



Avaya Solution & Interoperability Test Lab

Application Notes for Empix evolve Presence Server and Empix evolve xtpHONE Client with Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the compliance testing of Empix evolve Presence Server and Empix evolve xtpHONE client with Avaya IP Office. Empix evolve Presence Server is a workgroup coordination program which provides presence information for group members and distributes telephone control among group members.

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.

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1. Introduction

Empix evolve Presence Server provides presence information to agents at client workstations, enabling them to

- monitor each other's telephone activity
- dial from a client PC based telephone book
- dial from the PC-based Empix evolve xtphone program
- answer incoming calls
- execute a "pop-up" program when an incoming call arrives

Empix evolve Presence Server can be used alone, or together with the other Empix services: Skypetophone, Connect2, or Fax Server.

1.1. Interoperability Compliance Testing

The following tests were performed as part of the compliance testing.

- Dial from phone book
- Dial from Empix evolve xtphone
- Monitor call progress for own calls, incoming & outgoing
- Monitor call progress for calls of others incoming & outgoing
- Answer call from Empix evolve xtphone
- Execute popup program on client when call arrives
- Verify the ability to recover from interruptions to the LAN and power interfaces

1.2. Support

Support is available from Empix at:

Empix evolve srl
+39 0733 866 870
support@empixevolve.com
<http://www.empixevolve.com>

2. Reference Configuration

The following diagram illustrates the configuration which was used for testing.

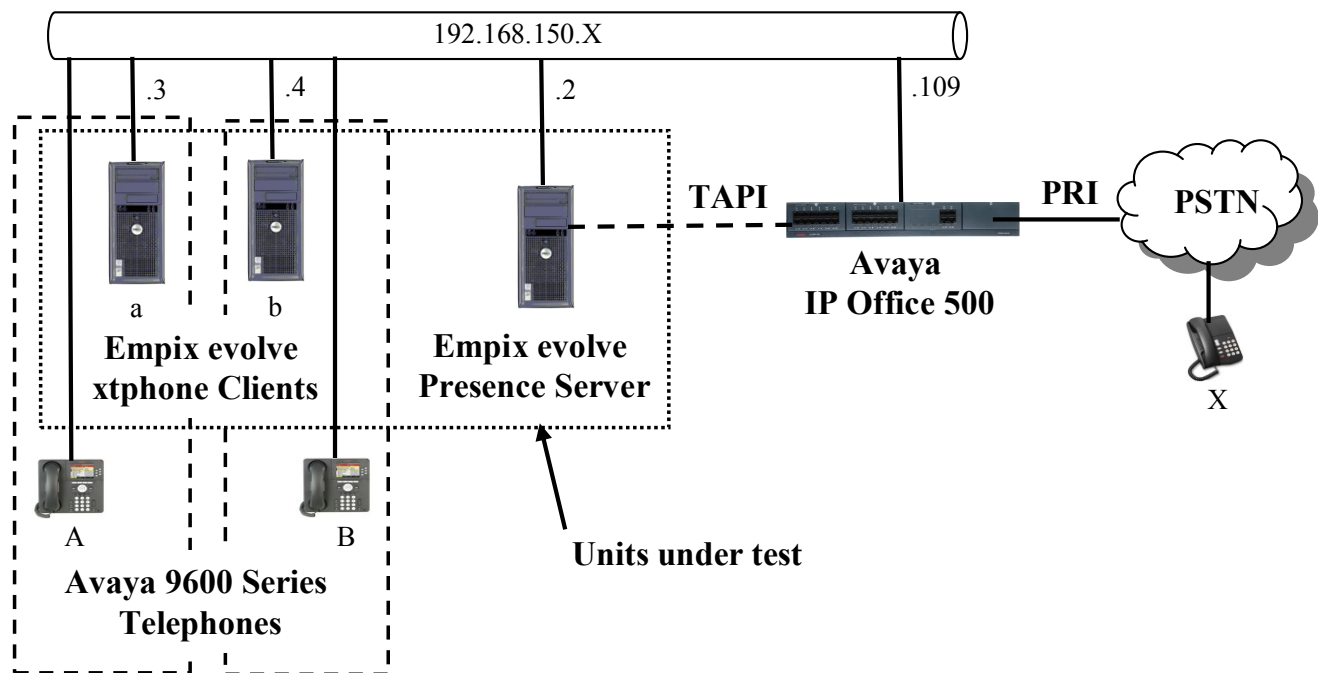


Figure 1: Empix evolve Configuration

Empix evolve Presence Server communicates with IP Office via the TAPI interface. The Client PC systems communicate with Empix evolve Presence Server via proprietary LAN communication.

The following table shows the terminal types and extensions assigned to each of the telephone terminals used for these tests.

Endpoint	Client	Ext	PSTN Number	Endpoint
A	a	201	069 11111111 201	Avaya 9640
B	b	202	069 11111111 202	Avaya 9640
X			069 22222222	POTS Phone

Table 1: Extensions Used for Testing

3. Equipment and Software Validated

Software Component	Version
Avaya IP Office	6 (8)
Avaya TAPI Driver	3.2.22
Avaya 9600 IP Telephones	S3.110B
MS XP Professional (Evolve Server platform OS)	SP2
Empix evolve xtphone	EVOLVE 3.1 BUILD 20100802.013
Empix evolve Presence Server	EVOLVE 3.1 BUILD 20100802.013

Table 2: Version Numbers of Equipment and Software

4. Configure IP Office

The configuration and verification operations illustrated in this section were performed using the Avaya IP Office Manager program. When this program is started, a tree structure consisting of icons representing the configurable components of the system is displayed. When one of these icons is selected, the corresponding system component can be configured.

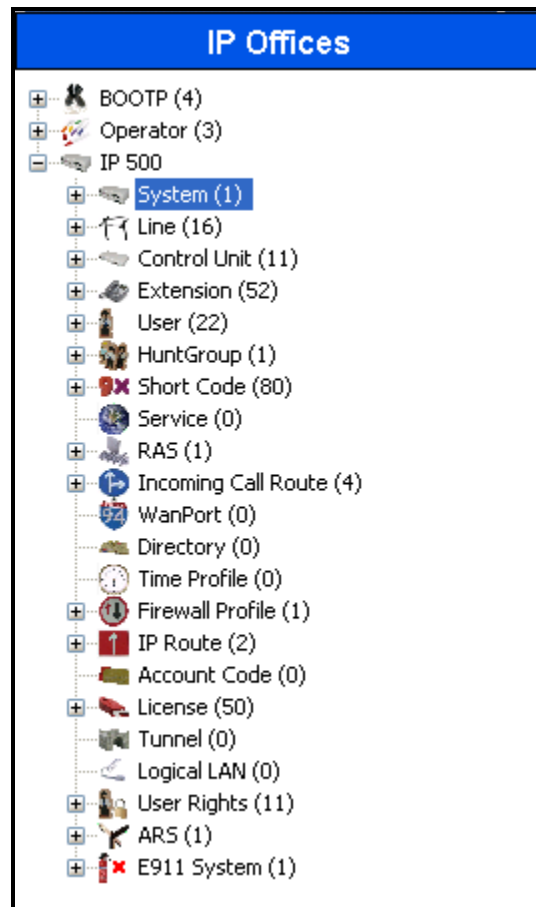


Figure 2: IPO Manager Component Tree

4.1. Licensing

IP Telephones included in the configuration each consume an **Avaya IP Endpoint** license, as described in reference [2].

Empix evolve Presence Server requires one instance of a **CTI Link Pro** license.

4.2. System

Select the “System” icon shown in **Figure 2** and enter the parameters shown in the following table. Select the tab(s) shown in the “Item” column to configure the parameters for that tab.

Item	Parameter	Usage
LAN1 LAN Settings	IP Address	Specify the IP address to be assigned to IP Office.
	IP Mask	Enter the IP mask to be used by the LAN.
Telephony Telephony	Inhibit Off-Switch Forward / Transfer	Uncheck this box.

Table 3: System Configuration Parameters

The screenshot shows the 'IP 500' configuration window. The 'LAN1' tab is selected. Under 'LAN Settings', the 'IP Address' is 192.168.150.109 and the 'IP Mask' is 255.255.255.0. Below these, 'Primary Trans. IP Address' is 0.0.0.0, 'RIP Mode' is set to 'None', and 'Enable NAT' is unchecked. 'Number of DHCP IP Addresses' is set to 200. At the bottom, 'DHCP Mode' has four radio buttons: 'Server', 'Client', 'Dialin', and 'Disabled' (which is selected). An 'Advanced' button is also present.

Figure 3: System Parameters: LAN1

4.3. Extensions

Right-click the “Extensions” icon shown in **Figure 2** and select “New H.323 Extension” to create an extension for each of the telephones A-C shown in **Table 1**. Set the “Base Extension” parameter to the extension to be assigned, and accept the default values for the remaining parameters.

H323 Extension: 8011 201


Extn VoIP

Extension Id 8011

Base Extension 201

Caller Display Type On

Reset Volume After Calls ☐

Device type  Avaya 9640

Module 0

Port 0

Disable Speakerphone ☐

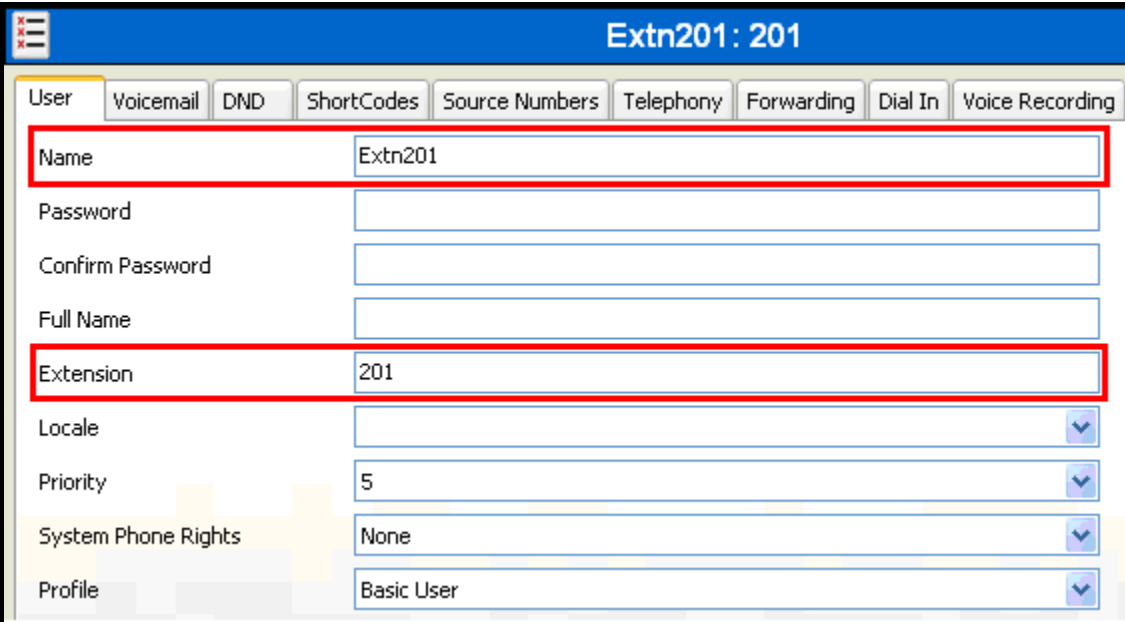
Figure 5: Extension Screen

4.4. Create Users

Right-click the “Users” icon shown in **Figure 2** and select “New” to create a user for each of the telephones A-C shown in **Table 1** using the parameters shown in the following table.

Parameter	Usage
Name	Enter a descriptive name to identify the user.
Extension	Enter the telephone extension to be assigned to the endpoint (which was allocated in Figure 5).

Table 4: User Configuration Parameters



The screenshot displays the 'User Configuration' interface for a user named 'Extn201' with extension '201'. The interface includes a top navigation bar with tabs for 'User', 'Voicemail', 'DND', 'ShortCodes', 'Source Numbers', 'Telephony', 'Forwarding', 'Dial In', and 'Voice Recording'. The 'User' tab is selected. The form contains the following fields:

- Name:** Extn201 (highlighted with a red box)
- Password:** (empty)
- Confirm Password:** (empty)
- Full Name:** (empty)
- Extension:** 201 (highlighted with a red box)
- Locale:** (dropdown menu)
- Priority:** 5 (dropdown menu)
- System Phone Rights:** None (dropdown menu)
- Profile:** Basic User (dropdown menu)

Figure 6: User Screen

4.5. Create PRI Line

This section contains a description of the IP Office configuration for use with a PRI interface to the PSTN, which was used for conformance testing. Other types of PSTN trunks can be used as well. Expand the “Line” icon shown in **Figure 2**, select the PRI Line to be configured, and enter the parameters shown in the following table.

Parameter	Usage
Incoming Group ID	Assign the number of an otherwise unused Incoming Group ID.
Prefix	Enter the prefix which is used to initiate a local external call via the PSTN.
National Prefix	Enter the prefix which is used to initiate a national external call via the PSTN.
International Prefix	Enter the prefix which is used to initiate an international external call via the PSTN.
Line SubType	Select “ETSI” from the drop-down list, as required for access to the PSTN in Europe.
Outgoing Group ID	Assign the number as was assigned to the Incoming Group ID.

Table 5: Primary Rate Line Configuration Parameters

PRI Line		Short Codes	Channels
Line Number	13	Line SubType	ETSI
Card	4		
Port	P1		
Telephone Number		TEI	0
Incoming Group ID	5	Outgoing Group ID	5
Prefix	0	Number of Channels	30
National Prefix	00	Outgoing Channels	30
International Prefix	000	Voice Channels	30
		Data Channels	30
CRC Checking	<input checked="" type="checkbox"/>		
Clock Quality	Network	Line Signalling	CPE
Add 'Not end-to-end ISDN' Information Element	Never		
Send Redirecting Number	<input type="checkbox"/>		
Supports Partial Rerouting	<input type="checkbox"/>		
Force Number Plan to ISDN	<input type="checkbox"/>		
Support Call Tracing	<input type="checkbox"/>		
Active CCBS Support	<input type="checkbox"/>		
Passive CCBS Support	<input type="checkbox"/>		
Cost Per Charging Unit	618		

Figure 7: Primary Rate Line Configuration Screen

4.6. Short Codes

Right-click the “Short Code” icon shown in **Figure 2** and click “New” to allocate a short code to provide access to the PSTN via the PRI interface, as shown in the following table.

Usage	Parameter	Usage
PSTN Call	Code	Enter 0N;
	Feature	Select Dial from the drop-down menu.
	Telephone Number	Enter NSi followed by the telephone number of the PSTN connection, then an E .
	Line Group ID	Enter the group number which was assigned to the PSTN interface in Figure 7 .

Table 6: Shortcode Configuration Parameters

The screenshot shows a configuration window titled "0N;; Dial*" with a "Short Code" tab. The following fields are visible:

- Code: 0N;
- Feature: Dial (dropdown menu)
- Telephone Number: NSi6911111111E
- Line Group Id: 5 (dropdown menu)
- Locale: Germany (German) (dropdown menu)
- Force Account Code: ☐

A red rectangular box highlights the first four fields: Code, Feature, Telephone Number, and Line Group Id.

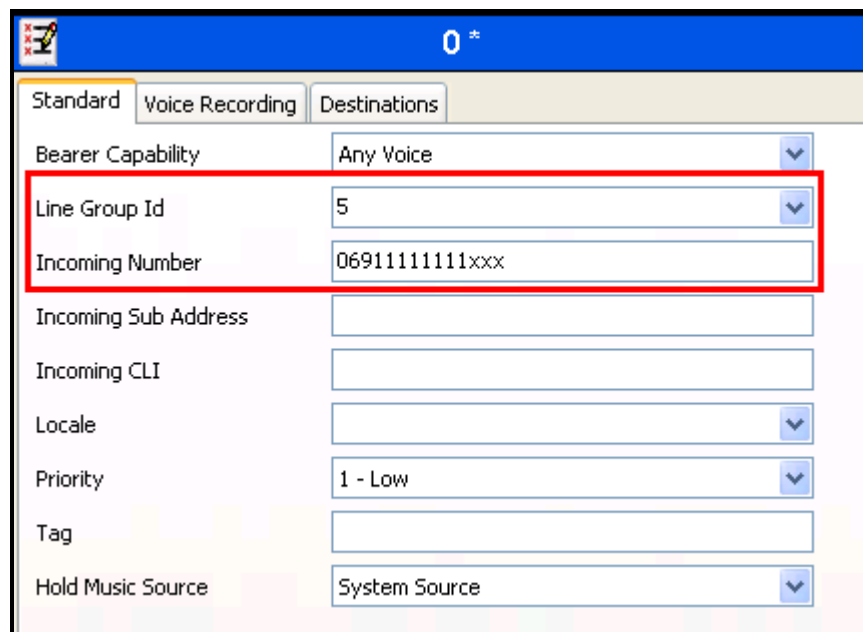
Figure 8: PSTN Access Short Code

4.7. Incoming Call Route

Right-click the “Incoming Call Route” icon shown in **Figure 2** and click “New” to create an Incoming Call Route for routing calls from the PSTN to local extensions. Assign parameters to this call route as shown in the following table:

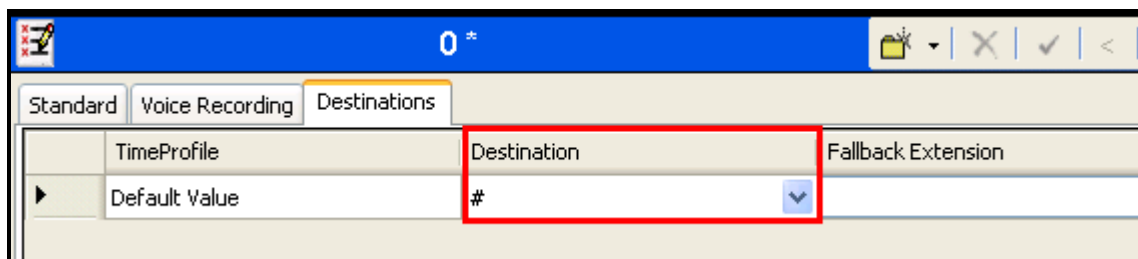
Tab	Parameter	Usage
Standard	Line Group Id	Enter the Group Id of the PRI line, as shown in Figure 7 .
	Incoming Number	Enter “0” followed by the PSTN number assigned to the PRI interface, followed by “xxx”.
Destinations	Destination	Configure the local extension of the called party number by entering a value of “#”.

Table 7: Parameters for Incoming Call Routes



The screenshot shows the 'Incoming Call Route - Standard Parameters' configuration window. The 'Standard' tab is active. The 'Line Group Id' is set to 5, and the 'Incoming Number' is set to 0691111111xxx. These two fields are highlighted with a red rectangle.

Figure 9: Incoming Call Route - Standard Parameters



The screenshot shows the 'Incoming Call Route - Destinations' configuration window. The 'Destinations' tab is active. The 'Destination' field is set to #, and the 'Fallback Extension' field is empty. These two fields are highlighted with a red rectangle.

Figure 10: Incoming Call Route - Destinations Screen

5. Configure Windows

On Empix evolve Presence Server, run the “Phone and Modem Options” applet from the Windows Control Panel, select the “Avaya IP Office TAPI2 Service Provider” and click configure.

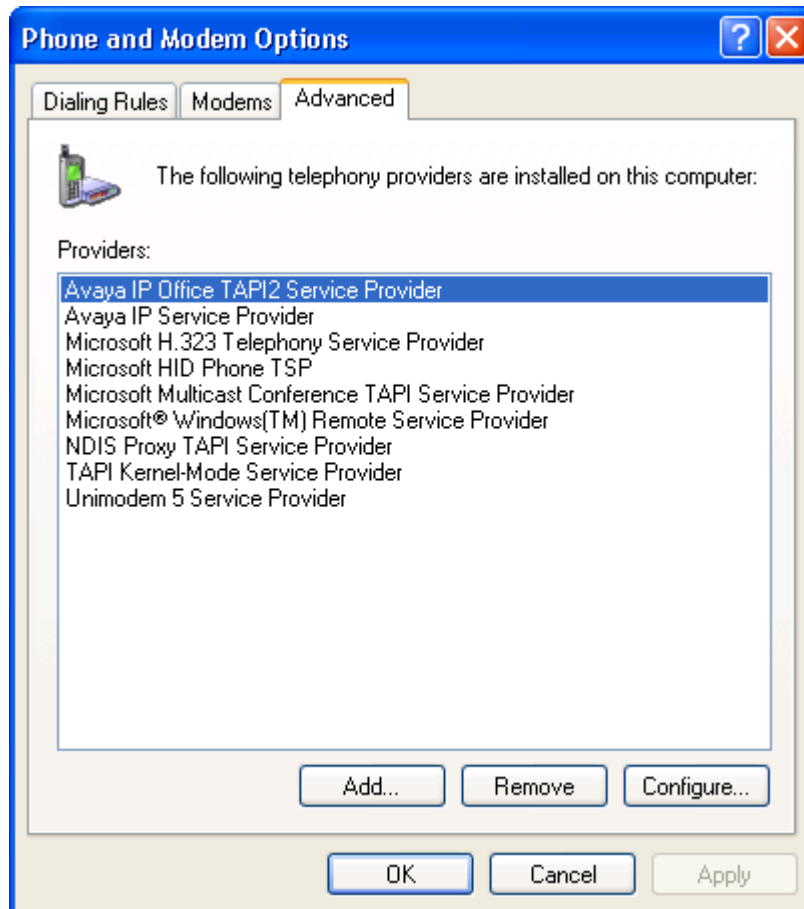
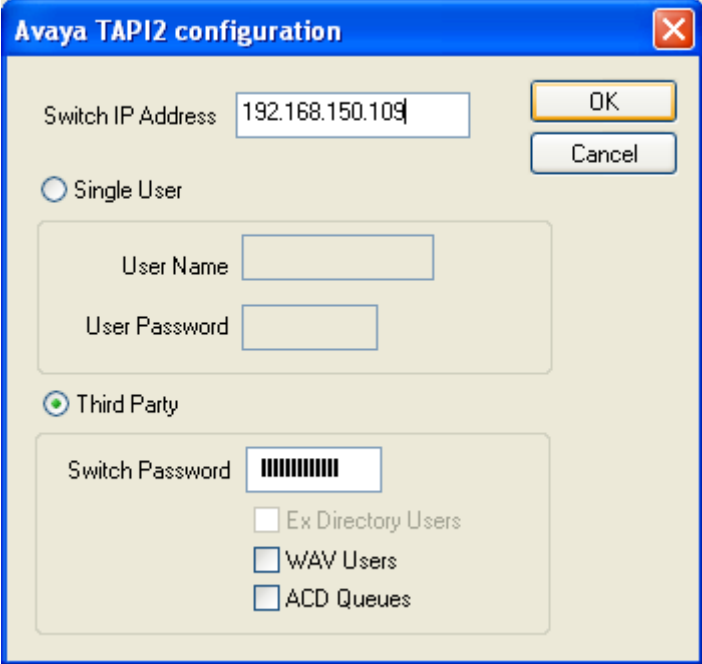


Figure 11: Windows Telephony Provider Selection Screen

Enter the Parameters in the following table and click “OK”.

Parameter	Usage
Switch IP Address	Enter the IP address of IP Office shown in Figure 3 .
Third Party	Select this radio button.
Switch Password	Enter the password for IP Office.

Table 8: Windows TAPI Driver Configuration Parameters



The image shows a Windows dialog box titled "Avaya TAPI2 configuration". It has a blue title bar with a red close button. The dialog contains the following elements:

- A text field labeled "Switch IP Address" with the value "192.168.150.109".
- Two buttons: "OK" and "Cancel".
- Two radio buttons: "Single User" (unselected) and "Third Party" (selected).
- A group box containing:
 - For "Single User": "User Name" and "User Password" text fields.
 - For "Third Party": "Switch Password" text field (masked with asterisks), and three checkboxes: "Ex Directory Users" (unchecked), "WAV Users" (unchecked), and "ACD Queues" (unchecked).

Figure 12: Windows TAPI Driver Configuration Screen

6. Configure Empix evolve Presence Server

The Empix evolve Presence Server installation process also installs MySQL and the Apache server. The installation procedure is beyond the scope of this document. However, the installation used for compliance testing was done using the prompted default values.

Empix evolve Presence Server uses a Web-based tool for configuration, which can be accessed from the server via <http://localhost:20080/login.php>. The initial login credentials are for Username “administrator, with Password “1234”. These values should be changed subsequently for security reasons.

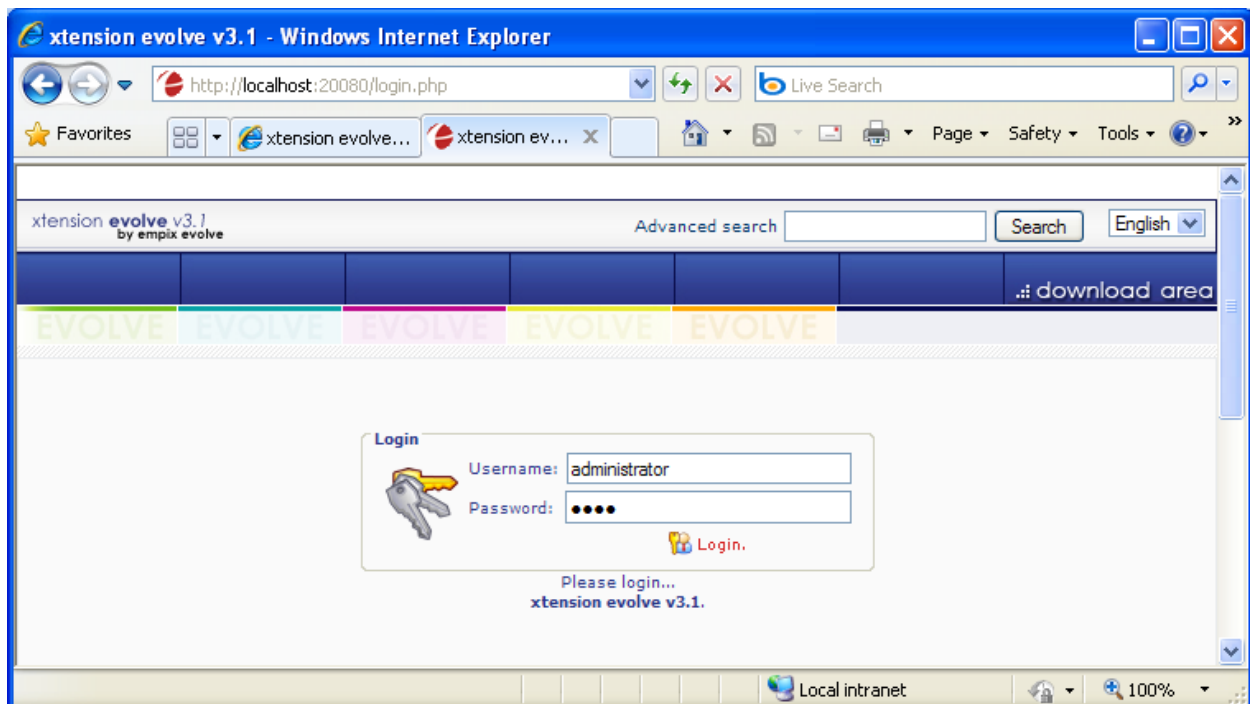


Figure 13: Empix evolve Presence Server Login Screen

6.1. Install Updates

Navigate to “Administrative tools” → “Updates”. Click the “Check Updates” button to check for new updates, and the “Download & install” button to install needed updates.

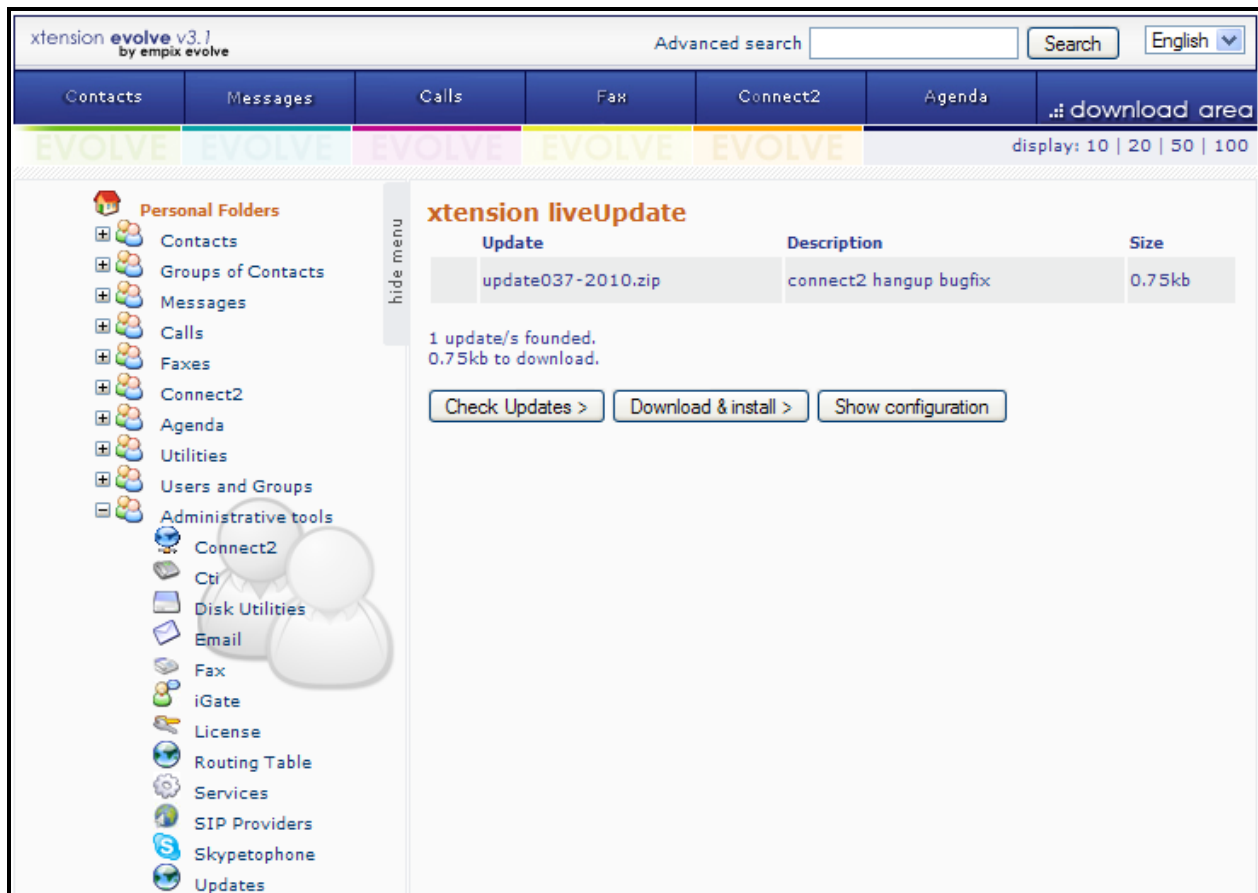


Figure 14: Empix evolve Presence Server Update Screen

6.2. Install License

Navigate to “Administrative tools” → “License” and enter the appropriate identification information. The only required field is the “Empix evolve Login” field for the user’s email address. If a permanent license is available, enter the license code into the “Serial Number” field and click the “Activate” button. If no license is available, a thirty-day trial license can be obtained without charge by clicking the “Request try’n buy” button.

The screenshot shows the 'xtension evolve v3.1 by empix evolve' web interface. The top navigation bar includes 'Contacts', 'Messages', 'Calls', 'Fax', 'Connect2', 'Agenda', and a 'download area'. Below this is a 'display: 10 | 20 | 50 | 100' selector. The left sidebar lists 'Personal Folders' (Contacts, Groups of Contacts, Messages, Calls, Faxes, Connect2, Agenda, Utilities, Users and Groups) and 'Administrative tools' (Connect2, Cti, Disk Utilities, Email, Fax, iGate, License, Routing Table). The 'License' section is active, showing a 'Simple' radio button selected. The form fields are: Name (DevConnect), Address (Kleyerstr 94), Postal Code (12345), City (Frankfurt), Province (FR), Country (Germany), empixevolve Login (mrowe@avaya.com), and Serial Number. The 'Activate' and 'Request try'n buy' buttons are at the bottom.

Figure 15: License Activation Screen

Click the “Activate” button to activate the license.

xtension **evolve** v3.1
by empix evolve

Advanced search Search English

Contacts Messages Calls Fax Connect2 Agenda download area

EVOLVE EVOLVE EVOLVE EVOLVE EVOLVE display: 10 | 20 | 50 | 100

Personal Folders

- Contacts
- Groups of Contacts
- Messages
- Calls
- Faxes
- Connect2
- Agenda
- Utilities
- Users and Groups
- Administrative tools
- Connect2
- Cti
- Disk Utilities
- Email
- Fax
- iGate
- License
- Routing Table
- Services
- SIP Providers

License

☒ Simple ☐ Advanced

Client fax	Client cti	Canali ip
15	15	8

Name: DevConnect

Address: Kleyerstr 94

Postal Code: 12345 City: Frankfurt Province: FR

Country: Germany

empixevolve Login: mrowe@avaya.com

Serial Number: E22X-0FX7-SM61-MONK-2GTX

Warning: you are using a try'n buy license.
You license will expire in 30 days on 02/09/2010.

Activate Request try'n buy

Figure 16: Try'n Buy License Activation Screen

6.3. Configure System Parameters

Navigate to “Administrative tools” → “Cti”, select “Avaya” from the “TAPI Service Provider” drop-down menu, and click “Load lines”.

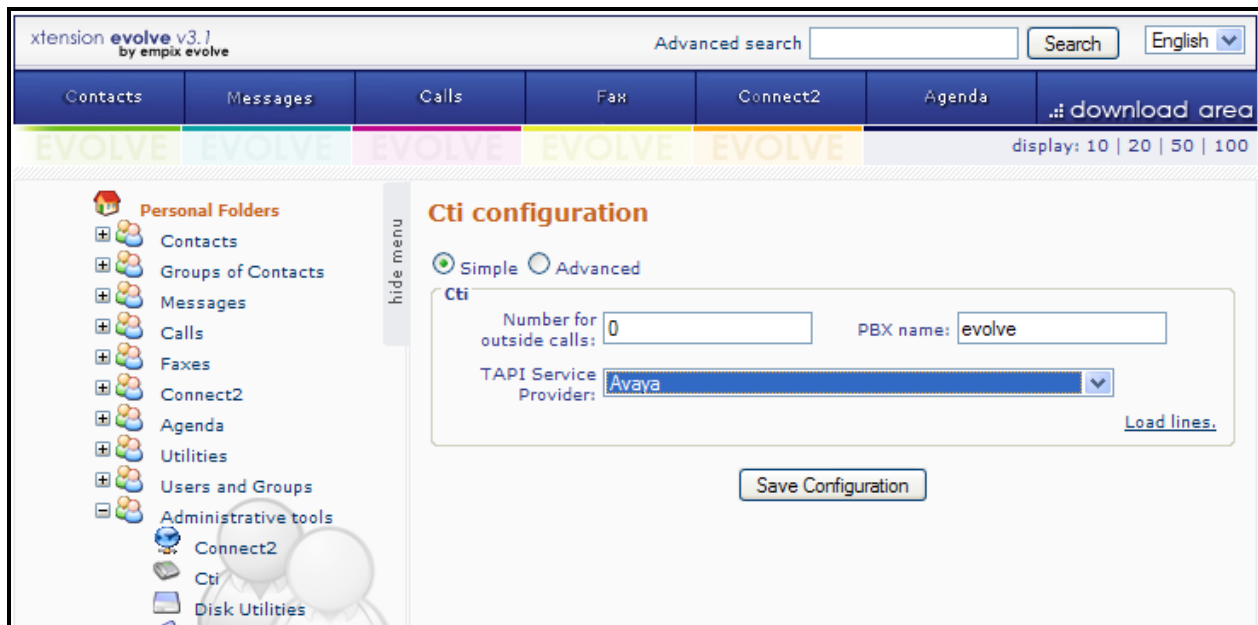


Figure 17: Cti Configuration Screen

After the extension information has been loaded from IP Office by TAPI, the menu changes as shown below with a “Lines loaded” indication, to indicate extension information from IP Office is now available. Click “Save Configuration”.

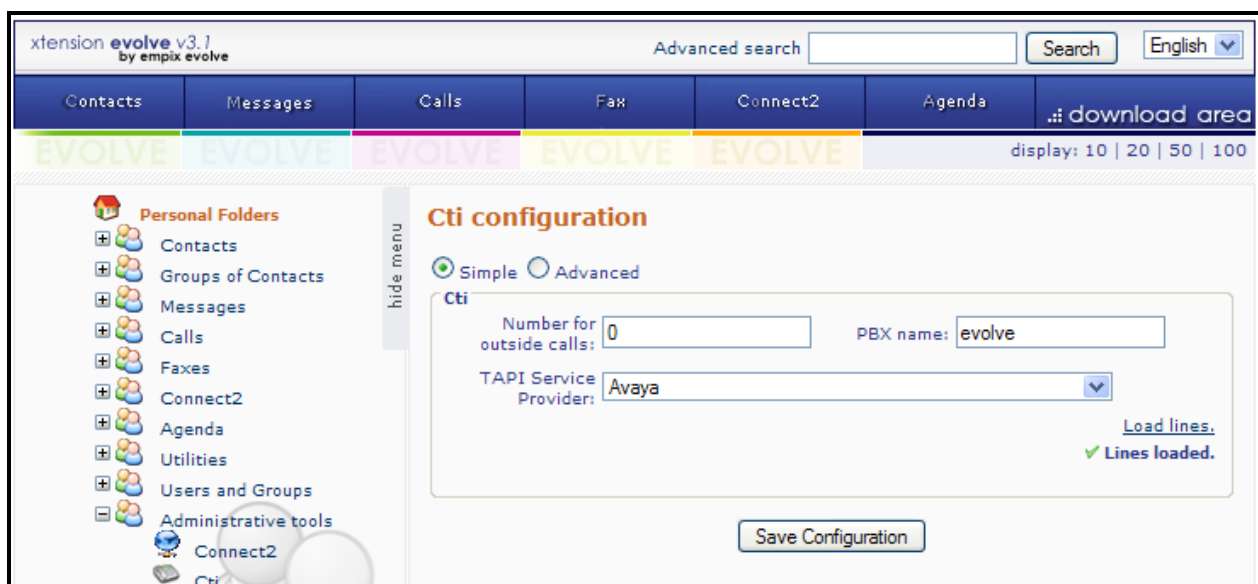


Figure 18: Cti Configuration Screen after Lines Loaded

The “Lines loaded” indication now disappears.

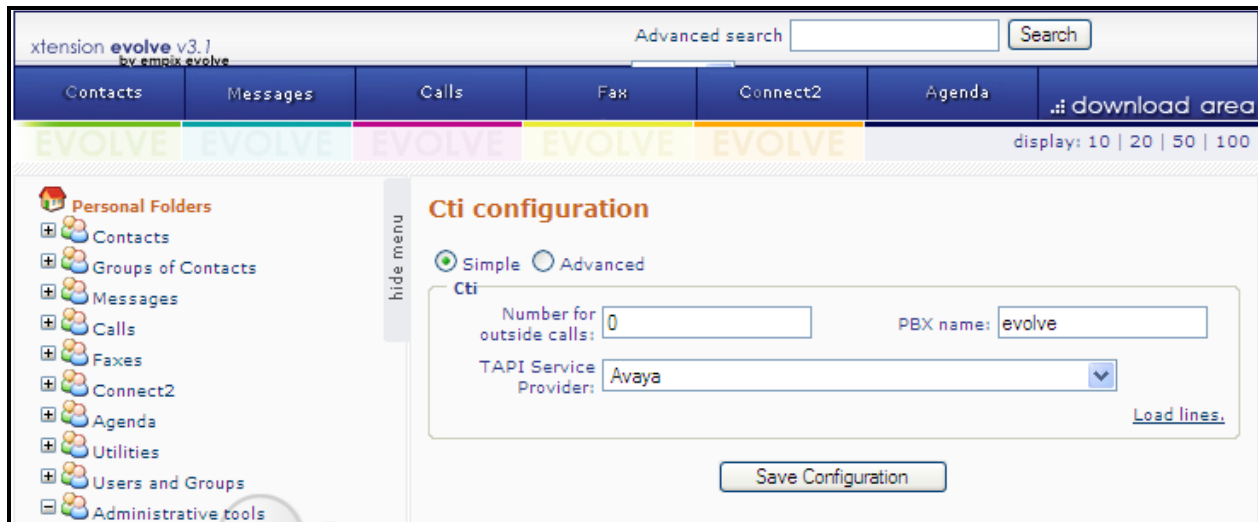


Figure 19: Cti Configuration Screen after Configuration Saved

6.4. Add Users

Perform the procedures described in this section for each of the client endpoints shown in **Table 1**. Navigate to “Users and Groups” → “New User”, select the “Advanced” radio button, select the “Info” tab, and enter the parameters shown in the following table.

Parameter	Usage
Username / Password	Enter authorization credentials to be used by the user.
Name	Enter the first name of the user.

Table 9: User Info Parameters

The screenshot shows the 'Insert new user' interface. On the left is a sidebar with 'Personal Folders' including Contacts, Groups of Contacts, Messages, Calls, Faxes, Connect2, Agenda, Utilities, and Users and Groups. The main area has a 'hide menu' button and a title 'Insert new user'. Below the title are radio buttons for 'Simple' and 'Advanced' (selected), and a checked checkbox for 'Visible as contact'. A tab bar shows 'Info' (selected), 'Phone numbers', 'Addresses', 'Groups', 'Cti', 'Fax', 'Connect2', and 'SIP'. The 'Login' section contains 'Username: Extn201' and 'Password:'. The 'Name' section contains 'Name: Extn201', 'Surname:', 'Middle Name:', and 'Title:'.

Figure 20: User Info Screen

Select the “Cti” tab, and enter the parameters shown in the following table.

Parameter	Usage
Line ID	Select the IP Office device name for the user from the drop-down menu.
Line numeric id	Enter the user’s extension number.

Table 10: User Cti Parameters

The screenshot displays the 'Insert new user' dialog box with the 'Cti' tab selected. The 'Line id' dropdown menu is set to 'IP Office Phone: 201', and the 'Line numeric id' text box contains the value '201'. Other visible fields include 'Area', 'Operator', 'Line type' (set to EXT), 'Ip Address', 'Port', 'Client license active' (checked), and 'Web Client active' (checked). The sidebar on the left lists various folders like 'Contacts', 'Messages', 'Calls', etc., and a 'hide menu' button is visible.

Figure 21: User Cti Screen

6.5. Start Service

Navigate to “Administrative tools” → “Services, check the “ctiserver” box, and click the “Start xtension evolve service” button.

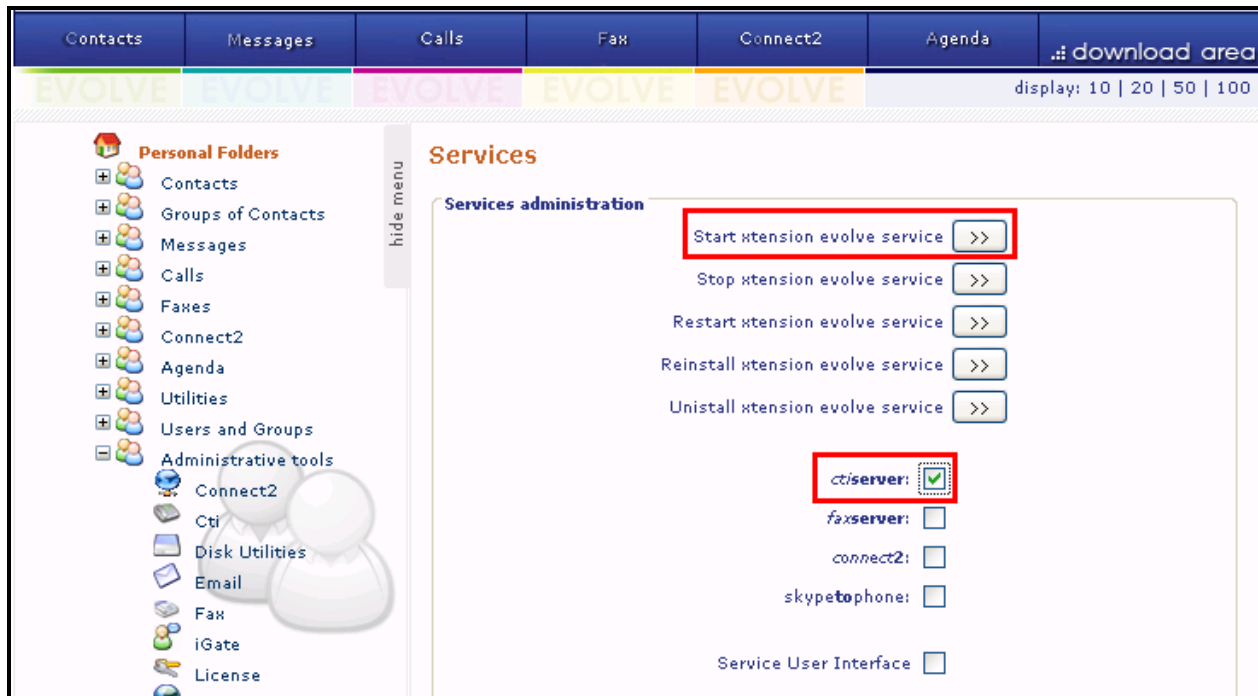


Figure 22: Services Configuration Screen

7. Configure Empix evolve xtpHONE Clients

Perform the procedures described in this section for each of the client endpoints shown in **Table 1**. Empix evolve xtpHONE clients use a Web-based tool for configuration, which can be accessed from the server via `http://<server address>:20080/login.php`. The login procedure is the same as for the server, shown in **Figure 13**.

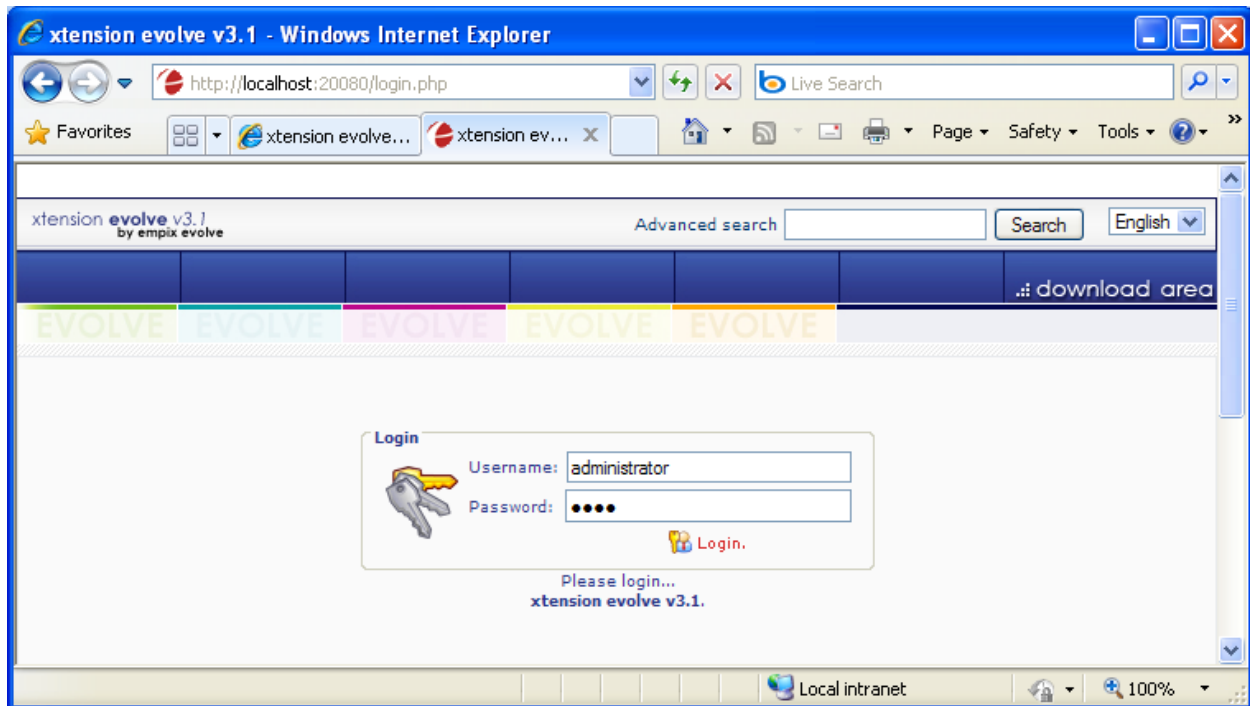


Figure 23: Client Login Screen

Click "download area".

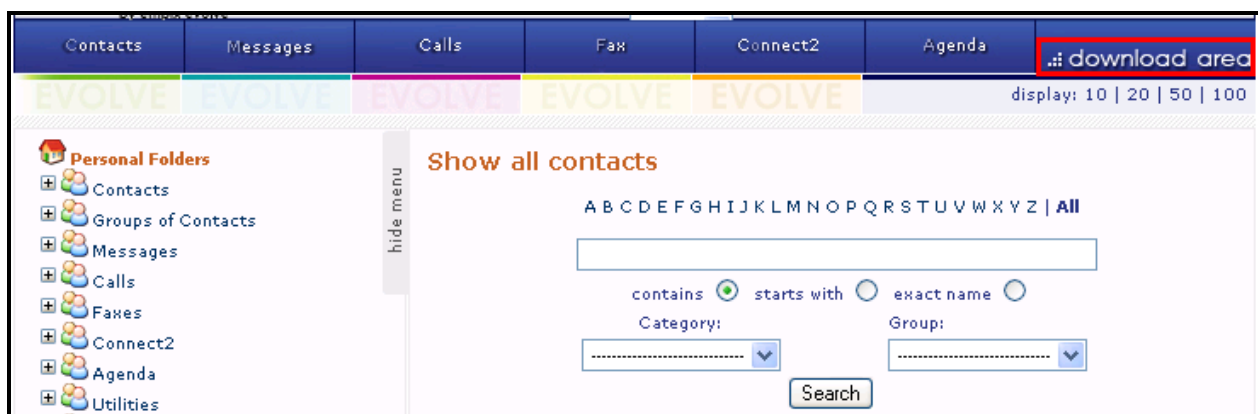


Figure 24: Initial Client Screen

Click “Download xtphone v3”.

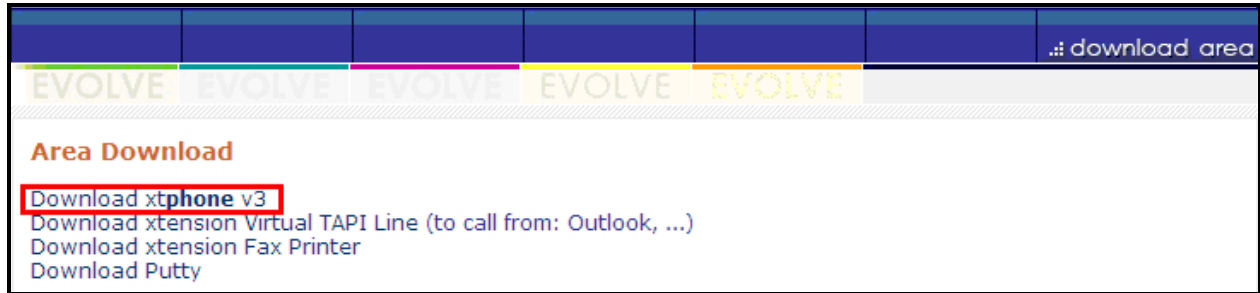


Figure 25: Download Area Screen

Click “Run”, and accept the default parameters.

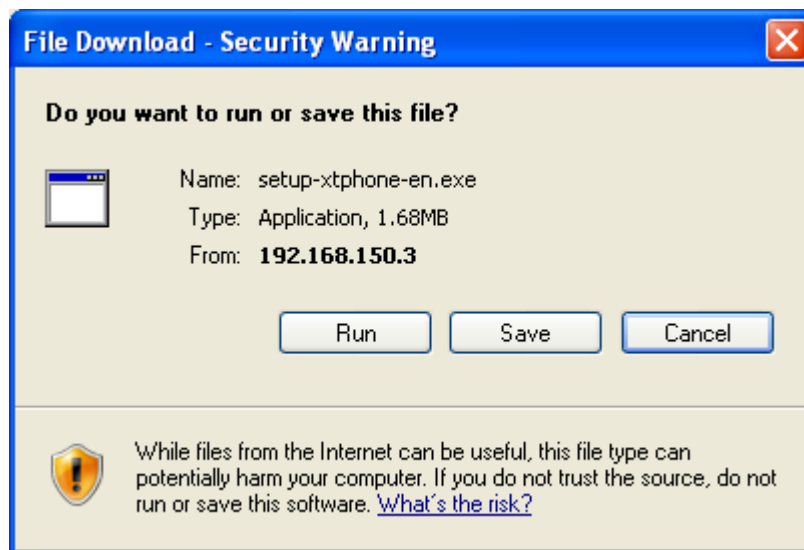


Figure 26: Empix evolve xtphone Download Screen

The xtpHONE control starts and is superimposed above the menu from the administration tool. Note that the “xphonev3” text in the lower right corner of the control is shown with dark text, which indicates that the control is not connected to IP Office.



Figure 27: Empix evolve xtpHONE Initial Execution Screen

Click on the “options” field of the control, and enter the parameter shown in the following table, and click “apply” (not visible).

Parameter	Usage
User / Password	Enter the user credentials which were configured in Figure 20 .
Application Server Address	Enter the IP address of the Empix evolve Presence Server PC.
Web Server Address	Enter the IP address of the Empix evolve Presence Server PC.

Table 11: Empix evolve xtpHONE Options Parameters

Figure 28: Empix evolve xtpHONE Options Screen

At this point the “xtpHONE” text in the lower right corner of the control changes to light blue, indicating that the control is now connected to IP Office (via Empix evolve Presence Server).



Figure 29: Empix evolve xtpHONE Initialized Screen

Click the “ext” text at the top of the control to show the users which were configured for the other clients which were added in **Section** Error! Reference source not found.. For the configuration described in these Application Notes, only one other user was configured: Extn202. The gray circular check icon to the left of “Extn202” indicates that this user has been configured by the server, but the xtpone client related to that user is not connected to the server (the telephone is active but the client is switched off, or in this case, has not yet been configured).

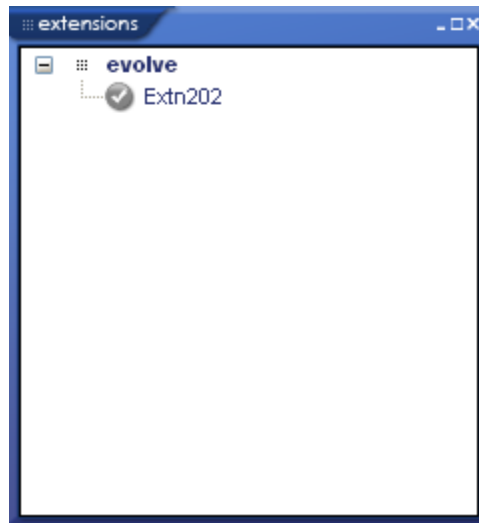


Figure 30: Empix evolve xtpone Extensions Screen

After configuring the other clients shown in **Table 1**, clicking the “ext” menu on the xtphone control for the client for user Extn201 shows the extensions for the other clients (in this case only Extn202), each to the left of a green control, indicating that the users are now configured and correctly connected.

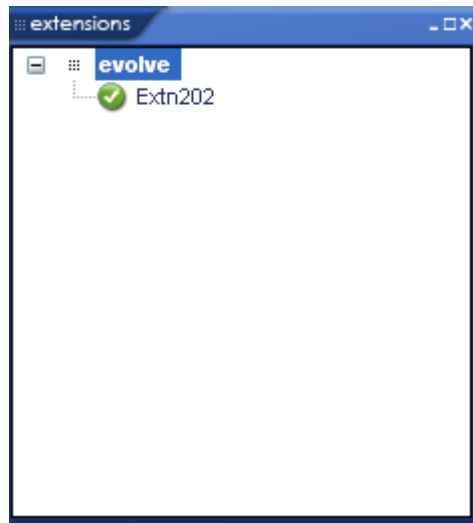


Figure 31: Empix evolve xtphone Extensions Screen after Additional Client Configured

It is now possible to use the xtphone control to call other extensions. For the case shown below, a call is made from 201 to 202.



Figure 32: Empix evolve xtphone Call Initiation

8. General Test Approach and Test Results

All tests were performed manually. Only functional testing was performed: no performance testing was done. All tests produced the expected result.

9. Verification Steps

After the IPO, server, and clients have been installed and configured correctly, the xtphone programs on the client PC systems should each show the “xtphone” text in the lower right corner of the control in bright text, and each of these controls should be able to make calls and monitor the call progress of other extensions.



Figure 33: Correctly Installed Empix evolve xtphone Client

10. Conclusion

These Application Notes describe the compliance testing of the Empix evolve Presence Server and Empix evolve xtphone client with Avaya IP Office. The various features of Empix evolve Presence Server which involve interaction with telephony were tested. A detailed description of the configuration required for both the Avaya IP Office and the Empix evolve Presence Server and xtphone is documented within these Application Notes.

11. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at <http://support.avaya.com>.

- [1] *Avaya Office 6.0 Manager 8.0*, May 2010, Document Number 15-601011
- [2] *Avaya IP Office Release 6 H323 IP Telephone Installation*, March 2010, 15-601046
- [3] *Installing and configuring xtension evolve*, July 2010, ver 2.2

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