



Configuring Zeacom Smart Connect and Smart Messaging with an Avaya™ IP Office Server - Issue 1.0

Abstract

These Application Notes provide information related to the integration of Avaya™ IP Office Server and Zeacom Smart Connect and Smart Messaging. Application Notes are jointly prepared at the successful conclusion of Developer*Connection* Compliance Testing. Information in the notes has been obtained through hands-on compliance testing and technical discussions. Testing was conducted at the Avaya Solution and Interoperability Test Lab.

Zeacom Smart Connect makes decisions about when, and to whom, calls should be delivered based upon caller profile, agent skills, time of day, number dialed and wait times. Smart Connect also provides real time and historical statistics, advises callers of their place in queue and offers Interactive Voice Response (IVR) functions. Smart Messaging has the capability to monitor and direct calls from an attendant station. It also includes voicemail and auto attendant capabilities.

1. Introduction

These Application Notes provide information related to the integration of Avaya™ IP Office Server and Zeacom Smart Connect and Smart Messaging. Information in these notes has been obtained through hands-on compliance testing and technical discussions.

Testing focused on feature functionality between IP Office Server and Zeacom Smart Connect and Smart Messaging.

Application Notes are jointly prepared at the conclusion of DeveloperConnection Compliance Testing. Application Notes provide Avaya and Zeacom personnel with information about operation of Smart Connect with IP Office, configuration prerequisites, and functionality considerations.

Smart Connect and Smart Messaging uses tip-ring (analog) ports connected to Dialogic cards in the PC server to start the call handling. Using the DevLink Pro TAPI interface, the application can collect caller ID and call status information.

The test configuration, depicted in **Figure 1**, consists of an Avaya™ IP403 server with the Smart Connect server. An IP400 Phone module and an IP400 Analog Trunk module are connected to the IP403 server. The IP400 Phone module is used for additional analog ports to connect to the Smart Connect server. The IP400 Analog Trunk module is used to supply Ground Start (GS) trunks for testing. Loop Start (LS) trunks were connected to the analog trunk module card in the IP 403 server. The IP403 server is connected to a Layer 2 Ethernet switch along with an Avaya™ 4600 series IP telephone. The Smart Connect server is connected to the Ethernet switch via a TCP/IP card and has a Dialogic circuit card (D41E-PCI) for connection to the IP403 server analog phone ports. Avaya™ 6400 series telephones and Avaya™ 4400 series telephones were connected to the IP Office server via digital telephone ports.

Testing was performed on a second configuration utilizing an Avaya™ IP412 Office Server with an IP400 Phone module and an IP400 Analog Trunk module. The IP412 server replaces the IP403 server depicted in **Figure 1**.

Note: IP Office servers are equipped with an onboard DHCP server. For this test configuration, the DHCP server supplies the IP Address to the IP phone.

The following table is a list of hardware with the corresponding IP addresses:

IP403 Server	192.168.42.1
IP412 Server	192.168.42.2
Smart Connect Server	192.168.42.20
Client 1	192.168.42.10

Client 2	192.168.42.11
Client 3	192.168.42.12

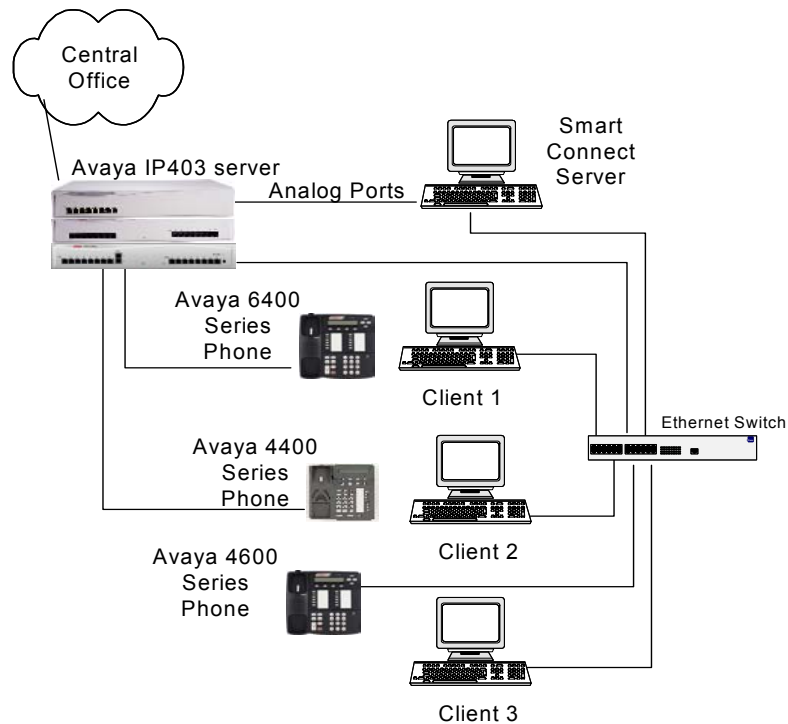


Figure 1: Smart Connect Testing Configuration

2. Equipment and Software Validated

The following equipment and software were used for the compliance test configuration:

Equipment	Software
Avaya™ IP403 Server	R 1.3 (27)
Avaya™ IP412 Server	R 1.3 (27)
Avaya™ DevLink Pro	1.0.0.4
Avaya™ CTI Link	1.0.0.14
Zeacom Smart Connect Smart Desktop	3.0.0.89
Zeacom Smart Connect Smart Messaging	3.0.0.89

3. Install and Configure the Avaya IP Office Server

3.1. IP Office Software Administration

For administration of IP Office server, perform the following steps:

1. Load the Manager application with Feature Key Server located in the IP Office Administration CD.
 - a. Insert the IP Office Administration CD
 - b. Follow the install wizard's directions by clicking **Next** when directed.
2. Load the IP Office TAPI Service Provider and the DevLink files located on the IP Office User CD.
 - a. Insert IP Office User CD.
 - b. Follow the install wizard's directions by clicking **Next** when directed.
 - c. At the **Select Components** screen, check the TAPI box, as depicted in **Figure 2**.

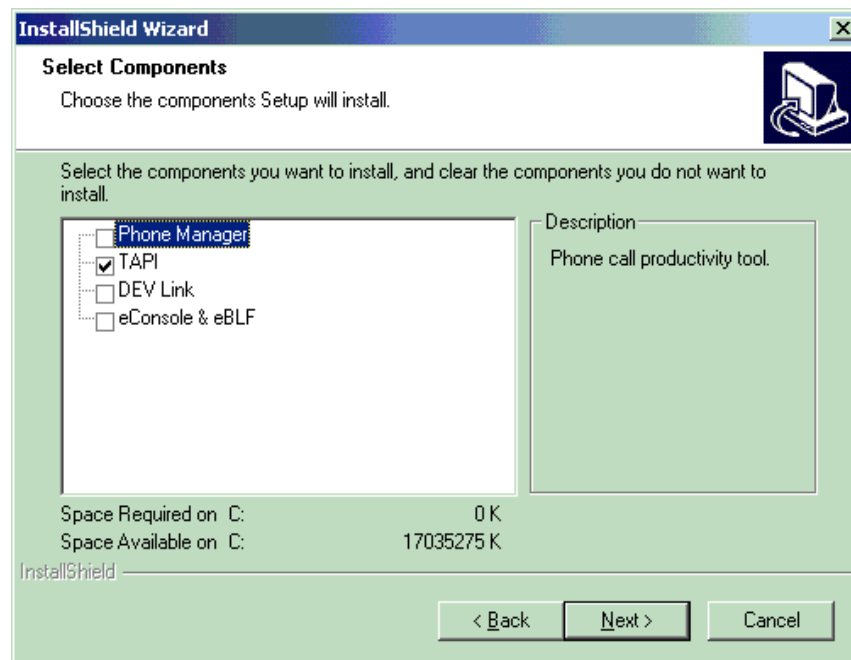


Figure 2: Component Selection

3. Connect the license key to the parallel port on the Manager PC.
4. In the license tab, add the TAPI license.
 - a. Right click in the right hand panel of Manager
 - b. Select **Add**, as depicted in **Figure 3**.
 - c. The license key can be copied and pasted from the license key text file.
 - d. Click **OK** to accept the license string.

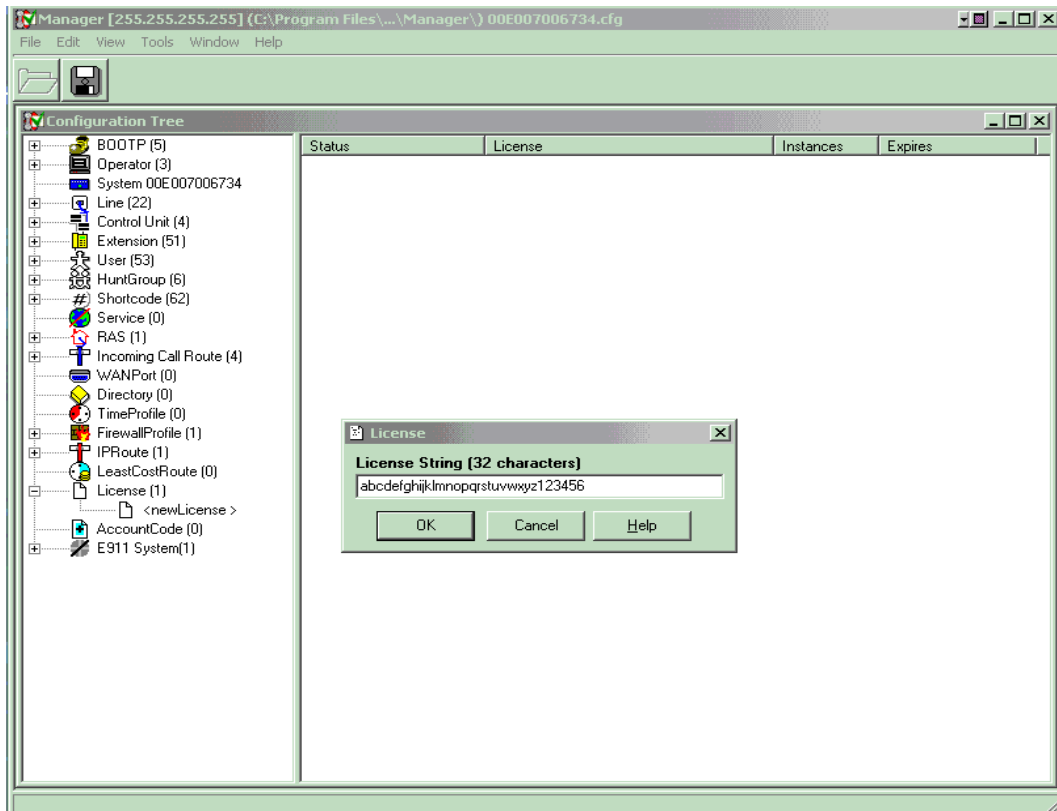


Figure 3: Adding CTI Link Pro License

5. Configure the IP Office TAPI service provider to run in third party mode.
 - a. Open Phone and Modem Options under the Windows Control Panel, as depicted in **Figure 4**.

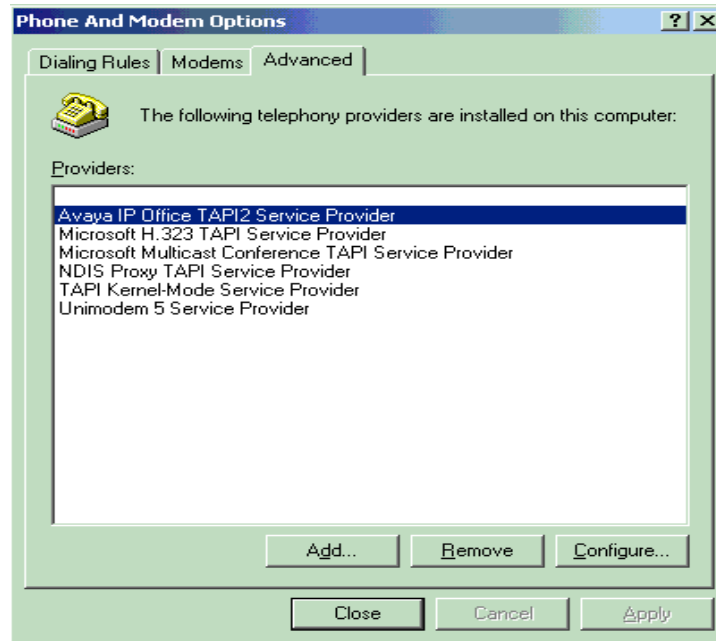


Figure 4: Phone and Modem Options

6. Double click on **Avaya IP Office TAPI Service Provider**
 - a. Select **Third Party**
 - b. Enter in the switch password
 - c. Select **ACD Queues**, as depicted in **Figure 5**.

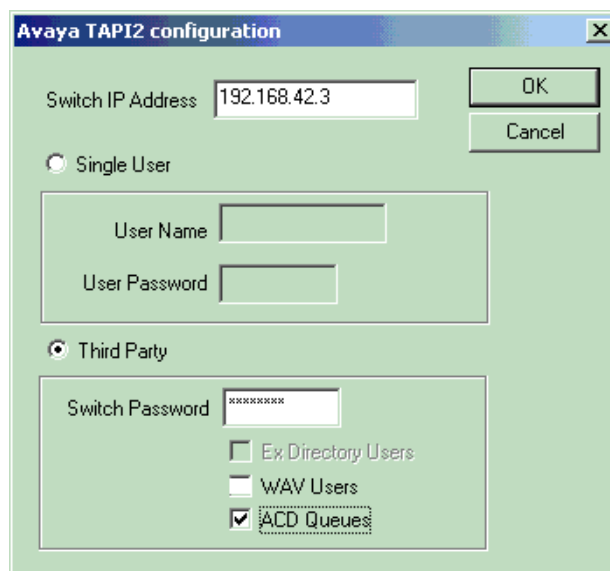


Figure 5: TAPI Service Provider Configuration

3.2. IP Office Feature Administration

The administration described below is for connectivity between IP Office server and Smart Connect and Smart Messaging. It is a high-level description. More details can be obtained from the IP Office Manager Guide, Issue 12 (September 2002).

3.2.1. Hunt Group Administration

Smart Connect and Smart Messaging requires 3 hunt groups. Each label for the hunt group reflects the purpose of the hunt groups with Smart Connect and Smart Messaging. **Figure 6** depicts the administration for the Hold hunt group. Administer each hunt group in the same way. The members of the hunt groups are analog ports connected to Dialogic cards in the Smart Connect server.

1. Administer the following hunt groups:
 - Hold
 - Voice Mail (VM)
 - Operator
2. Administer backup hunt groups in case of application failure. Different hunt-groups can be configured for each Smart Connect queue, a single backup hunt group can be shared across multiple queues, or a combination of these two options can be used. **Figure 6** shows the hunt group “Fall Back” as the backup hunt group.

HuntGroup Hold

HuntGroup | Voicemail | Fallback | Queueing | VoiceRecording

Name:

Extension:

Allocated Answer Interval (secs):

Overflow Time (secs):

Hunt Type:
☐ Group
☒ Linear
☐ Circular
☐ Most Idle

☐ Call Waiting On

Extension List

Extension	User
201	Extn201
202	Extn202

Overflow Group List

Name
Fall Back

OK Cancel Help

Figure 6: Hunt Group - Administration

3. In the Hunt Group Queuing tab, check **Queuing On** and set the values of **Queue Limit** and **Queue Ring Time** values to “999”, as depicted in **Figure 7**.

Note: If there are hunt groups administered as backups, adjust the overflow time and destination (on the Hunt Group tab) to appropriate values. Zeacom recommends that the overflow time is set up in much the same way as for the MERLIN Magix PBX – an approximation is to set the overflow time to roughly twice the inter-announce delay (e.g. if announcements play every 20 seconds, set the overflow time to ~40 seconds).

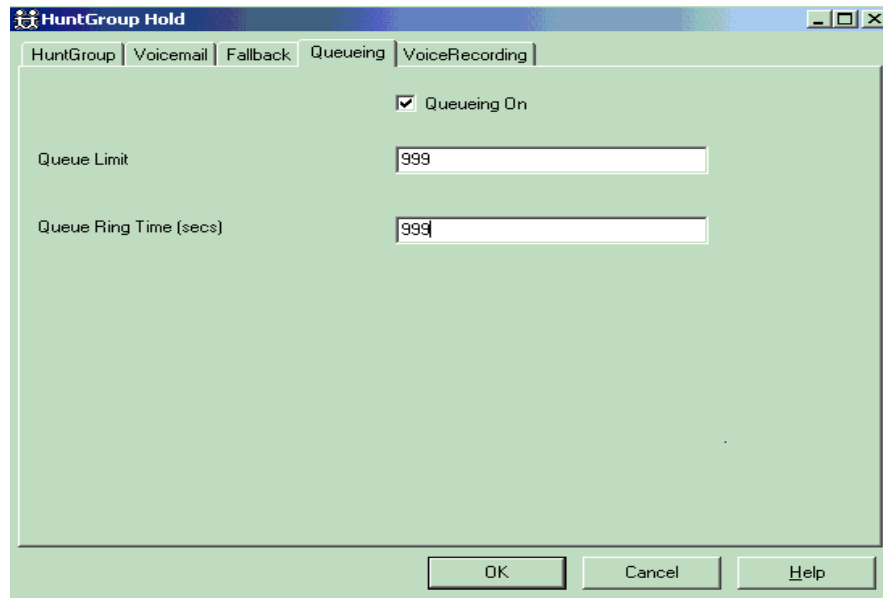


Figure 7: Hunt Group - Queue

- In the Voicemail Tab verify that **Voicemail On** is not checked, as depicted in **Figure 8**.

The screenshot shows a window titled "HuntGroup VoiceMail" with a tabbed interface. The "Voicemail" tab is selected. The window contains the following fields and controls:

- Voicemail Code:** A text input field.
- Confirm Password:** A text input field.
- Voicemail Email:** A text input field.
- Voicemail Email:** A group box containing four radio buttons:
 - ☒ Off
 - ☐ Copy
 - ☐ Forward
 - ☐ Alert
- Voicemail On:** A checkbox, which is unchecked.
- Voicemail Help:** A checkbox, which is unchecked.
- Buttons:** "OK", "Cancel", and "Help" buttons are located at the bottom right.

Figure 8: Hunt Group -VoiceMail

3.2.2. User Administration

For each user that will have coverage to Smart Messaging, the user must have:

- Forward on busy,
- Forward on no answer,
- Forward number administered.

- On the forwarding tab, the forward number is the hunt group **222** for Voice Message, as depicted in **Figure 9**.

User Extn203

Dial In	VoiceRecording	ButtonProgramming	Coverage
User	Voicemail	DND	ShortCodes
SourceNumbers	Telephony	Forwarding	

Follow Me Number:

Forward Unconditional: ☐

Forward Number:

Forward On Busy: ☒

Forward On No Answer: ☒

Forward Number:

Forward Huntgroup Calls: ☐

OK Cancel Help

Figure 9: User - Call Forwarding

- On the **Voicemail** tab, **Voicemail On** should NOT be checked, as depicted in **Figure 10**.

User Extn203

Dial In	VoiceRecording	ButtonProgramming	Coverage
User	Voicemail	DND	ShortCodes
SourceNumbers	Telephony	Forwarding	

Voicemail Code:

Confirm Voicemail Code:

Voicemail Email:

Voicemail Reception:

Voicemail On: ☐

Voicemail Help: ☐

Voicemail Ringback: ☐

Voicemail Email:

- ☒ Off
- ☐ Copy
- ☐ Forward
- ☐ Alert

OK Cancel Help

Figure 10: User - Voice Mail

- Each user must have **Offhook Station** checked in the Telephony Tab, as depicted in **Figure 11**.

The screenshot shows the 'User Extn203' configuration window with the 'Telephony' tab selected. The 'Offhook Station' checkbox is checked. Other settings include 'DefaultRing' for ring patterns, '2' for wrap-up time, and 'Cannot be Intruded' checked.

Field	Value	Checkbox	Value
Outside Ring Pattern	DefaultRing	<input checked="" type="checkbox"/>	Call Waiting On
Inside Ring Pattern	DefaultRing	<input type="checkbox"/>	Outward Restricted
Ring Back Pattern	DefaultRing	<input checked="" type="checkbox"/>	Offhook Station
Allocated Answer Interval (secs)		<input type="checkbox"/>	Can Intrude
Wrap-up Time (secs)	2	<input checked="" type="checkbox"/>	Cannot be Intruded
Login Code		<input type="checkbox"/>	Directory Exclude
Login Idle Period (secs)		<input type="checkbox"/>	Force Login
Monitor Group		<input type="checkbox"/>	Force Account Code
		<input type="checkbox"/>	Busy On Held
		<input type="checkbox"/>	System Phone

Figure 11: User - Off hook Station

3.2.3. Short Codes

Two Short Codes are required for Smart Connect.

- In **Figure 12**, Smart Connect uses this code to automatically learn the extension numbers of the Dialogic ports.

The screenshot shows the 'Shortcode *99424299*N#' configuration window. The 'Short Code' field contains '*99424299*N#', 'Line Group ID' is '0', and 'Feature' is 'Busy'.

Field	Value
Short Code	*99424299*N#
Telephone Number	.
Line Group ID	0
Feature	Busy
Locale	

Figure 12: Information Short Code

- In **Figure 13**, the short code simulates the Call Park and Retrieve features for Smart Connect. The number of x's in the code represents the number of digits in the Smart Connect park-slot number plus one (the two-digit park slot is represented by 3 x's).

Figure 13: Call Park and Retrieve Short Code

4. Install and Configure Smart Connect

NOTE: IP Office server administration must be completed first. Any changes in IP Office station information, hunt groups, or dial plans will not be reflected in Smart Connect. To update Smart Connect and Smart Messaging, the TAPI Service must be restarted. The TAPI Service Provider (TSP) can be restarted by rebooting the PC or by removing and adding the TAPI Service Provider.

To remove and then add the TSP:

1. Open **Phone and Modem Options** in the Windows Control Panel.
2. Select **Avaya IP Office TAPI Service Provider**, remove and then add the provider, as depicted in **Figure 4**.
3. Re-start the Zeacom PBX module.

Smart Connect server requires a minimum configuration of a Pentium III PC with a 9 GB hard drive, 256 MB memory, and a PCI Ethernet adapter with TCP/IP protocol bound with fixed IP address. The telephony server requires Microsoft Windows NT or 2000 server or workstation with Service Pack 6A. The clients can be Microsoft Windows 95/98/NT/2000 but not Windows ME.

For detailed information on installation of Smart Connect and Smart Messaging, refer to the Zeacom Smart Connect Installation Manual for IP Office. Once the application has been installed, the Smart Connect Setup Wizards will prompt to configure the system.

Once the wizards have been run, go under the General, Lines selection in the Zeacom Administrator application. On the right side of the screen, all “lines” reported via the TAPI interface will appear. Since the TAPI interface does not differentiate between a station and a hunt group queue, verify that hunt groups or stations that will not be monitored by Smart Connect are removed, as depicted in **Figure 14**.

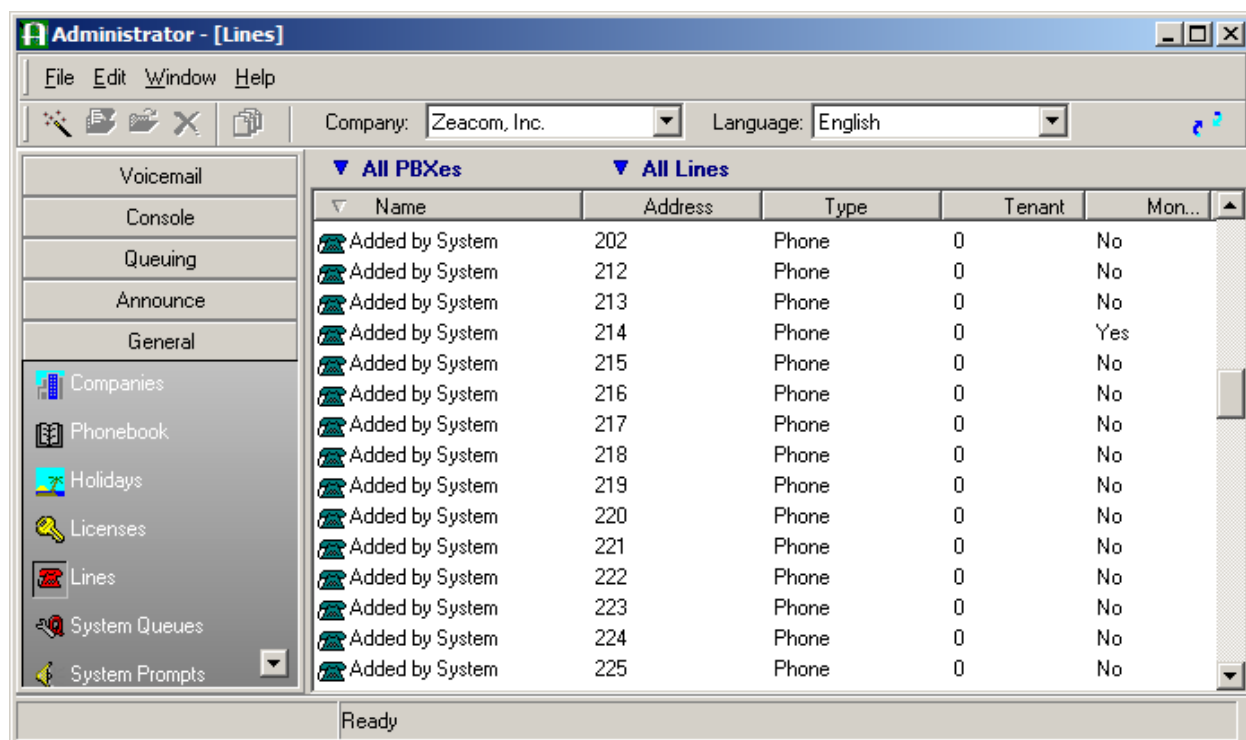


Figure 14: Smart Connect Administrator Screen

NOTES:

- 1) By default, there is a short code (*17) for message retrieval. This is not supported with Smart Messaging; users should instead dial the voicemail access code (Hunt Group).
- 2) Smart Messenger does not refresh Message Waiting Lamps if the IP Office Server is restarted.

5. Interoperability Compliant Testing

Testing was performed using the Test Plan for Smart Connect and IP Office, Issue 1, March 2003. All tests passed successfully.

5.1. General Test Approach

Testing included incoming call flows and station feature functionality. Features provided by Smart Connect include call routing delivery based upon caller profile, agent skills, time of day, number dialed and wait times. Smart Messaging included call handling with voicemail, auto attendant, and delay announcements. Testing was performed using Smart Connect and Smart Messaging to route and answer calls. The call flow and feature functionality tests were performed manually. A bulk call generator was used to generate call traffic to the clients overnight. The call records were verified and no errors were detected.

6. Support

Contact the Expanets ETAC (1-866-XPANETS) who will contact Zeacom should it become necessary.

7. Conclusion

Smart Connect with Smart Messaging has been successfully compliance tested with IP Office Server in the Developer*Connection* Program.

These Application Notes provide dealers, VARs, and the Avaya sales force with the basic steps to configure the IP Office server and Smart Connect with Smart Messaging. The steps provided should be helpful for implementing most deployments, but they do not address all configurations.

The following is a list of features that are not supported when using Smart Connect and Smart Messaging with IP Office server:

- The short code for accessing Voice Mail (*17)
- The Hot Desking feature
- Refreshing Message Waiting Lamps if IP Office server is restarted.

7.1. Documentation

The following documents can be found at <http://support.avaya.com/>:

IP Office Installation Manual, Issue 7, September 2002, Doc ID: 40DHB0002UKCL

IP Office Manager Guide, Issue 12, September 2002, Doc ID: 40DHB0002USAU

IP Office CTI TAPI Installation Manual, Issue 4, May 2002; Doc ID: 40DHB0002USCC

IP Office License & Feature Keys, Issue 5, September 2002; Doc ID: 40DHB0002USCF

Zeacom Smart Connect Administrator Manual for IP Office, Issue 1, December 2002

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