



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Open Text Fax Server, RightFax Edition, with Avaya Aura[®] Communication Manager via H.323 Trunk Interface - Issue 1.1

Abstract

These Application Notes describe the procedures for configuring the Open Text Fax Server, RightFax Edition, with Avaya Aura[®] Communication Manager using an H.323 trunk interface.

Open Text Fax Server, RightFax Edition is a software based fax server that sends and receives fax calls over an IP network. In the tested configuration, Avaya Aura[®] Communication Manager directed fax calls to/from the Open Text Fax Server, RightFax Edition servers via an H.323 trunk.

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 procedures for configuring Open Text Fax Server, RightFax Edition, with Avaya Aura[®] Communication Manager using an H.323 trunk.

Open Text Fax Server, RightFax Edition is a software based fax server that transmits and receives fax calls over an IP network. Open Text Fax Server, RightFax Edition utilizes the Brooktrout SR140 T.38 Fax over Internet Protocol (FoIP) virtual fax board software from Dialogic. In the tested configuration, Avaya Aura[®] Communication Managers directed fax calls to/from Open Text Fax Server, RightFax Edition servers via H.323 trunks simulating two separate sites.

1.1. Interoperability Compliance Testing

The compliance test tested interoperability between RightFax and Communication Manager by making intra-site and inter-site fax calls to and from RightFax servers that were connected to the Communication Manager systems via H.323 trunk. Specifically, the following fax operations were tested in the compliance test:

- Faxes from/to a RightFax server to/from an analog fax machine at a local site
- Faxes from/to a RightFax server to/from an analog fax machine at a remote site
- Faxes from/to a RightFax server to/from a RightFax server at a remote site

In the compliance test, both ISDN-PRI trunks and H.323 trunks directly connecting two Communication Manager systems connected the Main Site, and Remote Site.

Faxes were sent with various page lengths and resolutions. For capacity, a large number of 2-page faxes were continuously sent between the two RightFax servers. Serviceability testing included verifying proper operation/recovery from failed cables, unavailable resources, and Communication Manager and RightFax restarts. Fax calls were tested with different Avaya Media Gateway media resources to process the fax data. This included the TN2302AP IP Media Processor (MedPro) circuit pack and the TN2602AP IP Media Processor circuit pack in the Avaya G650 Media Gateway; the integrated Voice over Internet Protocol (VoIP) engine of the Avaya G450 Media Gateway, and the Avaya MM760 Media Module installed in the Avaya G450 Media Gateway.

1.2. Support

Technical support for RightFax can be obtained by contacting Open Text at

- Phone: (800) 540-7292
- Email: support@opentext.com
- Web: <https://cslogin.opentext.com/login/>

2. Configuration

The test configuration was designed to emulate two separate sites with multiple Port Networks at one site, and modular Gateway resources at the other site. **Figure 1** illustrates the configuration used in these Application Notes.

2.1. Configuration Details

In the sample configuration, Communication Manager Servers and Gateways at the two sites were connected via H.323 and ISDN-PRI trunks. Faxes were alternately sent between the two sites using these two facilities.

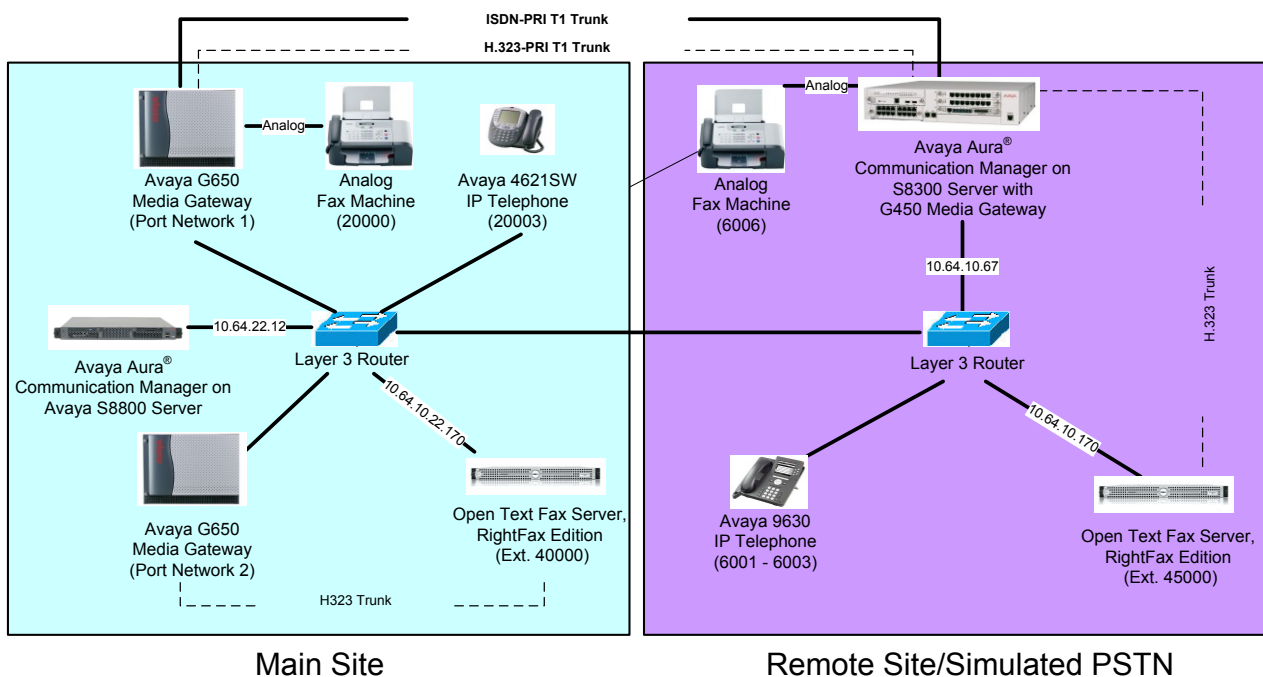


Figure 1: RightFax interoperating with Communication Manager

The Main Site had an Avaya S8800 Server running Communication Manager with two Avaya G650 Media Gateways. Each media gateway was configured as a separate port network in separate IP network regions. The RightFax server at this site communicated with Communication Manager via an H.323 trunk which terminated on a CLAN circuit pack in port network 2. IP media resources were provided by Media Processor (MedPro) circuit packs. Two versions of the MedPro circuit pack were tested in this configuration: TN2302AP and TN2602AP. Endpoints at this site included an Avaya 4600 Series IP Telephone (with H.323 firmware), and an analog fax machine.

The Remote Site had an Avaya S8300 Server running Communication Manager in an Avaya G450 Media Gateway. The RightFax server at this site communicated with Communication Manager via

an H.323 trunk. On the Avaya G450 Media Gateway, the signaling and media resources supporting the H.323 trunk was integrated directly on the media gateway processor. Endpoints at this site included Avaya 9600 Series IP Telephones (with H.323 and SIP firmware), and an analog fax machine. The SIP phones were registered with Session Manager (not pictured). Session Manager had no specific role in Fax operations so this part of the configuration is not covered in these Application Notes.

The IP telephones were not involved in the faxing operations, they were present in the configuration to verify the effect VoIP telephone calls had on the FoIP faxing operations.

Fax calls originating from the RightFax servers were sent to Communication Manager via an H.323 trunk. Based on the dialed digits, Communication Manager directed calls to the local fax machine, or an ISDN-PRI or H.323 trunk to reach the remote site. Inbound fax calls at each site were routed to the RightFax servers over the H.323 trunk that connected the local RightFax server.

3. Equipment and Software Validated

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

Equipment	Software/Firmware
Avaya S8800 Server (at Main Site)	Avaya Aura [®] Communication Manager 6.0 SP1 R016x.00.0.345.0 with patch 18567
Avaya G650 Media Gateway (at Main Site) - 2 CLANs - 2 MedPros – TN2302 - 2 MedPros – TN2602	TN799DP - HW01 FW38 & HW13 FW 38 TN2302AP - HW20 FW120 TN2602AP - HW02 FW057
Avaya S8300D Media Server (at Remote Site)	Avaya Aura [®] Communication Manager 6.0 SP1 R016x.00.0.345.0 with patch 18567
Avaya G450 Media Gateway (at Remote Site)	30.14.0/1
Avaya 9620 IP Telephone (SIP) Avaya 9630 IP Telephone (SIP) Avaya 4621SW IP Telephone (H.323)	Avaya one-X [®] Deskphone Edition SIP 2.5 H.323 3.11 H.323 2.9
Analog Fax Machines	-
Open Text Fax Server, RightFax Edition, on Windows Server 2008R2	9.4 Feature Pack 1 Service Release 3
Dialogic Brooktrout SR140 Fax Software – Boston Bfv API – Boston Driver – Boston SDK – Boot ROM	v6.2.04 (Build 12) v6.2.00 (Build 4) v6.2.04 (Build 12) 6.2.1B9

4. Configure Avaya Aura[®] Communication Manager

This section describes the Communication Manager configuration necessary to interoperate with Open Text Fax Server, RightFax Edition. It focuses on the configuration of the routing and H.323 trunk between Communication Manager and Open Text Fax Server, RightFax Edition. All other components are assumed to be in place and previously configured, including the H.323 and ISDN-PRI trunks that connect both sites.

The examples shown in this section refer to the Main Site. Unless specified otherwise, these same steps also apply to the Remote Site using values appropriate for that location.

The configuration of Communication Manager was performed using the System Access Terminal (SAT). After the completion of the configuration, the **save translation** command was used to make the changes permanent.

4.1. Steps to Configure Communication Manager

The procedures for configuring Communication Manager include the following areas:

- Verify Communication Manager License (Step 1)
- Identify IP Interfaces (Step 2)
- Administer IP Network Regions (Steps 3 – 6)
- Administer IP Node Name (Step 7)
- Administer IP Network Map (Step 8)
- Administer IP Codec Set (Steps 9 – 10)
- Administer H.323 Signaling Group (Step 11)
- Administer H.323 Trunk Group (Steps 12 – 15)
- Administer Public Unknown Numbering (Step 16)
- Administer Route Pattern (Step 17)
- Administer AAR Analysis (Steps 18 – 19)

Step	Description
1.	Verify Communication Manager License Use the display system-parameters customer-options command to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Navigate to Page 2, and verify that there is sufficient remaining capacity for H.323 trunks by comparing the Maximum Administered H.323 Trunks field value with the corresponding value in the USED column. The license file installed on the system controls the maximum permitted. If there is insufficient capacity, contact an authorized Avaya sales representative to make the appropriate changes. <pre> display system-parameters customer-options Page 2 of 11 OPTIONAL FEATURES IP PORT CAPACITIES USED Maximum Administered H.323 Trunks: 12000 96 Maximum Concurrently Registered IP Stations: 18000 1 Maximum Administered Remote Office Trunks: 12000 0 Maximum Concurrently Registered Remote Office Stations: 18000 0 Maximum Concurrently Registered IP eCons: 414 0 Max Concur Registered Unauthenticated H.323 Stations: 100 0 Maximum Video Capable Stations: 18000 0 Maximum Video Capable IP Softphones: 18000 0 Maximum Administered SIP Trunks: 24000 298 Maximum Administered Ad-hoc Video Conferencing Ports: 24000 0 Maximum Number of DS1 Boards with Echo Cancellation: 522 0 Maximum TN2501 VAL Boards: 128 2 Maximum Media Gateway VAL Sources: 250 0 Maximum TN2602 Boards with 80 VoIP Channels: 128 0 Maximum TN2602 Boards with 320 VoIP Channels: 128 2 Maximum Number of Expanded Meet-me Conference Ports: 300 0 </pre>

Step	Description																																																																																																																								
2.	Identify IP Interfaces Use the list ip-interface clan and list ip-interface medpro commands to identify IP interfaces in each network region. Interfaces in cabinet 01 (port network 1) as indicated in the Slot field are in IP network region 1 as indicated in the Net Rgn field. Testing with the TN2302 and TN2602 circuit packs were done separately. When testing with the TN2302, the TN2602 was disabled (turned off) and vice versa as indicated in the ON field. <pre>list ip-interface clan</pre><table><tr><th colspan="10">IP INTERFACES</th></tr><tr><th>ON</th><th>Slot</th><th>Code/Sfx</th><th>Node Name/ IP-Address</th><th>Mask</th><th>Gateway Node</th><th>Skts Warn</th><th>Net Rgn</th><th>VLAN</th><th>Eth Link</th></tr><tr><td colspan="10">-----</td></tr><tr><td>y</td><td>01A03</td><td>TN799</td><td>D CLAN1A 10.64.22.16</td><td>/24</td><td>Gateway001</td><td>400</td><td>1</td><td>n</td><td>1</td></tr><tr><td>y</td><td>02A03</td><td>TN799</td><td>D CLAN2A 10.64.22.19</td><td>/24</td><td>Gateway001</td><td>400</td><td>2</td><td>n</td><td>2</td></tr></table> <pre>list ip-interface medpro</pre><table><tr><th colspan="10">IP INTERFACES</th></tr><tr><th>ON</th><th>Slot</th><th>Code/Sfx</th><th>Node Name/ IP-Address</th><th>Mask</th><th>Gateway Node</th><th>Net Rgn</th><th>VLAN</th><th>Virtual</th><th>Node</th></tr><tr><td colspan="10">-----</td></tr><tr><td>n</td><td>01A02</td><td>TN2302</td><td>MEDPRO1A 10.64.22.15</td><td>/24</td><td>Gateway001</td><td>1</td><td>n</td><td></td><td></td></tr><tr><td>n</td><td>02A02</td><td>TN2302</td><td>MEDPRO2A 10.64.22.18</td><td>/24</td><td>Gateway001</td><td>2</td><td>n</td><td></td><td></td></tr><tr><td>y</td><td>01A04</td><td>TN2602</td><td>MEDPRO1A-2 10.64.22.17</td><td>/24</td><td>Gateway001</td><td>1</td><td>n</td><td></td><td></td></tr><tr><td>y</td><td>02A04</td><td>TN2602</td><td>MEDPRO2A-2 10.64.22.20</td><td>/24</td><td>Gateway001</td><td>2</td><td>n</td><td></td><td></td></tr></table>	IP INTERFACES										ON	Slot	Code/Sfx	Node Name/ IP-Address	Mask	Gateway Node	Skts Warn	Net Rgn	VLAN	Eth Link	-----										y	01A03	TN799	D CLAN1A 10.64.22.16	/24	Gateway001	400	1	n	1	y	02A03	TN799	D CLAN2A 10.64.22.19	/24	Gateway001	400	2	n	2	IP INTERFACES										ON	Slot	Code/Sfx	Node Name/ IP-Address	Mask	Gateway Node	Net Rgn	VLAN	Virtual	Node	-----										n	01A02	TN2302	MEDPRO1A 10.64.22.15	/24	Gateway001	1	n			n	02A02	TN2302	MEDPRO2A 10.64.22.18	/24	Gateway001	2	n			y	01A04	TN2602	MEDPRO1A-2 10.64.22.17	/24	Gateway001	1	n			y	02A04	TN2602	MEDPRO2A-2 10.64.22.20	/24	Gateway001	2	n		
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Step	Description
3.	Administer IP Network Region 1 The configuration of the IP network regions (Steps 3 – 6) was already in place and is included here for clarity. At the Main Site, the Avaya G650 Media Gateway comprising port network 1 and all IP endpoints were located in IP network region 1. Use the display ip-network-region command to view these settings. A descriptive name was entered for the Name field. ▪ IP-IP Direct Audio (Media Shuffling) was enabled to allow audio traffic to be sent directly between IP endpoints without using media resources in the Avaya Media Gateway. This was done for both intra-region and inter-region IP-IP Direct Audio. This is the default setting. Media Shuffling can be further restricted at the trunk level on the Signaling Group form. ▪ The Codec Set field was set to the IP codec set to be used for calls within this IP network region. In this case, IP codec set 1 was selected. ▪ The default values were used for all other fields. At the Remote Site, all IP components were located in IP network region 1 and the IP network region was configured in the same manner as shown below. <pre> display ip-network-region 1 Page 1 of 20 IP NETWORK REGION Region: 1 Location: Authoritative Domain: avaya.com Name: PN1 MEDIA PARAMETERS Intra-region IP-IP Direct Audio: yes Codec Set: 1 Inter-region IP-IP Direct Audio: yes UDP Port Min: 2048 IP Audio Hairpinning? n UDP Port Max: 3329 DIFFSERV/TOS PARAMETERS RTCP Reporting Enabled? y Call Control PHB Value: 46 RTCP MONITOR SERVER PARAMETERS Audio PHB Value: 46 Use Default Server Parameters? y Video PHB Value: 26 802.1P/Q PARAMETERS Call Control 802.1p Priority: 6 Audio 802.1p Priority: 6 Video 802.1p Priority: 5 AUDIO RESOURCE RESERVATION PARAMETERS H.323 IP ENDPOINTS RSVP Enabled? n H.323 Link Bounce Recovery? y Idle Traffic Interval (sec): 20 Keep-Alive Interval (sec): 5 Keep-Alive Count: 5 </pre>

Step	Description
4.	Administer IP Network Region 1 – Continued On Page 4, codec sets are defined for inter-region calls. In the case of the compliance test at the Main Site, calls from IP network Source Region 1 to IP network region 2 (dst rgn 2) used codec set 1. The default values were used for all other fields. At the Remote Site, only one IP network region was used, so no inter-region settings were required. <pre> display ip-network-region 1 Page 4 of 20 Source Region: 1 Inter Network Region Connection Management I M G A t dst codec direct WAN-BW-limits Video Intervening Dyn A G c rgn set WAN Units Total Norm Prio Shr Regions CAC R L e 1 1 2 1 y NoLimit n t 3 </pre>
5.	Administer IP Network Region 2 At the Main Site, IP network region 2 was created for Port Network 2 in a similar manner as IP network region 1 shown in Step 3 but with a different name. This was the network region used for H.323 Trunk connections to the RightFax server. Note the default UDP Port Min and UDP Port Max settings, these were used in the configuration of the RightFax server described in Section 5. <pre> display ip-network-region 2 Page 1 of 20 Region: 2 Location: Authoritative Domain: avaya.com Name: PN2 MEDIA PARAMETERS Intra-region IP-IP Direct Audio: yes Codec Set: 1 Inter-region IP-IP Direct Audio: yes UDP Port Min: 2048 IP Audio Hairpinning? n UDP Port Max: 3329 DIFFSERV/TOS PARAMETERS Call Control PHB Value: 46 Audio PHB Value: 46 Video PHB Value: 26 802.1P/Q PARAMETERS Call Control 802.1p Priority: 6 Audio 802.1p Priority: 6 Video 802.1p Priority: 5 AUDIO RESOURCE RESERVATION PARAMETERS H.323 IP ENDPOINTS RSVP Enabled? n H.323 Link Bounce Recovery? y Idle Traffic Interval (sec): 20 Keep-Alive Interval (sec): 5 Keep-Alive Count: 5 </pre>

Step	Description
6.	Administer IP network Region 2 - Continued The inter-region codec setting was created similarly to Step 4. <pre> display ip-network-region 2 Page 4 of 20 Source Region: 2 Inter Network Region Connection Management dst codec direct WAN-BW-limits Video Intervening Dyn A G t rgn set WAN Units Total Norm Prio Shr Regions CAC R L e 1 1 y NoLimit 2 1 3 n all t all </pre>
7.	Administer IP Node Name Use the change node-names ip command to create a node name that maps to the RightFax IP address. This node name is used in the configuration of the H.323 trunk signaling group in Step 11. <pre> change node-names ip Page 1 of 2 IP NODE NAMES Name IP Address CLAN1A 10.64.22.16 CLAN2A 10.64.22.19 CM-Remote 10.64.21.111 FaxServer 10.64.22.170 Gateway001 10.64.22.1 MEDPRO1A 10.64.22.15 MEDPRO1A-2 10.64.22.17 MEDPRO2A 10.64.22.18 MEDPRO2A-2 10.64.22.20 TR18300 10.64.10.67 </pre>
8.	Administer IP Network Map The RightFax server was configured to be located in an IP network region other than the default region 1; the region was assigned using the change ip-network-map command. In the case of the compliance test, the RightFax IP address at the Main Site is assigned to IP network region 2 as shown in the example below. At the Remote Site, the RightFax server is located in the default IP network region 1, so it did not require an ip-network-map map entry. <pre> change ip-network-map Page 1 of 63 IP ADDRESS MAPPING IP Address Subnet Network Emergency ----- Bits Region VLAN Location Ext FROM: 10.64.22.170 /24 2 n TO: 10.64.22.170 </pre>

Step	Description
9.	Codecs Use the change ip-codec-set 1 command to verify that G.711MU or G.711A is contained in the codec list. <pre> change ip-codec-set 1 Page 1 of 2 IP Codec Set Codec Set: 1 Audio Silence Frames Packet Codec Suppression Per Pkt Size(ms) 1: G.711MU n 2 20 </pre>
10.	Administer IP Codec set – Fax settings On Page 2, set the FAX Mode field to t.38-standard. This is necessary to support the T.38 fax server assigned to IP network region 2. The Modem Mode field should be set to off. Leave the FAX Redundancy setting at its default value of 0. A packet redundancy level can be assigned to improve packet delivery and robustness of FAX transport over the network (with increased bandwidth as trade-off). Avaya uses IETF RFC-2198 and ITU-T T.38 specifications as redundancy standard. With this standard, each Fax over IP packet is sent with additional (redundant) 0 to 3 previous fax packets based on the redundancy setting. A setting of 0 (no redundancy) is suited for networks where packet loss is not a problem. This setting should match the redundancy settings in Brooktrout SR140 configuration; otherwise Brooktrout SR140 will negotiate T.38 redundancy to the most common denominator (no redundancy in this case). <pre> change ip-codec-set 1 Page 2 of 2 IP Codec Set Allow Direct-IP Multimedia? n FAX Mode Redundancy Modem t.38-standard 0 TDD/TTY off 0 Clear-channel US 3 n 0 </pre>

Step	Description
11.	Administer H.323 Signaling Group Use the add signaling-group command to create a signaling group for use by the H.323 trunk to the RightFax server. For the compliance test at the Main Site, signaling group 13 was configured using the parameters highlighted below. Default values may be used for all other fields. ▪ Set the Group Type to h.323. ▪ The Trunk Group for Channel Selection is left blank until the trunk group is created. It will be updated later. ▪ Set the Near-end Node Name to the node name that maps to the IP address of the CLAN circuit pack used to connect to RightFax. Node names are defined using the change node-names ip command. For the Remote Site, this node name would map to the IP address of the Avaya S8300 Server (<i>procr</i>). ▪ Set the Far-end Node Name to the node name that maps to the IP address of the RightFax server configured in Step 7. ▪ Set the Near-end Listen Port and Far-end Listen Port to 1720. ▪ Set the Far-end Network Region to the IP network region which contains RightFax. ▪ Set the Direct IP-IP Audio Connections field to y. This setting enables Media Shuffling on the trunk level (see Step 3 on IP-IP Direct Audio). ▪ The DTMF over IP field was set to the default value of in-band. ▪ The default values were used for all other fields. <pre> add signaling-group 13 Page 1 of 5 SIGNALING GROUP Group Number: 13 Group Type: h.323 SBS? n Remote Office? n Max number of NCA TSC: 0 Q-SIP? n Max number of CA TSC: 0 IP Video? n Trunk Group for NCA TSC: Trunk Group for Channel Selection: X-Mobility/Wireless Type: NONE TSC Supplementary Service Protocol: a Network Call Transfer? n T303 Timer(sec): 10 H.245 DTMF Signal Tone Duration(msec): Near-end Node Name: CLAN2A Far-end Node Name: FaxServer Near-end Listen Port: 1720 Far-end Listen Port: 1720 Far-end Network Region: 2 Calls Share IP Signaling Connection? n LRQ Required? n RRQ Required? n Bypass If IP Threshold Exceeded? n H.235 Annex H Required? n Direct IP-IP Audio Connections? n IP Audio Hairpinning? n Link Loss Delay Timer(sec): 90 Interworking Message: PROgress Enable Layer 3 Test? n DCP/Analog Bearer Capability: 3.1kHz </pre>

Step	Description
12.	Administer H.323 Trunk Group Use the add trunk group command to create a trunk group for the H.323 trunks to the RightFax server. For the compliance test at the Main Site, trunk group 13 was configured using the parameters highlighted below. Default values may be used for all other fields. On Page 1: - Set the Group Type field to <i>isdn</i>. - Enter a descriptive name for the Group Name. - Enter an available trunk access code (TAC) that is consistent with the existing dial plan in the TAC field. - Set the Carrier Medium to <i>H.323</i>. - Set the Service Type field to <i>tie</i>. - Set the Member Assignment Method to <i>auto</i>. - Set the Signaling Group to the signaling group shown in the previous step. - In Number of Members field, enter the number of trunks in the trunk group. This determines how many simultaneous calls can be supported by the configuration. - Default values may be used for all other fields. <pre> add trunk-group 13 Page 1 of 21 TRUNK GROUP Group Number: 13 Group Type: isdn CDR Reports: y Group Name: H323 FaxServer COR: 1 TN: 1 TAC: *013 Direction: two-way Outgoing Display? n Carrier Medium: H.323 Dial Access? n Busy Threshold: 255 Night Service: Queue Length: 0 Service Type: tie Auth Code? n Member Assignment Method: auto Signaling Group: 13 Number of Members: 23 </pre>
13.	Administer H.323 Trunk Group – Continued On Page 2: Set the Codeset to Send Display field to <i>0</i>. <pre> add trunk-group 13 Page 2 of 21 Group Type: isdn TRUNK PARAMETERS Codeset to Send Display: 0 Codeset to Send National IEs: 6 Charge Advice: none Supplementary Service Protocol: a Digit Handling (in/out): enbloc/enbloc Digital Loss Group: 18 Incoming Calling Number - Delete: Insert: Format: Disconnect Supervision - In? y Out? n Answer Supervision Timeout: 0 CONNECT Reliable When Call Leaves ISDN? n Delay Call Setup When Accessed Via IGAR? n </pre>

Step	Description
14.	Administer H.323 Trunk Group – Continued On Page 3: - Set the Send Name field and Send Calling Number field to y. These settings enable the sending of calling party name and number to the far end. - Set the Format field to public. This field specifies the format of the calling party number sent to the far-end. - Default values may be used for all other fields. <pre> add trunk-group 13 Page 3 of 21 TRUNK FEATURES ACA Assignment? n Measured: none Internal Alert? n Data Restriction? n Maintenance Tests? y NCA-TSC Trunk Member: Used for DCS? n Send Name: y Send Calling Number: y Suppress # Outpulsing? n Format: public Send EMU Visitor CPN? n UII IE Treatment: service-provider Replace Restricted Numbers? n Replace Unavailable Numbers? n Send Connected Number: n Network Call Redirection: none Hold/Unhold Notifications? n Send UII IE? y Modify Tandem Calling Number: no Send UCID? n Send Codeset 6/7 LAI IE? y </pre>
15.	Administer Signaling Group – Update Use the change signaling-group command to update the Trunk Group for Channel Selection field with the trunk group created in Steps 12 – 14. <pre> change signaling-group 13 Page 1 of 5 SIGNALING GROUP Group Number: 13 Group Type: h.323 SBS? n Remote Office? n Max number of NCA TSC: 0 Q-SIP? n Max number of CA TSC: 0 IP Video? n Trunk Group for NCA TSC: Trunk Group for Channel Selection: 13 X-Mobility/Wireless Type: NONE TSC Supplementary Service Protocol: a Network Call Transfer? n T303 Timer(sec): 10 H.245 DTMF Signal Tone Duration(msec): Near-end Node Name: CLAN2A Far-end Node Name: FaxServer Near-end Listen Port: 1720 Far-end Listen Port: 1720 Far-end Network Region: 2 LRQ Required? n Calls Share IP Signaling Connection? n RRQ Required? n Bypass If IP Threshold Exceeded? n H.235 Annex H Required? n DTMF over IP: out-of-band Direct IP-IP Audio Connections? n Link Loss Delay Timer(sec): 90 IP Audio Hairpinning? n Enable Layer 3 Test? n Interworking Message: PROGRESS DCP/Analog Bearer Capability: 3.1kHz </pre>

Step	Description																																																																																																																																																														
16.	Administer Public Unknown Numbering Public unknown numbering defines the calling party number to be sent to the far-end. Use the change public-unknown-numbering command to create an entry that will be used by the trunk group defined in Steps 12 – 14. In the example shown below, all calls originating from a 5-digit extension beginning with 4 and routed across any trunk group (Trk Grp column is blank) will be sent as a 5-digit calling number. change public-unknown-numbering 0 Page 1 of 2 NUMBERING - PUBLIC/UNKNOWN FORMAT Total <table><thead><tr><th>Ext Len</th><th>Ext Code</th><th>Trk Grp(s)</th><th>CPN Prefix</th><th>CPN Len</th><th></th></tr></thead><tbody><tr><td>5</td><td>1</td><td></td><td></td><td>5</td><td>Total Administered: 6</td></tr><tr><td>5</td><td>2</td><td></td><td></td><td>5</td><td>Maximum Entries: 9999</td></tr><tr><td>5</td><td>4</td><td></td><td></td><td>5</td><td>Note: If an entry applies to</td></tr><tr><td>5</td><td>5</td><td></td><td></td><td>5</td><td>a SIP connection to Avaya</td></tr><tr><td>4</td><td>6</td><td></td><td></td><td>4</td><td>Aura(tm) Session Manager,</td></tr><tr><td>5</td><td>7</td><td></td><td></td><td>5</td><td>the resulting number must</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>be a complete E.164 number.</td></tr></tbody></table> <tr><td>17.</td><td> Administer Route Pattern Use the change route-pattern command to create a route pattern that will route calls to the H.323 trunk that connect to the RightFax server. The example below shows the route pattern used for the compliance test at the Main Site. A descriptive name was entered for the Pattern Name field. The Grp No field was set to the trunk group created in Steps 12 – 14. The Facility Restriction Level (FRL) field was set to a level that allows access to this trunk for all users that require it. The value of 0 is the least restrictive level. 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18.	Administer AAR Analysis Automatic Alternate Routing (AAR) was used to route calls to RightFax. Use the change aar analysis command to create an entry in the AAR Digit Analysis Table for this purpose. The example below shows entries previously created for the Main Site using the display aar analysis 0 command. The highlighted entry specifies that if the dialed number is 40000 and is 5 digits long, to use route pattern 13. Route pattern 13 routes calls to RightFax at the Main Site. <pre>display aar analysis 0</pre> Page 1 of 2 AAR DIGIT ANALYSIS TABLE Location: all Percent Full: 1 <table><thead><tr><th>Dialed String</th><th>Total Min</th><th>Total Max</th><th>Route Pattern</th><th>Call Type</th><th>Node Num</th><th>ANI Req'd</th></tr></thead><tbody><tr><td>10</td><td>4</td><td>4</td><td>4</td><td>aar</td><td></td><td>n</td></tr><tr><td>3</td><td>5</td><td>5</td><td>12</td><td>aar</td><td></td><td>n</td></tr><tr><td>40000</td><td>5</td><td>5</td><td>13</td><td>aar</td><td></td><td>n</td></tr><tr><td>45000</td><td>5</td><td>5</td><td>15</td><td>aar</td><td></td><td>n</td></tr><tr><td>5</td><td>4</td><td>4</td><td>1</td><td>aar</td><td></td><td>n</td></tr><tr><td>5</td><td>5</td><td>5</td><td>11</td><td>aar</td><td></td><td>n</td></tr><tr><td>60</td><td>4</td><td>4</td><td>15</td><td>aar</td><td></td><td>n</td></tr><tr><td>7</td><td>5</td><td>5</td><td>1</td><td>aar</td><td></td><td>n</td></tr><tr><td>8</td><td>5</td><td>5</td><td>4</td><td>aar</td><td></td><td>n</td></tr></tbody></table>	Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Req'd	10	4	4	4	aar		n	3	5	5	12	aar		n	40000	5	5	13	aar		n	45000	5	5	15	aar		n	5	4	4	1	aar		n	5	5	5	11	aar		n	60	4	4	15	aar		n	7	5	5	1	aar		n	8	5	5	4	aar		n																																																																																								
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19.	Routing Calls From the Main Site to the Remote Site The AAR Digit Analysis Table in Step 18 also shows that a 5-digit dialed number 45000 and 60xx will use route pattern 15 by AAR. The previously created route pattern 15 displayed below specifies that calls from the Main Site to the RightFax server at 45000 at the Remote Site will be routed to trunk group 4 which was an administered ISDN-PRI trunk group. This trunk group setting was changed to the H.323 trunk group 15 for fax calls to the Remote Site to use H.323 trunk facilities for some of the tests. <pre>display route-pattern 15</pre> Page 1 of 3 Pattern Number: 15 Pattern Name: TR1_8300 SCCAN? n Secure SIP? n <table><thead><tr><th>Grp No</th><th>FRL</th><th>NPA</th><th>Pfx</th><th>Hop</th><th>Toll</th><th>No.</th><th>Inserted</th><th>DCS/ QSIG</th><th>IXC Intw</th></tr></thead><tbody><tr><td>1:</td><td>4</td><td>0</td><td></td><td></td><td></td><td></td><td>0</td><td>n</td><td>user</td></tr><tr><td>2:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>3:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>4:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>5:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>6:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr></tbody></table><table><thead><tr><th>BCC</th><th>VALUE</th><th>TSC</th><th>CA-TSC</th><th>ITC</th><th>BCIE</th><th>Service/Feature</th><th>PARM</th><th>No.</th><th>Numbering</th><th>LAR</th></tr><tr><th>0</th><th>1</th><th>2</th><th>M</th><th>4</th><th>W</th><th>Request</th><th></th><th>Dgts</th><th>Format</th><th>Subaddress</th></tr></thead><tbody><tr><td>1:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>2:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>3:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>4:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>5:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>6:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr></tbody></table>	Grp No	FRL	NPA	Pfx	Hop	Toll	No.	Inserted	DCS/ QSIG	IXC Intw	1:	4	0					0	n	user	2:								n	user	3:								n	user	4:								n	user	5:								n	user	6:								n	user	BCC	VALUE	TSC	CA-TSC	ITC	BCIE	Service/Feature	PARM	No.	Numbering	LAR	0	1	2	M	4	W	Request		Dgts	Format	Subaddress	1:	y	y	y	y	y	n	n	rest		none	2:	y	y	y	y	y	n	n	rest		none	3:	y	y	y	y	y	n	n	rest		none	4:	y	y	y	y	y	n	n	rest		none	5:	y	y	y	y	y	n	n	rest		none	6:	y	y	y	y	y	n	n	rest		none
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5. Configure Open Text Fax Server, RightFax Edition

This section describes the configuration of Open Text Fax Server, RightFax Edition and the embedded Brooktrout SR140 virtual fax board software from Dialogic. It assumes that the application and all required software components, including Brooktrout SR140 and the database software (MSSQL 2008), have been installed and properly licensed. For instructions on installing RightFax, consult the RightFax Installation Guide [4].

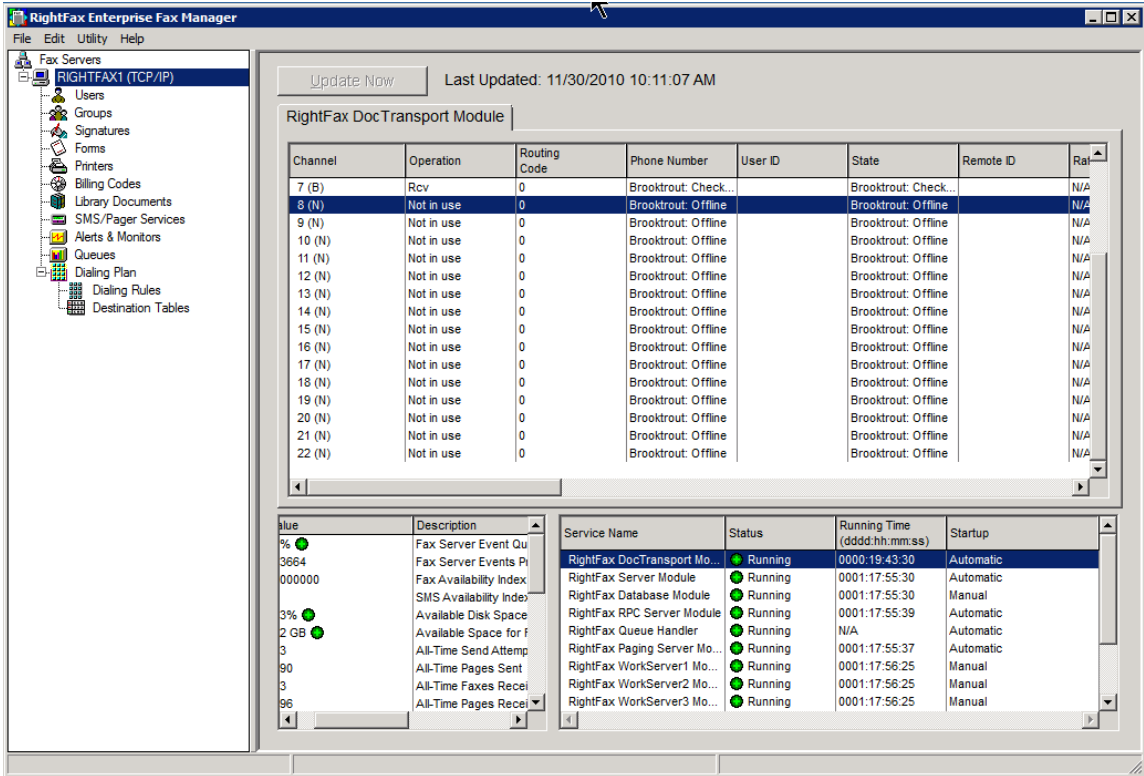
Note that the configurations documented in this section pertain to interoperability between RightFax and the Avaya H.323 infrastructure. The standard configurations pertaining to RightFax itself (e.g., administering fax channels) are not covered. For instructions on administering and operating RightFax, consult the RightFax Administrator's Guide [3].

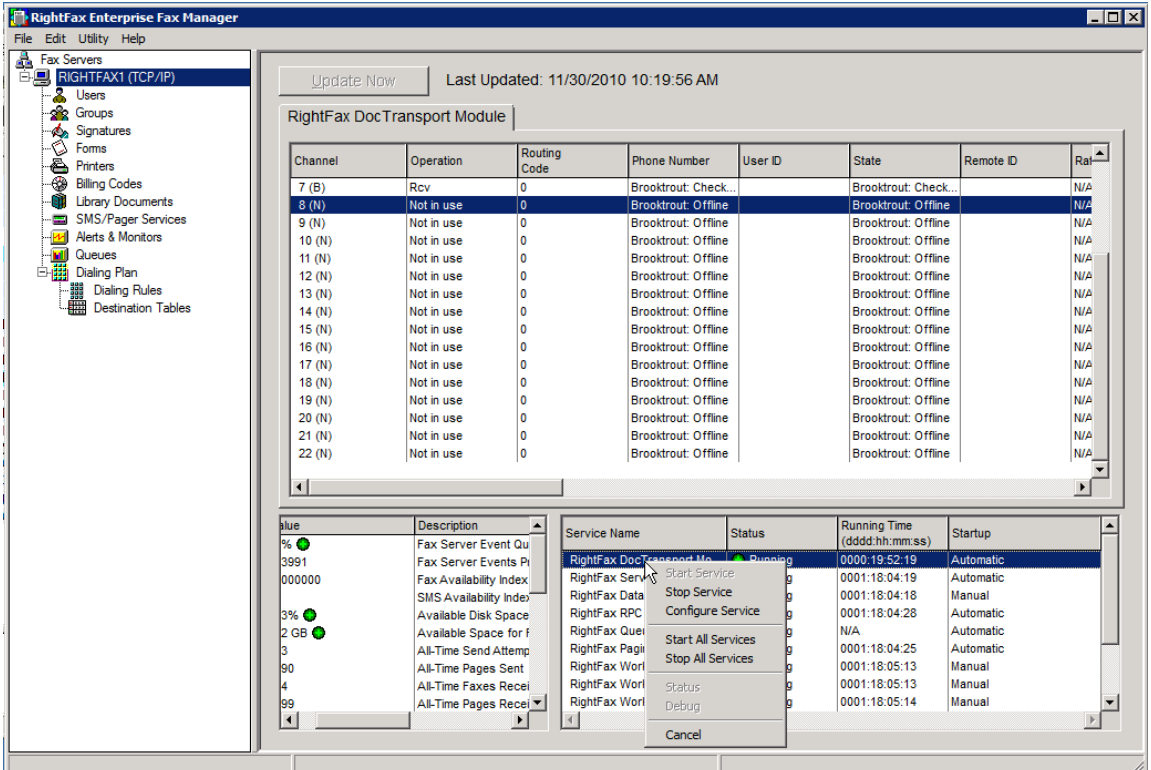
5.1. Steps to Configure Right Fax

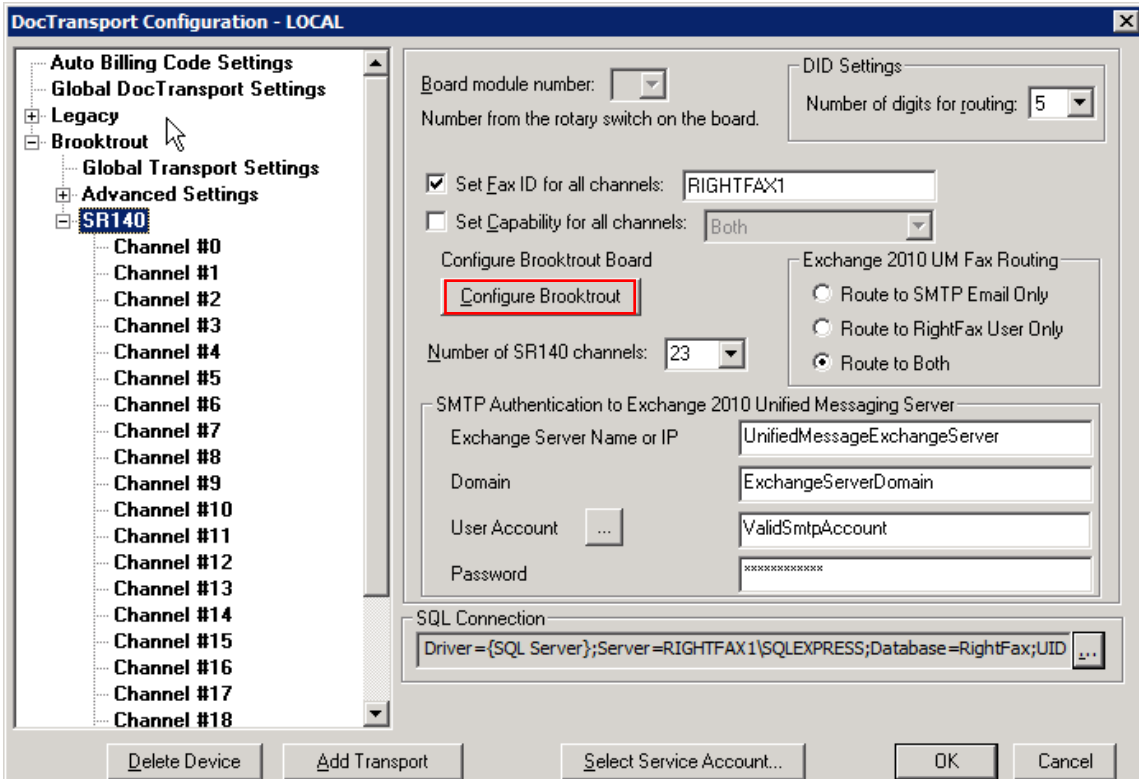
The configuration procedures covered in this section include the following:

- Launch RightFax Enterprise Fax Manager and SR140 Configuration Tool (Steps 1 – 4)
- Configure SR140 IP stack (Step 5)
- Configure SR140 H.323 IP parameters (Step 6)
- Configure SR140 T.38 parameters (Step 7)
- Complete SR140 configuration (Step 8)
- Administer RightFax dialing rules (Steps 9 – 11)
- Administer RightFax users (Steps 12 – 15)

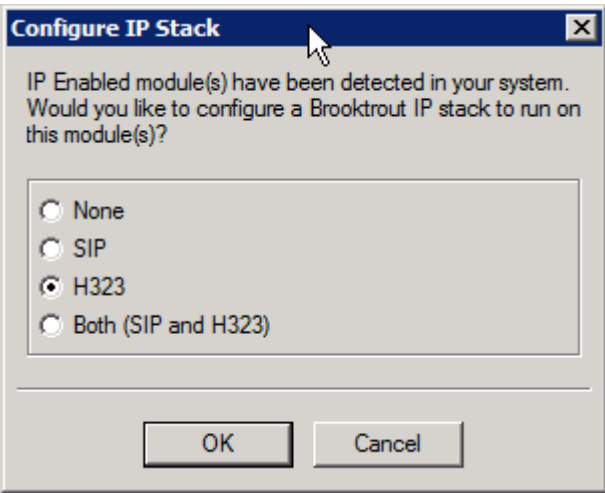
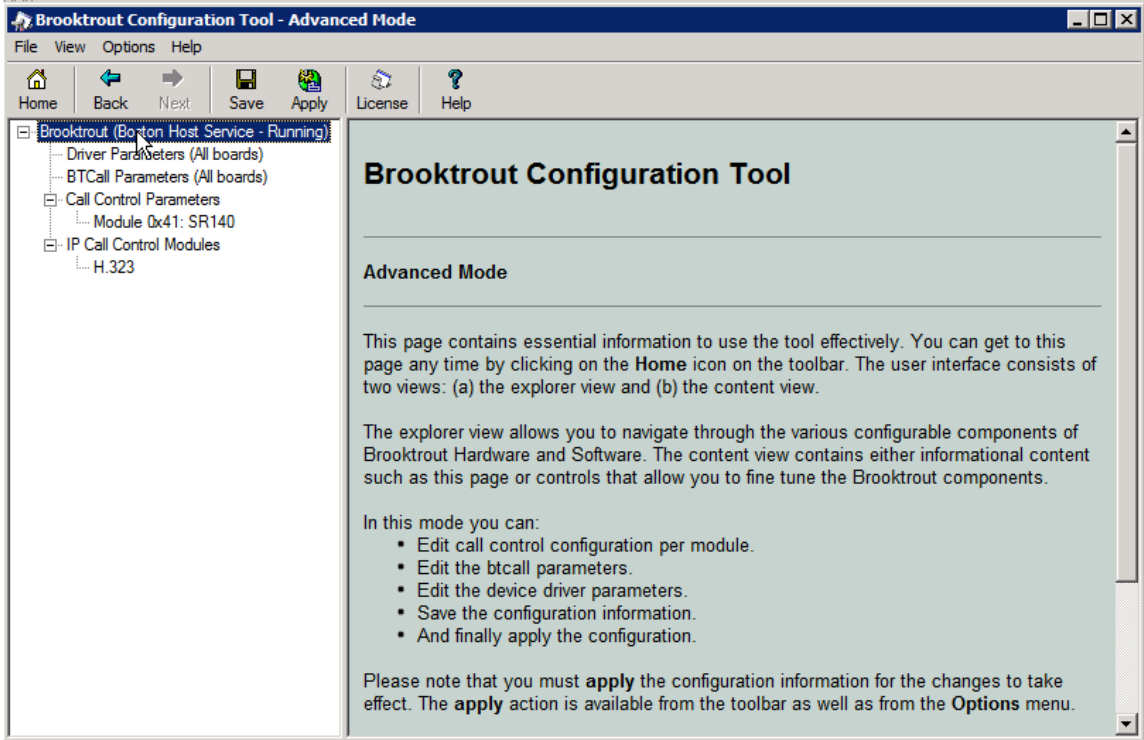
The examples shown in this section refer to the Main Site. Unless specified otherwise, these same steps also apply to Remote Site using values appropriate from **Figure 1**.

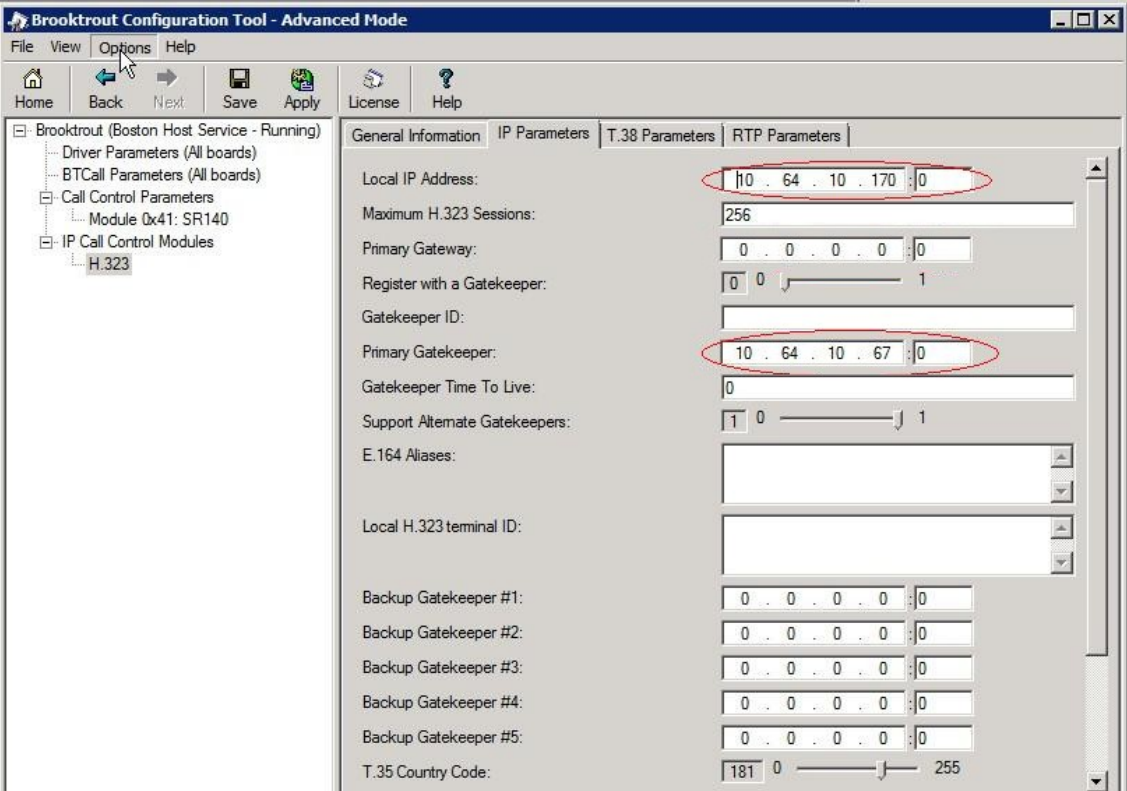
Step	Description
1.	Launch RightFax Enterprise Fax Manager The RightFax configuration is performed using the RightFax Enterprise Fax Manager. Launch the RightFax Enterprise Fax Manager from the Windows Start menu. At the main window, highlight the host name of the fax server (created during the installation process) from the navigation menu in the left pane: 

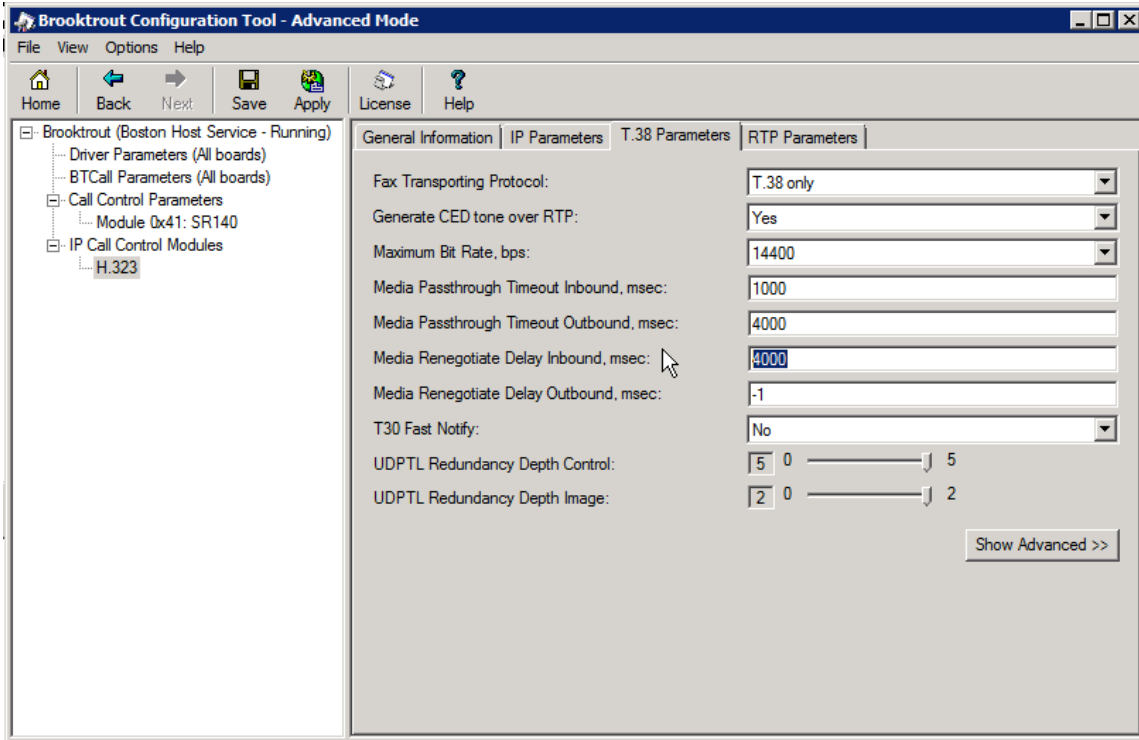
Step	Description
2.	RightFax DocTransport Module The Brooktrout SR140 was configured during installation. To view or modify the settings, the RightFax DocTransport Module must be stopped. Right-click this module in the lower right pane and select Stop Service. Once the status of the module indicates that the module has stopped, right-click the RightFax DocTransport Module name again to select Configure Service.  The screenshot shows the 'RightFax Enterprise Fax Manager' application. On the left, a tree view shows 'Fax Servers' expanded, with 'RIGHTFAX1 (TCP/IP)' selected. The main area displays the 'RightFax DocTransport Module' configuration. A table lists channels 7 through 22, all with a status of 'Offline'. At the bottom right, a context menu is open over the 'RightFax DocTransport Module' entry, showing options: 'Start Service', 'Stop Service', 'Configure Service', 'Start All Services', 'Stop All Services', 'Status', 'Debug', and 'Cancel'.

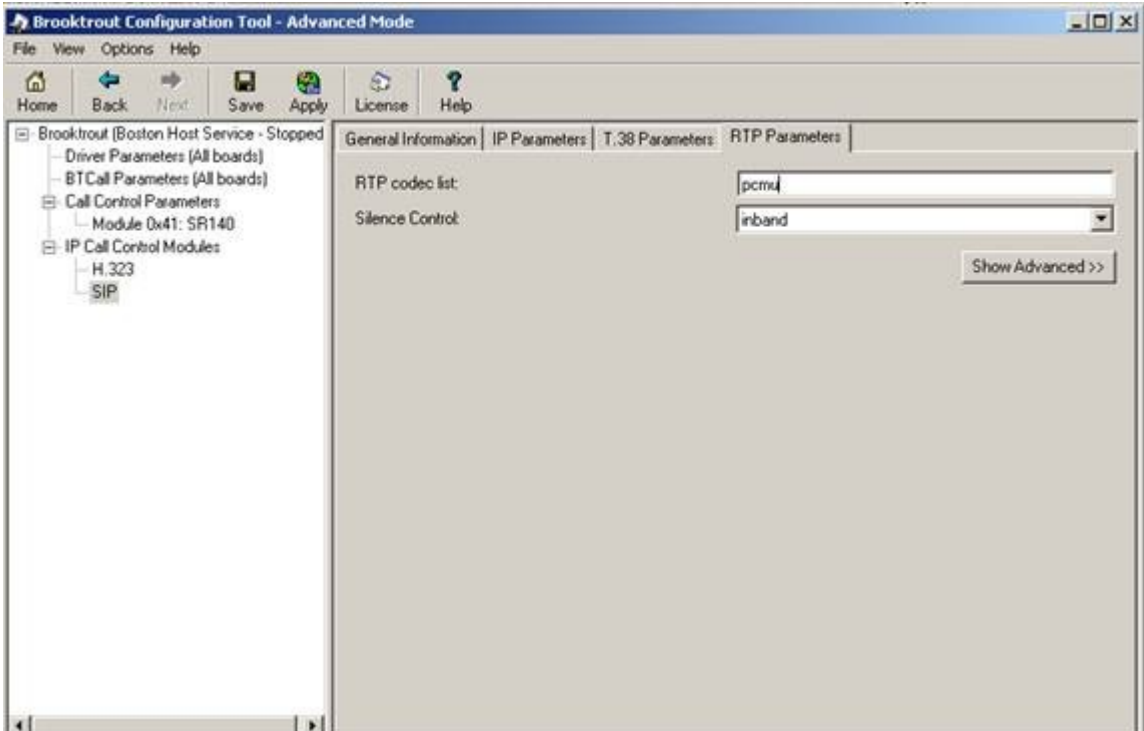
Step	Description
3.	RightFax DocTransport Module - Continued In the DocTransport Configuration window that appears, click the Configure Brooktrout button. 

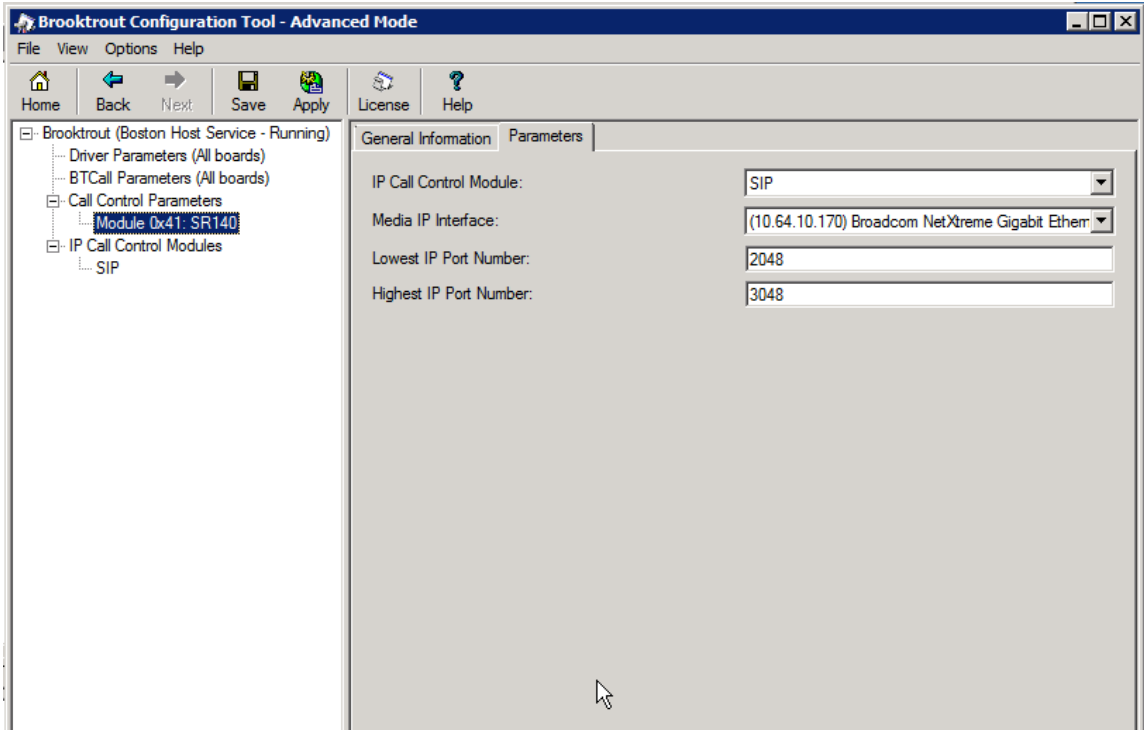
Step	Description
4.	Brooktrout Configuration Tool The Brooktrout Configuration Tool – Wizard Mode window gets displayed. Click the Advanced Mode button in this window. 

Step	Description
5.	Configure IP Stack A Configure IP Stack window is displayed on first invocation of the Brooktrout SR140 configuration tool (assuming the Brooktrout SR-140 licenses were installed):  Choose H323 and click OK. The following SR140 configuration tool window is displayed.  Note that IP Stack can be viewed/reconfigured from the Brooktrout Configuration Tool menu Options → Configure IP Stack.

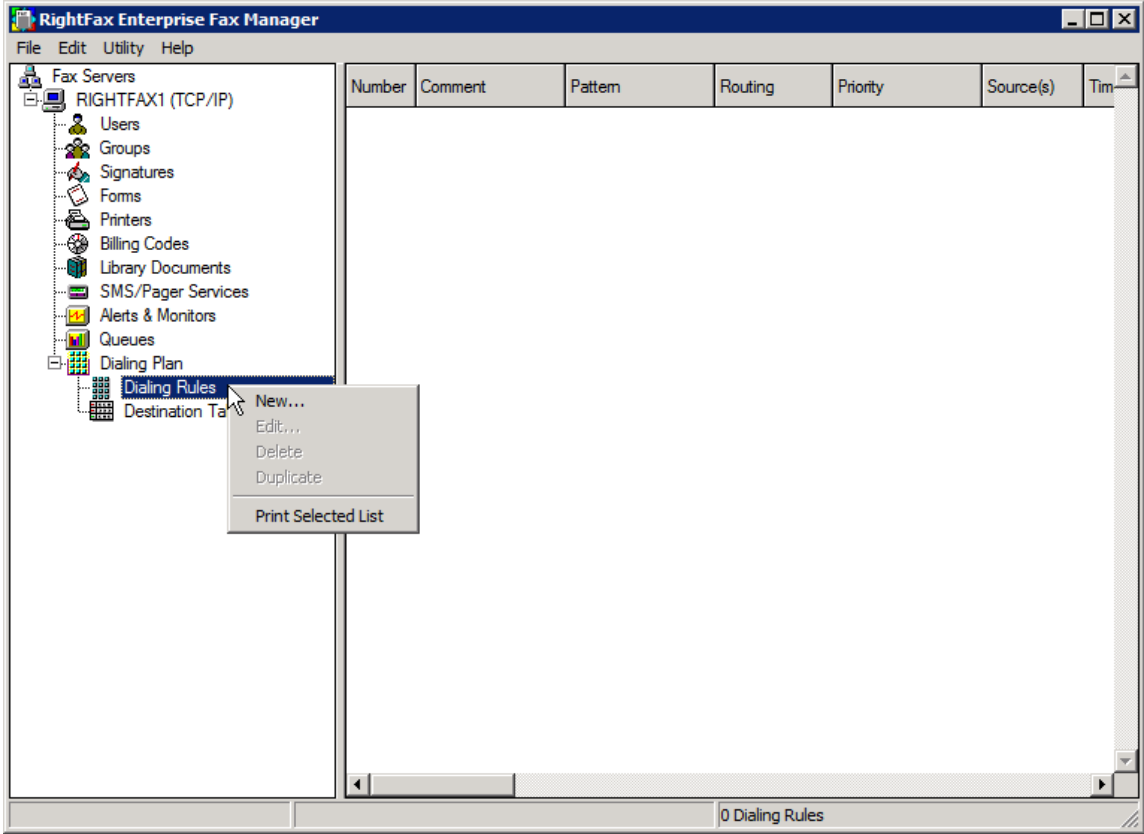
Step	Description
6.	Configure H.323 IP Parameters <i>Important: This step describes configuring the Primary H.323 Gateway address using the Brooktrout Configuration Tool. This method is sufficient if the RightFax Server will communicate with a single H.323 gateway. Alternatively, you may use RightFax Dialing Rules, described in steps 10-11 below, to specify the address of the H.323 Gateway. You should only use one of these options. Do not use both.</i> <i>Either option listed above is appropriate if Media Shuffling is enabled in the Avaya communications equipment.</i> <i>If the RightFax Server needs to be configured to communicate directly with multiple gateways, use only RightFax Dialing Rules. Create a separate RightFax Dialing Rule for each media gateway address.</i> Navigate to Brooktrout → IP Call Control Modules → H.323 in the left navigation menu. Select the IP Parameters tab in the right pane. Configure the fields as follows: • Local IP Address – the IP address assigned to the RightFax server • Primary Gateway – for the Main Site, set to the IP address of the CLAN circuit pack used to connect to RightFax; for the Remote Site, set to the IP address of the Avaya S8300 Server. Use default values for all other fields. 

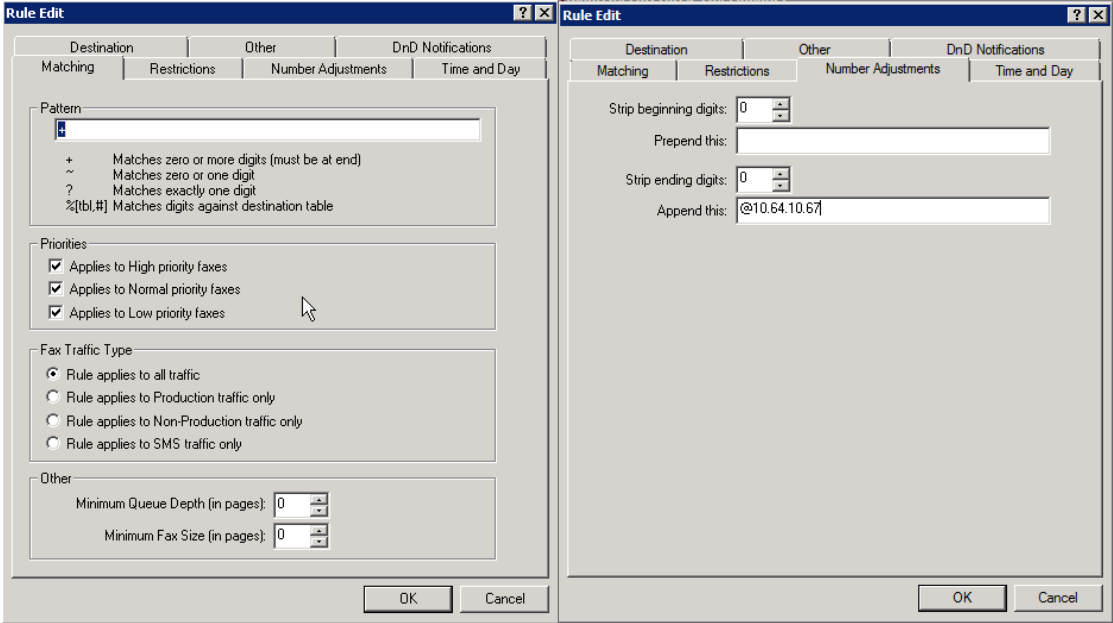
Step	Description
7.	Configure T.38 Parameters Select the T.38 Parameters tab. Configure the fields as shown below in the screenshot. <i>Note: In this example, only the “Media Renegotiate Delay Inbound, msec” setting has been changed from the default.</i>  The screenshot shows the 'Brooktrout Configuration Tool - Advanced Mode' window. The left sidebar shows a tree view with 'H.323' selected under 'IP Call Control Modules'. The main panel has four tabs: 'General Information', 'IP Parameters', 'T.38 Parameters', and 'RTP Parameters'. The 'T.38 Parameters' tab is active, displaying the following settings: - Fax Transporting Protocol: T.38 only - Generate CED tone over RTP: Yes - Maximum Bit Rate, bps: 14400 - Media Passthrough Timeout Inbound, msec: 1000 - Media Passthrough Timeout Outbound, msec: 4000 - Media Renegotiate Delay Inbound, msec: 4000 (highlighted by a mouse cursor) - Media Renegotiate Delay Outbound, msec: -1 - T30 Fast Notify: No - UDPTL Redundancy Depth Control: 5 (range 0 to 5) - UDPTL Redundancy Depth Image: 2 (range 0 to 2) A 'Show Advanced >>' button is located at the bottom right of the settings panel.

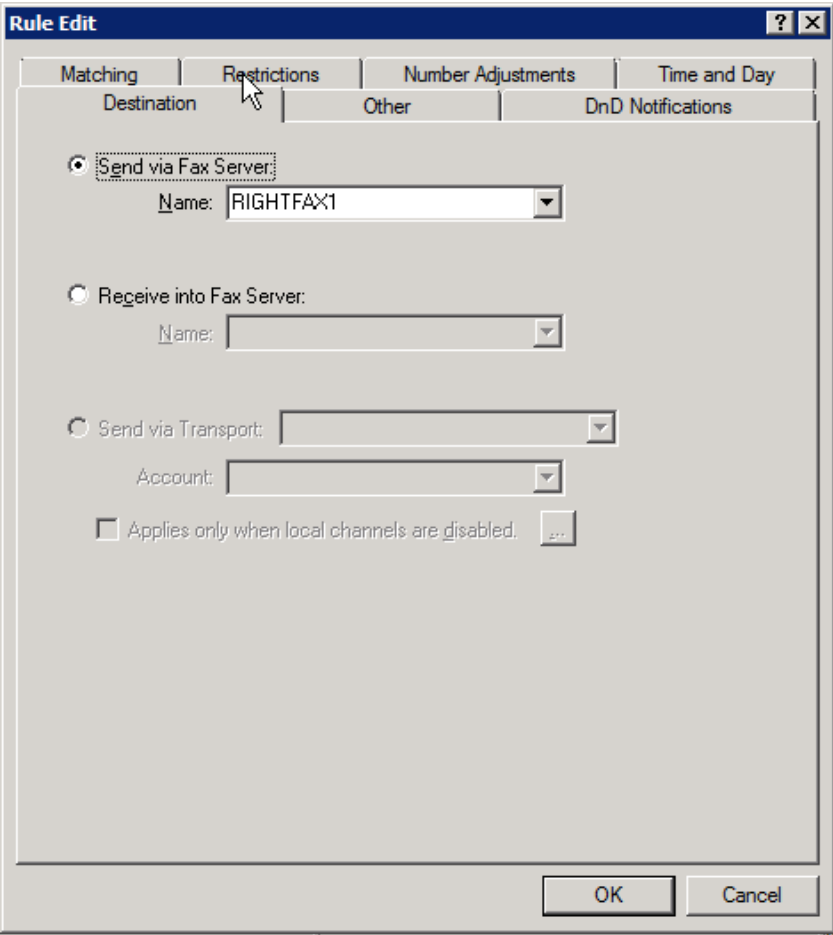
Step	Description
8.	Configure RTP Parameters Select the RTP Parameters tab. Set the RTP codec list value to use only a single codec, either <i>pcmu</i> or <i>pcma</i> to match the codec used in your region.  The screenshot shows the 'Brooktrout Configuration Tool - Advanced Mode' window. On the left is a tree view with categories: Brooktrout (Boston Host Service - Stopped), Driver Parameters (All boards), BT Call Parameters (All boards), Call Control Parameters (Module 0x41: SR140), IP Call Control Modules (H.323, SIP). The 'RTP Parameters' tab is selected in the top right. The 'RTP codec list' is a text box containing 'pcmu'. The 'Silence Control' is a dropdown menu set to 'inband'. A 'Show Advanced >>' button is at the bottom right of the tab area.

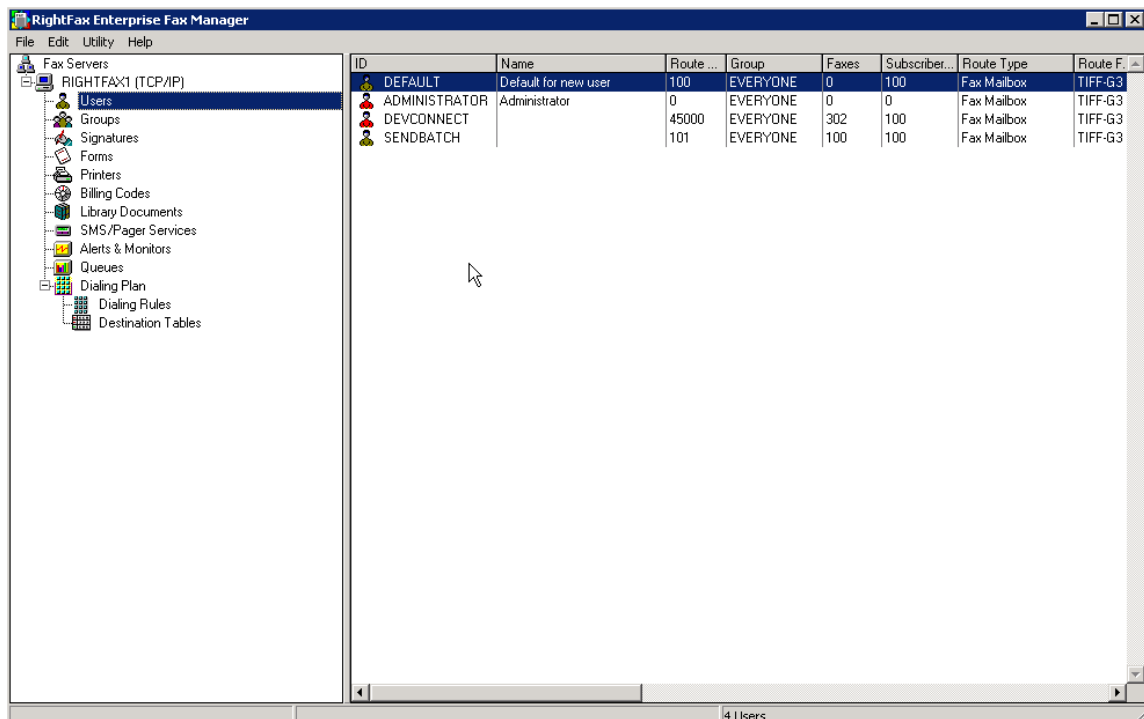
Step	Description
9.	Configure RTP Port Range In the left-hand navigation area, expand Call Control Parameters and click the Module 0x##: SR140 item for your FoIP channels. Configure the Lowest IP Port Number and Highest IP Port Number values to match the UDP Port Min and UDP Port Max values in the IP Network Region configuration screen in Communication Manager. <i>Note: Communication Manager default port range is 2048 to 3329; however, the Brooktrout Configuration Tool range only spans 1000 ports. If you set Lowest IP Port Number to 2048, the Highest Port Number should automatically set to 3048.</i> 

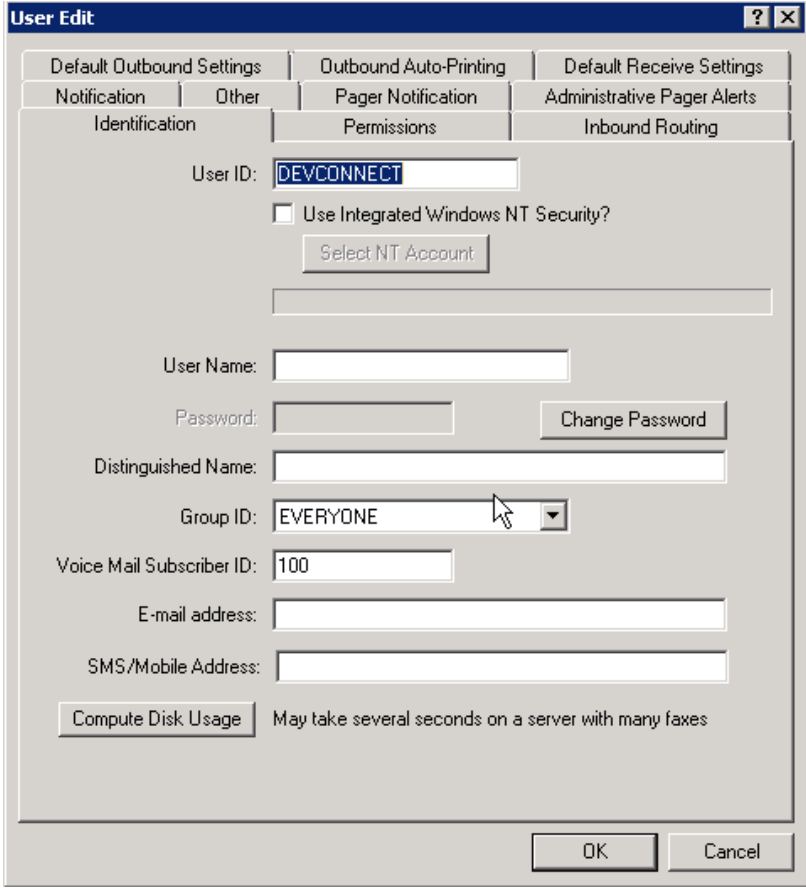
Step	Description
10.	Complete Brooktrout SR140 Configuration After verifying all the above parameters are properly set, click Save in the button menu. Exit the Brooktrout Configuration Tool. In the DocTransport Configuration screen, click the OK button. From Windows explorer, navigate to the Brooktrout folder in the RightFax install directory (typically Program Files\RightFax\DecTransport\Brooktrout), Open and edit the callctrl.cfg file as follows, then save the updates: - Verify that the following configuration segment is present; and that rtp_codec matches the value specified in Step 8 above, either “pcmu” or “pcma”. <pre>[host_module.1/rtp] rtp_codec=pcmu</pre> - Change rtp_ced_enable setting to <i>true</i> under the [host_module.1/t.38parameters] header (... below indicates other entries under the header) <pre>[host_module.1/t.38parameters] ... rtp_ced_enable=true ...</pre> After making and saving the above updates in the callctrl.cfg file, restart all RightFax service modules by right clicking the RightFax DocTransport Module name in the lower right pane of the RightFax Enterprise Fax Manager window and select Start All Services (see Step 2).

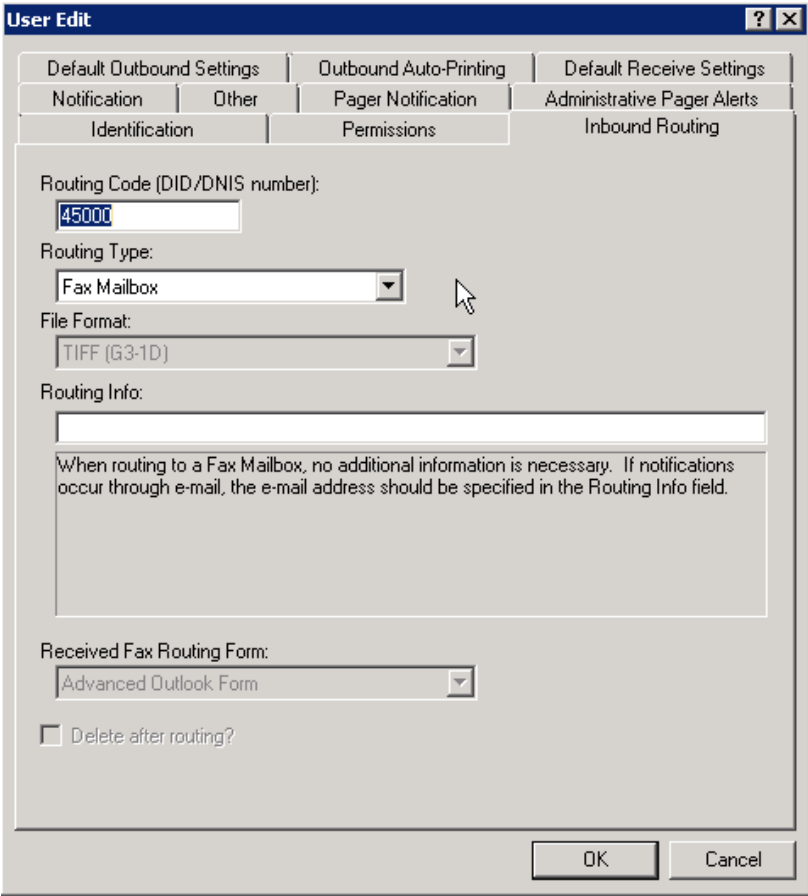
Step	Description
11.	Configure Dialing Rules <i>Note: See Step 6 above for discussion on using RightFax Dialing Rules versus the Brooktrout Configuration Tool to configure media gateway addresses.</i> Dialing Rules are used by RightFax to route calls. In the compliance test, a dialing rule is created to route outbound fax calls to the Avaya Media Gateway. In the left navigation menu under the host name of the fax server, navigate to Dialing Plan, right-click Dialing Rules and select New to create a new rule. 

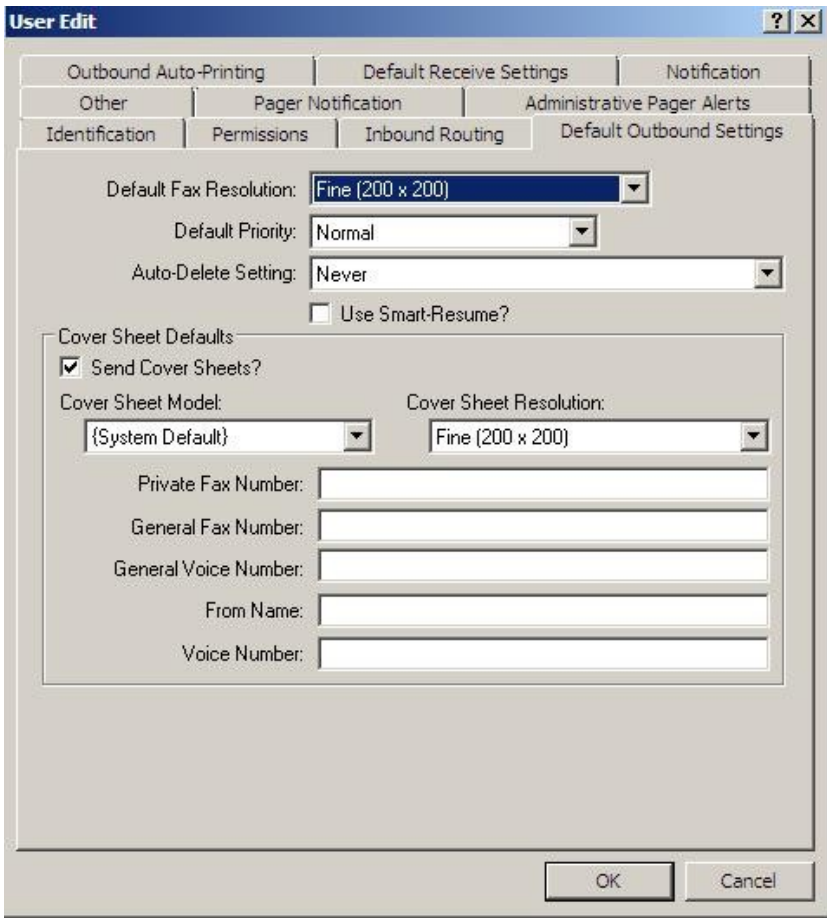
Step	Description
12.	Configure Dialing Rules - Continued The Rule Edit window will appear as shown below. The * in the Pattern field indicates that this rule applies to all dialed numbers. The Number Adjustments tab shows the digit string manipulation that is done to each dialed number. In the example below, each number is appended with @10.64.10.67 as indicated in the Append this field. This string contains the IP address of the CLAN in the Avaya Media Gateway that represents the far-end of the H.323 trunk. This addition to the dialed string routes the fax call to the Avaya Media Gateway. For the Remote Site, the IP address of the Avaya S8300 Server (node name procr) was used for this setting. 

Step	Description
13.	Configure Dialing Rules - Continued In the Destination tab of the Rule Edit window, select the correct host name of the fax server for Send via Fax Server. This is typically the local computer name. 

Step	Description																																								
14.	Configure Users A user is created on RightFax for each incoming fax number. The user represents the fax recipient. To view the list of users, navigate to Users in the left navigation menu under the host name of the fax server. The example below shows a list of 4 users. To view the details of a user, double-click on the user entry in the right pane.  The screenshot shows the RightFax Enterprise Fax Manager interface. The left navigation pane is expanded to show the 'Users' folder under the 'RIGHTFAX1 (TCP/IP)' server. The main right pane displays a table of users. <table><thead><tr><th>ID</th><th>Name</th><th>Route ...</th><th>Group</th><th>Faxes</th><th>Subscriber...</th><th>Route Type</th><th>Route F...</th></tr></thead><tbody><tr><td>DEFAULT</td><td>Default for new user</td><td>100</td><td>EVERYONE</td><td>0</td><td>100</td><td>Fax Mailbox</td><td>TIFF-G3</td></tr><tr><td>ADMINISTRATOR</td><td>Administrator</td><td>0</td><td>EVERYONE</td><td>0</td><td>0</td><td>Fax Mailbox</td><td>TIFF-G3</td></tr><tr><td>DEVCONNECT</td><td></td><td>45000</td><td>EVERYONE</td><td>302</td><td>100</td><td>Fax Mailbox</td><td>TIFF-G3</td></tr><tr><td>SENDERBATCH</td><td></td><td>101</td><td>EVERYONE</td><td>100</td><td>100</td><td>Fax Mailbox</td><td>TIFF-G3</td></tr></tbody></table> The status bar at the bottom of the window indicates '4 Users'.	ID	Name	Route ...	Group	Faxes	Subscriber...	Route Type	Route F...	DEFAULT	Default for new user	100	EVERYONE	0	100	Fax Mailbox	TIFF-G3	ADMINISTRATOR	Administrator	0	EVERYONE	0	0	Fax Mailbox	TIFF-G3	DEVCONNECT		45000	EVERYONE	302	100	Fax Mailbox	TIFF-G3	SENDERBATCH		101	EVERYONE	100	100	Fax Mailbox	TIFF-G3
ID	Name	Route ...	Group	Faxes	Subscriber...	Route Type	Route F...																																		
DEFAULT	Default for new user	100	EVERYONE	0	100	Fax Mailbox	TIFF-G3																																		
ADMINISTRATOR	Administrator	0	EVERYONE	0	0	Fax Mailbox	TIFF-G3																																		
DEVCONNECT		45000	EVERYONE	302	100	Fax Mailbox	TIFF-G3																																		
SENDERBATCH		101	EVERYONE	100	100	Fax Mailbox	TIFF-G3																																		

Step	Description
15.	Configure Users – Identification The User Edit window will appear as shown below. Select the Identification tab. The example below shows the settings used for the compliance test at the Main Sites. The User ID field is set to a descriptive name. Appropriate values should be entered or selected for other fields.  The screenshot shows the 'User Edit' dialog box with the 'Identification' tab selected. The 'User ID' field contains 'DEVCONNECT'. The 'User Name' field is empty. The 'Password' field is empty, and there is a 'Change Password' button next to it. The 'Distinguished Name' field is empty. The 'Group ID' dropdown menu is set to 'EVERYONE'. The 'Voice Mail Subscriber ID' field contains '100'. The 'E-mail address' field is empty. The 'SMS/Mobile Address' field is empty. There is a 'Compute Disk Usage' button and a note 'May take several seconds on a server with many faxes'. The 'OK' and 'Cancel' buttons are at the bottom right.

Step	Description
16.	Configure Users – Inbound Routing On the Inbound Routing tab, the Routing Code field is set to the fax number of the recipient. In the case of the compliance test, this was extension 40000 for the Main Site, and 45000 for the Remote Site (pictured below). Default values may be used for all other fields. 

Step	Description
17.	Configure Users – Outbound Settings The Default Outbound Settings tab configures various outbound fax call settings. Configure these settings as appropriate. 

6. General Test Approach and Test Results

This section describes the compliance test approach used to verify interoperability of Open Text Fax Server, RightFax Edition with Avaya Aura[®] Communication Manager.

6.1. General Test Approach

The general test approach was to make intra-site and inter-site fax calls to and from RightFax. The inter-site calls were made using H.323 or ISDN-PRI trunks between the sites. Faxes were sent with various page lengths, resolutions, and at various fax data speeds. For capacity, a large number of 2-page faxes were continuously sent between the two RightFax servers simultaneously. Serviceability testing included verifying proper operation/recovery from failed cables, unavailable resources, and Communication Manager and RightFax restarts. Fax calls were also tested with different Avaya Media Gateway media resources to process the fax data. This included the TN2302 MedPro circuit pack, the TN2602 MedPro circuit pack in the Avaya G650 Media Gateway; the integrated VoIP engine of the Avaya G450 Media Gateway and the Avaya MM760 Media Module installed in the Avaya G450 Media Gateway.

6.2. Test Results

Open Text Fax Server, RightFax Edition successfully passed all compliance testing.

6.3. General Observations

Fax calls consume DSP (Digital Signal Processing) resources for processing fax data on the TN2302AP IP Media Processor (MedPro) circuit pack and the TN2602AP IP Media Processor circuit pack in the Avaya G650 Media Gateway, and the integrated Voice over Internet Protocol (VoIP) engine of the Avaya G450 Media Gateway. To increase the capacity to support simultaneous fax calls, additional TN2302AP and/or TN2602AP MedPro circuit packs may need to be installed in the Avaya G650 Gateway, and additional Avaya MM760 Media Module or Modules need to be installed in the Avaya G450 Media Gateway. The information contained in the table below indicates DSP capacities/usage in the Avaya media processors. Customers should work with their Avaya sales representatives to ensure that their fax solutions have adequate licenses and DSP resources to match the intended Fax capacity/usage.

Platform Device	DSP Resources per Platform Device	DSP Resources per FoIP Call
TN2302, G450, MM760	64	4
TN2602	64	1

Note that the H.323 trunk group on Communication Manager for connecting RightFax at each site, as well as the H.323 trunk group or ISDN-PRI trunk group for connecting the 2 sites must be configured with adequate number of trunk group members to support the number of simultaneous fax calls intended. On RightFax, adequate fax channels must also be configured for the intended capacity.

7. Verification Steps

The following steps may be used to verify the configuration:

- From Communication Manager SAT, use:
 - **status signaling-group** to verify the signaling group to the Open Text Fax Server, RightFax Edition server is in-service.
 - **status trunk-group** command to verify the trunk group to the Open Text Fax Server, RightFax Edition server is in-service.
 - **list trace tac** command to verify that fax calls are routed to the expected trunks.
- Verify that fax calls can be placed to/from RightFax.

8. Conclusion

These Application Notes describe the procedures required to configure Open Text Fax Server, RightFax Edition to interoperate with Avaya Aura[®] Communication Manager. Open Text Fax Server, RightFax Edition successfully passed compliance testing.

9. Additional References

- [1] *Avaya Aura[™] Communication Manager Feature Description and Implementation*, Doc # 555-245-205, Release 6.0, Issue 8.0, June, 2010.
- [2] *Administering Avaya Aura[™] Communication Manager*, Doc # 03-300509, Release 6.0, Issue 6.0, June, 2010.
- [3] *Open Text Fax Server, RightFax Edition Administrator's Guide, Version 9.4 Feature Pack 1*, January 8, 2010.
- [4] *Open Text Fax Server, RightFax Edition Installation Guide Version 9.4 Updated for Feature Pack 1 Service Release 3*, November 11, 2010.

Documentation for:

Avaya products may be found at <http://support.avaya.com>.

RightFax may be found at <https://knowledge.opentext.com/knowledge/lisapi.dll/open/16512673>.

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