



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

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### **Application Notes for Configuring ESTOS ProCall 4.1 with Avaya IP Office 8.1 using Avaya TAPI Service Provider - Issue 1.0**

#### **Abstract**

These Application Notes describe the configuration steps required for ESTOS ProCall to interoperate with Avaya IP Office using Avaya TAPI Service Provider.

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 to integrate Avaya IP Office with ESTOS ProCall. ESTOS ProCall for Avaya IP Office offers a Telephony Service Provider for Microsoft TAPI. This Telephony Application Programming Interface driver implements a central communication between a Personal Computer and the Avaya IP Office TAPI Service Provider.

## 2. General Test Approach and Test Results

The general test approach was to configure the ESTOS ProCall to communicate with the Avaya IP Office (IP Office) as implemented on a customer's premises. ESTOS ProCall (ProCall) clients were used as Telephony Application Programming Interface (TAPI) clients in conjunction with Microsoft TAPI to control the Avaya IP Office Deskphones. See **Figure 1** for a network diagram. The interoperability compliance test included both feature functionality and serviceability tests.

Testing was performed with IP Office 500 V2 R8.1, but it also applies to IP Office Server Edition R8.1. Note that IP Office Server Edition requires an Expansion IP Office 500 V2 R8.1 to support analog or digital endpoints or trunks.

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.

### 2.1. Interoperability Compliance Testing

Feature functionality testing included

- Acquire a variety of Avaya Desk Phones
- Internal/External calls to TAPI clients
- Redirect calls
- Conference calls
- Transfers - Blind/Consult
- Hold/Unhold

### 2.2. Test Results

All testcases were executed and passed successfully.

### 2.3. Support

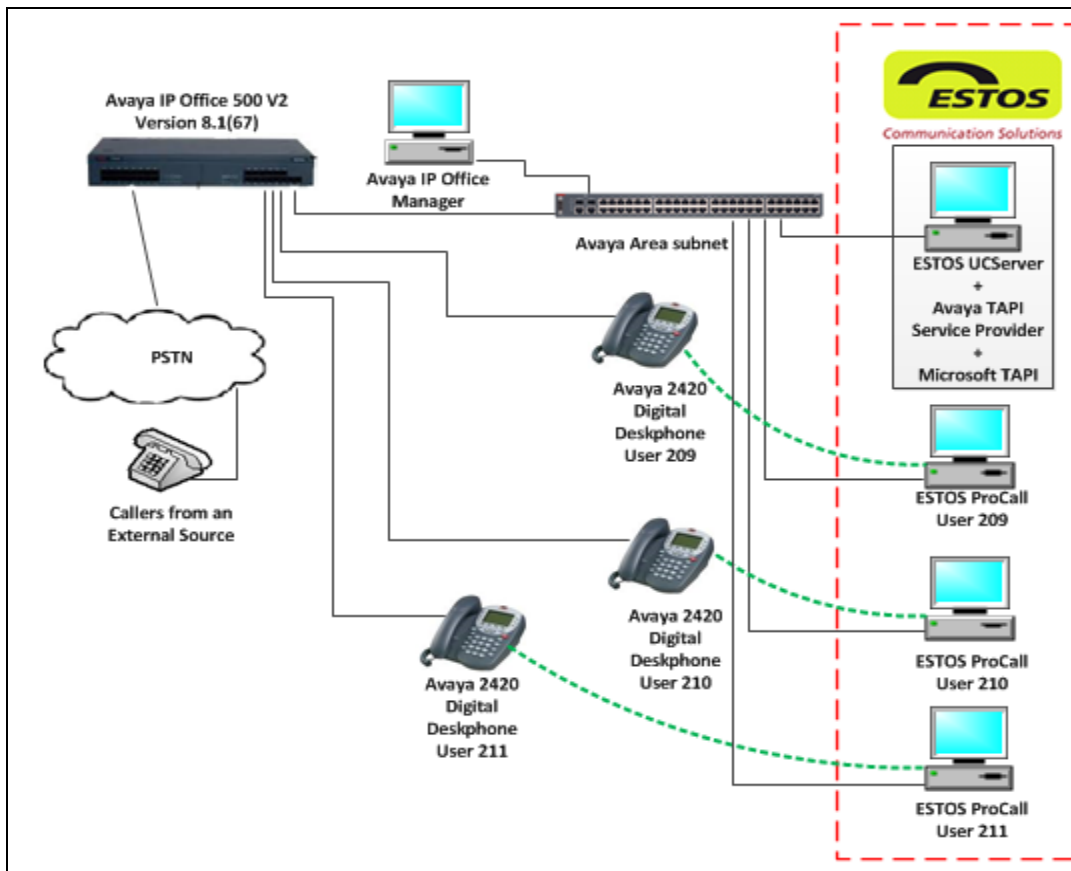
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- Email: [support@estos.de](mailto:support@estos.de)
- Phone: + 49 (8151) 36856-177

### 3. Reference Configuration

**Figure 1** illustrates the network topology used during compliance testing. The Avaya solution consists of Avaya IP Office. The UCServer is placed on the Avaya LAN and the Avaya TAPI Service Provider is installed on the UCServer to provide CTI connection to the IP Office Deskphones. Avaya 2420 Digital Deskphone users were configured on the Avaya IP Office and were acquired by the ESTOS ProCall clients.

**Note:** All voice calls were handled by the Avaya Deskphones. During compliance testing 3 ESTOS ProCall clients were also installed to control the Avaya Digital Deskphones.



**Figure 1: Avaya IP Office and ESTOS ProCall Reference Configuration**

## 4. Equipment and Software Validated

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

<b>Avaya Equipment</b>	<b>Software / Firmware Version</b>
Avaya IP Office 500 V2	8.1.(67)
Avaya 2420 Digital set	F/W 6
Avaya TAPI Service Provider	1.0.0.38
<b>ESTOS Equipment</b>	<b>Software / Firmware Version</b>
ESTOS UCServer installed on a Windows 2003 R2 operating system	Version 4.1.14.23941
ESTOS ProCall	Version 4.1.14.23941
Microsoft TAPI	Version 3.2.29.00

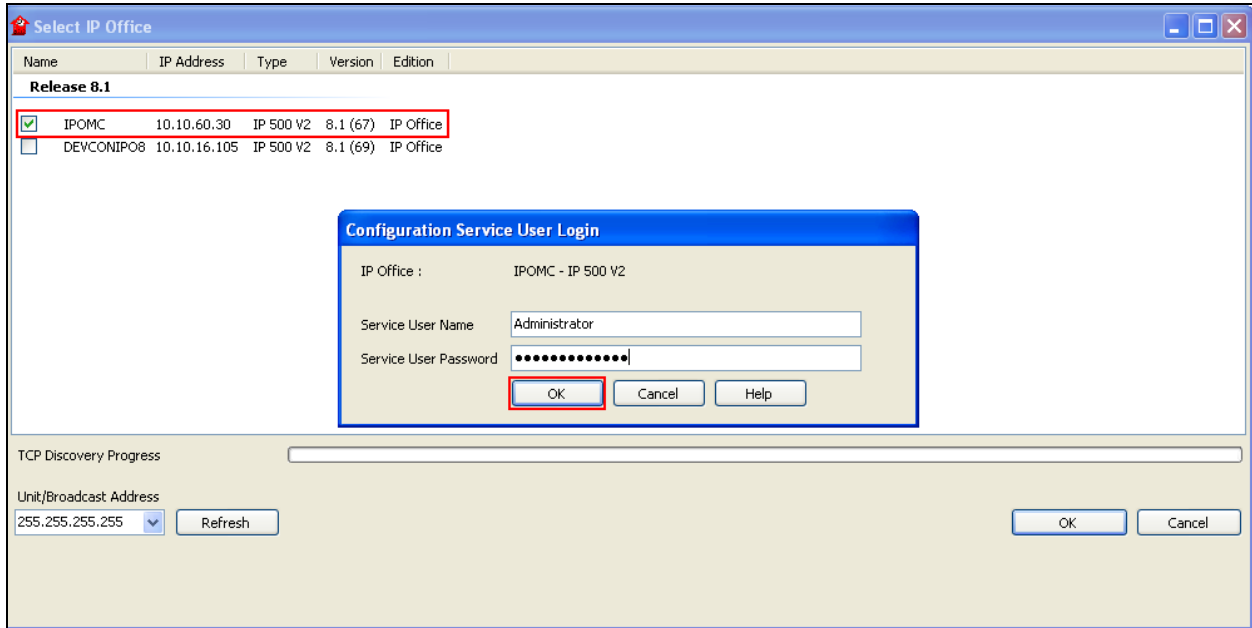
## 5. Configure Avaya IP Office

The configuration operations illustrated in this section were performed using IP Office Manager. It is implied a working system is already in place. For all other provisioning information such as 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
- Display LAN Configuration
- Configure an IP Office User
- Save Configuration

## 5.1. Launch Avaya IP Office Manager

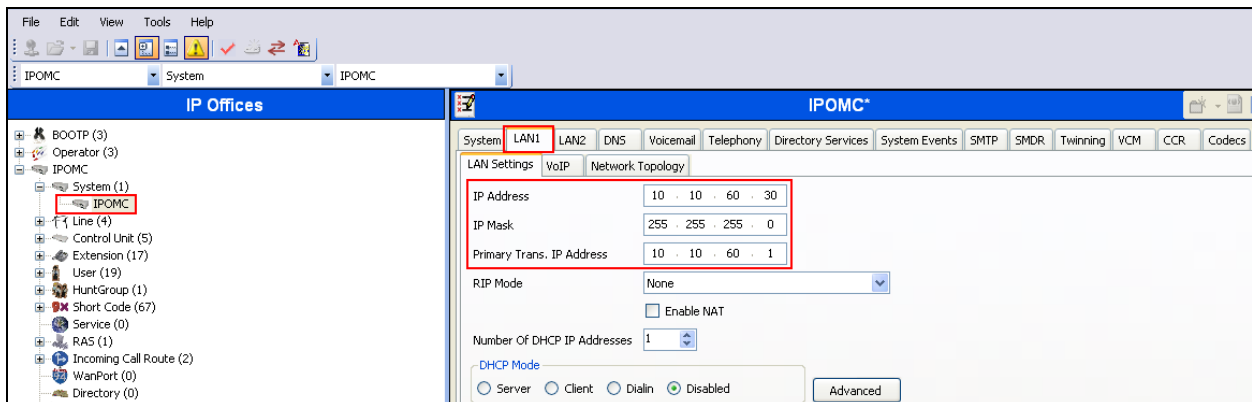
From the Avaya IP Office Manager PC, go to **Start**→**Programs**→**IP Office**→**Manager** to launch the Manager application (not shown). Select the IP Office to configure. Log in to Avaya IP Office using the appropriate credentials to receive its current configuration.



## 5.2. Display LAN1 Configuration

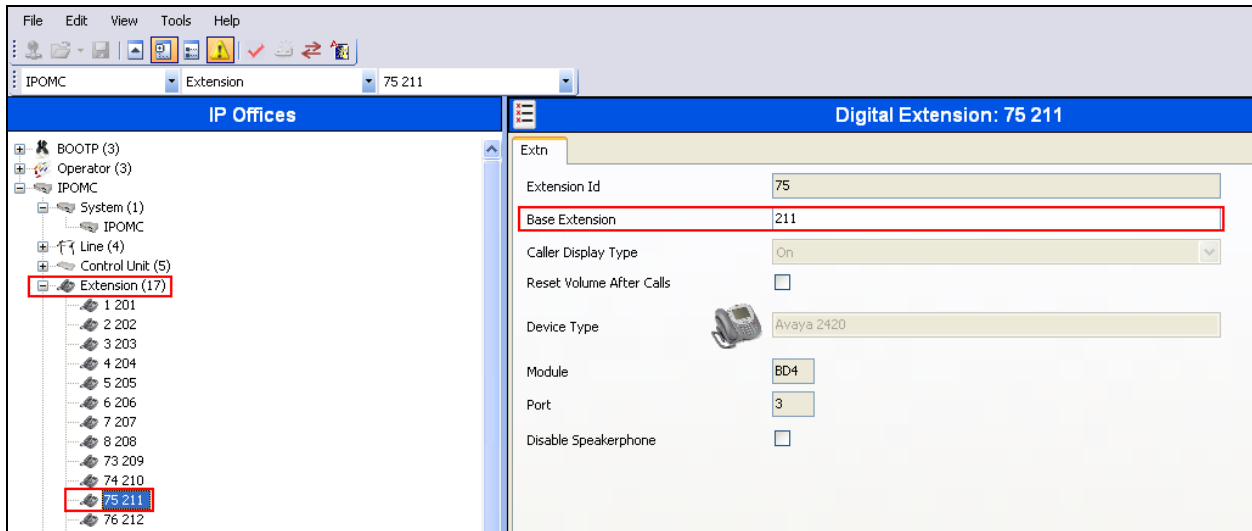
In the IP Office Manager window expand the configuration tree in the left pane and double-click **System**. During compliance testing the System was named **IPOMC**. Select the **LAN1** tab and note the following information:

- **IP Address** IP Address of the IP Office that will be required in **Section 6.1** for the configuration of the TAPI Driver
- **IP Mask** Subnet mask for the IP Office
- **Primary Trans IP** Gateway IP Address

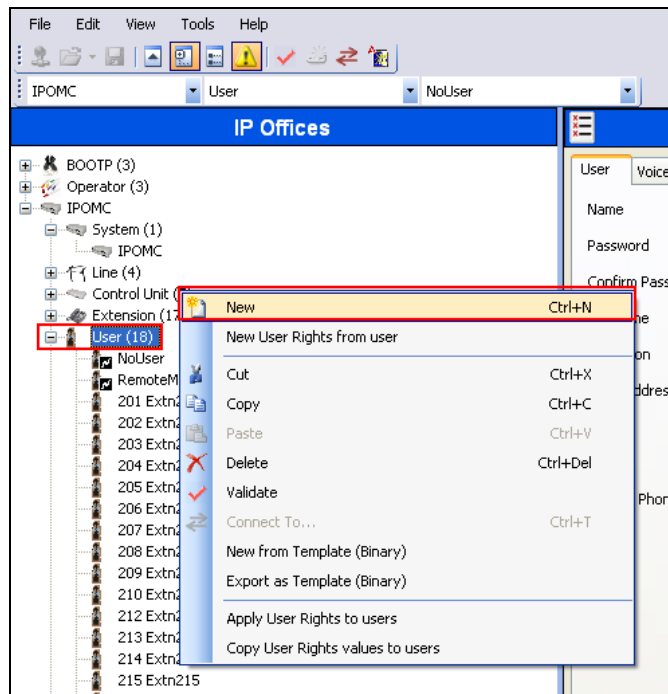


### 5.3. Configure an IP Office User

This section shows how to add a new user in order to login to a digital extension. Once a digital extension is plugged in it can be configured as follows. Enter the extension number into the **Base Extension** highlighted below. Note that this number will be automatically filled in by the IP Office and can be changed by accessing the extension in the left pane. During compliance testing, Extension 211 was added. Click on the **OK** button on the bottom of the right pane (not shown) to save.



A user must be configured for this Extension. Click on **User** in the left pane followed by **New**.



When the **User** pane opens on the right, select the **User** tab and enter the follow:

- **Name** Enter an name for this user, i.e. **Extn211**
- **Password** Enter the Password for the user to log in with
- **Confirm** Confirm the Password
- **Extension** Enter the Extension which was created previously, i.e. **211**

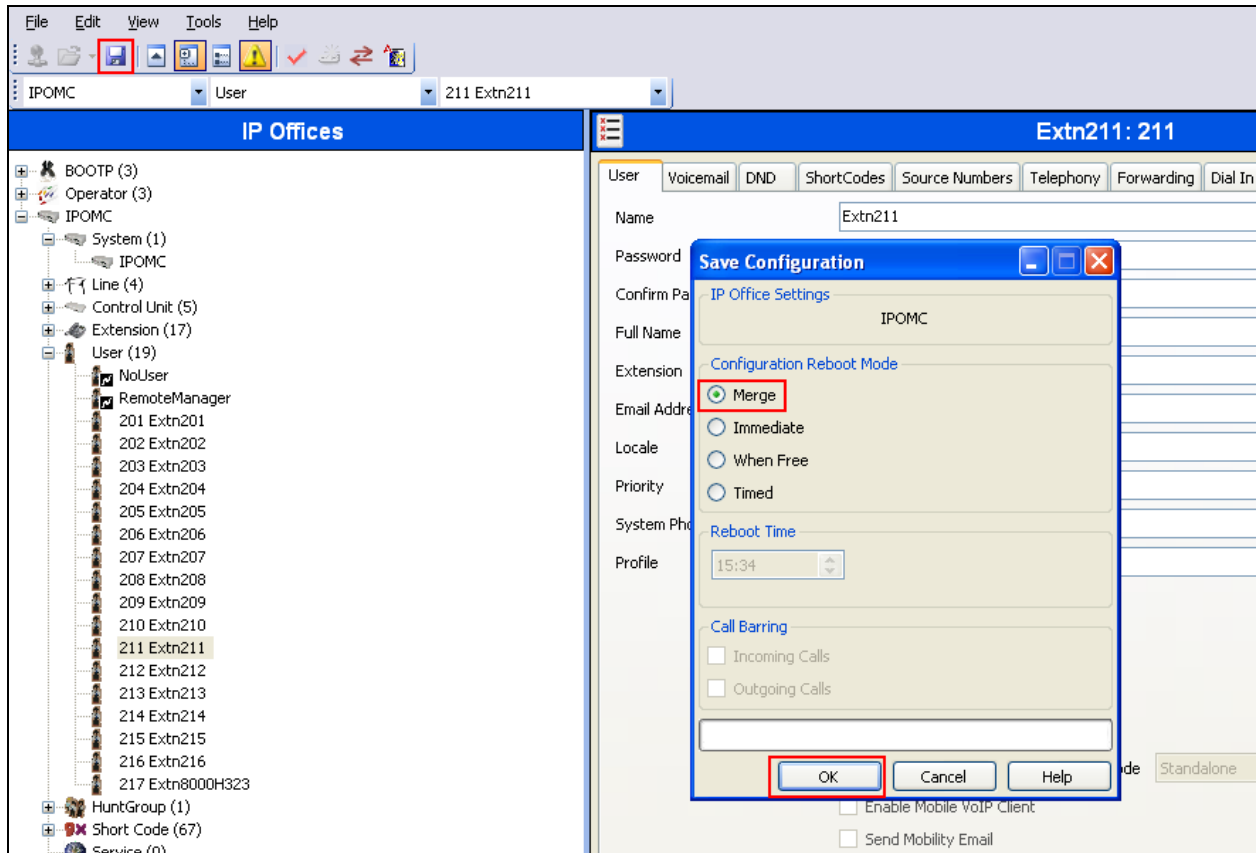
Click on the **OK** button on the bottom (not shown) to save.

The screenshot displays the Avaya IP Office configuration interface. On the left, a tree view shows the hierarchy of components, with 'User (19)' expanded to show a list of extensions, including '211 Extn211'. On the right, the configuration pane for '<User:0>:' is shown, with the 'User' tab selected. The configuration fields are as follows:

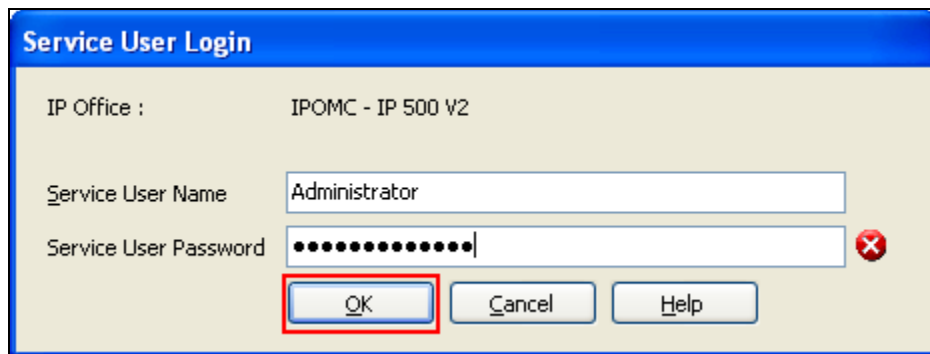
Field	Value
Name	Extn211
Password	***
Confirm Password	***
Full Name	
Extension	211
Email Address	
Locale	
Priority	5
System Phone Rights	None
Profile	Basic User
Receptionist	<input type="checkbox"/>
Enable Softphone	<input type="checkbox"/>
Enable one-X Portal Services	<input type="checkbox"/>
Enable one-X TeleCommuter	<input type="checkbox"/>
Enable Remote Worker	<input type="checkbox"/>
Enable Flare	<input type="checkbox"/>
Flare Mode	Standalone
Enable Mobile VoIP Client	<input type="checkbox"/>
Send Mobility Email	<input type="checkbox"/>
Ex Directory	<input type="checkbox"/>
Device Type	Avaya 2420

## 5.4. Save Configuration

The changed configuration must be sent to the IP Office. Click on the **Save Icon** as highlighted below. The **Save Configuration** window opens with the **Merge** or the **Immediate** radio button automatically selected (depending on the specific configuration changed). Click the **OK** button.



When the **Service User Login** window opens, enter the **Administrator** password and click on **OK** button to complete saving the configuration.





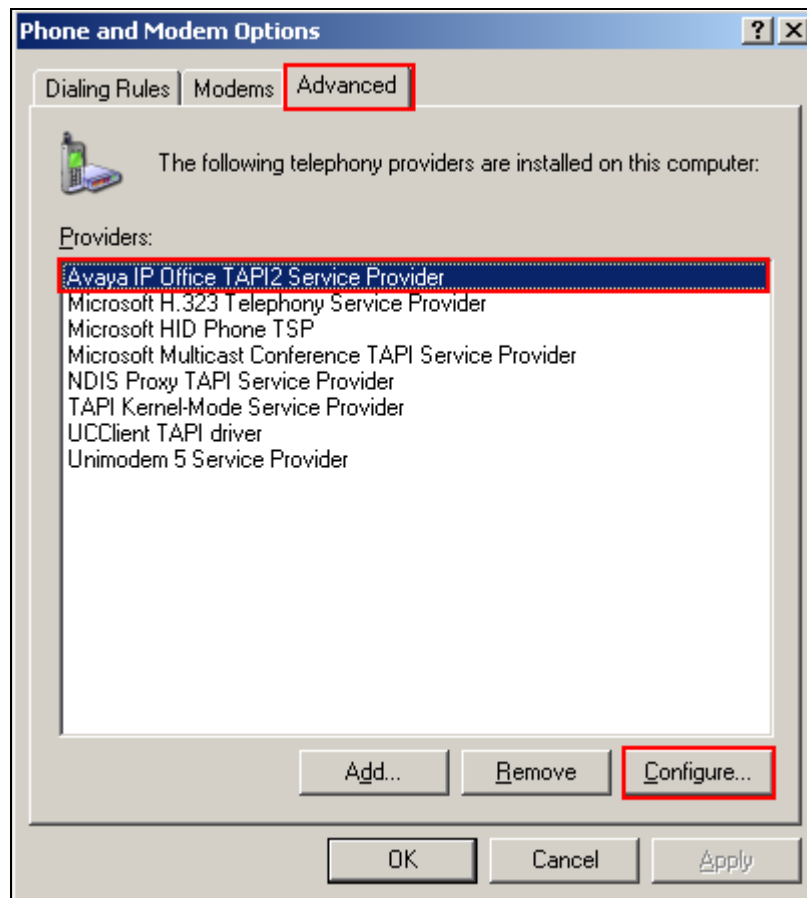
## 6. Configuration of ESTOS ProCall Enterprise

This section provides the configuration procedures for ESTOS ProCall. It is implied that the ProCall was already installed. During compliance testing, the ESTOS UCServer was installed on a PC running the Windows 2003 R2 operating system. It is also assumed that the Avaya IP Office TAPI Service Provider and Microsoft TAPI were installed. For all other provisioning information such as initial installation, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Configure Phone and Modem Options
- Configure ESTOS UCServer
- Configure ESTOS ProCall client

### 6.1. Configure Phone and Modem Options

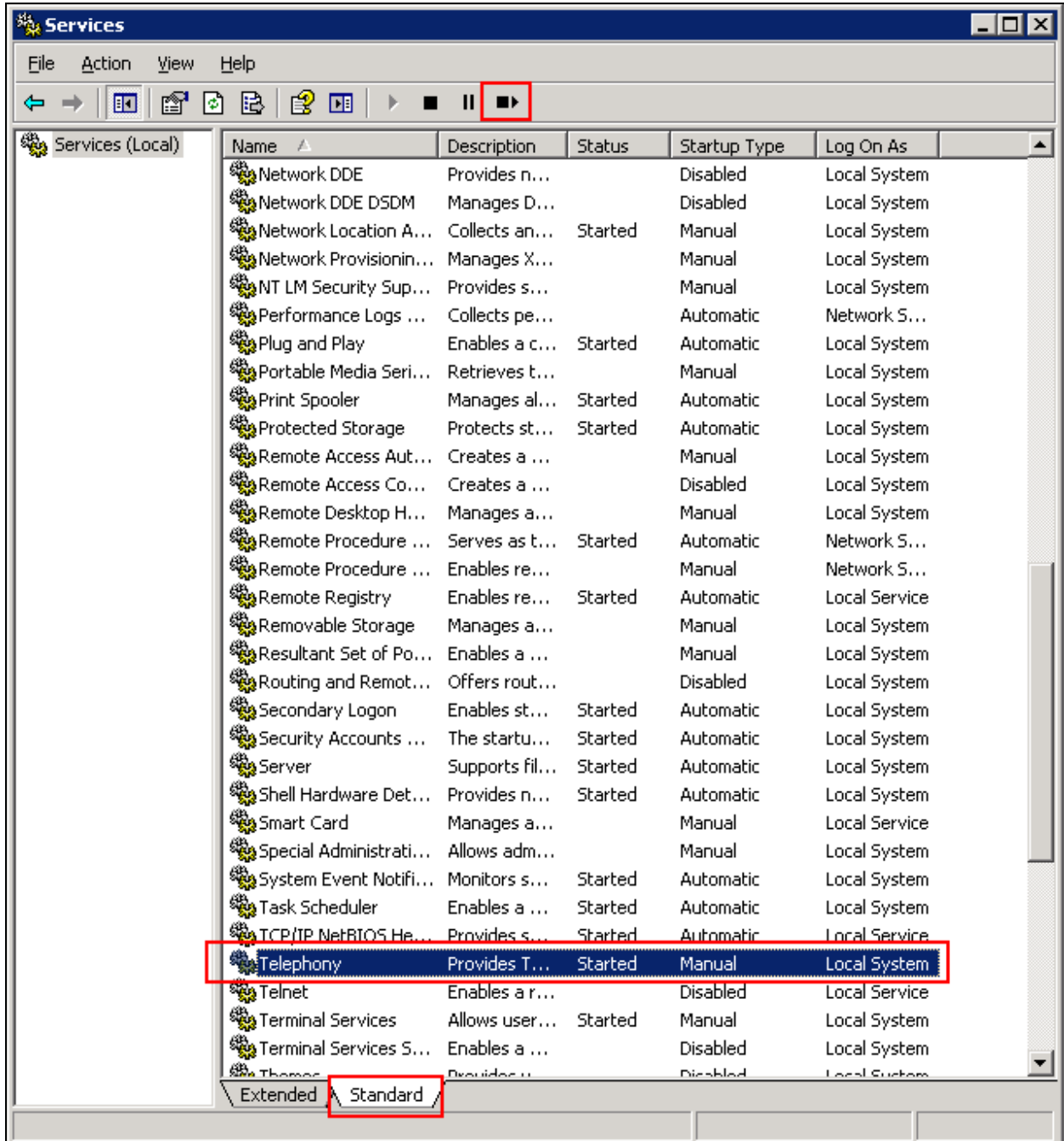
The configuration of the ESTOS ProCall is performed using the **Phone and Modem Options** window's **Advanced** tab found in **Start → Control Panel → Phone and Modem Options** (not shown). Click on the **Advanced** tab and select **Avaya IP Office TAPI2 Service Provider** from the **Providers** list and click **Configure**.



When the **Avaya TAPI2 configuration** window opens, enter the LAN1 IP address of the IP Office. Click on the **Third Party** radio button and enter the password used to log in to the IP Office in the **Switch Password** box. Check the **WAV Users** check box. Click the **OK** button to save the configuration.

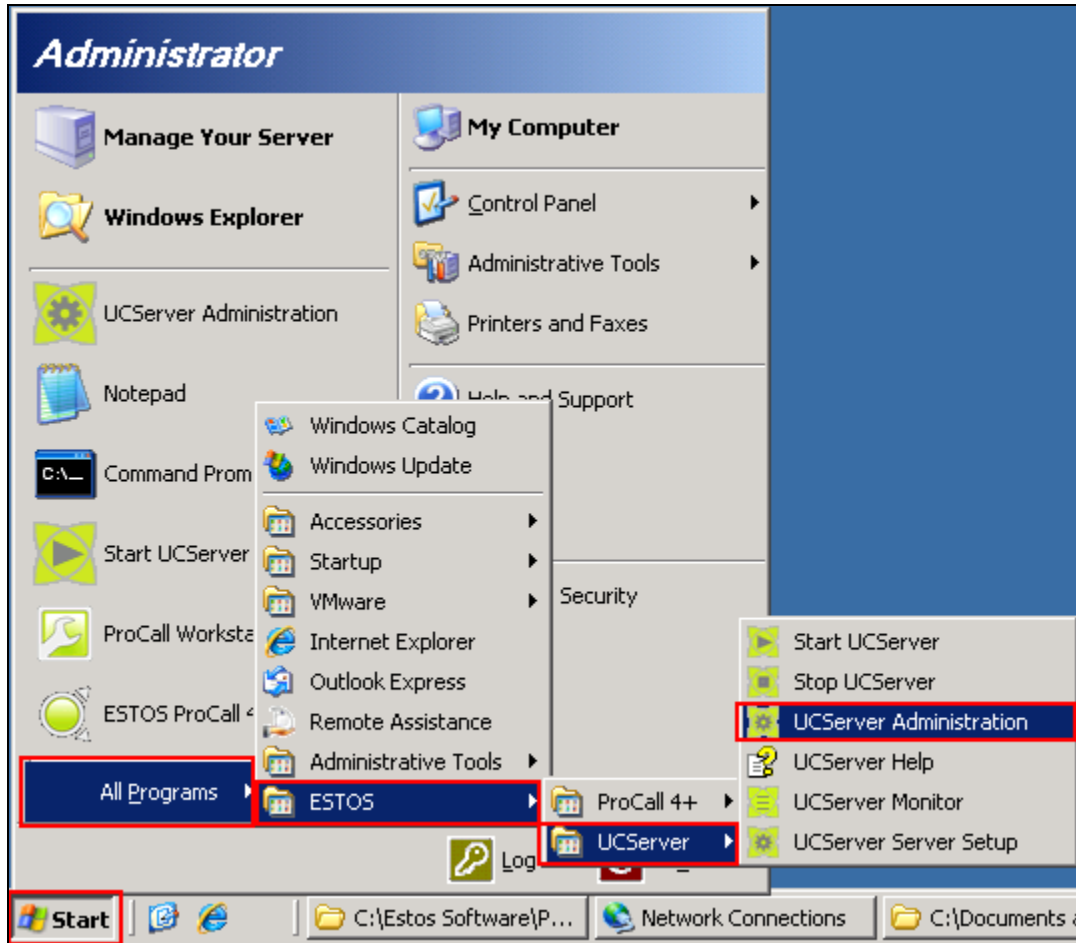
The screenshot shows the 'Avaya TAPI2 configuration' dialog box. The 'Switch IP Address' field contains '10.10.60.30'. The 'OK' button is highlighted. The 'Third Party' radio button is selected. The 'Switch Password' field is masked with asterisks. The 'WAV Users' checkbox is checked. The 'Ex Directory Users' and 'ACD Queues' checkboxes are unchecked.

After the TAPI configuration is done the **Telephony** Windows Service must be restarted. To restart this service open the Windows **Services** applet and select the **Standard** tab. Scroll down and highlight **Telephony**. Click on the restart icon to restart the service.

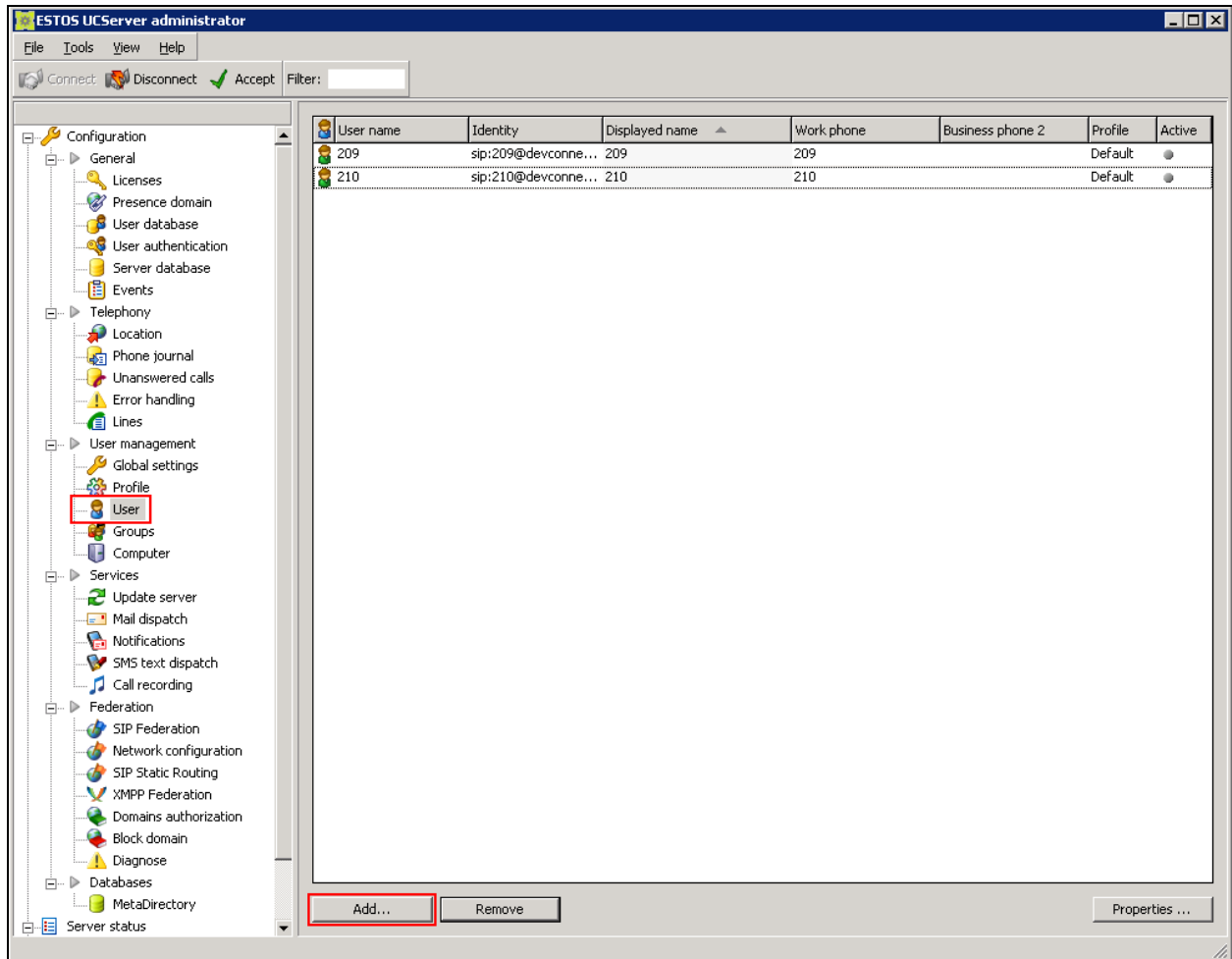


## 6.2. Configure ESTOS UCServer

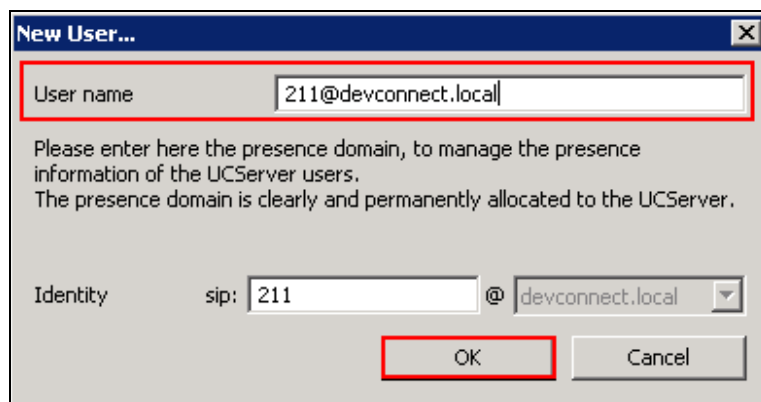
During compliance testing, only ProCall Users were configured. Click on **Start**→**All Programs**→**ESTOS**→**UCServer**→ **UCServer Administration**. Enter the appropriate credentials and click on the **OK** button (not shown) to open the **ESTOS UCServer administrator**.



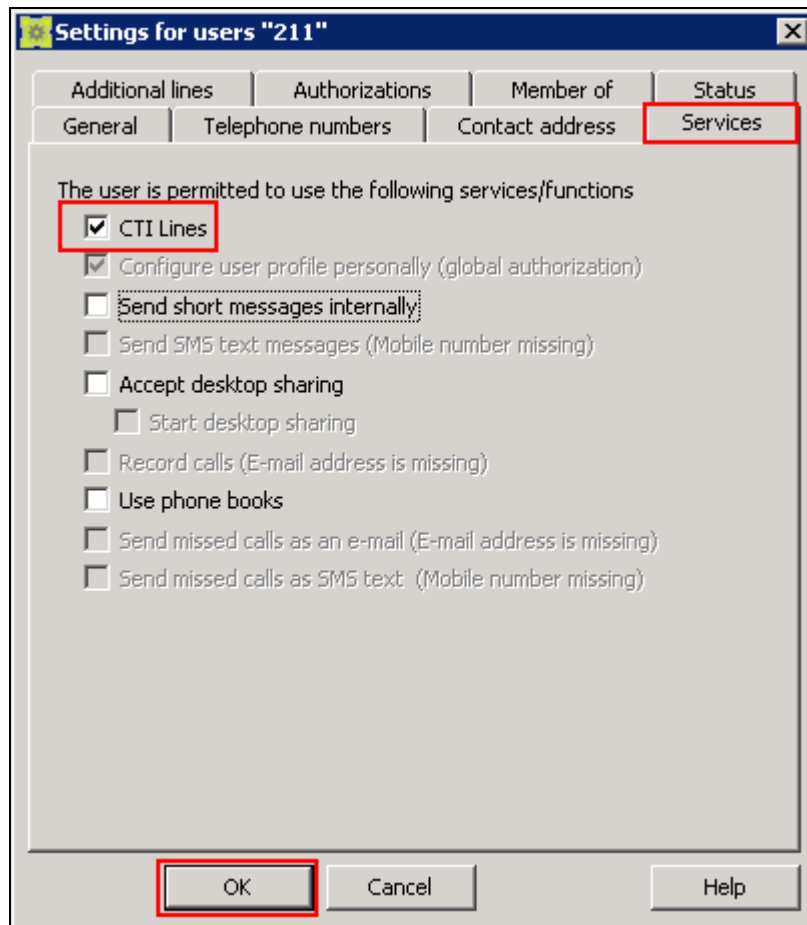
When the **ESTOS UCServer administrator** window opens, click on **User** followed by the **Add** button.



When the **New User** window opens, enter a **User name**, i.e. **211@devconnect.local** (This is the IP Office user who's Deskphone will be acquired by ProCall. The **Identity** box will fill in automatically. Click on the **OK** button to continue.

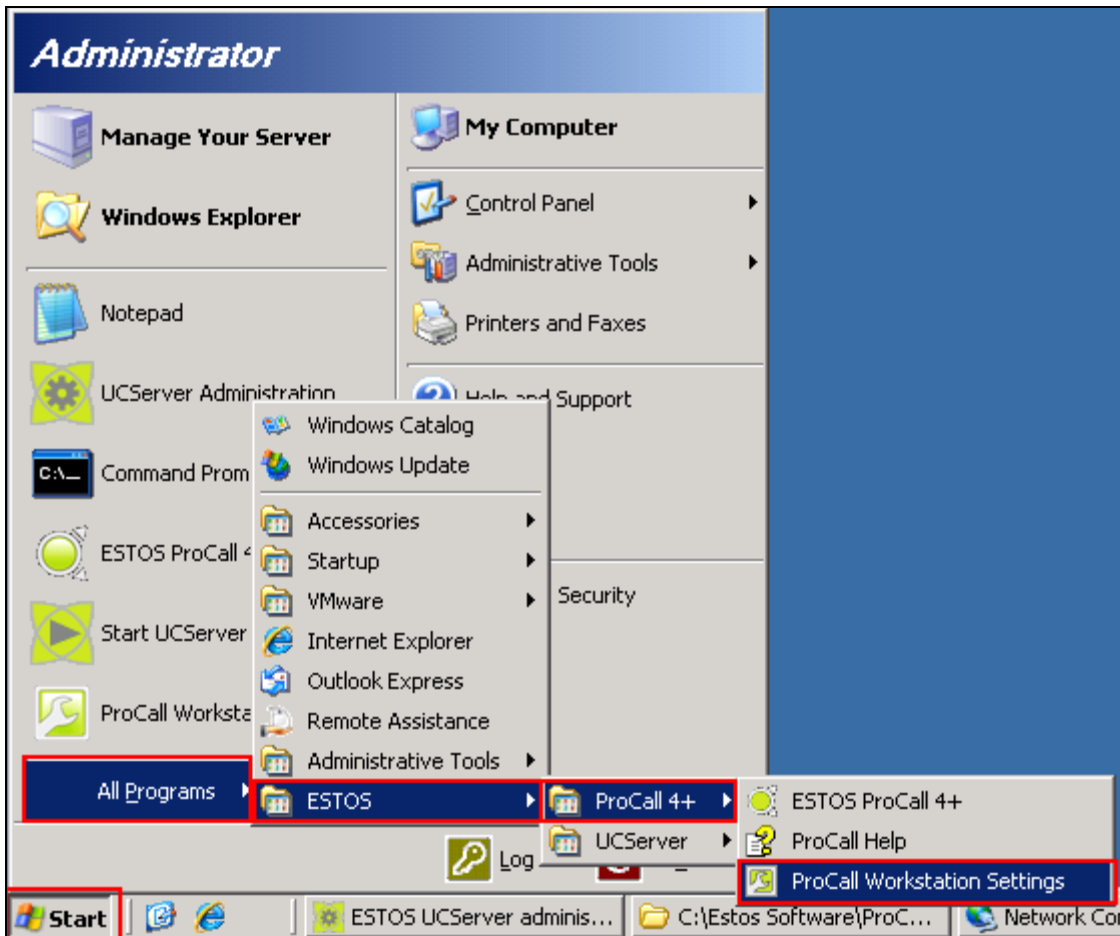


When the **Setting for users** window opens, select the **Services** tab and check the **CTI Lines** check box. During compliance testing, no other settings were required, click the **OK** button to save the User.

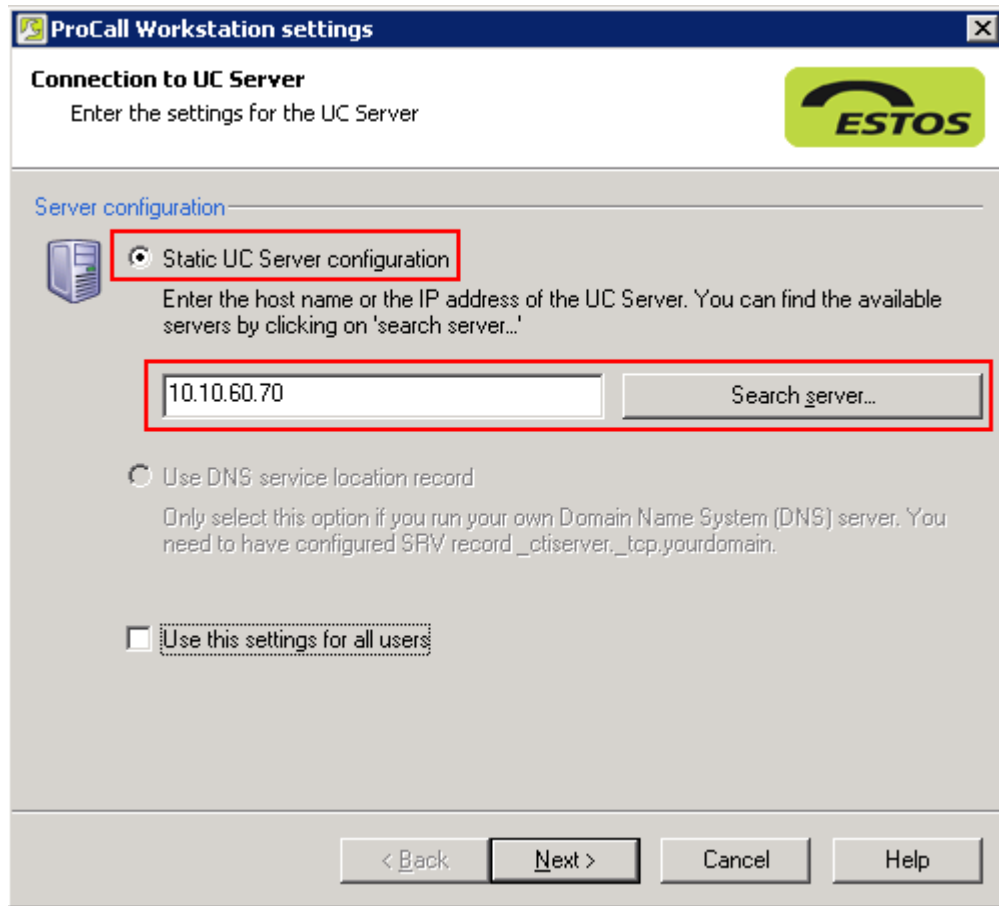


### 6.3. Configure ESTOS ProCall Client

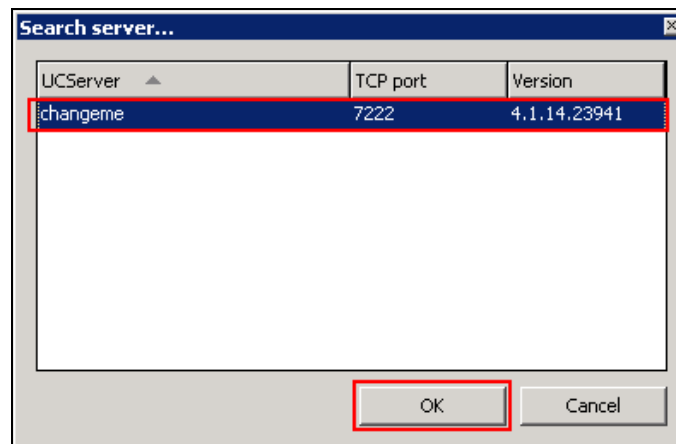
The ProCall client is used to control the IP Office Deskphone. The ProCall client is installed on a workstation of each user. It is implied that the ProCall client software is installed. To configure the ProCall client, click on **Start→All Programs→ESTOS→ProCall 4+→ProCall Workstation Settings**.



Once the **ProCall Workstation Settings** window opens, click on the **Static UC Server configuration** radio button. Enter the **IP address** or **Domain Name System (DNS)** name of the ProCall UCServer or click on the **Search server...** button.

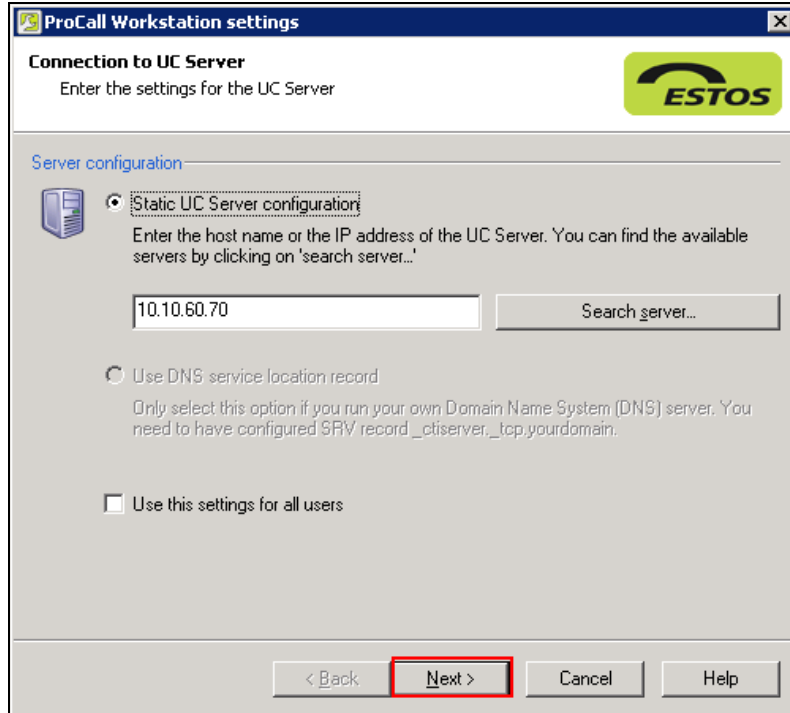


When the **Search server** window opens, select the appropriate server and click on the **OK** button to return to the previous window. During compliance testing, only one ProCall UCServer was configured.

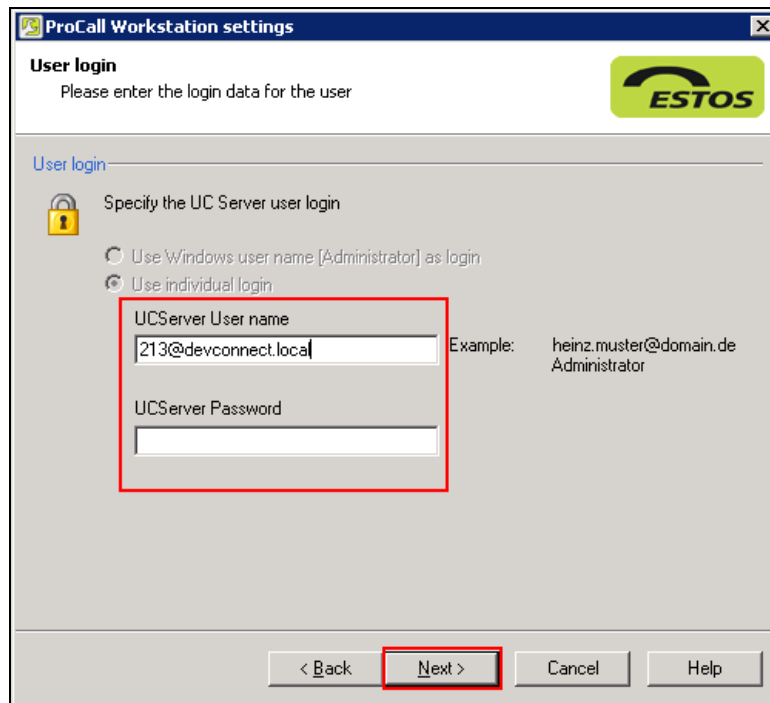




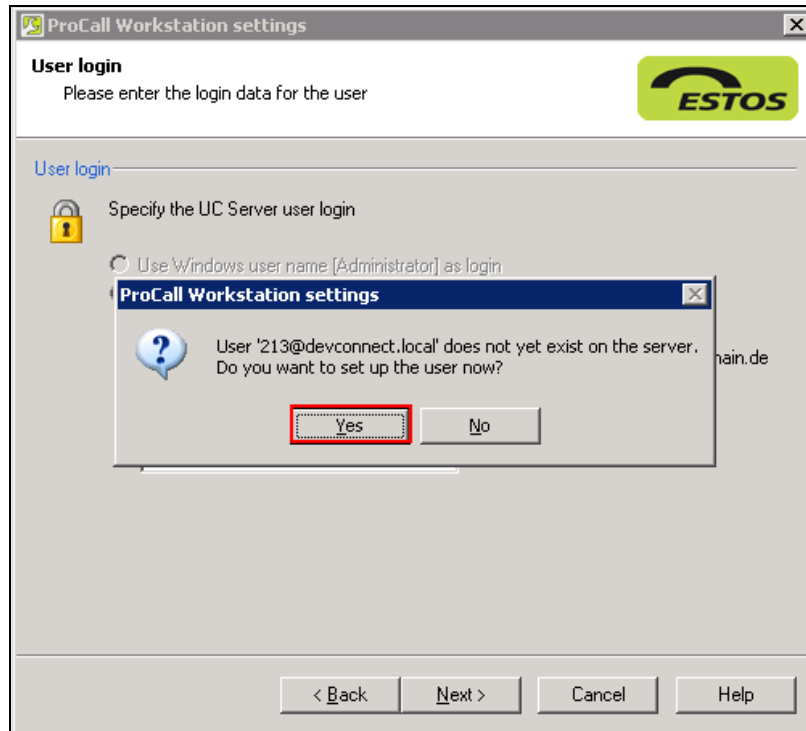
Click on the **Next** button.



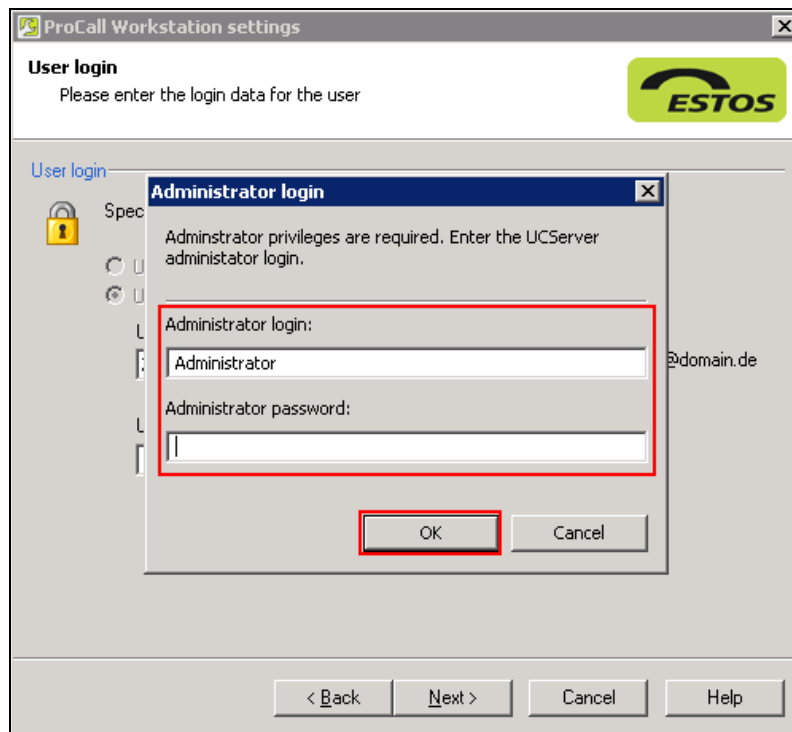
When the **User login** window opens, enter the **UCServer User** name followed by the **UCServer Password**. In the example below, user **213@devconnect.local** was used. Click on the **Next** button to continue.



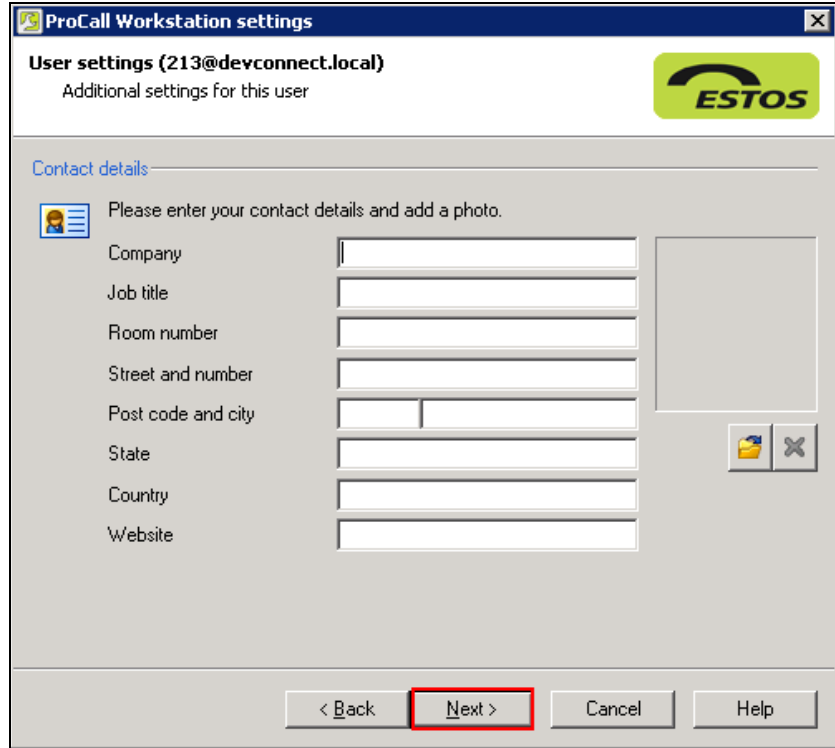
A warning window appears stating that the user does not yet exist on the server. Click on the **Yes** button to set up the new user.



Enter the Administrator login and password of the UCServer and click on the **OK** button.

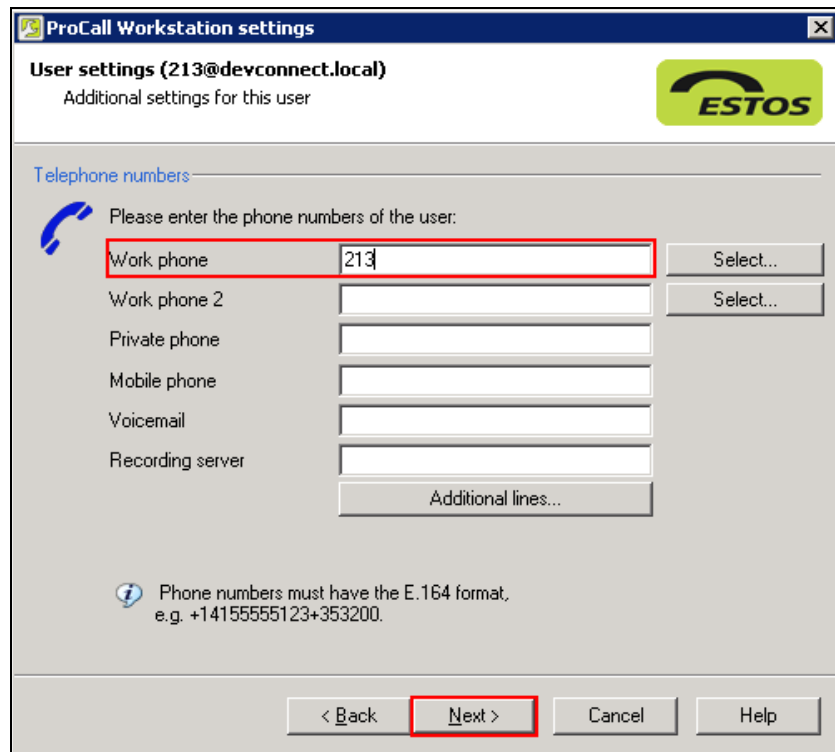


Enter any relevant information and click on the **Next** button.



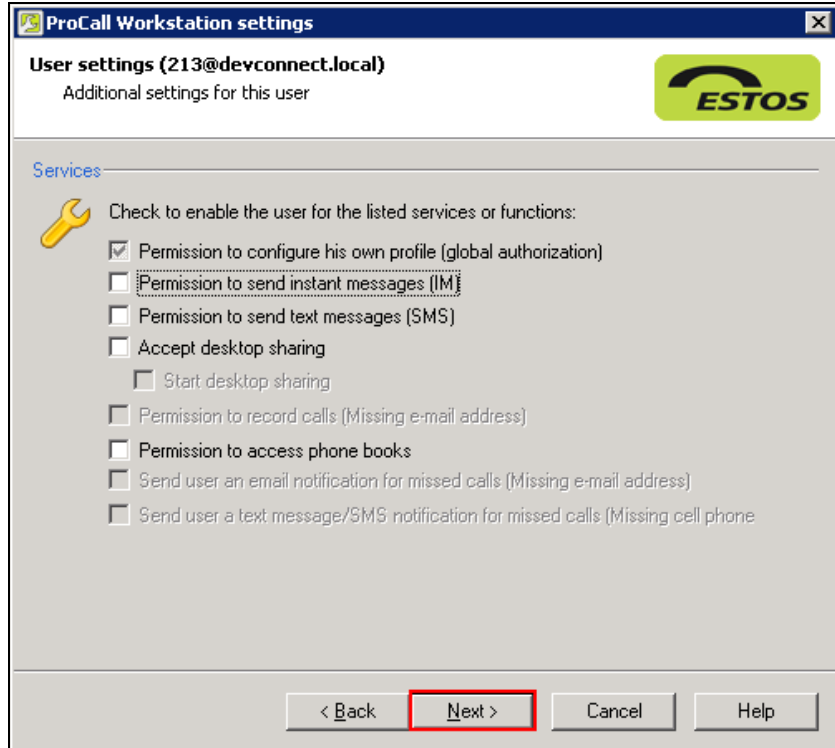
The screenshot shows the 'ProCall Workstation settings' window for user '213@devconnect.local'. The 'Contact details' section is active, with a red box highlighting the 'Next >' button at the bottom. The form includes fields for Company, Job title, Room number, Street and number, Post code and city, State, Country, and Website. A photo upload area is also present.

Enter a **Work phone** and click on the **Next** button.

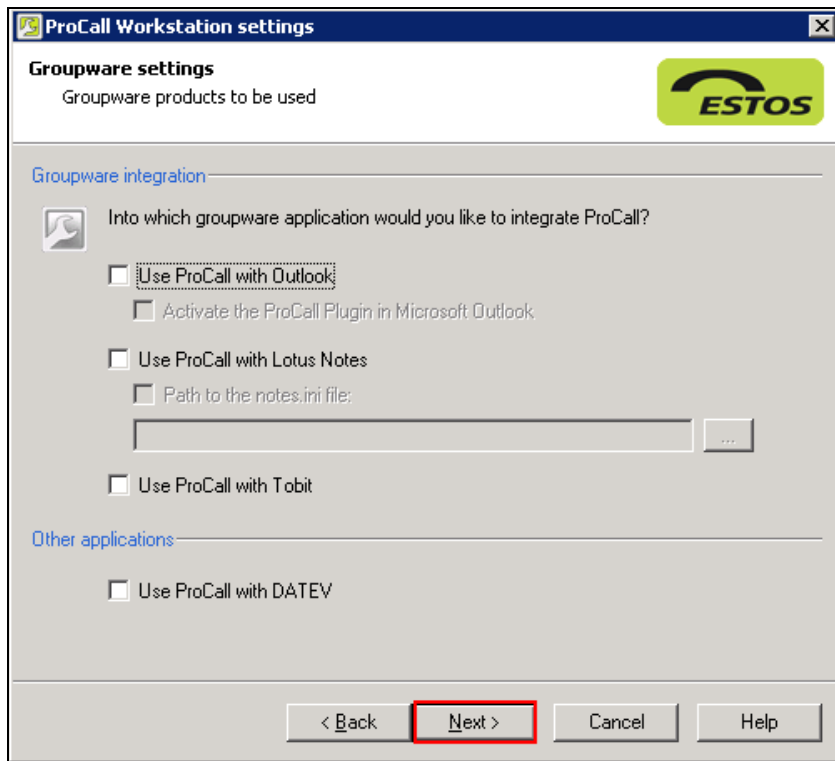


The screenshot shows the 'ProCall Workstation settings' window for user '213@devconnect.local'. The 'Telephone numbers' section is active, with a red box highlighting the 'Work phone' input field containing '213' and the 'Next >' button at the bottom. The form includes fields for Work phone 2, Private phone, Mobile phone, Voicemail, and Recording server. A note at the bottom states: 'Phone numbers must have the E.164 format, e.g. +14155555123+353200.'

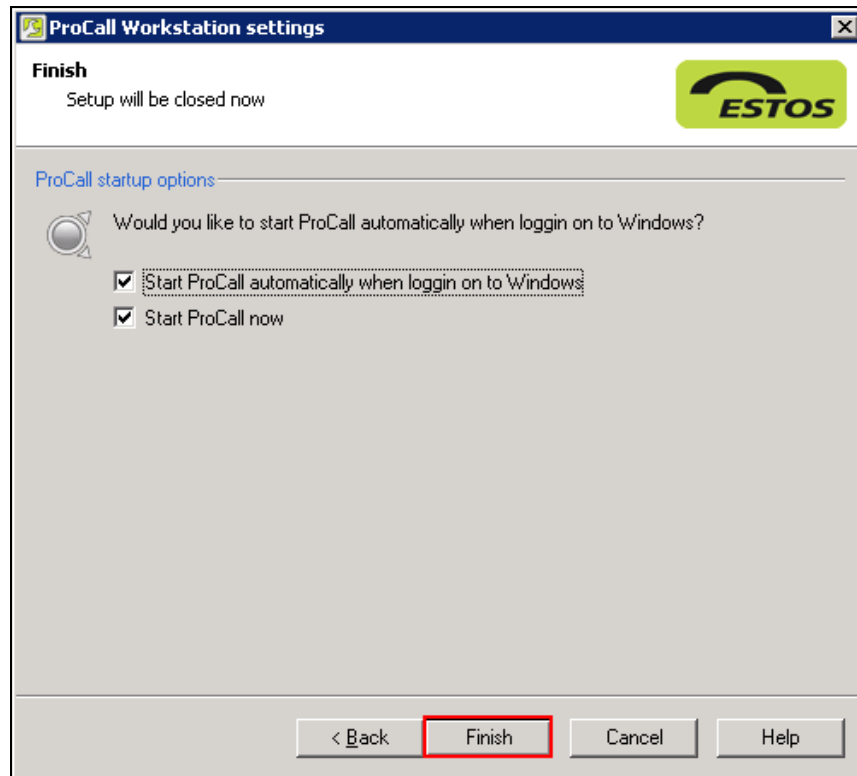
Click any of the services required, and click on the **Next** button.



Click on the **Next** button.



Click on the **Finish** button to finish the ProCall Workstation configuration.

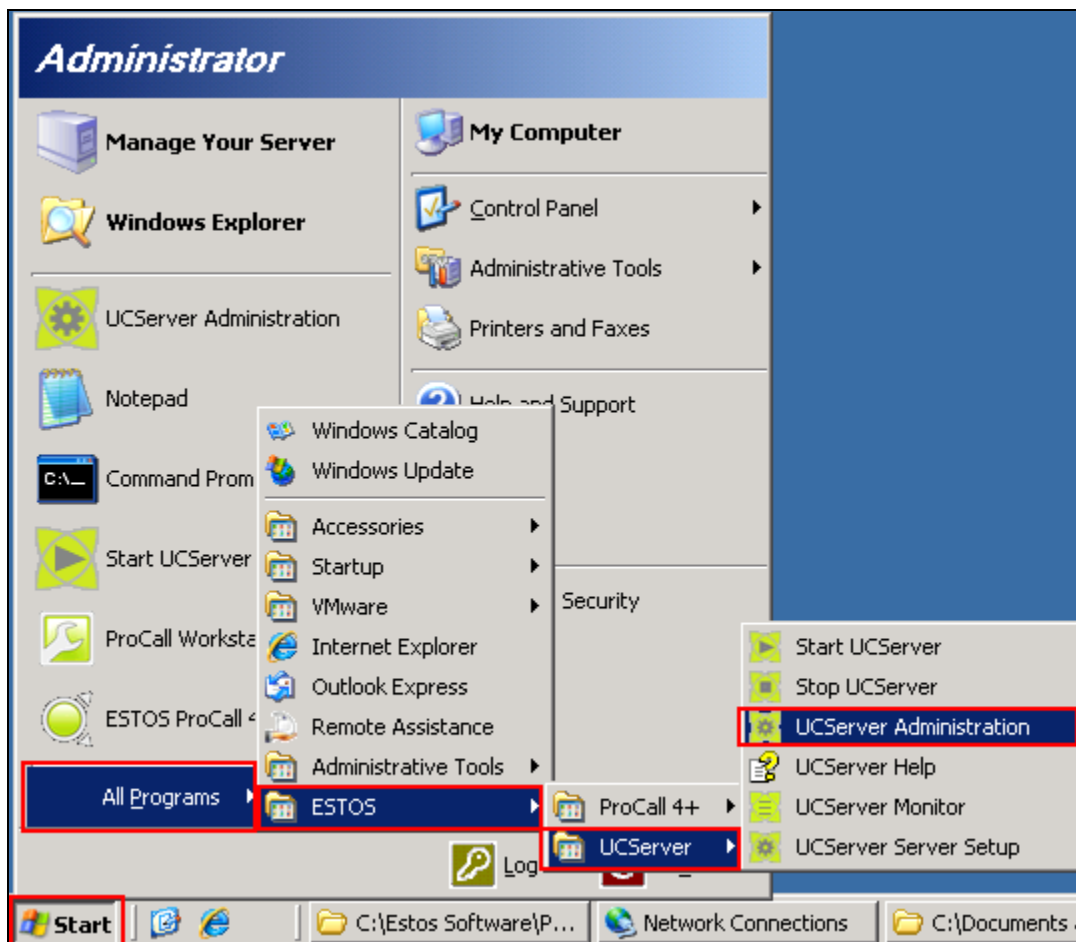


## 7. Verification Steps

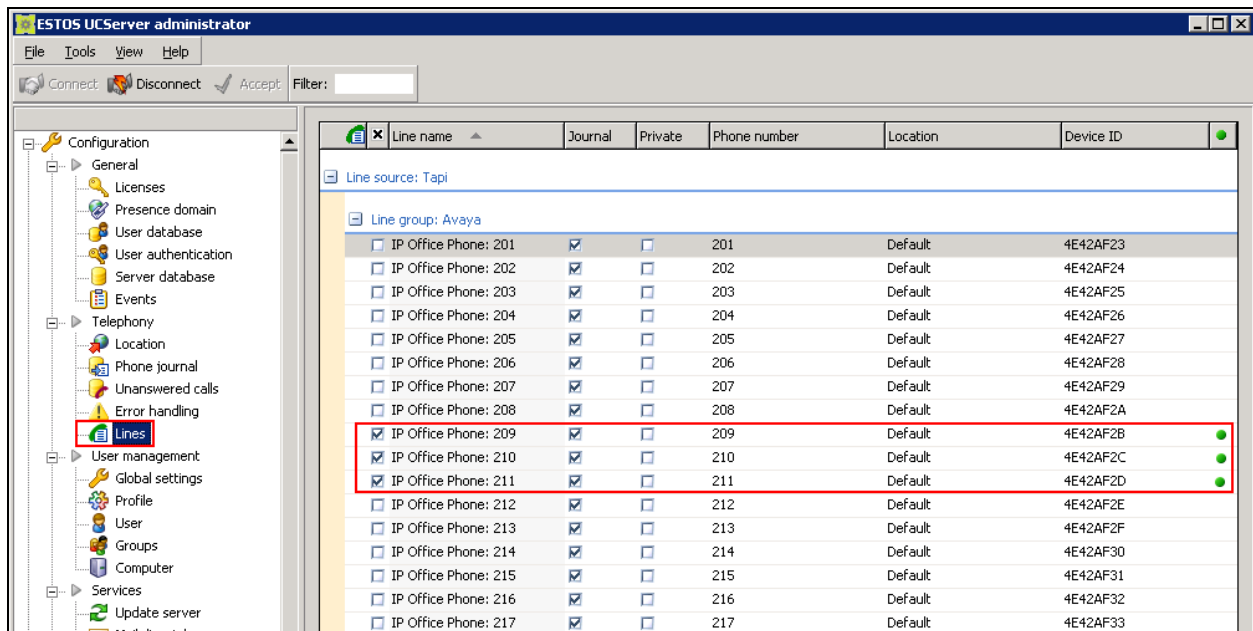
This section provides tests that can be performed to verify correct configuration of the Avaya IP Office and ESTOS ProCall solution.

### 7.1. Verify Avaya Avaya IP Office Deskphones Are Acquired.

To verify that the IP Office Deskphones are acquired click on **Start**→**All Programs**→**ESTOS**→**UCServer**→ **UCServer Administration**. Enter the appropriate credentials and click on the **OK** button (not shown) to open the **ESTOS UCServer administrator**.



When the **ESTOS UCServer administrator** window opens, click on **Lines**. All the Deskphone configured on the IP Office will be shown. Verify that the Deskphones to be controlled by the ProCall clients display a Green status indicator.



## 7.2. Verify incoming Calls to ProCall

Place a call to an IP Office user which is acquired by ProCall, ensure that the ProCall screen pops and the call can be answered. Audio is achieved using the IP Office Deskphone.

## 7.3. Verify outgoing calls using ProCall

Using ProCall make an outgoing call. Audio is achieved using the IP Office Deskphone.

## 8. Conclusion

A full and comprehensive set of feature functional test cases were performed during compliance testing. ESTOS ProCall 4.1.14.23941 is considered compliant with Avaya IP Office R8.1 All test cases passed and met the objectives outlined in **Section 2.1**.

## 9. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be obtained from <http://support.avaya.com> or from your Avaya representative.

[1] *Avaya IP Office R8.1 Manager 10.1*, August 3rd 2012, Issue 29o, Document Number 15-601011

[2] *IP Office R8.1 Doc library*

Product documentation for ESTOS products can be found at <http://www.estos.de>

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