



Avaya Solution & Interoperability Test Lab

Application Notes for FCS Connect with Avaya Communication Manager and Avaya 3600-Series Wireless IP Telephones - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring FCS Connect to interoperate with Avaya Communication Manager and Avaya 3600-Series Wireless IP Telephones. FCS Connect is a sophisticated small-scale in-house call center solution that enables hoteliers to implement “on-touch” service request capabilities from all guest telephones.

Information in these Application Notes has been obtained through *DeveloperConnection* compliance testing and additional technical discussions. Testing was conducted via the *DeveloperConnection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the procedures for configuring FCS Connect to interoperate with Avaya Communication Manager and Avaya 3600-Series Wireless IP Telephones. FCS Connect is a sophisticated small-scale in-house call center solution that enables hoteliers to implement “on-touch” service request capabilities from all guest telephones. FCS Connect is a centralized contact point for the FCS Hospitality Suite, which provides centralized billing and messaging.

When a guest makes a service request, their call into the corresponding Avaya Communication Manager hunt group is delivered immediately to the appropriate agent or operator and the request is tracked until completed or escalated when necessary. Guest information is automatically presented at the agent workstation via a screen pop as soon as the agent answers the call or whenever a guest abandons the call while waiting.

Service requests result in jobs being created for hotel staff members, called “runners.” Jobs can be received, acknowledged and updated by runners in two ways: (1) by wireless text messaging using an Avaya 3600-Series Wireless IP Telephone or a PDA device; or (2) via calls from Avaya Communication Manager voice endpoints over analog ports into FCS Connect’s IVR module.

The configuration used in performing compliance testing of FCS Connect is shown in **Figure 1**. It shows a wired/wireless telephony network consisting of the following: a pair of Avaya S8720 Servers running Avaya Communication Manager in a High Reliability configuration with two Avaya G650 Media Gateways; Avaya 4626 and 9640 IP Telephones, representing guest telephones; an Avaya Voice Priority Processor; a Wireless Access Point; and Avaya 3600-Series Wireless IP Telephones (specifically the 3616, 3641 and 3645), representing devices used by runners. An FCS Connect server connects to ports on one of the Avaya G650 Media Gateways via analog ports on an Intel Dialogic card. In addition, FCS Connect sends wireless text messages to, and receives wireless updates from, the Avaya 3600-Series Wireless IP Telephones via an IP connection with a SpectraLink Netlink OAI Gateway. FCS WinSuite (a Windows-based Hospitality system that provides a real-time multitasking interface between a PBX and a hotel’s Property Management System) was used to retrieve guest information to be used in populating jobs generated by FCS Connect.

These Application Notes assume that FCS WinSuite has been installed and configured by FCS services personnel, and that its integration with Avaya Communication Manager has been completed. For details on the integration of FCS WinSuite with Avaya Communication Manager, please refer to [4].

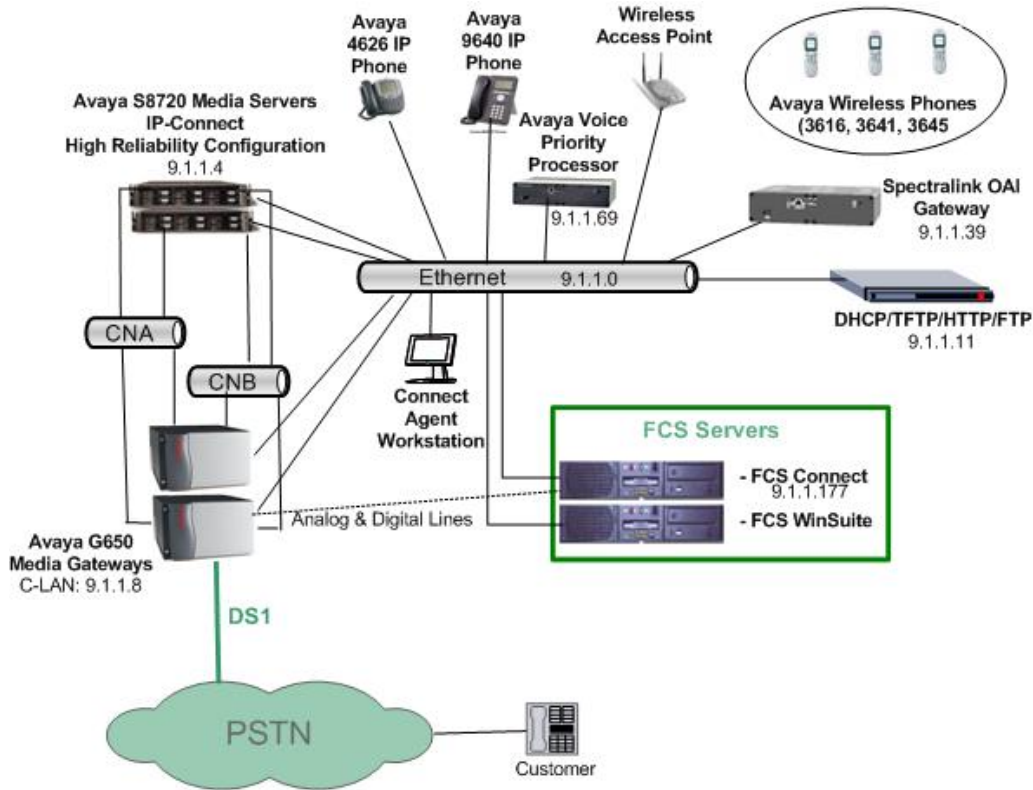


Figure 1: Sample Test Configuration

2. Equipment and Software Validated

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

| Equipment | Hardware/Firmware/Software Version |
|--|---|
| Avaya S8720 Server | Avaya Communication Manager 4.0.1 (R014x.00.1.731.2) |
| Avaya G650 Media Gateway <ul style="list-style-type: none"> • TN799DP C-LAN • TN2312AP IPSI • TN2302AP MedPro • TN2224CP 2-Wire Digital • TN464HP DS1 • TN746B Analog Line | 26.31.0 HW01 FW156 HW15 FW039 HW02 FW142 HW08 FW015 HW02 FW019 000019 |
| Avaya 4626 IP Telephone | 2.4 |
| Avaya 9640 IP Telephone | S1.5 |
| Avaya 3616 Wireless IP Telephone | 110.064 069.048 106.013 |
| Avaya 3641 Wireless IP Telephone | 119.024 117.013 118.018 |

| Equipment | Hardware/Firmware/Software Version |
|---|---|
| Avaya 3645 Wireless IP Telephone | 119.024 117.013 118.018 |
| Avaya Voice Priority Processor (SVPP Type: 100) | 33/02 Factory Page: 230.007 Downloader: 230.157 Table of Contents: 173.027 Functional Code: 174.027 File System: 175.027 |
| SpectraLink Netlink OAI Gateway | 06/81 Boot Code: 001.010 (0d7a) Factory Page: 085.001 (02fd) Flash1 Downloader: 031.007 (0233) Functional Code: 082.017 (014f) fnctla.bin 082.017 (014f) |
| FCS Connect Server <ul style="list-style-type: none"> • Dialogic 4-port Analog Line Card • Dialogic Digital Line Card | 3.0.0 D4PCIUFW D/82JCT-U |
| FCS WinSuite Server | 3.0.8 (with Windows 2003 Server SP 2) |

3. Configure Avaya Communication Manager

This section details the steps required to configure Avaya Communication Manager to interoperate with FCS Connect. These Application Notes assume the Avaya Media Gateways (including circuit packs) have already been administered. Please refer to [1] for additional details.

The commands listed in this section were issued at the Avaya System Access Terminal (SAT) screen. For all steps where data are modified, submit the completed administration form for the changes to take effect.

| Step | Description |
|------------------|--|
| <p>1.</p> | <p><i>Administer analog IVR ports to FCS Connect:</i></p> <p>Enter add station x (where x is a valid unused extension) and specify the following values:</p> <ul style="list-style-type: none"> • Type: 2500. • Port: A port on the analog line card that is connected to FCS Voicemail. • Name: A descriptive name (in this case, FCS Connect). <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <pre> add station 40011 Page 1 of 4 STATION Extension: 40011 Lock Messages? n BCC: 0 Type: 2500 Security Code: TN: 1 Port: 01B0404 COR: 1 Name: FCS Connect COS: 1 Tests? y STATION OPTIONS Time of Day Lock Table: Loss Group: 1 Off Premises Station? n Survivable COR: internal Survivable Trunk Dest? Y </pre> </div> |
| <p>2.</p> | <p>Repeat Step 1 to add additional analog stations for each of the ports connected to FCS Connect.</p> |

| Step | Description |
|------|---|
| 3. | <p data-bbox="282 289 893 321"><i>Add stations for Avaya Wireless IP Telephones:</i></p> <p data-bbox="282 342 1352 411">Enter add station x command (where x is a valid unused extension) and specify the following values:</p> <ul data-bbox="380 453 1377 632" style="list-style-type: none"> • Type: 4612 (this type can be used for all models of the Avaya 3600-Series Wireless IP Telephones discussed in this document). • Port: IP. • Name: A unique name. • Security Code: A valid string as a password. <div data-bbox="282 663 1463 1150" style="border: 1px solid black; padding: 5px;"> <pre data-bbox="298 695 1430 1125"> add station 40065 Page 1 of 4 STATION Extension: 40065 Lock Messages? n BCC: 0 Type: 4612 Security Code: * TN: 1 Port: IP Coverage Path 1: COR: 1 Name: EXT 40065 Coverage Path 2: COS: 1 Hunt-to Station: STATION OPTIONS Loss Group: 19 Personalized Ringing Pattern: 1 Message Lamp Ext: 40065 Speakerphone: 2-way Mute Button Enabled? y Display Language: english Survivable GK Node Name: Survivable COR: internal Media Complex Ext: Survivable Trunk Dest? IP SoftPhone? N </pre> </div> |
| 4. | Repeat Step 3 for all Avaya Wireless IP Telephones. |

4. Configure the Avaya 3616 Wireless IP Telephone

The configuration information provided in this section describes the steps required to set up the Avaya 3616 Wireless IP Telephones. **Figure 2** illustrates the various external components of the Avaya 3616 Wireless IP Telephone. The steps in this section refer to the following sets of keys/buttons:

- **Power On/Start Call, Power Off/End Call:** Indicated by the arrows.
- **Scroll Up / Select / Scroll Down:** Indicated by the rectangle.
- **Softkeys A, B, C and D:** Indicated by the ovals.

The 3616 WT



Figure 2: Avaya 3616 Wireless IP Telephone

For all other provisioning information, please refer to [2].

| Step | Description |
|------------------|--|
| <p>1.</p> | <p><i>Enter the phone configuration:</i></p> <p>With the Wireless Telephone powered OFF, simultaneously press and hold the Power On / Start Call and Power Off / End Call keys. After hearing two beeps, release the Power On / Start Call key, then release the Power Off / End Call key.</p> |
| <p>2.</p> | <p><i>Enter the IP address of the phone:</i></p> <p>In the Admin menu that appears, select Network Config. In the Network Setup menu, select IP Addresses. In the IP Addresses menu that appears, select Static and press the Softkey A (OK) button.</p> |

| Step | Description |
|------|--|
| 3. | <p><i>Complete the IP address configuration:</i></p> <p>In the Static IP menu that appears, select Phone IP. Enter a unique IP Address on the subnet and press Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 4. | <p><i>Configure the Default Gateway:</i></p> <p>In the Static IP menu that appears, select Default Gateway. Enter the IP Address and press Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 5. | <p><i>Enter the Subnet Mask:</i></p> <p>In the Static IP menu that appears, select Subnet Mask. Enter the Subnet Mask and press the Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 6. | <p><i>Enter the Call Server IP Address:</i></p> <p>In the Static IP menu that appears, select Call Server IP. Enter the CLAN IP Address and press Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 7. | <p><i>Enter the AVPP IP Address:</i></p> <p>In the Static IP menu that appears, select AVPP IP Address. Enter the AVPP IP Address and press Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 8. | <p><i>Enter the OAI IP Address:</i></p> <p>In the Static IP menu that appears, select OAI Server IP. Enter the IP Address of the NetLink OAI server and press Softkey A (OK) button followed by the Softkey D (Up) button.</p> |
| 9. | <p><i>Set the ESSID information:</i></p> <p>In the Network Setup menu, select ESS ID. In the ESS ID menu that appears, select Static Entry. Press Softkey A (Save), press Softkey D (Up) and press Softkey D (Up) to return to the Network Setup menu.</p> |
| 10. | <p><i>Set the Security Key:</i></p> <p>In the Security menu that appears, select WPA-PSK. In the WPA-PSK menu, select Passphrase. In the Passphrase screen, the Passphrase to enter must match the Passphrase on the Wireless Network. Press Softkey A (Save), press Softkey D (Up) until the Admin menu is reached.</p> |

| Step | Description |
|------|--|
| 11. | <p><i>Enable OAI on the phone:</i></p> <p>In the Admin menu, select Phone Config. In the Phone Config menu select OAI On/Off. Select Enable and press Softkey A (Save), press Softkey D (Up).</p> |
| 12. | <p><i>Configure the extension number:</i></p> <p>In the Phone Setup menu select Ext. Enter the extension that was administered on Avaya Communication Manager in Section 3, Step 3 and press Softkey A (Save), press Softkey D (Up).</p> |
| 13. | <p><i>Configure the password:</i></p> <p>If a Security Code is administered for the Wireless Telephone (see Section 3, Step 3), perform this step. In the Phone Setup menu select Password. Enter the Security Code that was administered in Section 3, Step 3 and press Softkey A (Save), press Softkey D (Up) until the Admin menu is reached. Press the Softkey D (Exit) button. This will exit administration mode and register the telephone to Avaya Communication Manager.</p> |
| 14. | <p><i>Turn on the Auxiliary Ring options:</i></p> <p>Press the FCN key and select Ring Options and press the Softkey A (OK) button. Select Auxiliary Ring 1 and press the Softkey A (OK) button. Select Vibrate Cadence followed by the Softkey A (OK) button. Select any value except Off and press Softkey A (Save) then press Softkey D (Up). Press Softkey D (Up) an additional three times to return to normal call handling mode.</p> |

5. Configure the Avaya 3641/3645 IP Telephone

The configuration information provided in this section describes the steps required to set up the Avaya 3641/3645 Wireless IP Telephones. **Figure 3** illustrates the various external components of the Avaya 3641 Wireless IP Telephone, the controls for which are similar to those found on the Avaya 3645 Wireless IP Telephone. The steps in this section refer to the following sets of keys/buttons:

- **Power On/Start Call, Power Off/End Call:** Indicated by the **START** and **END** labels, respectively.
- **Nav Keys:** Indicated by the red circle.
- **Softkeys A, B, C and D:** Indicated by the corresponding labels (**A, B, C, D**).

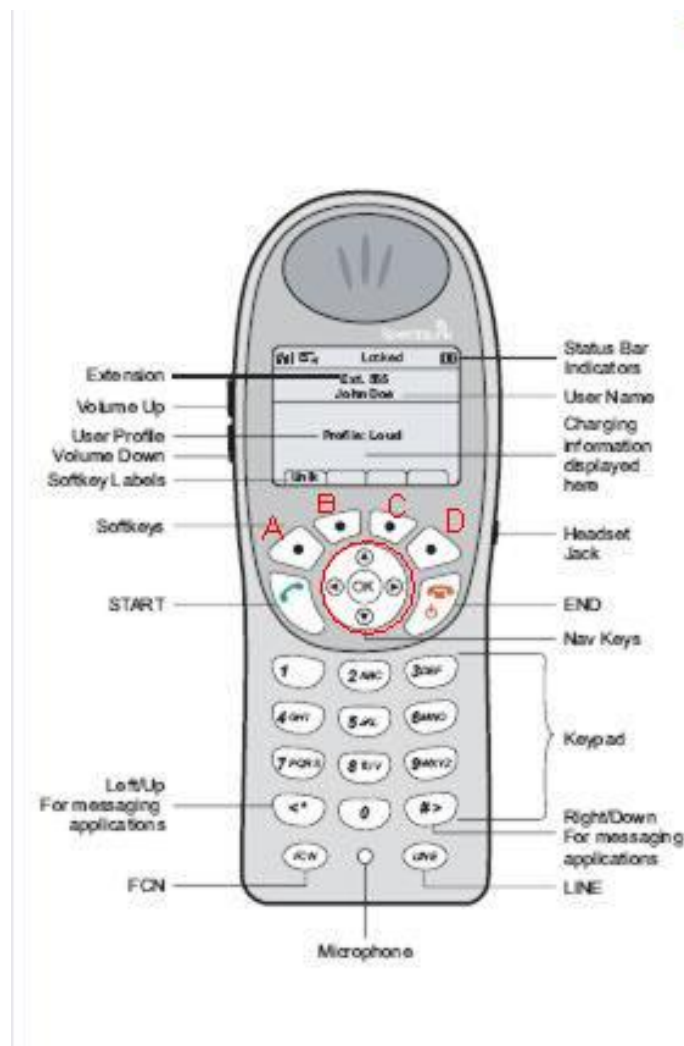


Figure 3: Avaya 3641 Wireless IP Telephone

For all other provisioning information, please refer to [3].

| Step | Description |
|------|--|
| 1. | <p><i>Enter the phone configuration:</i></p> <p>With the Wireless Telephone powered OFF, simultaneously press and hold the Power On / Start Call and Power Off / End Call keys. After hearing two beeps, release the Power On / Start Call key, then release the Power Off / End Call key.</p> |
| 2. | <p><i>Enter the Admin Password:</i></p> <p>If an administration password has been administered on the phone, enter it and press the OK button.</p> |
| 3. | <p><i>Enter the IP address of the phone:</i></p> <p>In the Admin menu that appears, select Network Config and press the OK button. In the Network Setup menu that appears, select IP Addresses and press the OK button. Select Static and press the OK button.</p> |
| 4. | <p><i>Complete the IP address configuration:</i></p> <p>In the Static IP menu that appears, select Phone IP. Enter a unique IP Address on the subnet and press the OK button followed by the Softkey D (Back) button.</p> |
| 5. | <p><i>Configure the Default Gateway:</i></p> <p>In the Static IP menu that appears, select Default Gateway and press the OK button. Enter the IP Address and press the OK button followed by the Softkey D (Back) button.</p> |
| 6. | <p><i>Enter the Subnet Mask:</i></p> <p>In the Static IP menu that appears, select Subnet Mask and press the OK button. Enter the Subnet Mask and press the OK button followed by the Softkey D (Back) button.</p> |
| 7. | <p><i>Enter the Call Server IP Address:</i></p> <p>In the Static IP menu that appears, select Call Server IP and press the OK button. Enter the CLAN IP Address and press the OK button followed by the Softkey D (Back) button.</p> |
| 8. | <p><i>Enter the AVPP IP Address:</i></p> <p>In the Static IP menu that appears, select AVPP IP Address and press the OK button. Enter the AVPP IP Address and press the OK button followed by the Softkey D (Back) button.</p> |

| Step | Description |
|------|--|
| 9. | <p><i>Enter the OAI IP Address:</i></p> <p>In the Static IP menu that appears, select OAI Server IP and press the OK button. Enter the IP Address of the NetLink OAI Gateway server and press the OK button followed by the Softkey D (Back) button.</p> |
| 10. | <p><i>Set the ESSID information:</i></p> <p>In the Network Setup menu, select ESS ID. In the ESS ID screen, enter the ESSID that was administered on the Wireless Network. Press the OK button followed by the Softkey D (Back) button.</p> |
| 11. | <p><i>Set the Security Key:</i></p> <p>In the Network Setup menu, select Security and press the OK button. In the Security screen, select WPA-PSK. In the WPA-PSK menu that appears, select Passphrase and press the OK button. In the Passphrase screen that appears, the Passphrase to enter must match the Passphrase on the Wireless Network. Press OK, press Softkey D (Back) until the Admin menu is reached.</p> |
| 12. | <p><i>Enable OAI on the phone:</i></p> <p>In the Admin menu, select Phone Setup. In the Phone Setup menu select Enable OAI. Select Enable and press the OK button, then press the Softkey D (Back) twice. The label changes from Back to Exit after the first push. This will exit administration mode and register the phone to Avaya Communication Manager. The user is prompted for the Extension Number and Password at this point.</p> |
| 13. | <p><i>Configure the Ring options:</i></p> <p>Press Softkey B (Prof). Select any option except Off and press the OK button.</p> |

6. Configure the SpectraLink NetLink OAI Gateway

This section describes the steps required to configure the SpectraLink NetLink OAI Gateway.

| Step | Description |
|------|---|
| 1. | <p><i>Access the administrative interface:</i></p> <p>Connect using a “null-modem” RS232 serial cable and telnet to the IP Address of the NetLink OAI Gateway. The terminal emulator uses settings of 9600Kb/s, 8 data bits, 1 stop bit and no parity. The following screen is displayed:</p> <div data-bbox="284 644 1463 915" style="border: 1px solid black; padding: 10px;"><pre>Gateway Connection Selection Hostname: slnk-0642f6, IP Address: 9.1.1.39 Name IP Address9.1.1.39 Exit</pre></div> |
| 2. | <p>Press Enter to get to the top administration screen, as shown below:</p> <div data-bbox="284 1043 1463 1423" style="border: 1px solid black; padding: 10px;"><pre>NetLink OAI System Hostname: slnk-0642f6, IP Address: 9.1.1.39 System Status Menu OAI Box Configuration Network Configuration Feature Programming Telephone Line Configuration Change Password</pre></div> |

| Step | Description |
|------|--|
| 3. | <p><i>Configure the IP Address, Subnet Mask and Default Gateway:</i></p> <p>From the second screen shown in Step 2, select Network Configuration and press Enter.</p> <p>Use the down arrow key to get to the IP Address field. Press Enter. Backspace over the current entry. Enter the SpectraLink NetLink OAI Gateway's IP Address (in this example, 9.1.1.39). Press Enter.</p> <p>Press the down arrow key to get to the Subnet Mask field. Press Enter. Backspace over the current entry. Enter the SpectraLink NetLink OAI Gateway's Subnet Mask (in this example, 255.255.255.0).</p> <p>Press the down arrow key to get to the Default Gateway field. Press Enter. Backspace over the current entry. Enter the SpectraLink NetLink OAI Gateway's Default Gateway, which is the Avaya G350 Media Gateway Ethernet IP Address (in this example, 9.1.1.1).</p> <p>The modified Network Configuration screen is shown below. Press Esc to exit.</p> <div data-bbox="285 921 1463 1551" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> Network Configuration Hostname: slnk-0642f6, IP Address: 192.168.1.111 Ethernet Address: 00:90:7a:06:42:f6 IP Address 9.1.1.39 Hostname slnk-0642f6 Subnet Mask: 255.255.255.0 Default Gateway: 9.1.1.1 Gateway TFTP server IP: 255.255.255.255 Allow Telnet Connections: Yes Allow FTP Connections: Yes Primary DNS Server: NONE Secondary DNS Server: NONE DNS Domain: NONE Primary WINS Server: NONE Secondary WINS Server: NONE Logging: NONE Log server: GMT Offset -1 SNMP Console server: NONE Enter=Edit Esc=Exit Use Arrow Keys to Move Cursor Up=Wrap around to bottom Down=More </pre> </div> |

| Step | Description |
|------|---|
| 4. | <p><i>Configure the Gateway option:</i></p> <p>Configure the SpectraLink NetLink OAI Gateway not to use the Telephony Gateway option. From the screen shown in Step 2, select OAI Box and press Enter. In the Use NetLink GW with mogX00: field, press the Tab button to set the value to No.</p> <p>The modified OAI Box Configuration screen is shown below. Press Esc to exit.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="text-align: center;"> OAI Box Configuration Hostname: slnk-0642f6, IP Address: 9.1.1.39 Use NetLink GW with mogX00: No Inactivity timeout (min) 0 Maintenance Lock: No Reset System Are You Sure? Yes No Y=Yes N=No Enter=Select Esc=Exit Use Arrow Keys to Move Cursor </pre> </div> |

| Step | Description |
|------|--|
| 5. | <p data-bbox="282 285 1224 319"><i>Configure the Feature Programming Code for the FCS Connect Solution:</i></p> <p data-bbox="282 338 1446 407">This is the Function Key that will be used to access the text messages. FCS provides this as it must match what is administered on the FCS Connect Server.</p> <p data-bbox="282 447 1422 480">From the second screen shown in Step 1, select Feature Programming and press Enter.</p> <p data-bbox="282 520 1422 554">Use the down arrow key to get to entry 7. Press Enter. Type FCSSMS and press Enter.</p> <p data-bbox="282 594 1406 627">Use the down arrow key to get to entry 8. Press Enter. Type CLOSE and press Enter.</p> <p data-bbox="282 667 1430 701">Use the down arrow key to get to entry 9. Press Enter. Type CANCEL and press Enter.</p> <p data-bbox="282 741 1305 774">The modified Feature Programming screen is shown below. Press Esc to exit.</p> <div data-bbox="282 810 1463 1325" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre data-bbox="526 842 1143 1297"> Feature Programming Hostname: slnk-0642f6, IP Address: 9.1.1.39 1 : 2 : 3 : 4 : 5 : 6 : 7 : FCSSMS 8 : CLOSE 9 : CANCEL * : 0 : # : HOLD : D=Delete Enter=Edit Esc=Exit Use Arrow Keys to Move Cursor </pre> </div> |

| Step | Description |
|------|--|
| 6. | <p><i>Add a telephone that will communicate with the SpectraLink NetLink OAI Gateway:</i></p> <p>From the screen shown in Step 2, select Telephone Line Configuration and press Enter.</p> <p>Use the down arrow key to proceed to the row for the appropriate line number. Use the arrow keys to get to the MAC Address column. Enter the MAC Address of an Avaya 3600-Series Wireless IP Telephone. On the 3616, 3641 and 3645 telephones, this can be obtained by pressing the FCN key, then using the down arrow key to access System Info and then select Firmware Version. The MAC Address is displayed on Line 1. Note: When entering the MAC Address, the “:” must be included.</p> <p>Press the Tab button to set the value to Yes when asked “Are you sure?”</p> <p>Press the right arrow key to go to the Name column. Press Enter. Enter a unique name. Press Enter. Note: This does not have to match the name configured on Avaya Communication Manager.</p> <p>Press the right arrow key to go to the Extension column. Press Enter. Enter a unique number. Press Enter. Note: This does not have to match the extension number configured on Avaya Communication Manager.</p> |

| Step | Description |
|------|---|
| 7. | <p data-bbox="282 285 1357 317">Repeat Step 6 for all Avaya Wireless IP Telephones that will receive text messages.</p> <p data-bbox="282 359 1401 464">The modified Telephone Line Configuration screen is shown below. In this example, three Avaya Wireless IP Telephones were added, with the MAC Addresses, Names and Extensions as indicated.</p> <div data-bbox="282 501 1463 1123" style="border: 1px solid black; padding: 10px;"> <pre data-bbox="383 533 1344 1094"> Telephone Line Configuration Hostname: slnk-06dd0c, IP Address: 9.1.1.39 Line MAC address Name Extension 00: 00:90:7a:06:d5:0b EXT 40010 401 01: 00:90:7a:03:b7:76 EXT 40065 402 02: 00:90:7a:06:dc:43 EXT 41011 403 03: Not Configured NONE NONE 04: Not Configured NONE NONE 05: Not Configured NONE NONE 06: Not Configured NONE NONE 07: Not Configured NONE NONE 08: Not Configured NONE NONE 09: Not Configured NONE NONE 10: Not Configured NONE NONE 11: Not Configured NONE NONE 12: Not Configured NONE NONE 13: Not Configured NONE NONE 14: Not Configured NONE NONE 15: Not Configured NONE NONE S=Search R=On Air Register D=Delete Enter=Edit Esc=Exit Use Arrow Keys to Move Cursor </pre> </div> |

| Step | Description |
|------|---|
| 8. | <p><i>Reset the SpectraLink NetLink OAI Gateway:</i></p> <p>From the screen shown in Step 2, select OAI Box Configuration and press Enter. On the resultant screen (see below), use the down arrow key to move to the Reset System entry. Press Enter. Press the Tab button to set the value to Yes when asked “Are you sure?”, then press Enter.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="text-align: center;"> OAI Box Configuration Hostname: slnk-0642f6, IP Address: 192.168.1.111 Use NetLink GW with mogX00: No Inactivity timeout (min) 0 Maintenance Lock: No Reset System Are You Sure? Yes No Y=Yes N=No Enter=Select Esc=Exit Use Arrow Keys to Move Cursor </pre> </div> |

7. Configure FCS Connect

This section details the steps required to configure FCS Connect to interoperate with Avaya Communication Manager and the Avaya 3600-Series Wireless IP Telephones. These Application Notes assume that the FCS Connect application has already been properly installed by FCS services personnel.

| Step | Description |
|------|---|
| 1. | <i>Administer the IP Address and port for communicating with the SpectraLink Netlink OAI Gateway:</i> |
| | <p>Edit the file C:\FCS Connect\Pager\Netlink.ini and set the values for NetlinkIP and NetlinkPort such that they match those of the SpectraLink Netlink OAI Gateway, then save the file. The modified file is shown below.</p> |
| | <pre>[Connect Server] Format=4 JobStatusUpdate=1 Filter DBCS=0 CNIPAddress=127.0.0.1 CNLocalPort=6000 [System] SummaryFormat=0 HousekeepTime=03:00 DayPurge=7 [Features] SupportDeleteMsg=1 SupportACKMsg=1 SupportCancelMsg=1 SupportCloseMsg=1 [Ringtone] RingType=07 [Netlink Gateway] NetlinkIP=9.1.1.39 NetlinkPort=5456</pre> |

Step**Description****3.** *Set extension numbers for Avaya Wireless IP Telephones:*

Select **Configuration -> Extension**. In the subsequent **FCS Netlink - Configuration** window (see below), enter the extension numbers corresponding to each administered port on the SpectraLink Netlink OAI Gateway (see **Section 6, Steps 6 and 7**). For each extension, modify the values of the **Port No.** and **Extension** fields accordingly, and press **Save** after entering each pair.

The screenshot shows the 'FCS Netlink - Configuration' window. At the top, there are input fields for 'Start Port: 0000', 'End Port: 0063', and 'Start Extn: 2000', along with an 'Initialized' button. Below this, there are fields for 'Port No.: 0000' and 'Extension: 401', with a 'Save' button. The main area is a list titled 'PORT -> EXTN:' containing a series of port-to-extension mappings. The first entry, '0000->401', is highlighted in blue. The list continues with '0001->402', '0002->403', and then a series of ports from 0003 to 0017 with no extension values. This is followed by '0018->2018', '0019->2019', '0020->2020', '0021->2021', '0022->2022', '0023->2023', '0024->2024', '0025->2025', '0026->2026', '0027->2027', and '0028->2028'.

8. Interoperability Compliance Testing

Interoperability compliance testing focused on FCS Connect's ability to work with Avaya Communication Manager and the Avaya 3600-Series Wireless IP Telephones.. FCS Connect features and capabilities that were verified included the following: routing of incoming service requests to FCS Connect Agent workstations, generation and broadcast of jobs to runner phones in the form of text messages, receipt/acknowledgment/completion/cancellation of jobs from both the runner phones and wired (guest) telephones

8.1. General Test Approach

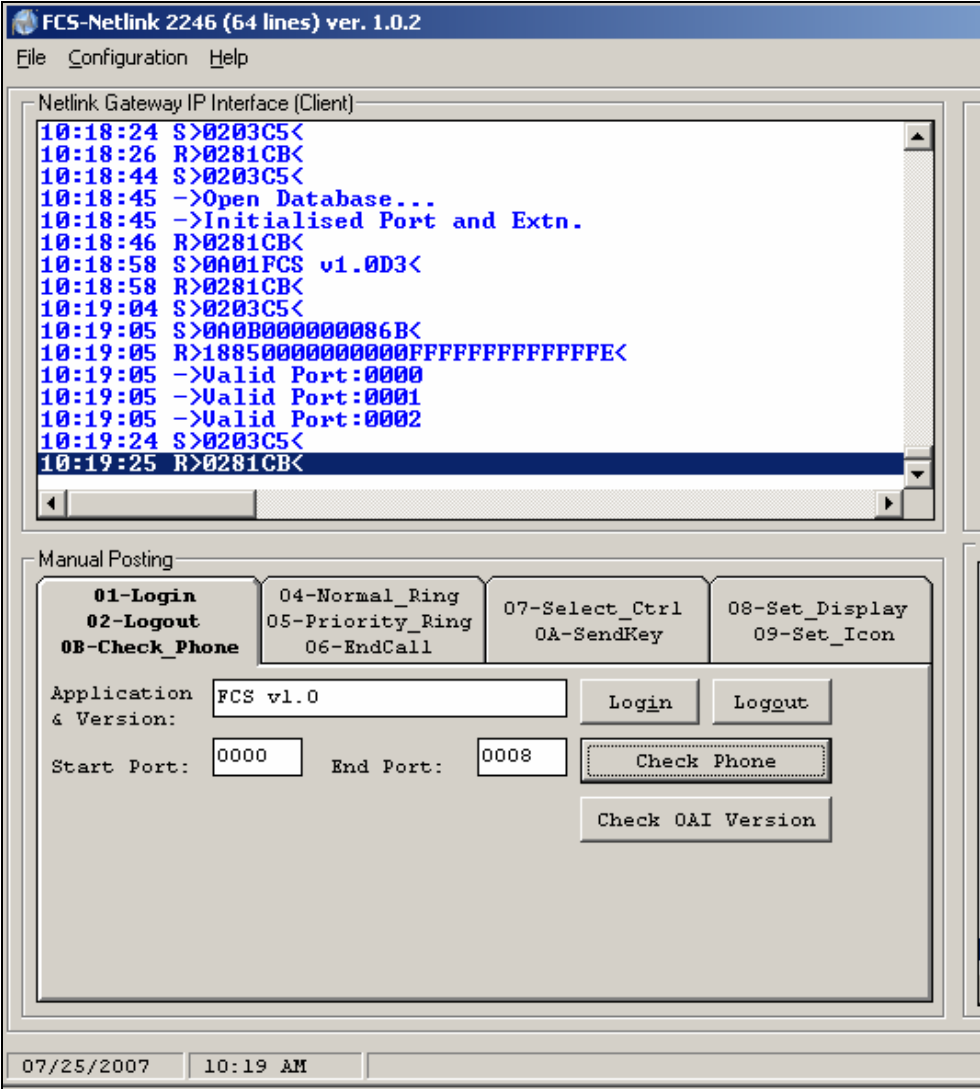
Feature functionality testing was performed manually. Inbound service requests were made to the FCS Connect server from the Avaya 4626 and 9640 IP Telephones (i.e. the guest telephones) via the analog ports between Avaya Communication Manager and FCS Connect's Intel Dialogic card. Once a service request call was routed to an FCS Connect Agent, a job was created at the FCS Connect Agent workstation and broadcast to one or more of the Avaya 3600-Series Wireless IP Telephones, where it could be received, acknowledged, etc..

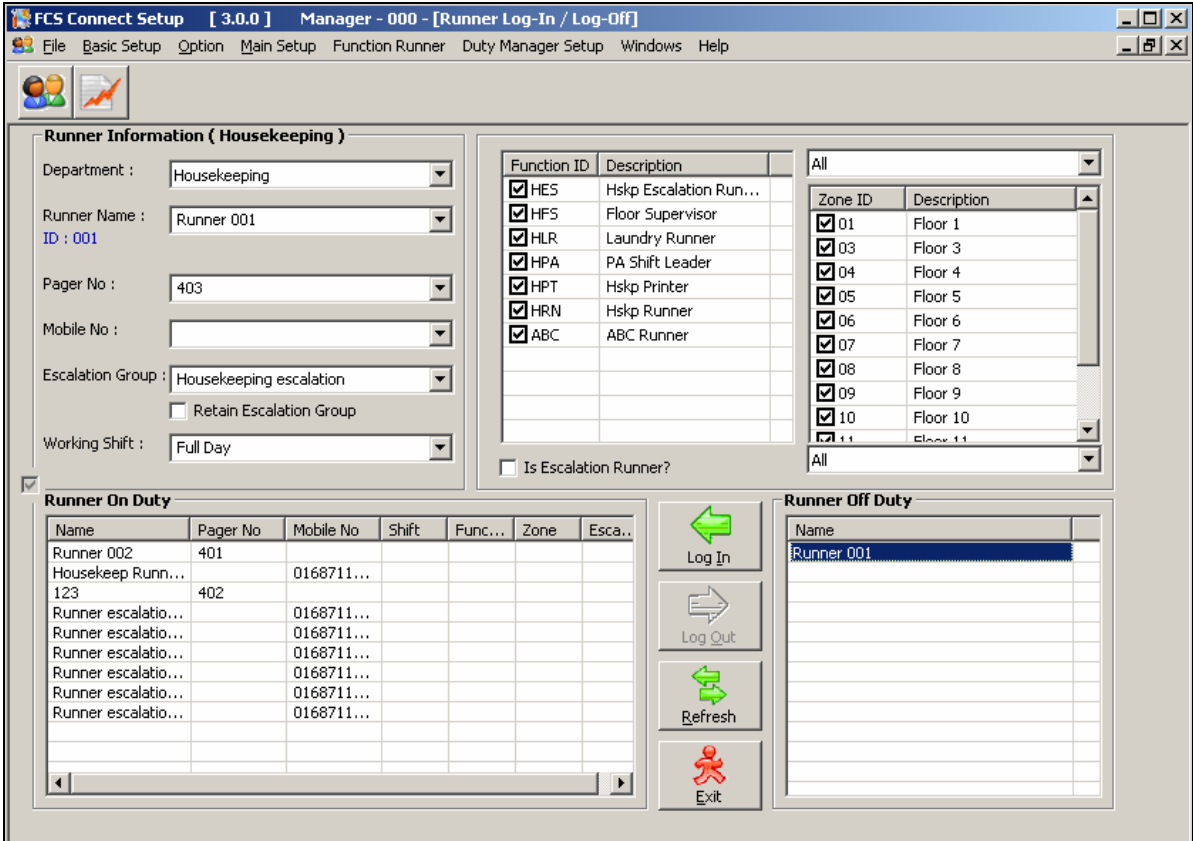
8.2. Test Results

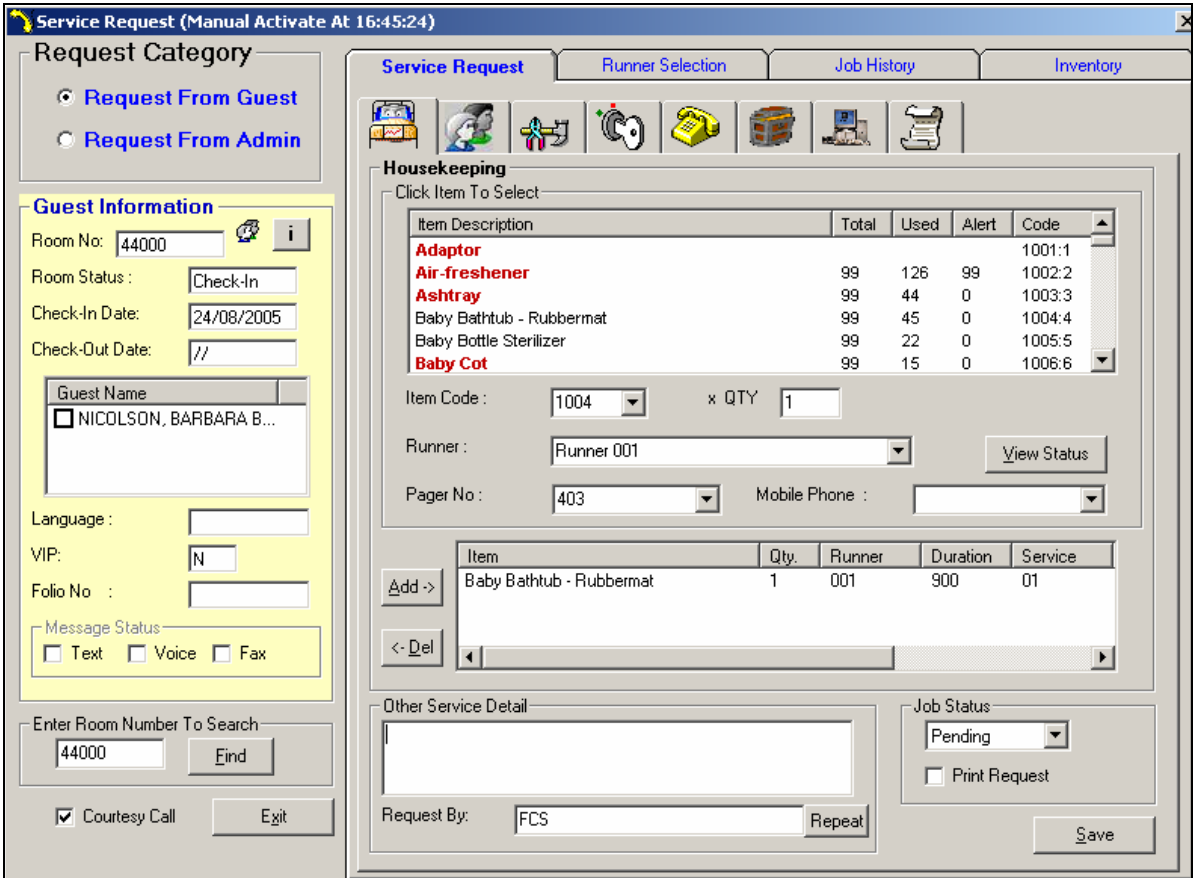
All executed test cases were completed successfully.

9. Verification Steps

This section describes steps that may be used to verify the configuration.

| Step | Description |
|------|--|
| 1. | <p>To log in and check the Avaya Wireless IP Telephones as runner phones, access the FCS Netlink 2246 screen (see Section 7, Step 2), shown below. In the Manual Posting section, select the first tab (labeled 01-Login 02-Logout 03-Check_Phone) and enter values for Start Port and End Port that include the ports administered in Section 7, Step 3, then click Login and Check Phone. The output in the Netlink Gateway IP Interface (Client) window should be similar to what is displayed here.</p>  <pre> FCS-Netlink 2246 (64 lines) ver. 1.0.2 File Configuration Help Netlink Gateway IP Interface (Client) 10:18:24 S>0203C5< 10:18:26 R>0281CB< 10:18:44 S>0203C5< 10:18:45 ->Open Database... 10:18:45 ->Initialised Port and Extn. 10:18:46 R>0281CB< 10:18:58 S>0A01FCS v1.0D3< 10:18:58 R>0281CB< 10:19:04 S>0203C5< 10:19:05 S>0A0B0000000086B< 10:19:05 R>18850000000000FFFFFFFFFFFFFE< 10:19:05 ->Valid Port:0000 10:19:05 ->Valid Port:0001 10:19:05 ->Valid Port:0002 10:19:24 S>0203C5< 10:19:25 R>0281CB< Manual Posting 01-Login 04-Normal_Ring 07-Select_Ctrl 08-Set_Display 02-Logout 05-Priority_Ring 0A-SendKey 09-Set_Icon 03-Check_Phone 06-EndCall Application: FCS v1.0 [Login] [Logout] Start Port: 0000 End Port: 0008 [Check Phone] [Check OAI Version] 07/25/2007 10:19 AM </pre> |

| Step | Description |
|------|--|
| 2. | <p>To log in a runner to be available to receive jobs via text messages, launch the FCS Connect Configuration application and provide the appropriate login credentials for a manager. The FCS Connect Setup screen is presented, as shown below. Select Function Runner -> Function Runner Log-In/Log-Off (or click on the upper-rightmost icon). In the Runner Off Duty list in the lower-right corner, select the name of a runner and click Log In (left green arrow).</p>  <p>The screenshot shows the 'FCS Connect Setup' application window. The title bar reads 'FCS Connect Setup [3.0.0] Manager - 000 - [Runner Log-In / Log-Off]'. The menu bar includes 'File', 'Basic Setup', 'Option', 'Main Setup', 'Function Runner', 'Duty Manager Setup', 'Windows', and 'Help'. The main interface is divided into several sections:</p> <ul style="list-style-type: none"> Runner Information (Housekeeping): Contains dropdown menus for Department (Housekeeping), Runner Name (Runner 001), Pager No (403), Escalation Group (Housekeeping escalation), and Working Shift (Full Day). There is also a checkbox for 'Retain Escalation Group'. Function List: A table with columns 'Function ID' and 'Description'. It lists functions like HES (Hskp Escalation Run...), HFS (Floor Supervisor), HLR (Laundry Runner), HPA (PA Shift Leader), HPT (Hskp Printer), HRN (Hskp Runner), and ABC (ABC Runner). A checkbox 'Is Escalation Runner?' is located below this list. Zone List: A table with columns 'Zone ID' and 'Description'. It lists zones from 01 to 11, each associated with a floor number (e.g., 01 - Floor 1, 10 - Floor 10). Runner On Duty: A table with columns 'Name', 'Pager No', 'Mobile No', 'Shift', 'Func...', and 'Esca...'. It lists several runners, including 'Runner 002' and 'Housekeep Runn... 123'. Runner Off Duty: A table with a 'Name' column. 'Runner 001' is selected and highlighted in blue. Control Buttons: A vertical stack of buttons: 'Log In' (left green arrow), 'Log Out' (right green arrow), 'Refresh' (circular arrows), and 'Exit' (red stick figure). |

| Step | Description |
|------|--|
| 3. | <p>To create a job to be sent as a text message to a runner phone, Select the upper-left icon from the screen shown in Step 2. Select an item from the list in the Housekeeping section, choose a Runner from the corresponding drop-down menu, click the Add-> button, then click Save. The specified runner phone should be alerted and able to receive a text message indicating the guest's room number and Housekeeping item requested.</p>  |

10. Support

For technical support on FCS Connect, contact FCS Computer Systems at <http://www.fscs.com/support.htm>.

11. Conclusion

These Application Notes describe the procedures for configuring FCS Connect to interoperate with Avaya Communication Manager and Avaya 3600-Series Wireless IP Telephones. All interoperability compliance test cases executed against such a configuration were completed successfully.

12. Additional References

1. “Administration for Network Connectivity for Avaya Communication Manager,” Document ID 555-233-504.
2. “Avaya 3616/3626 Wireless IP Telephone Installation and Configuration Guide,” Document ID 555-301-107.
3. “Avaya Voice Priority Processor for 3641/3645 Wireless IP Telephones Installation, Configuration, and Administration,” Document ID 21-601637.
4. “Application Notes for FCS WinSuite with Avaya Communication Manager.”

Additional product documentation may be found at the following sites:

- Avaya: <http://support.avaya.com>
- FCS: <http://www.fcscs.com>

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