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Application Notes for MultiTech FaxFinder® FFx40 Software version 1.1.8 with Avaya IP Office 8.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for MultiTech FaxFinder® to interoperate with Avaya IP Office. The MultiTech FaxFinder is a fax application that uses the analog user interface from Avaya IP Office to send and receive fax.

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

These Application Notes describe the configuration steps required for MultiTech FaxFinder® to interoperate with Avaya IP Office. The MultiTech FaxFinder is a fax application that uses the analog user interface from Avaya IP Office to send and receive fax.

Each fax port on MultiTech FaxFinder is configured as an analog user on Avaya IP Office, and the corresponding analog extension is provisioned to send the called number in DTMF after call connection. The analog users associated with the fax ports are placed into a fax hunt group for incoming fax distribution.

For each user on Avaya IP Office desiring to use fax, a virtual fax extension and user is created with calls forwarded to the fax hunt group. Incoming fax calls to the virtual fax extensions are forwarded to the fax hunt group, and delivered to MultiTech FaxFinder via available fax ports. When Avaya IP Office detects that a fax call has been answered, the virtual fax extension associated with the DID number is out-pulsed via DTMF digits to MultiTech FaxFinder. The received incoming fax can be sent to the fax recipient's email address, printed automatically, or stored in a shared folder, depending on the provisioning in MultiTech FaxFinder. In the compliance testing, the shared folder method was used to store incoming faxes.

Outgoing faxes can be sent from the MultiTech FaxFinder Client application, from any PC application that supports print, T.37 "email to fax", or from the MultiTech FaxFinder web interface. In the compliance testing, the web interface method was used to send outgoing faxes.

2. General Test Approach and Test Results

The feature test cases were performed manually. Internal and external fax calls to and from the MultiTech FaxFinder server were made. The fax calls were sent and received using the MultiTech FaxFinder web interface and the analog fax machine at the emulated PSTN. The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet/Analog cables to MultiTech FaxFinder.

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

Interoperability compliance testing covered the following features and functionality:
- Proper handling of faxes via the analog ports including send/receive, internal fax, external fax over SIP trunk simultaneous with bi-directional faxes, and miscellaneous failure scenarios.
- Proper handling of faxes with different pages, complexity, format, and data rates.
- No adverse impact on the internal and external calls during faxes.

The serviceability testing focused on verifying the ability of MultiTech FaxFinder to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet/Analog cables to MultiTech FaxFinder.

2.2. Test Results

All test cases were executed and passed.

2.3. Support

Technical support on MultiTech FaxFinder can be obtained through the following:
- **Phone:** (763) 717-5863
- **Web:** https://support.multitech.com

3. Reference Configuration

Figure 1 below shows the configuration used for the compliance testing. The Multi-tech FaxFinder FFx40 series included the FF240, FF440 and FF840. In the compliance testing, the 8-port FF840 model was used.
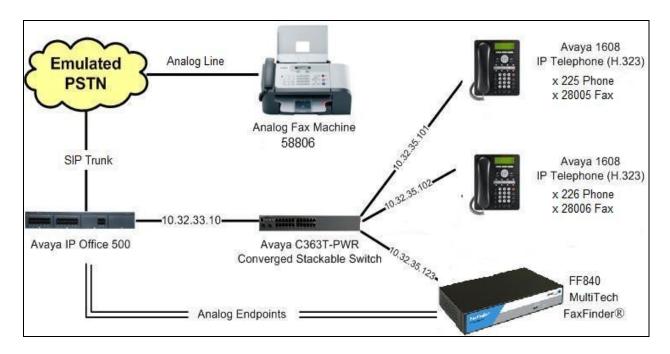

Figure 1: MultiTech FaxFinder with Avaya IP Office

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500	8.0
Avaya 1608 IP Telephones (H.323)	1.2
MultiTech FaxFinder® on FF840	1.1.8

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:
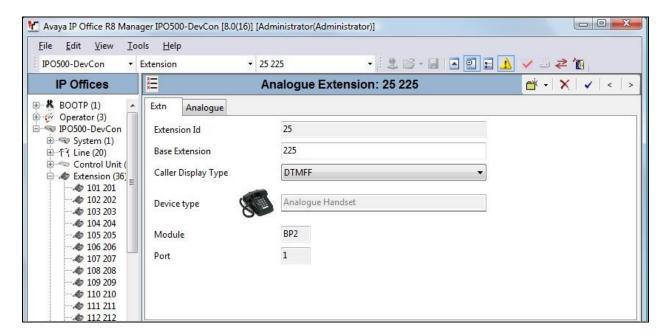
- Administer physical fax ports
- Administer fax hunt group
- Administer virtual fax users
- Administer incoming call route

5.1. Administer Physical Fax Ports

From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application.   Select the proper IP Office system, and log in using the appropriate credentials.

The **Avaya IP Office R8 Manager** screen is displayed. From the configuration tree in the left pane, select **Extension**, followed by the specific extension corresponding to the first analog port that is physically connected to MultiTech FaxFinder, in this case "225".
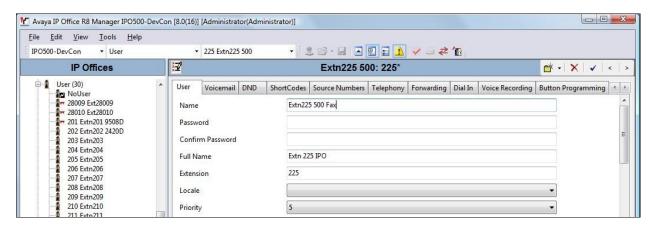
The **Analogue Extension** screen is displayed. In **Caller Display Type**, select "DTMFF" from the drop-down list, to enable the called number to be out-pulsed via DTMF digits to MultiTech FaxFinder upon call connection.

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From the configuration tree in the left pane, select **User**, followed by the user corresponding to the extension from above. In this case, the user is "225".

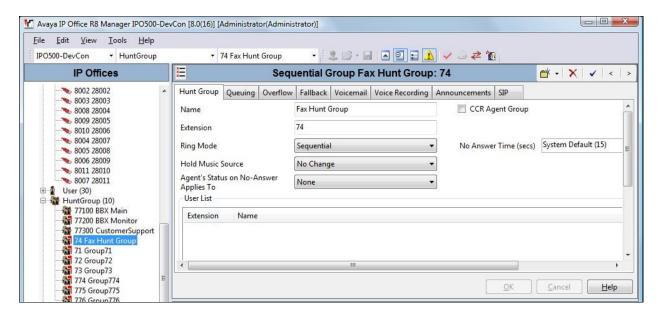Select the **User** tab. Enter a descriptive **Name** and **Full Name**.

Repeat this section for all analog ports that are physically connected to MultiTech FaxFinder. In the compliance testing, two analog ports with extensions "225" and "226" were modified.

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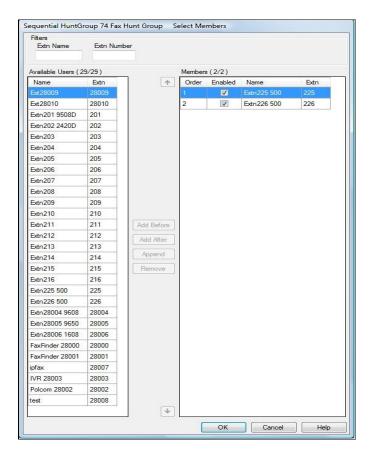
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5.2. Administer Fax Hunt Group

From the configuration tree in the left pane, right-click on **HuntGroup** and select **New** from the pop-up list to add a new hunt group.   Enter desired values for the **Name** and **Extension** fields.
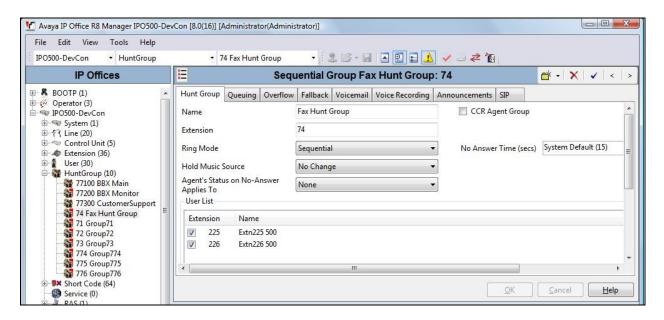
Click on **Edit** in the **User List** section to add members (not shown).

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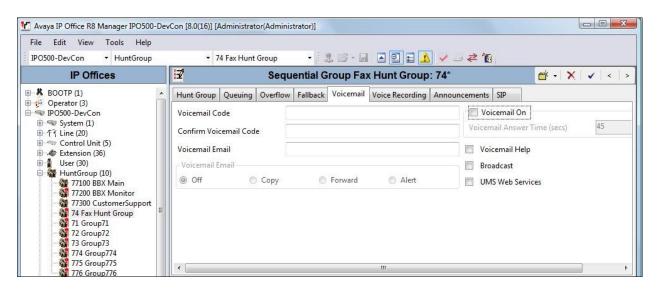©2012 Avaya Inc. All Rights Reserved.

The **Select Members** screen is displayed. Select the entries with **Extn** values matching to the physical analog fax ports from **Section 5.1**, and click the **Append** button to move the selected entries to the right. Click **OK**.
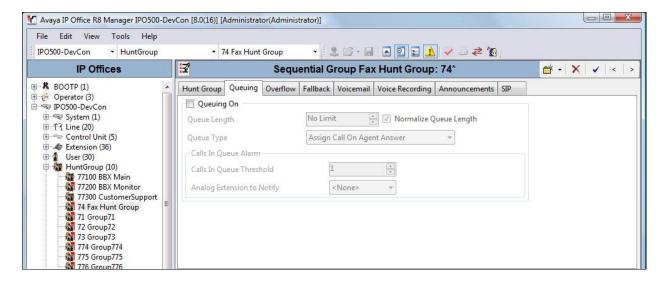

The **Sequential Group** screen is displayed and updated with the selected members.

Select the **Voicemail** tab, and make sure **Voicemail On** is unchecked, and that **Voicemail Email** is **Off**, as shown below.
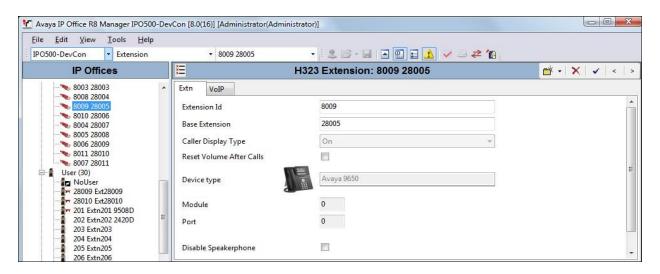

Select the **Queuing** tab, and uncheck **Queuing On**, as shown below.

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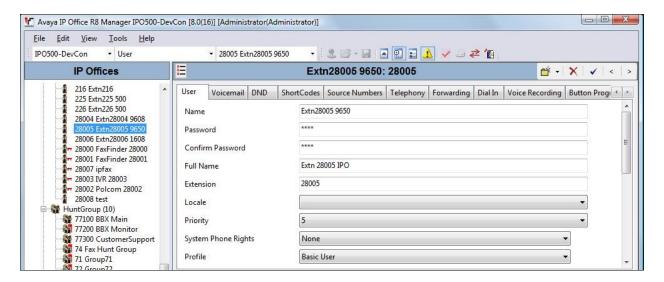
5.3. Administer Virtual Fax Users

For every user on IP Office desiring to use MultiTech FaxFinder with a personal identifiable fax number, a virtual fax extension and user needs to be created. From the configuration tree in the left pane, right-click on **Extension**, and select **New > H323 Extension**. The **H323 Extension** screen is displayed.
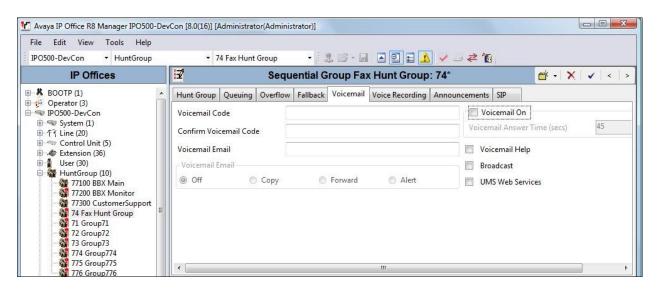Enter the desired **Base Extension**, in this case "28005".

From the configuration tree in the left pane, right-click on **User**, and select **New**. The **User** screen is displayed. Select the **User** tab.
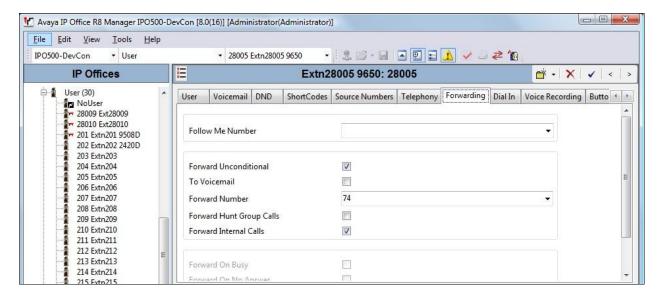
Enter a descriptive **Name** and **Full Name**. For **Extension**, enter the base extension number from above, in this case "28005".

Select the **Voicemail** tab, and make sure **Voicemail On** is unchecked, and that **Voicemail Email** is **Off**, as shown below.
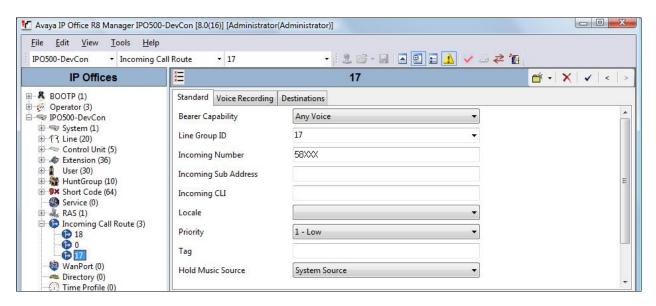

Select the **Forwarding** tab. Check the **Forward Unconditional** field. For **Forward Number**, enter the extension number of the fax hunt group from **Section 5.2**.
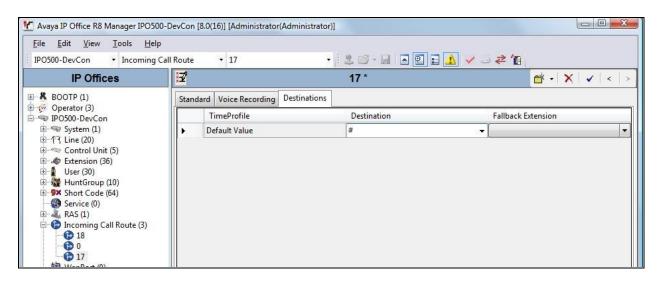
5.4. Administer Short Code

If necessary, create an incoming call route to route the new virtual fax extensions from **Section 5.3**. In the compliance testing, the existing incoming call route for the SIP line can route to any three digit extensions on IP Office. This is to emulate the PSTN line connecting to IP Office.

As shown in the screen below, the **Incoming Number** for the SIP line "17" is "58XXX", which uses 3 single digit wildcards "X" allowing the last 3 digits to be any number.

In the **Destination** tab, the use of "#" in the **Destination** field enables the routing to be based on the "XXX" from the **Incoming Number** field from above.

6. Configure MultiTech FaxFinder®

This section provides the procedures for configuring the MultiTech FaxFinder®. The procedures include the following areas:

- Launch FaxFinder Web Management
- Administer network
- Administer modem
- Administer network shares
- Administer inbound routing recipients
- Administer users

6.1. Launch FaxFinder Web Management

Launch the FaxFinder Web Management interface by using the URL "http://ip-address" in an Internet browser window, where "ip-address" is the IP address of the FaxFinder. The **Login** screen below is displayed. Log in using the appropriate credentials.
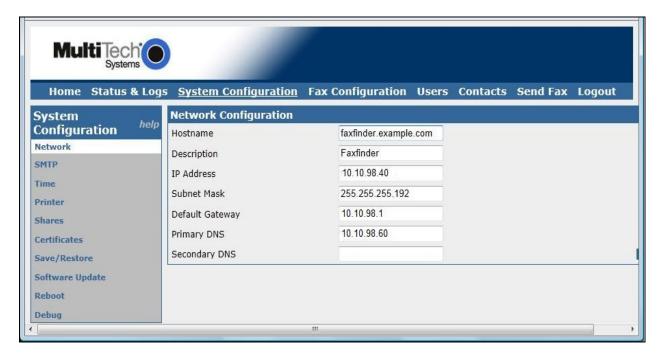

The screen below is displayed next.

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6.2. Administer Network

Select **System Configuration** from the top menu. The **Network Configuration** screen is displayed. Modify the **IP Address**, **Subnet Mask**, and **Default Gateway** fields to match the network configuration.

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6.3. Administer Modem

Select **Fax Configuration** from the top menu. The **Modem Configuration** screen is displayed. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Modem:** Select a modem to configure.
- **Routing:** "DTMF Digits"
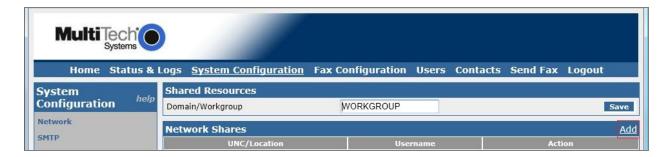- **Fax ID:** Enter a descriptive name.
- **Max Extension Digits:** Enter number of digits for the virtual fax numbers from **Section 5.3**.

If the dialing prefix is the same for every outgoing fax, then the **Dial Prefix** field can be configured. Repeat this section to configure all modems.

6.4. Administer Network Shares

Select **System Configuration** from the top menu. The **Network Configuration** menu is displayed. Select the **Shares** from the left pane. The **Shared Resources** page is displayed. Click **Add** to create the **Network Shares** location.

The **Add Network Share** page is displayed as shown in screen bellow. Enter the **Location** of the network shared directory, **Username** and **Password.** Click **Save**.

The screen is updated with network shares Location as shown in screen bellow. The network shared folder is used to store the incoming fax.
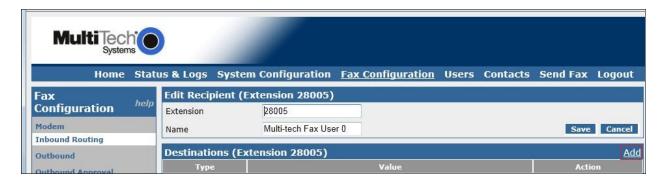
6.5. Administer Inbound Routing Recipients

Select **Inbound Routing** from the left pane. The screen below is displayed. In the **Recipients** section, select **Add** to add a new recipient.

The **Add Recipient** screen is displayed next. For **Extension**, enter a virtual fax user extension from **Section 5.3**. Enter a descriptive **Name**. Click **Save**.

The screen is updated with a **Destinations** section, as shown below. Click **Add** to add a destination for incoming faxes.

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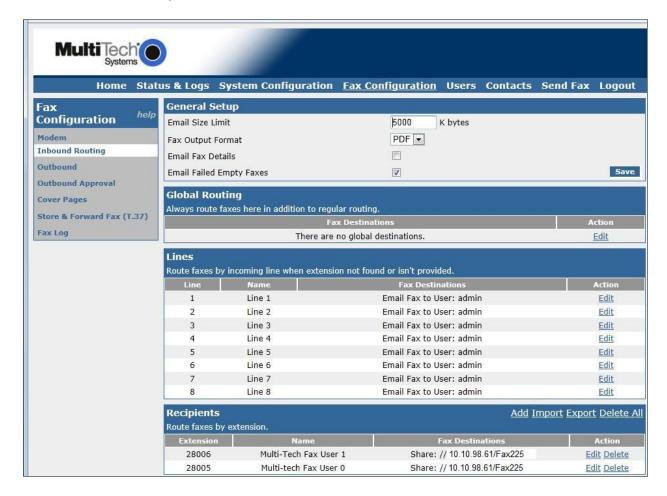
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The **Add Destination** screen is displayed. The default setting is to send the incoming faxes to the recipient's email. In the compliance testing, the destination was configured to use the shared folder method to store incoming faxes. Select "Share" from the drop-down box, and enter the path to a shared folder in the next field. Click **Save**.

Repeat this section to add a recipient for each virtual fax user from **Section 5.3**.

In the compliance testing, three recipients were created to correspond to the three virtual fax users from **Section 5.3**, as shown below.

6.6. Administer Users

Select **Users** from the left pane, to display the **FaxFinder Users** screen. Click **Add** to add a new user.

The **Add FaxFinder User** screen is displayed next. Enter descriptive values for **Username** and **Full Name**. Enter a desired value for **Password** and **Confirm Password**. Enter the full telephone and fax numbers for the user in the **Phone Number** and **Fax Number** fields respectively.

Repeat this section to create all desired users. In the compliance testing, three fax users were created as shown below.

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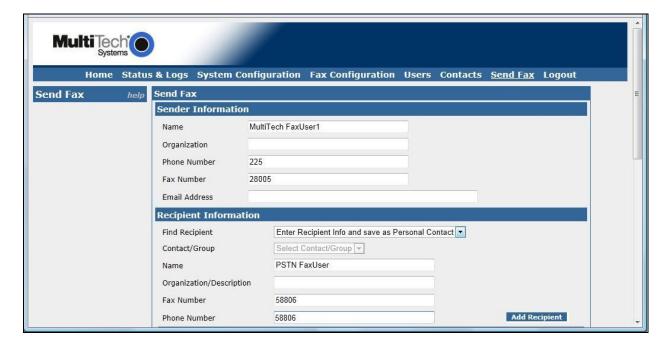
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7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of MultiTech FaxFinder and Avaya IP Office.
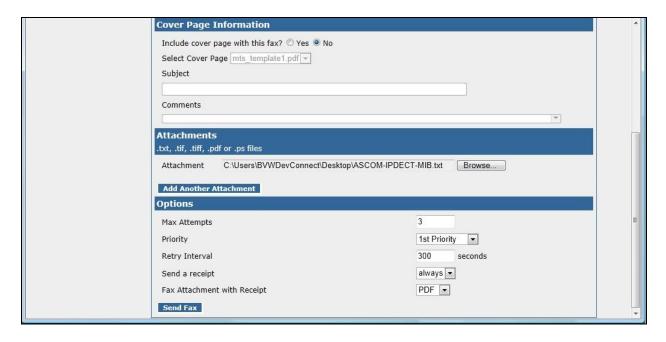
7.1. Verify MultiTech FaxFinder

Follow the procedures in **Section 6.1** to launch the FaxFinder Web Management interface, and log in using an appropriate fax user credentials. Select **Send Fax** from the top menu, to display the **Send Fax** screen.
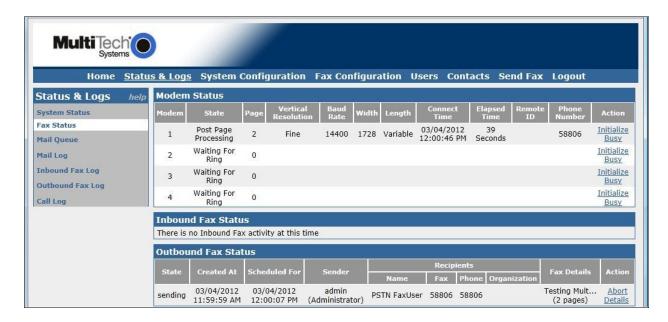
The **Sender Information** section is automatically populated. In the **Recipient Information** section, enter the pertinent information for a fax recipient. For the **Fax Number** field, if a dialing prefix is required by Avaya IP Office and not configured in **Section 6.3**, then include the prefix. In the compliance testing, "*6" is the dialing prefix for all outgoing calls to the PSTN. Click on **Add Recipient** to add the recipient.

Scroll down the screen to the **Cover Page Information** section. Modify this section as desired. In the **Attachments** section, click **Browse** to select any desired attachment. In the **Options** section, make any desired changes, and click **Send Fax**.
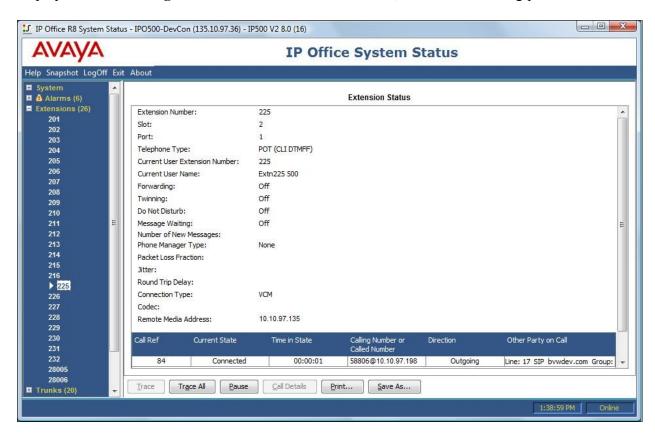

Select **Status & Logs** from the top menu, followed by **Fax Status** in the left pane, to display the screen below. In the **Modem Status** section, verify that there is a modem with a **State** of "Sending". In the **Outbound Fax Status** section, verify that there is an entry showing the active fax with a **State** of "sending", and that the **Sender** and **Recipient** fields display correct information.

7.2. Verify Avaya IP Office

From the **Avaya IP Office R8 Manager** screen shown in **Section 5.1**, select **File > Advanced > System Status** to launch the **System Status** application, and log in using the appropriate credentials.

The **IP Office System Status** screen is displayed. Select **Extensions** in the left pane to display a list of administered extensions, and select the extension corresponding to the active modem from **Section 7.1**, in this case "225". Verify that the **Extension Status** screen shows an active call with **Current State** of "Connected", and that the recipient fax number from **Section 7.1** is displayed in the **Calling Number or Called Number** field, without the dialing prefix.

8. Conclusion

These Application Notes describe the configuration steps required for the MultiTech FaxFinder to successfully interoperate with Avaya IP Office.   All feature and serviceability test cases were completed.

9. Additional References

This section references the product documentation relevant to these Application Notes.

1. *IP Office 8.0 Documentation CD*, January 2012, available at http://support.avaya.com.

2. *FaxFinder Administrator User Guide for Models FF840*, available at https://support.multitech.com.

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