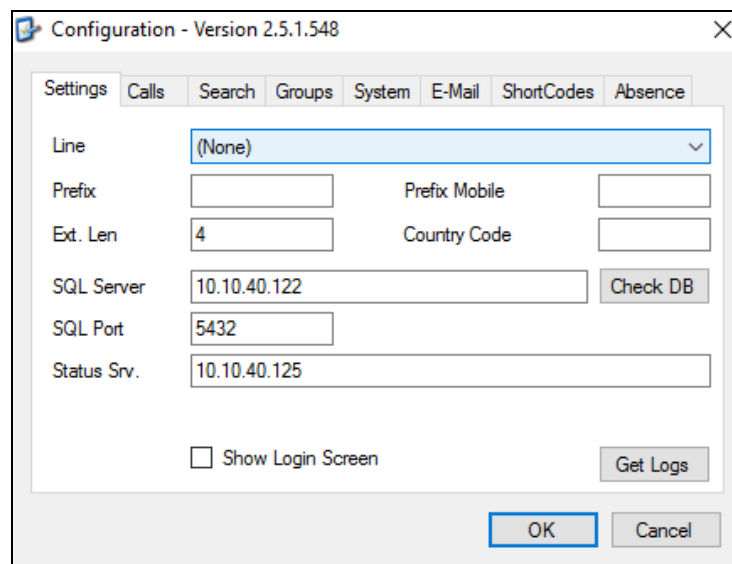
6.2.2 Configure the Unified Operator application

Open the Unified Operator application using the icon from the desktop which appears after installation. Once the Unified Operator window opens click on the **Configuration** icon at the top left of the screen which will open the Configuration window as shown below.

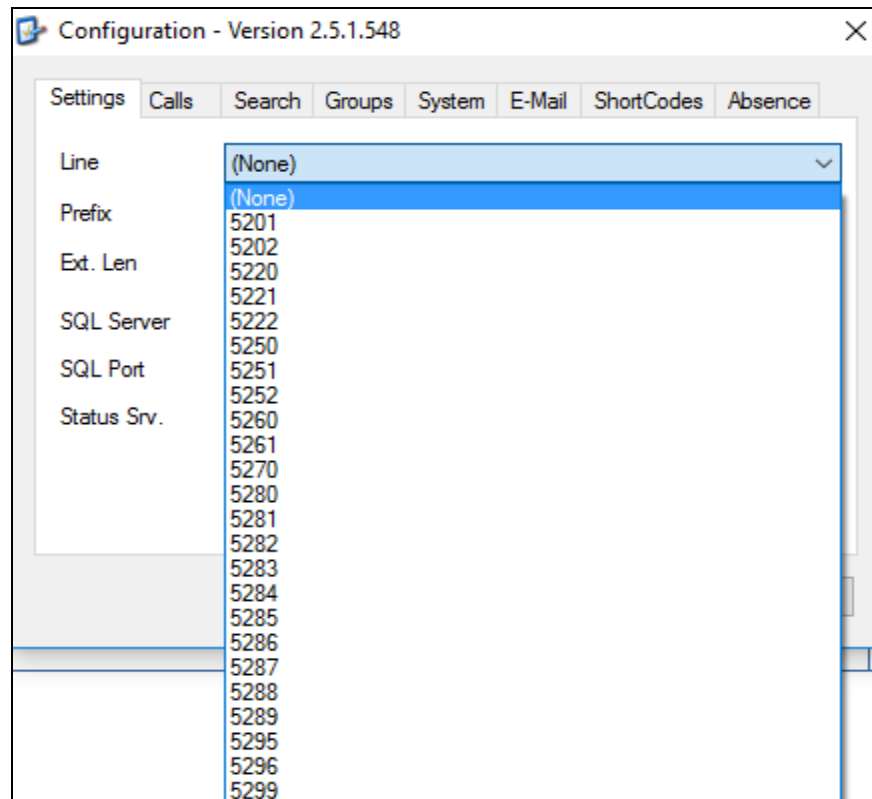


Once the **Configuration** window opens enter the following in the **Settings** tab:

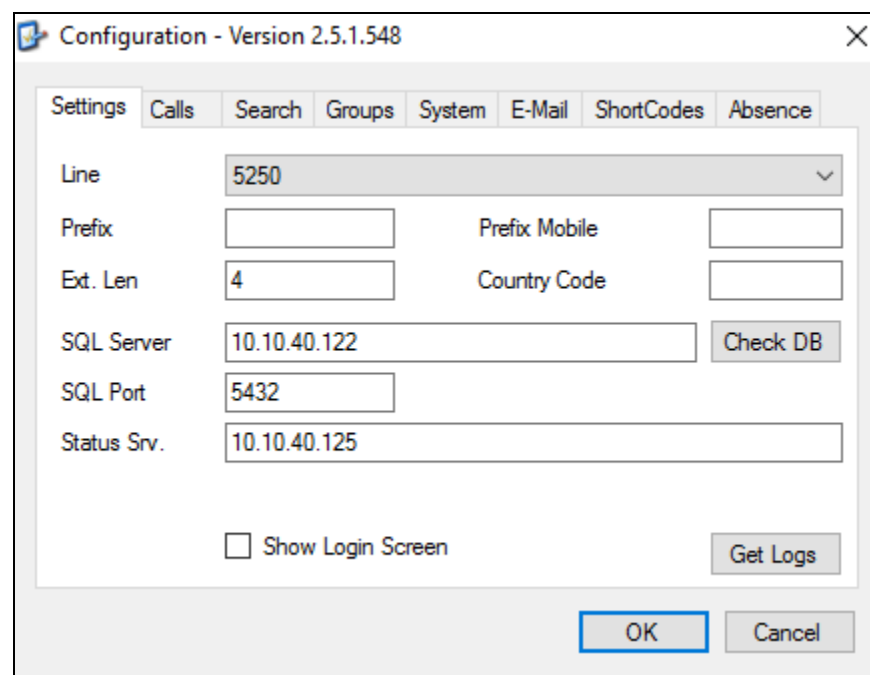
- **Line** Select the IP Office phone which is going to act as the switchboard from the dropdown box.
- **Prefix** Enter the Prefix to dial to get an outside line (this was left blank for compliance testing).
- **SQL Server** Enter the Server name hosting the SQL Express or PostGreSQL.
- **Status Srv.** Enter the IP address of the TeamView® Status Server.



When third party mode is selected a number of lines may be visible to the user as is shown below, chose the line to be used by the Unified Operator.



Line 5250 was chosen for compliance testing as shown below.



Click on the **Calls** tab and enter the following.

In the **on new call** frame,

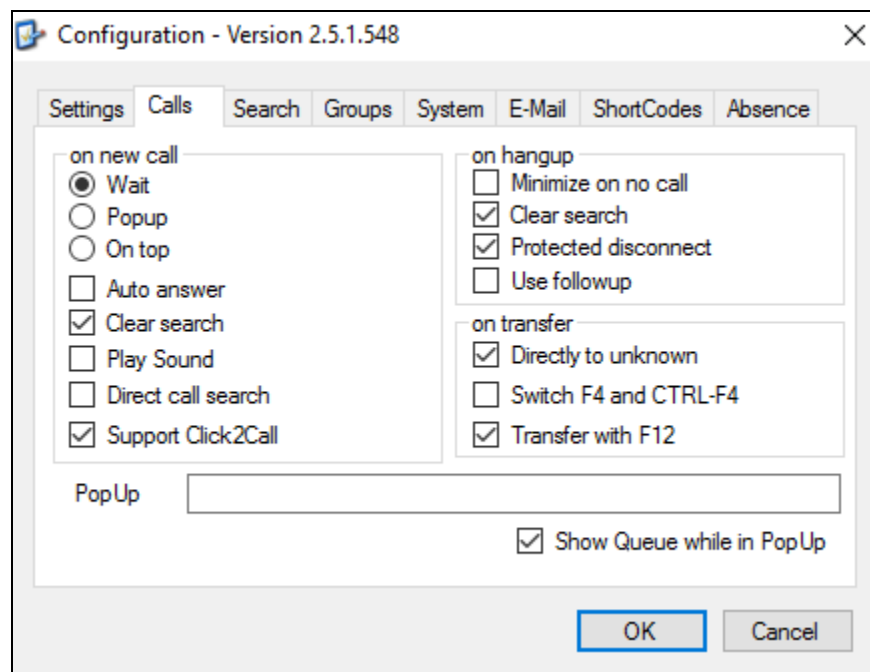
- Select the **Wait** radio button
- Check the **Clear search** check box
- Check the **Support Click2Call** check box

In the **on hangup** frame,

- Check the **Clear search** check box
- Check the **Protected disconnect** check box

In the **on transfer** frame,

- Check the **Transfer with F12** check box
- **Directly to unknown** was checked to allow Blind transfers to the PSTN



Click on the **Search** tab and enter the following as shown below. These are the settings that were put in place by the Scantalk engineer.

The screenshot shows the 'Configuration - Version 2.5.1.548' dialog box with the 'Search' tab selected. The 'Search' section contains a checkbox for 'Search Numbers Left -> Right' (unchecked), a 'Min. length' field with the value '3', and a checkbox for 'Show picture' (unchecked). To the right, there are radio button selections for 'Name', 'Extension', 'Initials', 'Title', 'Department', 'Skills', and 'Location'. The 'Name' radio button is selected. At the bottom right are 'OK' and 'Cancel' buttons.

Click on the **Groups** tab and enter the following:

- Select the appropriate hunt groups from the dropdown box. (These are the groups configured by Scantalk to monitor the hunt groups configured in **Section 5.4**)
- Enter the **HuntGroup** numbers that were setup in **Section 5.4**

The screenshot shows the 'Configuration - Version 2.5.1.548' dialog box with the 'Groups' tab selected. The 'Show Groups' checkbox is checked. Below it are four rows of dropdown menus. The first two rows show 'HG SE' and 'HG IP500 V2' in the first dropdown, and '(Not Used)' in the second. The next two rows show '(Not Used)' in both dropdowns. At the bottom, the 'HuntGroup' field contains the value '5199,5299'. 'OK' and 'Cancel' buttons are at the bottom right.

Click on the **System** tab and enter the following.

- **Camp on** Enter ***33*N#** (this is the Short code for Call Queue as configured in **Section 5.5**)
- Check the **search at bottom** check box


Click the **OK** button to save the configuration.

The screenshot shows a configuration window titled "Configuration - Version 2.5.1.548" with a close button (X) in the top right corner. The window has several tabs: Settings, Calls, Search, Groups, System (selected), E-Mail, ShortCodes, and Absence. The "System" tab is active, displaying the following settings:

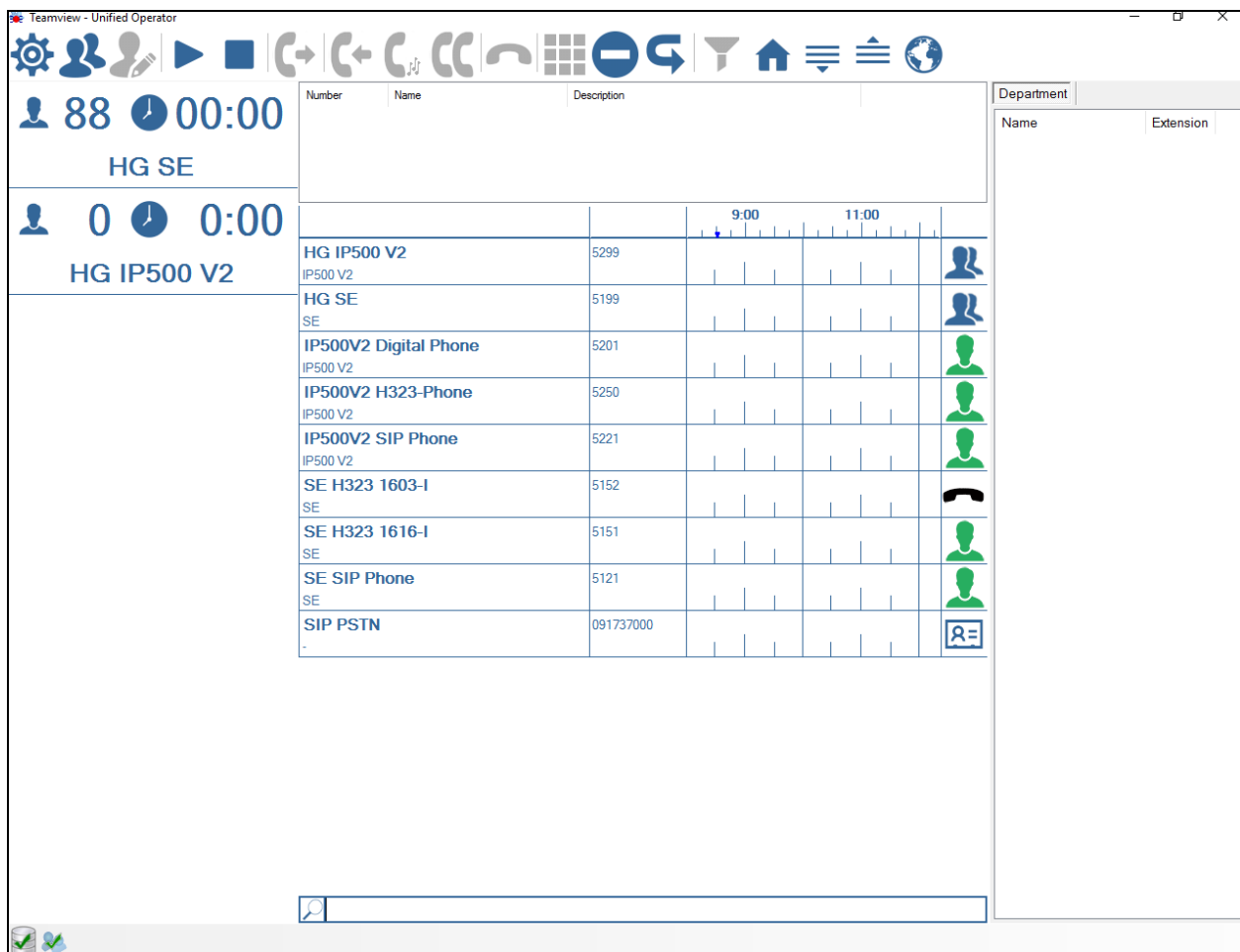
- Shortcodes**: "Camp on" is set to `*33*N#`.
- Language**: A dropdown menu showing "(Default)".
- SMTP**: A checkbox labeled "Use SMTP to send Mail" is unchecked.
- User Variable**: A text field labeled "UVID1" is empty.
- Display**: A group of checkboxes: "Show greeting Message" (unchecked), "Enlarge font" (unchecked), "Search at bottom" (checked), and "Show presence in list" (unchecked).
- Calendar**: A group of settings including "Fix start to" (set to 13), "Calendar time" (set to 0), "Show timeline" (unchecked), and "Hide old appointments" (unchecked).
- WEB Mail Url**: An empty text field.

At the bottom right of the window are two buttons: "OK" and "Cancel".

6.3 Restart Unified Operator

In order to complete the configuration the Unified Operator needs to be restarted, click on the Unified Operator icon from the Desktop (see **Section 7.1**). Once the Unified Operator window opens, the following two icons  should appear on the bottom left corner to signify that the Unified Operator is connected to SQL server (first icon) and that the TAPI is functioning correctly.

Note: Below is an example of what a typical Unified Operator would look like on a typical customer site. This is not an example of Unified Operator used for compliance testing.

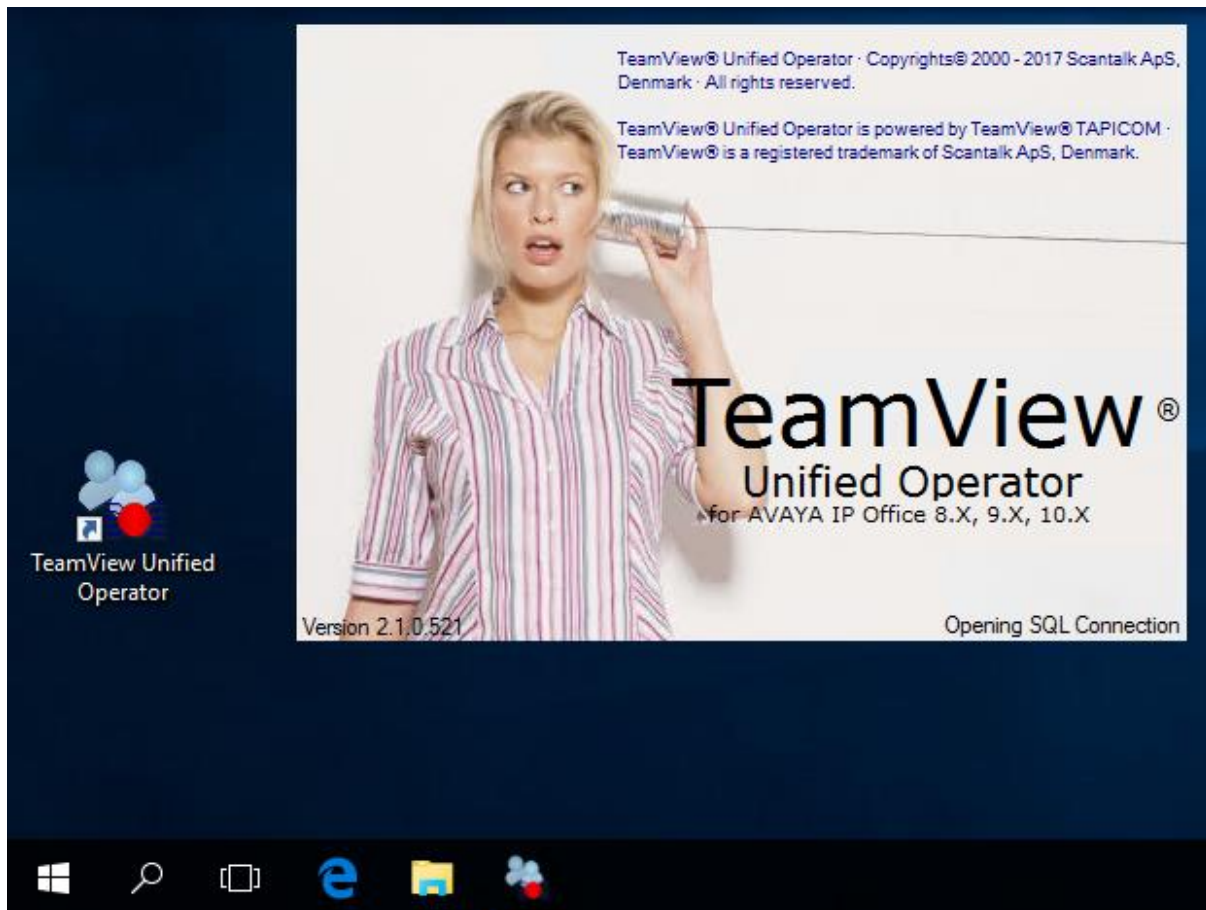


7. Verification Steps

This section illustrates the steps necessary to verify that the TeamView® Unified Operator is configured correctly to connect to IP Office.

7.1 Verify Scantalk TeamView® Unified Operator

From the PC that has Unified Operator installed open the application as shown below.



Once the application is opened, a screen something like the following appears. Please note that the contacts and group information shown below is that of the DevConnect lab and this will look different for different customer sites. The screen below shows an idle switchboard, this is verified by the green icons at the bottom left of the screen.

The screenshot displays the 'Teamview - Unified Operator' interface. At the top, there is a toolbar with various icons for settings, user management, and communication. Below the toolbar, the interface is divided into several sections:

- Left Sidebar:** Contains two user status indicators. The first shows '88' and '00:00' for 'HG SE'. The second shows '0' and '0:00' for 'HG IP500 V2'.
- Main Table:** A table with columns for 'Number', 'Name', and 'Description'. It lists several contacts with their respective phone numbers and status icons (green for available, blue for busy, black for unavailable).
- Right Panel:** A section for 'Department' and 'Name' with a search bar.
- Bottom:** A search bar and a status bar with icons.

Number	Name	Description	Status
5299	HG IP500 V2	IP500 V2	Available (Green)
5199	HG SE	SE	Available (Green)
5201	IP500V2 Digital Phone	IP500 V2	Available (Green)
5250	IP500V2 H323-Phone	IP500 V2	Available (Green)
5221	IP500V2 SIP Phone	IP500 V2	Available (Green)
5152	SE H323 1603-I	SE	Unavailable (Black)
5151	SE H323 1616-I	SE	Available (Green)
5121	SE SIP Phone	SE	Available (Green)
091737000	SIP PSTN	-	Unavailable (Blue)

A number of calls are placed to the hunt group number associated with the switchboard for Unified Operator. The following should appear showing the calls being presented to the switchboard and the call is answered using the icon highlighted. Note the waiting time of **21** seconds on the group in the left window. Note the presence icons showing some phones are busy and some idle in the main window.

Number	Name	Description	Status
4001	HG IP500 V2	HG IP500 V2--4001	Blue person icon
	HG IP500 V2		Blue person icon
	HG SE		Blue person icon
	IP500V2 Digital Phone		Red telephone icon
	IP500V2 H323-Phone		Red telephone icon
	IP500V2 SIP Phone		Red telephone icon
	SE H323 1603-I		Black telephone icon
	SE H323 1616-I		Green person icon
	SE SIP Phone		Green person icon
	SIP PSTN		Blue 'R=' icon

The first call is answered and can be placed on hold using the icon highlighted below allowing the second call to be presented to the Operator.

Teamview - Unified Operator

88 00:00
HG SE

1 1:08
HG IP500 V2

Number	Name	Description
4001	HG IP500 V2	HG IP500 V2<-4001
4000	HG IP500 V2	HG IP500 V2<-SIP PSTN

		9:00	11:00	
HG IP500 V2 IP500 V2	5299			
HG SE SE	5199			
IP500V2 Digital Phone IP500 V2	5201			
IP500V2 H323-Phone IP500 V2	5250			
IP500V2 SIP Phone IP500 V2	5221			
SE H323 1603-I SE	5152			
SE H323 1616-I SE	5151			
SE SIP Phone SE	5121			
SIP PSTN -	091737000			

Department

Name Extension

8. Conclusion

These Application Notes describe the configuration steps for TeamView® Unified Operator from Scantalk to interoperate with Avaya IP Office R10.1 using the Centralized CTI Web Services API to provide presence information to Unified Operator. Unified Operator integrates with Avaya IP Office using the IP Office TAPI interface. All feature functionality test cases were completed successfully with any issues and observations noted in **Section 2.2**.

9. Additional References

This section references the Avaya and Scantalk product documentation that are relevant to these Application Notes.

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

[1] *Avaya IP Office R10.1 Manager 10.1, Document Number 15-601011*

[2] *Avaya IP Office R10.1 Doc library*

Product Documentation for Scantalk can be obtained at <http://www.scantalk.com>

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