



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Sonexis ConferenceManager with Avaya IP Office using an ISDN/PRI Trunk – Issue 1.0

Abstract

These Application Notes describe the procedure for configuring Sonexis ConferenceManager to interoperate with Avaya IP Office using an ISDN/PRI trunk.

Sonexis ConferenceManager is an in-house audio conferencing bridge that eliminates the costly pay-as-you-go fees of subscription-based services. Sonexis ConferenceManager is designed to work within existing voice and data networks, and Sonexis ConferenceManager is available with a fully integrated Web conferencing option

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 procedure for configuring Sonexis ConferenceManager (herein referred to as ConferenceManager) to interoperate with Avaya IP Office.

ConferenceManager is an in-house audio conferencing bridge that eliminates the costly pay-as-you-go fees of subscription-based services. ConferenceManager is designed to work within existing voice and data networks, and ConferenceManager is available with a fully integrated Web conferencing option.

These Application Notes assume that Avaya IP Office is already installed and basic configuration steps have been performed. Only steps relevant to this compliance test will be described in this document.

- PRI line configuration in IP Office
- Short Code for call route
- Incoming Call Route

2. General Test Approach and Test Results

The general test approach was to place calls to and from ConferenceManager. The main objectives were to verify the following:

- Inbound calls
- Outbound calls
- Hold / Resume
- Call termination (origination/destination)
- Transfer (blind/consult)
- Conference (client initiated/host initiated)
- DTMF
- ANI/DNIS

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

The interoperability compliance testing included features and serviceability tests. The focus of the compliance testing was primarily on verifying the interoperability between ConferenceManager and Avaya IP Office.

2.2. Test Results

The test objectives were verified. For serviceability testing, ConferenceManager operated properly after recovering from failures such as cable disconnects, and resets of ConferenceManager and Avaya IP Office.

2.3. Support

Technical support for the ConferenceManager solution can be obtained by contacting Sonexis:

- URL – CustomerCare@sonexis.com
- Phone – (866) 676-6394

3. Reference Configuration

Figure 1 illustrates the configuration used in these Application Notes. The sample configuration shows an enterprise with Avaya IP Office. Endpoints include an Avaya 9630G H323, 1608 DCP, 1140E SIP and IP Office Softphone on IP Office.

Note: An Avaya Call Server 1000 Release 7.5 was included to simulate the PSTN call.

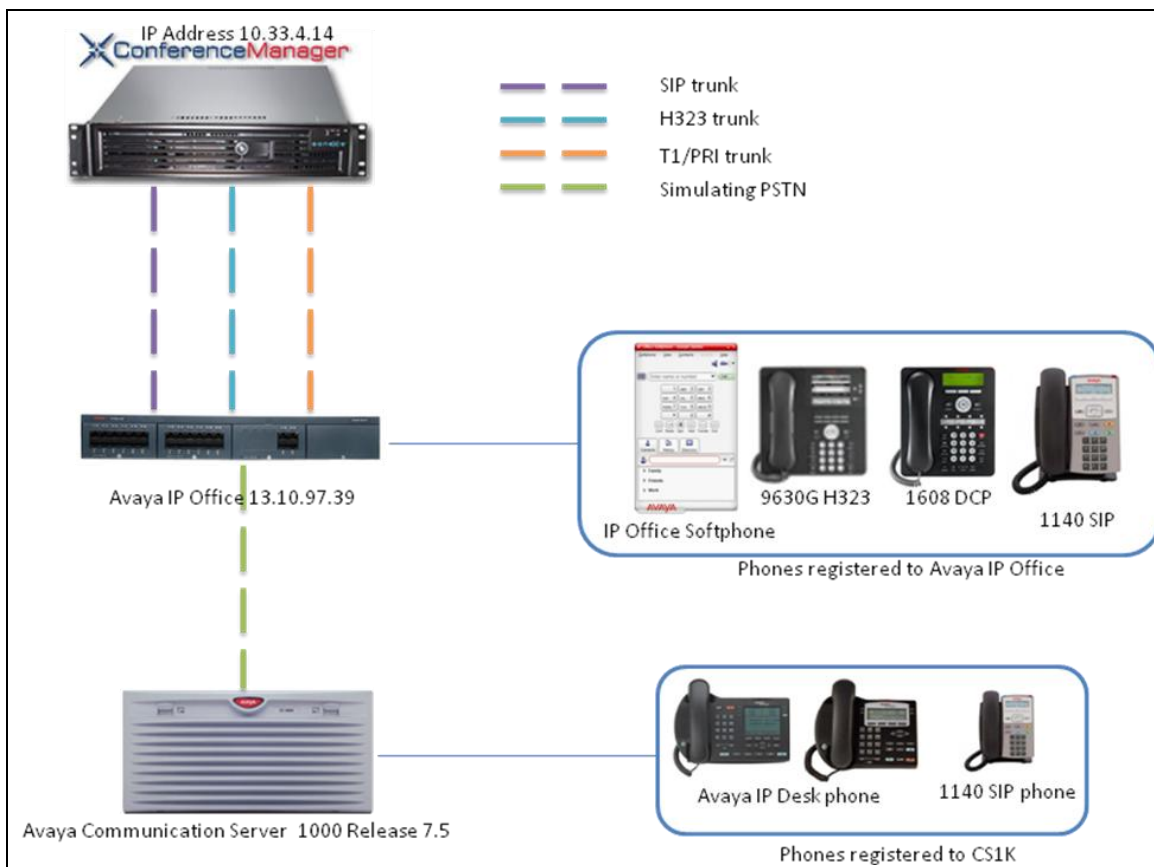


Figure 1: Test Configuration of Sonexis Conference Manager

4. Equipment and Software Validated

The following equipment and software were used for the test configuration.

Equipment		Software/Firmware
Avaya IP Office 500 V2		8.1(63)
Avaya IP Office Manager on Windows XP Professional 2002 with SP3		10.1(63)
Avaya Call Server 1000 Release 7.5		7.5
Avaya Telephones on IP Office		
	9630G H323	3.1.05
	1140E SIP	04.03.12
	IP Office Softphone on IP Office	
Avaya 1608 Digital Telephone		NA
Avaya Phones (simulating PSTN phones)		
	1140E (SIP)	04.03.12
	i2004 IP	0602B76
Sonexis on Windows Server 2008 with SP 2		10.1.35.0

5. Configure Avaya IP Office

This section describes the steps required for configuring Avaya IP Office. During the compliance test, a PRI line was utilized between Avaya IP Office and ConferenceManager.

The procedures include the following areas:

- Verify PRI line Channels License
- Configure PRI Line
- Create the static PRI line
- Configure a short code to route calls through the PRI line
- Create an Incoming Call Route for the Inbound PRI calls

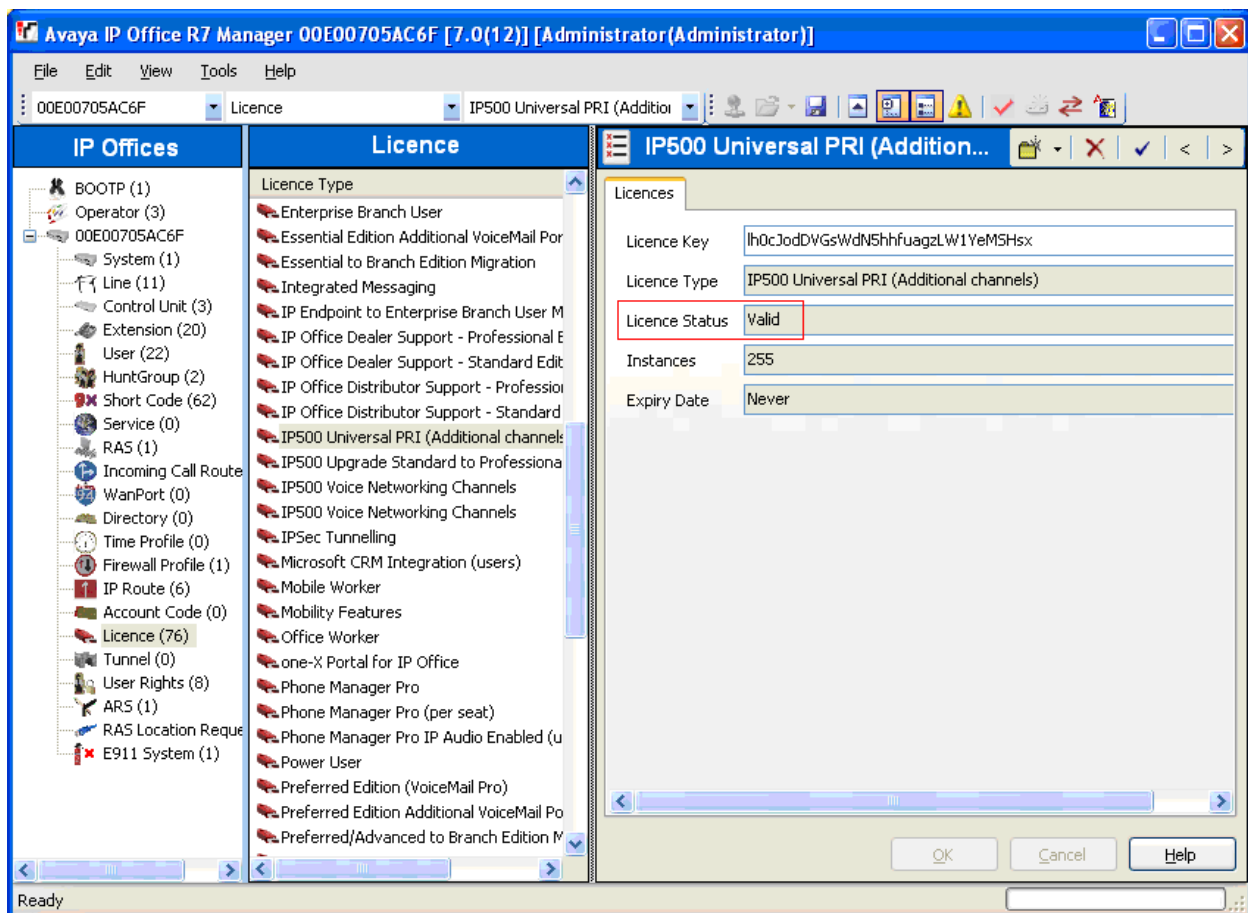
These steps are performed from the Avaya IP Office Manager.

5.1. Verify PRI Line Channels License

IP Office is configured via the IP Office Manager application. Log into the PC running the Avaya IP Office Manager Application, and select **Start → All Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system if there are more than one IP Office system, and log in with the appropriate credentials.

From the configuration tree in the left pane, select **License → IP500 Universal PRI (Additional Channels)**. Verify that the **License Status** field is set to **Valid**.

If a required feature is not enabled or there is insufficient capacity, contact an authorized Avaya sales representative to make the appropriate changes.



5.2. Configure PRI Line

From the configuration tree in the left pane, click on **Line**, and select **5**, which is a PRI line, to display the **PRI 24 (Universal) – Line 5** screen in the right pane. Select the **PRI 24 Line** tab and provide the following information:

- **Switch Type** – Select **NI2** using the drop-down menu. During the compliance test, NI2 was utilized on both (IP Office and ConferenceManager).
- **Channel Allocation** – Select **23→1** (or **1→23**) using the drop-down menu.
- **Framing** – Select **ESF** using the drop-down menu
- **Zero Suppression** – Select **B8ZS** using the drop-down menu
- **Line Signaling** - Select **CPE** using the drop-down menu. The ConferenceManager side was set to **Network**.

The screenshot shows the configuration window for a PRI line. The left pane displays a tree view of the system configuration, with 'Line (11)' expanded and 'Line 5' selected. The right pane shows the configuration for 'PRI 24 Line Channels'. The configuration fields are as follows:

Field	Value
Line Number	05
Card	2
Port	9
Line SubType	PRI
Admin	In Service
Provider	Local Telco
Switch Type	NI2
Channel Allocation	23 -> 1
Prefix	
Add 'Not end-to-end ISDN' Information Element	Never
Send Redirecting Number	<input type="checkbox"/>
Test Number	
Clock Quality	Network
CRC Checking	<input checked="" type="checkbox"/>
CSU Operation	<input checked="" type="checkbox"/>
Haul Length	LongHaul (0dB)
Framing	ESF
Zero Suppression	B8ZS
Line Signalling	CPE
Incoming Routing Digits	0

Select the **Channels** tab to display channels. Select channels that will be used and click the **Edit** button. All 23 channels were utilized during the test.

The screenshot shows the Avaya IP Office configuration interface. The left pane displays a tree view of IP Office components, including BOOTP (1), Operator (3), System (1), Line (11), Control Unit (3), Extension (20), User (22), HuntGroup (2), Short Code (62), Service (0), RAS (1), Incoming Call Rc, WanPort (0), Directory (0), Time Profile (0), Firewall Profile (0), and IP Route (6). The main pane displays the configuration for 'PRI 24 (Universal) - Line 5'. The 'Channels' tab is selected, showing a table of 23 channels. All channels are in 'In Service' status. An 'Edit...' button is highlighted in the top right corner.

Channel	Groups	Line Appearance	Direction	Bearer	Service	Admin
1	5 5		Bothway	Any	None	In Service
2	5 5		Bothway	Any	None	In Service
3	5 5		Bothway	Any	None	In Service
4	5 5		Bothway	Any	None	In Service
5	5 5		Bothway	Any	None	In Service
6	5 5		Bothway	Any	None	In Service
7	5 5		Bothway	Any	None	In Service
8	5 5		Bothway	Any	None	In Service
9	5 5		Bothway	Any	None	In Service
10	5 5		Bothway	Any	None	In Service
11	5 5		Bothway	Any	None	In Service
12	5 5		Bothway	Any	None	In Service
13	5 5		Bothway	Any	None	In Service
14	5 5		Bothway	Any	None	In Service
15	5 5		Bothway	Any	None	In Service
16	5 5		Bothway	Any	None	In Service
17	5 5		Bothway	Any	None	In Service
18	5 5		Bothway	Any	None	In Service
19	5 5		Bothway	Any	None	In Service
20	5 5		Bothway	Any	None	In Service
21	5 5		Bothway	Any	None	In Service
22	5 5		Bothway	Any	None	In Service
23	5 5		Bothway	Any	None	In Service

On the **Multiple Channel Edit** screen, provide the following information:

- **Incoming Group** – Enter the incoming line, created in **Section 5.2**.
- **Outgoing Group** – Enter the outgoing line, created in **Section 5.2**.
- **Admin** – Select **In Service** using the drop-down menu.

Click on the **OK** button.

The screenshot shows the 'PRI 24 (Universal) - Line 5' configuration window. The 'Multiple Channel Edit' dialog is open, displaying the following fields and values:

Channel	Groups	Line Appearance	Direction	Bearer	Service	Admin
1	5	5	Bothway	Any	None	In Service
2	5	5	Bothway	Any	None	In Service
3	5	5	Bothway	Any	None	In Service
4	5	5	Bothway	Any	None	In Service
5	5	5	Bothway	Any	None	In Service

The 'Multiple Channel Edit' dialog fields are as follows:

- Channels: 1...23
- Incoming Group: 5
- Outgoing Group: 5
- Direction: Bothway
- Bearer: Any
- Service: None
- Admin: In Service
- Tx Gain: 0dB
- Rx Gain: 0dB

The 'OK' button is highlighted with a red box.

5.3. Configure a Short Code to Route Calls through the PRI line

Select **Short Code** in the left panel. Right click and select **Add**. Enter **77301**; where extension **77301** will be routed to ConferenceManager, in the **Code** text box. Select **Dial** for the **Feature** field. Enter the **Outgoing Group** number created in **Section 5.2** for the **Line Group Id** field. Enter **‘.’** for the **Telephone Number** field. Use default values for all other fields. Click the **OK** button.

Note: When extension 77031 was dialed, the call routed thru the PRI line 5.

The screenshot displays the Avaya IP Office configuration interface. On the left, the 'IP Offices' tree shows a list of extensions, with '77031' highlighted. The main window is titled '77031: Dial'. It contains a 'Short Code' configuration form with the following fields:

- Code:** 77031
- Feature:** Dial (selected from a dropdown)
- Telephone Number:** .
- Line Group Id:** 5 (selected from a dropdown)
- Locale:** (empty dropdown)
- Force Account Code:** ☐

At the bottom right of the window, there are three buttons: 'OK', 'Cancel', and 'Help'. The 'OK' button is highlighted with a red box.

5.4. Create an Incoming Call Route for the Inbound PRI Calls

Select **Incoming Call Route** in the left pane. Right-click and select **New**.

Enter the following:

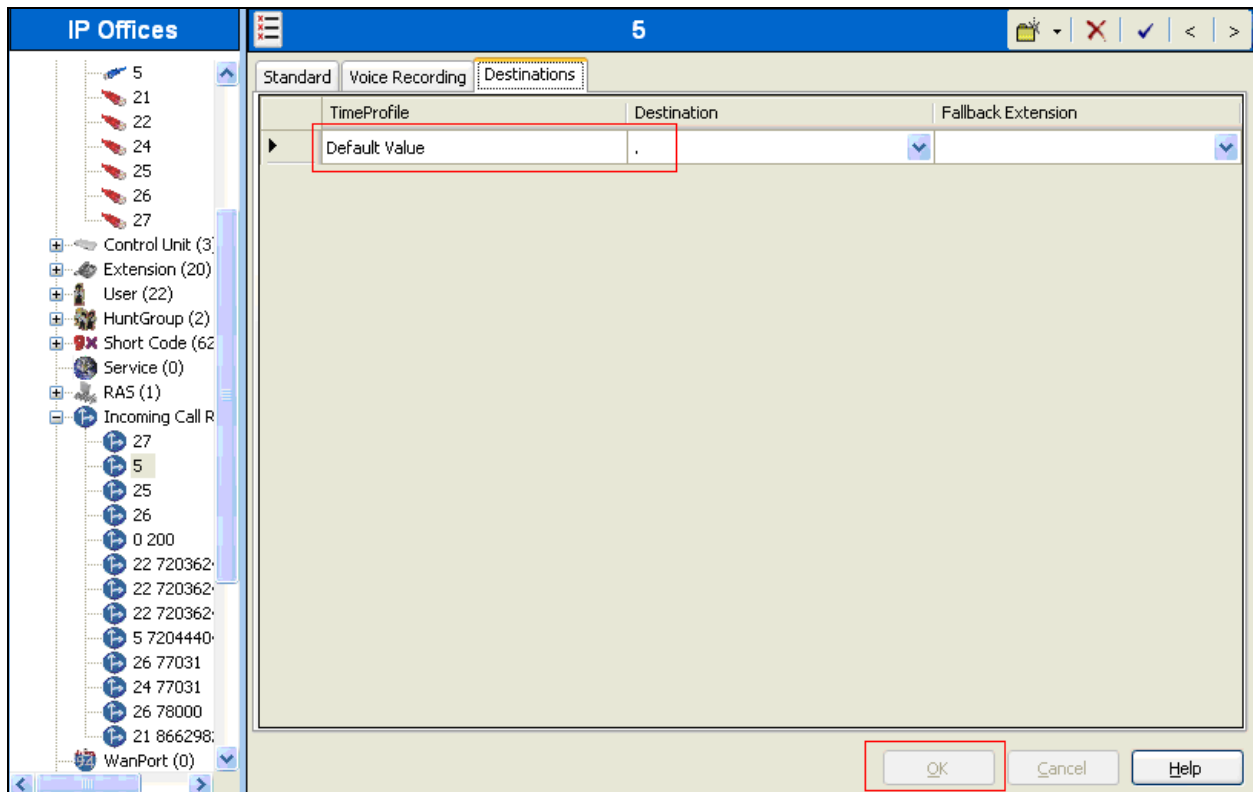
- **Any Voice** for the **Bearer Capability** field.
- Enter the **Incoming Group** number created in **Section 5.2** in the **Line Group Id** field.
- Use default values for all other fields.

The screenshot displays the Avaya IP Office configuration interface. On the left, the 'IP Offices' tree shows a hierarchy including 'Control Unit (3)', 'Extension (20)', 'User (22)', 'HuntGroup (2)', 'Short Code (62)', 'Service (0)', 'RAS (1)', and 'Incoming Call R'. Under 'Incoming Call R', a list of call routes is shown, with '5' selected. The main window, titled '5', contains configuration fields for the selected call route. The 'Standard' tab is active. The 'Bearer Capability' field is set to 'Any Voice' and the 'Line Group Id' field is set to '5'. Other fields include 'Incoming Number', 'Incoming Sub Address', 'Incoming CLI', 'Locale', 'Priority' (set to '1 - Low'), 'Tag', and 'Hold Music Source' (set to 'System Source'). The 'Voice Recording' and 'Destinations' tabs are also visible. At the bottom right, there are 'OK', 'Cancel', and 'Help' buttons.

Field	Value
Bearer Capability	Any Voice
Line Group Id	5
Incoming Number	
Incoming Sub Address	
Incoming CLI	
Locale	
Priority	1 - Low
Tag	
Hold Music Source	System Source

Next, navigate to the **Destinations** tab and enter “.” under the **Destination** field.

Click the **OK** button.



After making the changes, click on the floppy disk icon (not shown) to push the changes to the IP Office system and have them take effect

Note: *Changes will not take effect until this step is completed. This may cause a reboot of Avaya IP Office causing service disruption.*

6. Configure the Sonexis ConferenceManager

Sonexis installs, configures, and customizes the ConferenceManager application for their end customers. Thus, this section only describes the interface configuration, so that ConferenceManager can talk to Avaya IP Office. By the request of Sonexis, the only codec tested during the compliance test was G.711MU.

The procedures for setting up ConferenceManager for a PRI line include the following areas:

- Installing License
- Configure Telephony

6.1. Install PRI Line license

Launch a web browser, enter <https://<IP address of ConferenceManager>:8097> in the URL, and log in with the appropriate credentials. Navigate to the **License** menu. Enter an appropriate license for the PRI line in the **New License Key** field.

Click on the **apply** button.

Note: During the test, Sonexis provide the licenses for PRI, H323 and PRI lines.



The screenshot shows the Sonexis ConferenceManager Administrator web interface in a Windows Internet Explorer browser window. The address bar shows <http://localhost:8097/>. The page title is "ConferenceManager Administration" with the Sonexis logo. A navigation bar includes links for Status, Conference, Telephony, System, Network, SMTP, Alert, Date/Time, Password, License (selected), Backup/Restore, Update, Logs, and Help. The main content area displays various configuration settings: Audio Ports Enabled: 24, Web Ports Enabled: 24, Audio Recording Enabled: No, Blast Dial Enabled: No, Multi-Language Enabled: No, Multilevel Precedence and Preemption: No, Current License Key: A3KPMA-ALPZU3-MAAKU4P-AA2JX-LA7333, and New License Key: (empty text box). Below these, the Current Port Utilization Alert Level is set to 100%, with a description: "Enter the percent utilization of audio and/or web ports that will trigger an alert e-mail to the administrator." and an empty input box. At the bottom right, there is an "apply" button. The footer contains the copyright notice: "Copyright © 2000-2011 Sonexis Technology, Inc., All rights reserved."

6.2. Configure Telephony

Select the **Telephony** tab and provide the following information:

- **Circuit Type** – Select **ISDN PRI** using the drop-down menu.
- **Switch Type** – Select **NI2** using the drop-down menu.
- Check on the **Network Side** box.
- **Frame/Line Type** – Select **ESF/B8ZS** using the drop-down menu.

Click on the **restart telephony** button.


Administration


[Status](#)
[Conference](#)
[Telephony](#)
[System](#)
[Network](#)
[SMTP](#)
[Alert](#)
[Date/Time](#)
[Password](#)
[License](#)
[Backup/Restore](#)
[Update](#)
[Logs](#)
[Help](#)

Board:	Span:	Circuit Type:	Switch Type:	Network Side:	Frame/Line Type:	Wink Digits:	Wink Duration:	Wink Timeout:	Reset Framers on Error:	Outgoing *DNIS*:	Incoming *ANI*DNIS*:
1	1	ISDN PRI	NI2	<input checked="" type="checkbox"/>	ESF/B8ZS	23	200	10000	ON	OFF	OFF
<input type="checkbox"/> Set all spans like this one											
1	2	ISDN PRI	NI2	<input checked="" type="checkbox"/>	ESF/B8ZS	23	200	10000	ON	OFF	OFF
1	3	ISDN PRI	NI2	<input checked="" type="checkbox"/>	ESF/B8ZS	23	200	10000	ON	OFF	OFF
1	4	ISDN PRI	NI2	<input checked="" type="checkbox"/>	ESF/B8ZS	23	200	10000	ON	OFF	OFF

PBX Dial-out Prefix: (Enter the prefix, if any, that must be dialed in order to get an outside line if your system is installed behind a PBX.)

Internal Dial Length: (Specify the maximum number of digits for internal dialing.)

Dialing Plan: (Choose the dialing plan to format dialed numbers for outside calls.)

10-digit NPAs: (Specify the Area Codes for 10-digit dialing, separated with a space.)

7-digit NPA: (Specify the Area Code for completing 7-digit numbers.)

Test Dialout String: [Display number/extension](#) (Display the dial string and extension the system would use for this dialout. The character "x" defines the start of an extension.)

Click restart telephony to apply your telephony settings.

[span status](#)
[restart telephony](#)

Copyright © 2000-2011 Sonexis Technology, Inc., All rights reserved.

7. Verification Steps

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

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start → All Programs → IP Office → System Status** to launch the application. From the **Avaya IP Office System Status** screen, select **Trunks → Line 5** from the left pane and verify the trunk is **Idle** under the **Current State** field.

8. Conclusion

These Application Notes describe the procedures required to configure Sonexis ConferenceManager to interoperate with Avaya IP Office through a PRI trunk. Sonexis ConferenceManager successfully passed compliance testing.

9. Additional References

The following Avaya product documentation can be found at <http://support.avaya.com>
[1] *IP Office R8.1 Manager 10.1*, 15-601011 Issue 29o – (03 August 2012)

Sonexis product documentation can be requested at the following site:
<http://www.sonexis.com/access/index.asp?id=40&Program=DevConnect>

©2013 Avaya Inc. All Rights Reserved.

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.