



**Dialogic[®] Brooktrout[®] SR140 Fax Software with
Cisco UC520 VoIP Gateway**
Installation and Configuration Integration Note

IMPORTANT NOTE

This document is not to be shared with or disseminated to other third parties, in whole or in part, without prior written permission from Dialogic. To seek such permission, please contact your Dialogic Sales Representative.

Copyright and Legal Notice

Copyright © 2011 Dialogic Inc. All Rights Reserved. You may not reproduce this document in whole or in part without permission in writing from Dialogic Inc. at the address provided below.

All contents of this document are furnished for informational use only and are subject to change without notice and do not represent a commitment on the part of Dialogic Inc. and its affiliates or subsidiaries ("Dialogic"). Reasonable effort is made to ensure the accuracy of the information contained in the document. However, Dialogic does not warrant the accuracy of this information and cannot accept responsibility for errors, inaccuracies or omissions that may be contained in this document. INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH DIALOGIC® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN A SIGNED AGREEMENT BETWEEN YOU AND DIALOGIC, DIALOGIC ASSUMES NO LIABILITY WHATSOEVER, AND DIALOGIC DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF DIALOGIC PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF A THIRD PARTY.

Dialogic products are not intended for use in certain safety-affecting situations. Please see <http://www.dialogic.com/about/legal.htm> for more details.

Due to differing national regulations and approval requirements, certain Dialogic products may be suitable for use only in specific countries, and thus may not function properly in other countries. You are responsible for ensuring that your use of such products occurs only in the countries where such use is suitable. For information on specific products, contact Dialogic Inc. at the address indicated below or on the web at www.dialogic.com.

It is possible that the use or implementation of any one of the concepts, applications, or ideas described in this document, in marketing collateral produced by or on web pages maintained by Dialogic may infringe one or more patents or other intellectual property rights owned by third parties. Dialogic does not provide any intellectual property licenses with the sale of Dialogic products other than a license to use such product in accordance with intellectual property owned or validly licensed by Dialogic and no such licenses are provided except pursuant to a signed agreement with Dialogic. More detailed information about such intellectual property is available from Dialogic's legal department at 926 Rock Avenue, San Jose, California 95131 USA. **Dialogic encourages all users of its products to procure all necessary intellectual property licenses required to implement any concepts or applications and does not condone or encourage any intellectual property infringement and disclaims any responsibility related thereto. These intellectual property licenses may differ from country to country and it is the responsibility of those who develop the concepts or applications to be aware of and comply with different national license requirements.**

Dialogic, Dialogic Pro, Dialogic Blue, Veraz, Brooktrout, Diva, Diva ISDN, Making Innovation Thrive, Video is the New Voice, Diastar, Cantata, TruFax, SwitchKit, SnowShore, Eicon, Eicon Networks, NMS Communications, NMS (stylized), Eiconcard, SIPcontrol, TrustedVideo, Exnet, EXS, Connecting to Growth, Fusion, Vision, PowerMedia, PacketMedia, BorderNet, inCloud9, I-Gate, Hi-Gate, NaturalAccess, NaturalCallControl, NaturalConference, NaturalFax and Shiva, among others as well as related logos, are either registered trademarks or trademarks of Dialogic Inc. and its affiliates or subsidiaries. Dialogic's trademarks may be used publicly only with permission from Dialogic. Such permission may only be granted by Dialogic's legal department at 926 Rock Avenue, San Jose, California 95131 USA. Any authorized use of Dialogic's trademarks will be subject to full respect of the trademark guidelines published by Dialogic from time to time and any use of Dialogic's trademarks requires proper acknowledgement.

The names of actual companies and products mentioned herein are the trademarks of their respective owners.

Any use case(s) shown and/or described herein represent one or more examples of the various ways, scenarios or environments in which Dialogic products can be used. Such use case(s) are non-limiting and do not represent recommendations of Dialogic as to whether or how to use Dialogic products.

1. Scope

This document is intended as a general guide for configuring a basic installation of the **Cisco UC520 VoIP Gateway** for use with Dialogic® Brooktrout® SR140 Fax over IP (FoIP) software platform. The interoperability includes **SIP** call control and **T.38/T.30** media.

This document is not intended to be comprehensive and thus does not replace the manufacturer's detailed configuration documentation. Users of this document should already have a general knowledge of how to install and configure the **Cisco UC520**.

The sample configuration shown and/or referred in the subsequent sections was used for lab validation testing by Dialogic. Therefore, it is possible and even likely that the example configuration will not match the exact configuration and versions that would be present in a deployed environment. However, the sample configuration does provide a possible starting point to work with the equipment vendor for configuring your device. Please consult the appropriate manufacturer's documentation for details on setting up your specific end user configuration.

For ease of reference, the Dialogic® Brooktrout® SR140 Fax Software and Dialogic® Brooktrout® TR1034 Fax Boards will sometimes be denoted herein, respectively, as SR140 and TR1034. All references to the SDK herein refer to the Dialogic® Brooktrout® Fax Products SDK. The Cisco UC520 VoIP Gateway will sometimes be denoted herein as Cisco UC520 or UC520, or some other form thereof.

2. Configuration Details

The following systems were used for the sample configuration described in the document.

2.1 Gateway

Vendor	Cisco
Model	UC520-16U-4FXO-K9 VoIP Gateway
Software Version	IOS v12.4(20)T2
IP Device	Dialogic® Brooktrout® SR140
Protocol to IP Device	SIP
PSTN Device	Dialogic® Brooktrout® TR1034
Protocol to PSTN Device	Analog
Additional Notes	N/A

2.2 Dialogic® Brooktrout® SR140 Fax Software

Vendor	<i>Dialogic</i>
Model	<i>Dialogic® Brooktrout® SR140 Fax Software</i>
Software Version	<i>SDK 6.4.0</i>
Protocol to Gateway	<i>SIP</i>
callctrl.cfg file	<i>Default settings</i>

2.3 Dialogic® Brooktrout® TR1034 Fax Board

Vendor	<i>Dialogic</i>
PSTN Device	<i>Dialogic® Brooktrout® TR1034 Fax Board</i>
Software Version	<i>SDK 6.4.0</i>
Protocol to PSTN Device	<i>Analog</i>

2.4 Network System Configuration

The diagram below details the sample configuration used in connection with this document.

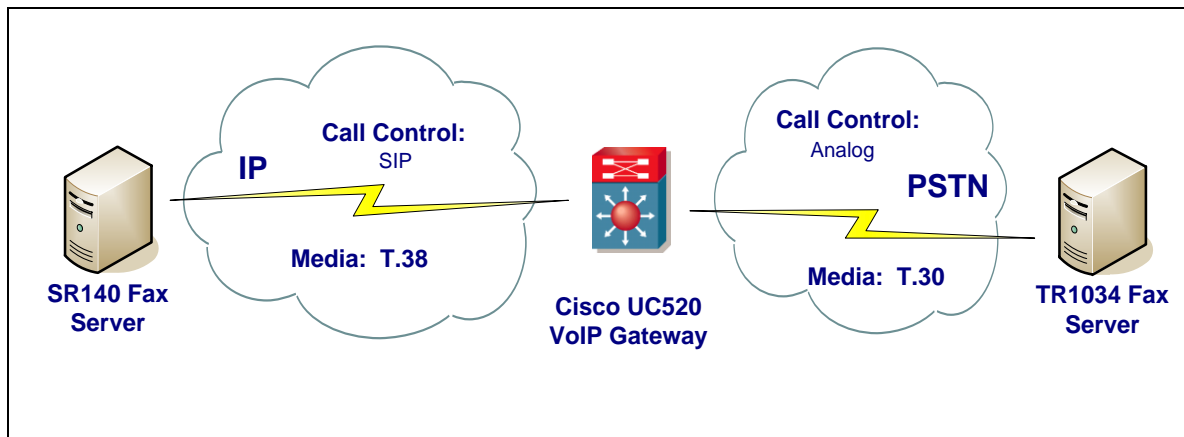


Diagram Notes: SR140 Fax Server = Fax Server including Dialogic® Brooktrout® SR140 Fax Software and third party fax application

3. Prerequisites

None.

4. Summary of Limitations

V.34 is not supported by the IOS version running on this Gateway.

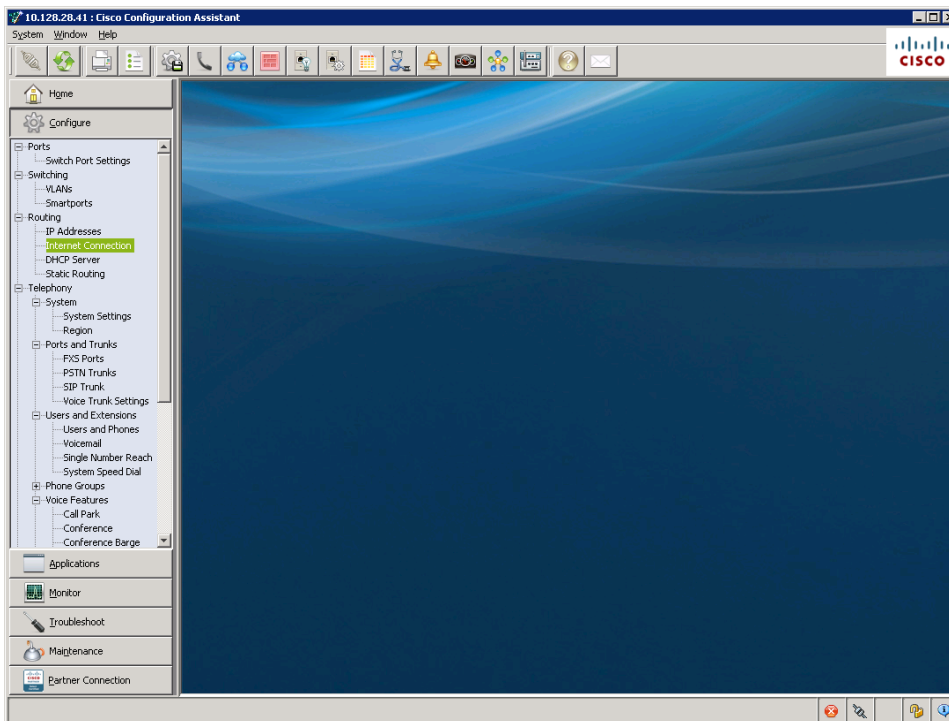
5. Gateway Setup Notes

5.1 Network Addresses

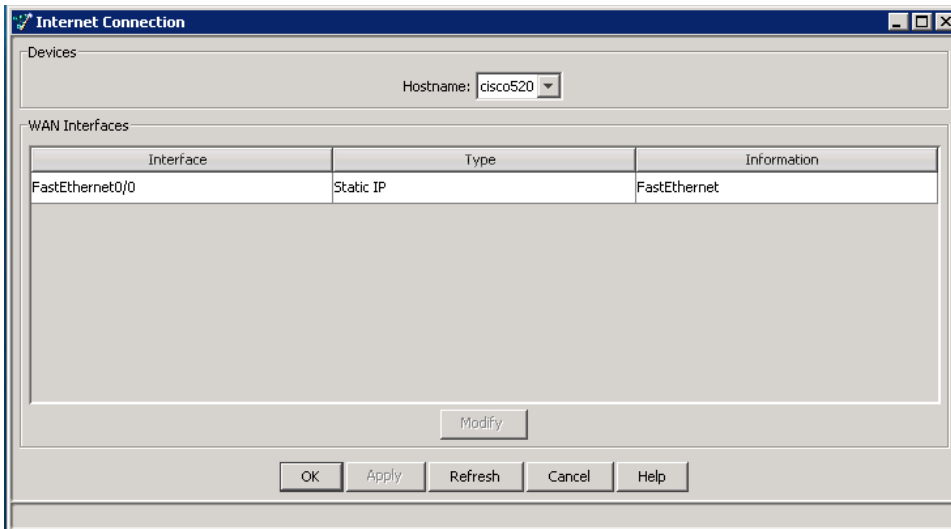
Device #	Device Make, Model, and Description	Device IP Address
1	Cisco UC520-16U-4FXO-K9 VoIP Gateway	10.128.28.41
2	SR140	10.128.28.201

5.2 Cisco UC520 VoIP Gateway Setup Notes

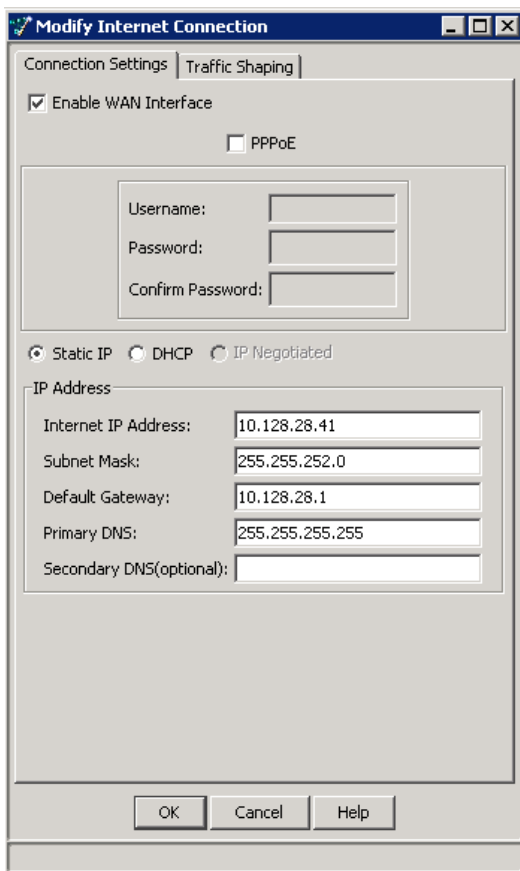
The Cisco Configuration Assistant can be used to configure the Cisco UC520 VoIP Gateway. Use the Cisco Configuration Assistant to select the **Configure** option on the side toolbar



Select the **Routing** option and then select **Internet Connection**.



Click the Interface that you want to configure the IP address on and click **Modify**.



Select the **Enable WAN Interface** checkbox and select the **Static IP** address setting. Populate the IP address fields with the appropriate information for your network. Click **OK** to save the settings.

6. Dialogic® Brooktrout® SR140 Fax Software Setup Notes

The *Installation and Configuration Guides* for the SR140 are available from the following site:

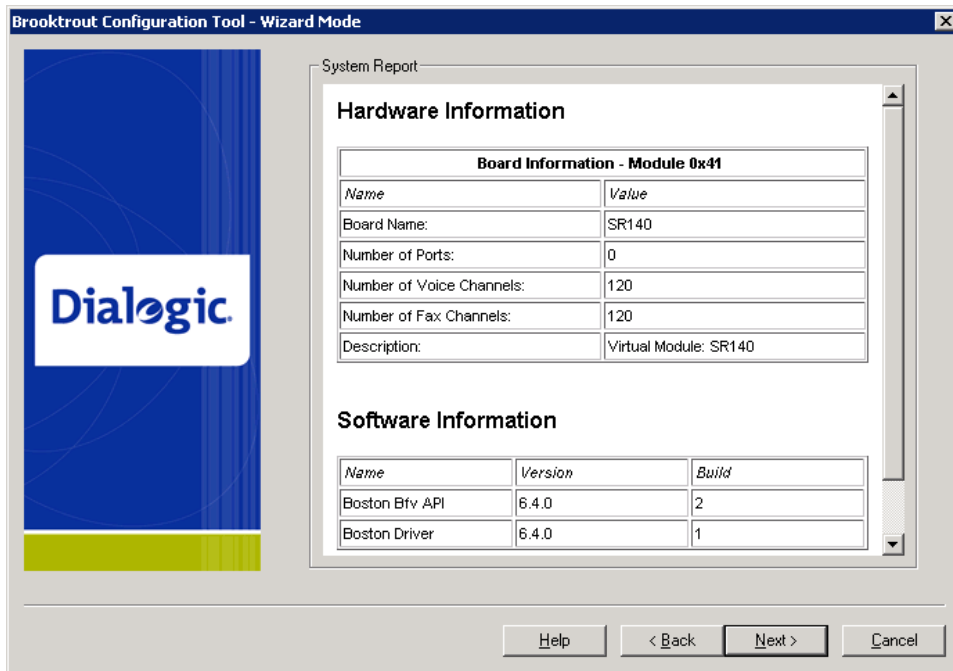
<http://www.dialogic.com/manuals/brooktrout/default.htm>

The Dialogic Brooktrout Configuration Tool can run in either Wizard mode or Advanced mode. As the Cisco UC520 VoIP Gateway doesn't require setting any SR140 advanced parameters to successfully interoperate with it, the Wizard mode can be selected to configure and initialize the SR140.

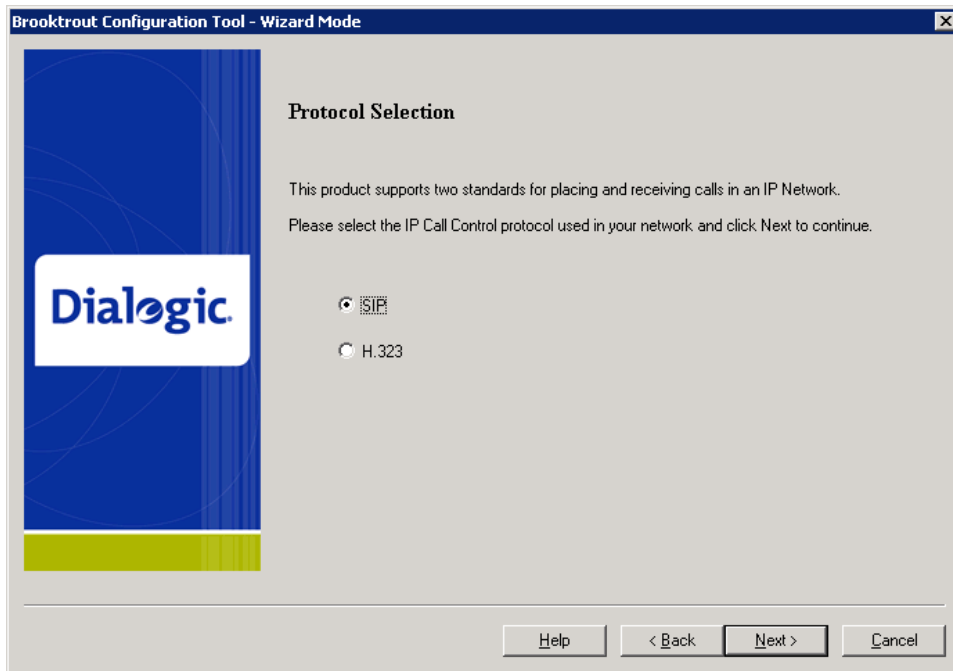
The following are the SR140 Setup Wizard screenshots taken to illustrate the ease of setup of the Cisco UC520 VoIP Gateway SIP Trunking Service.



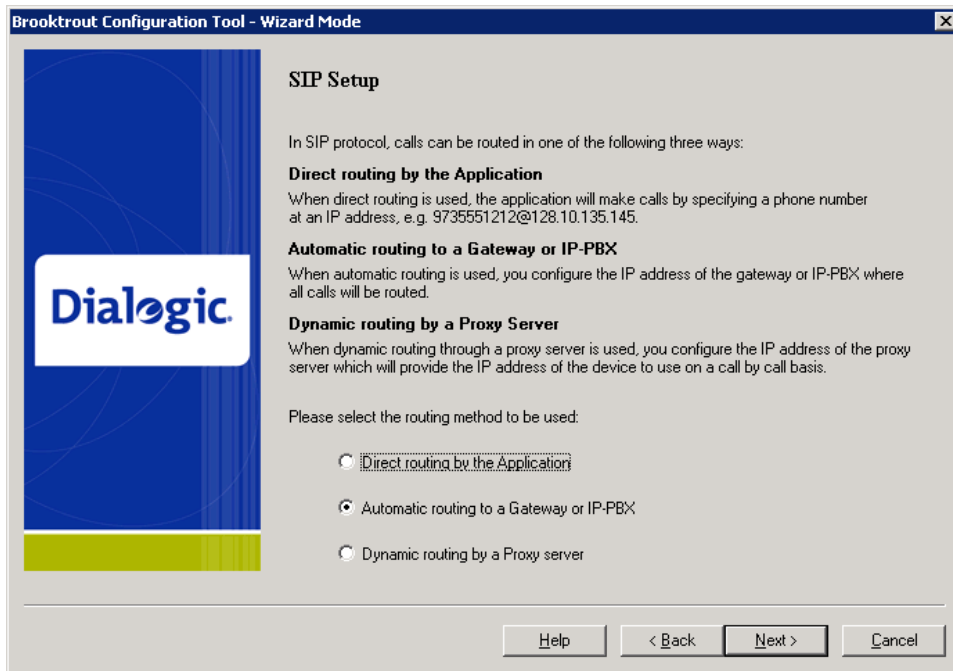
Click **Next** to skip to the next screen which displays hardware and software information for the system configuration.



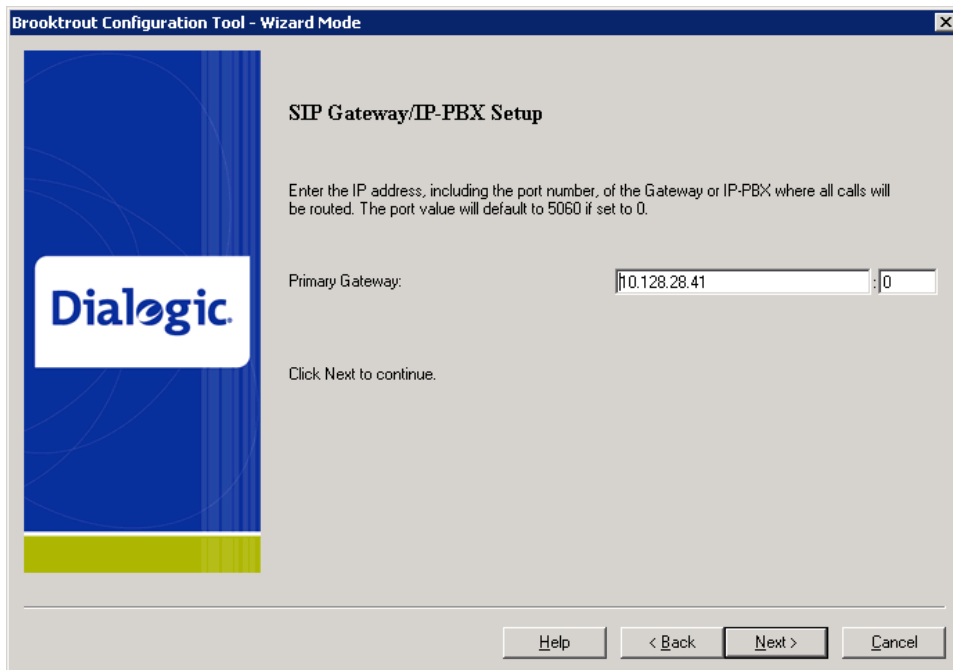
Click **Next** to continue to the Call Control Protocol Selection screen.



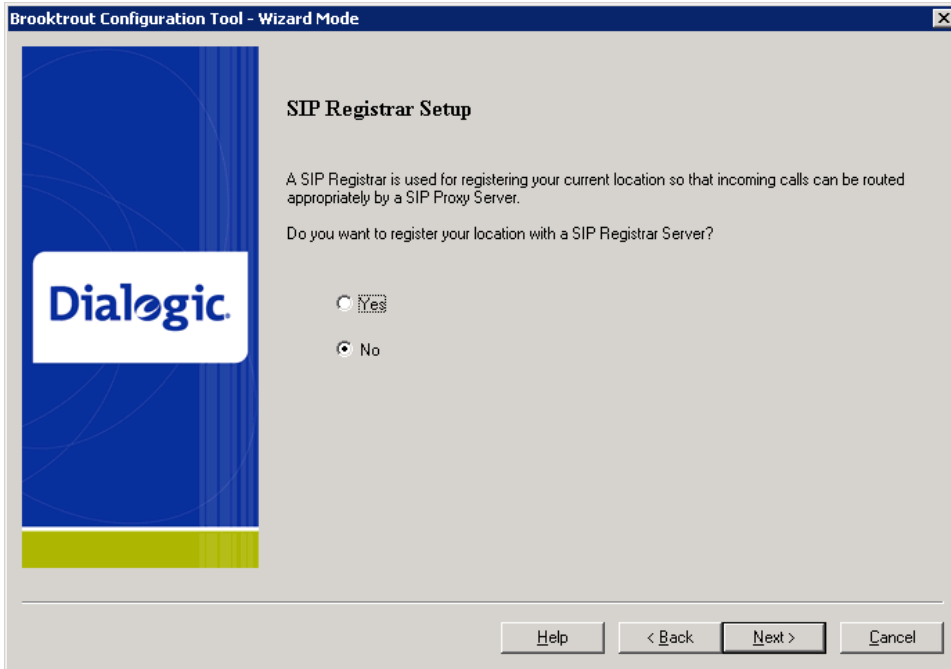
Select **SIP** and click **Next**.



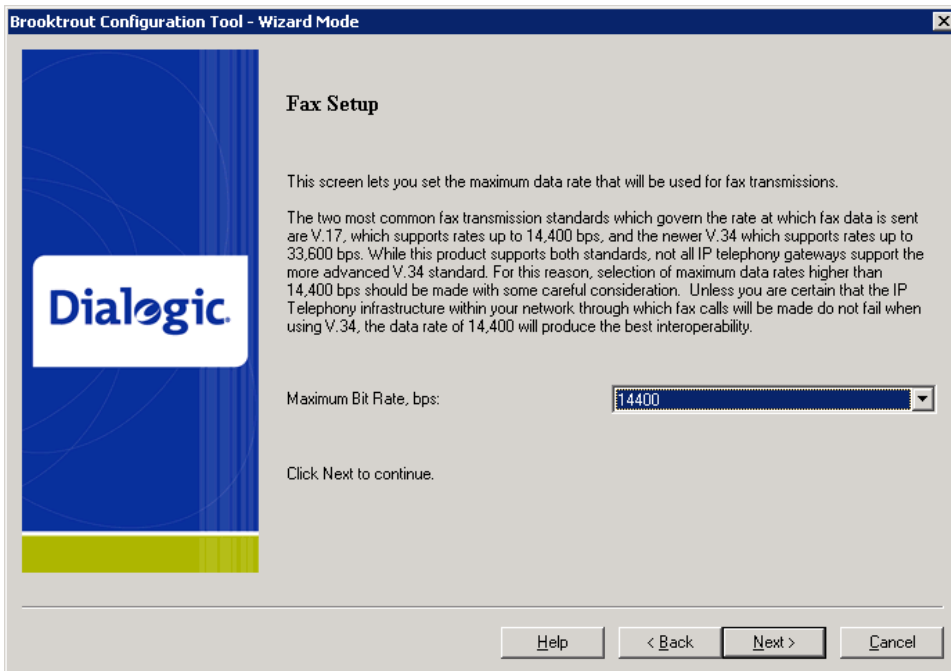
Select **Automatic Routing to a Gateway or IP-PBX** to allow all SR140 outbound SIP calls to be directed to the Cisco UC520 VoIP Gateway. When selecting this routing mode, the IP address of the gateway will not need to be specified as part of the destination address when placing outbound SIP calls. Click **Next** after selecting the routing option.



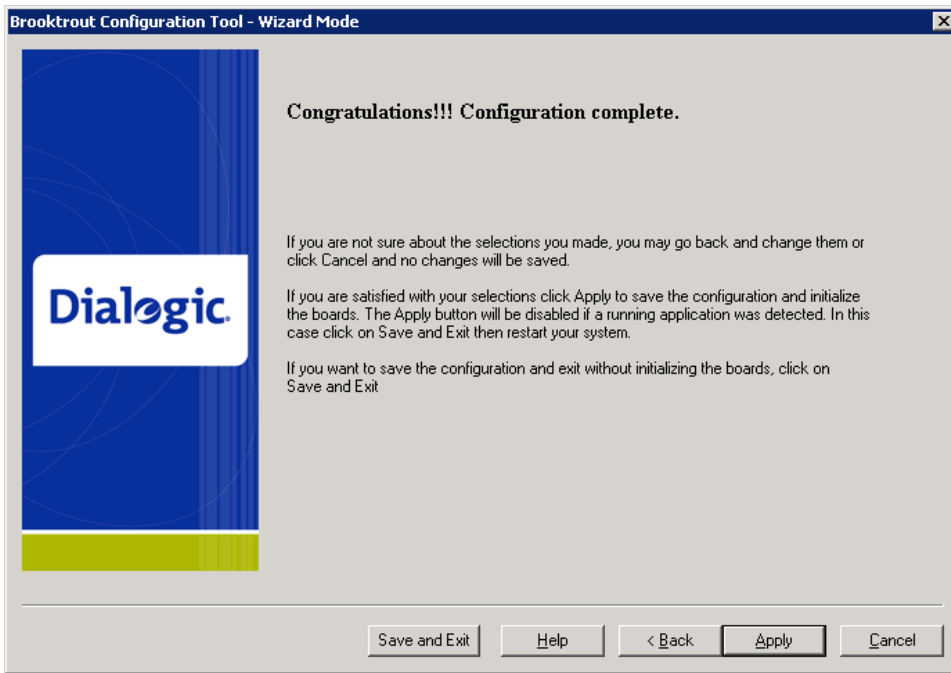
Enter the IP address of the Cisco UC520 VoIP Gateway then click **Next**.



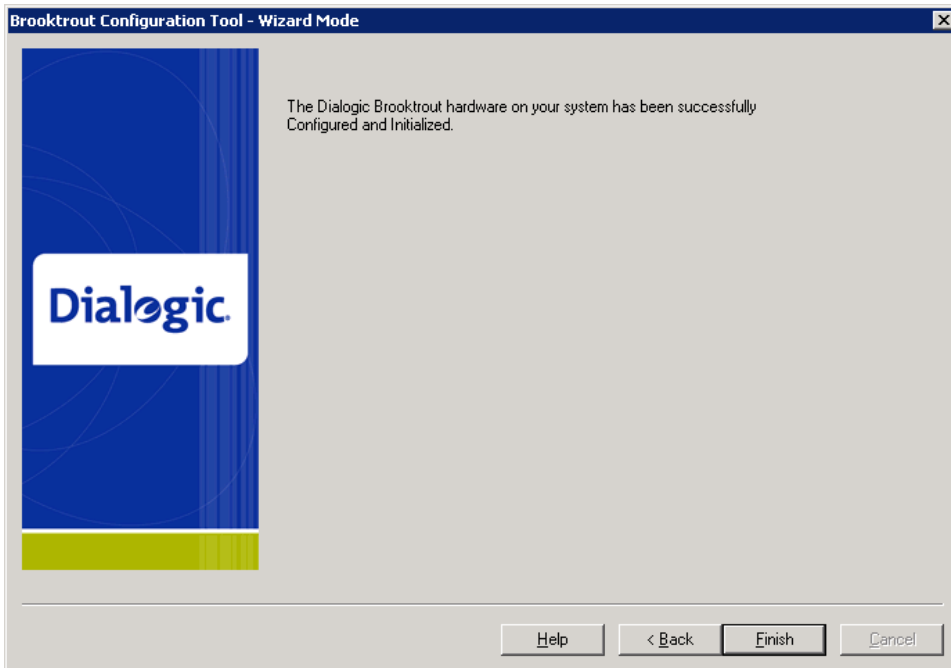
Select **No** for a SIP Registrar then press **Next**.



Select the Maximum Bit Rate supported by your gateway then click **Next**.



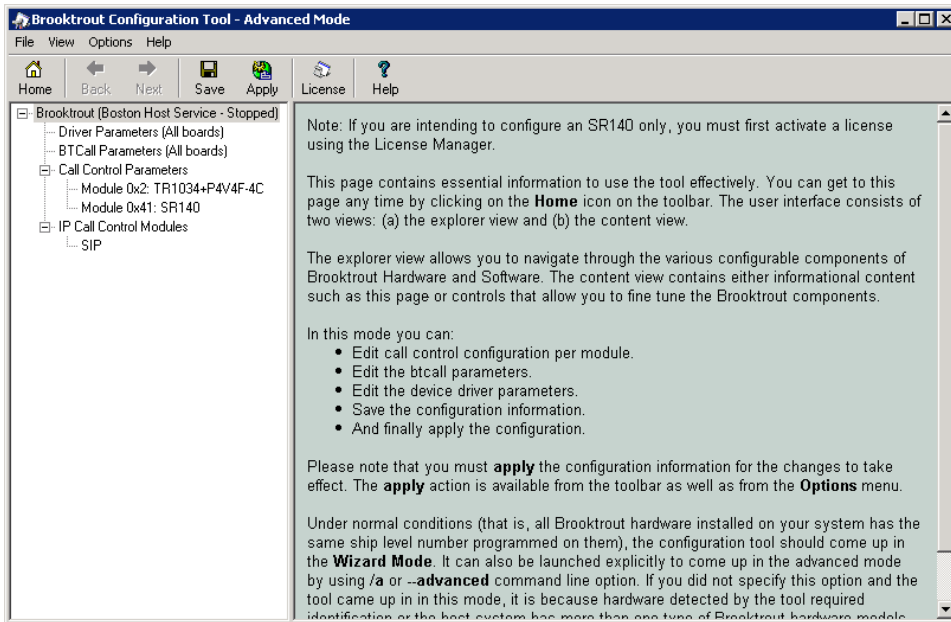
Click **Apply** to save the configuration settings and initialize the SR140. If the configuration settings are successfully applied to the system and the SR140 initializes properly, the following screen will be presented to the user.



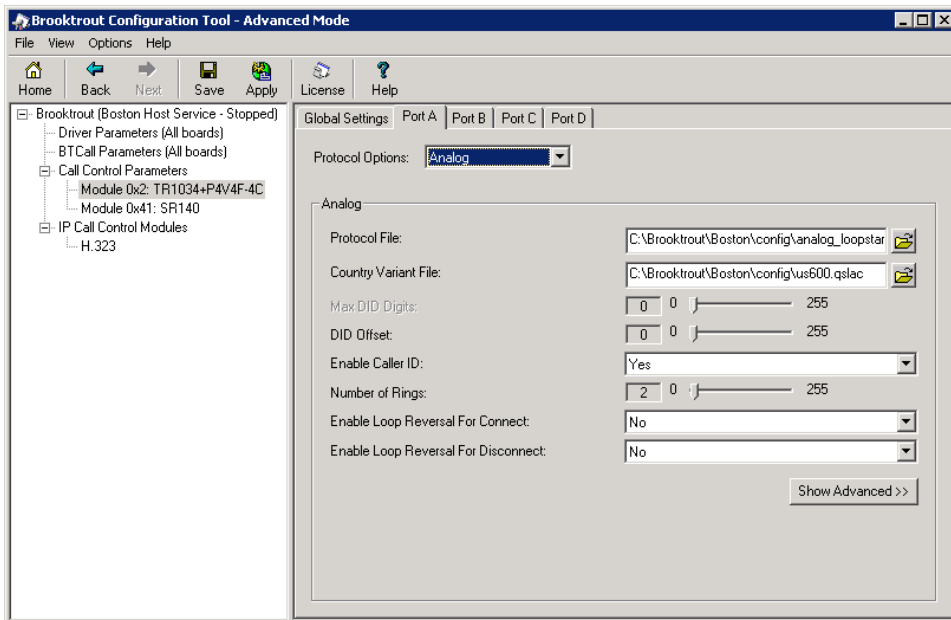
Click **Finish** to complete the configuration and initialization of the SR140.

7. Dialogic® Brooktrout® TR1034 Fax Board Setup Notes

The Dialogic Brooktrout TR1034 Fax board can be configured for Analog Loopstart trunks using the Dialogic Brooktrout Configuration Tool in Advanced mode. The following are the TR1034 Advanced Mode Setup screenshots that illustrate the steps used to perform this configuration:

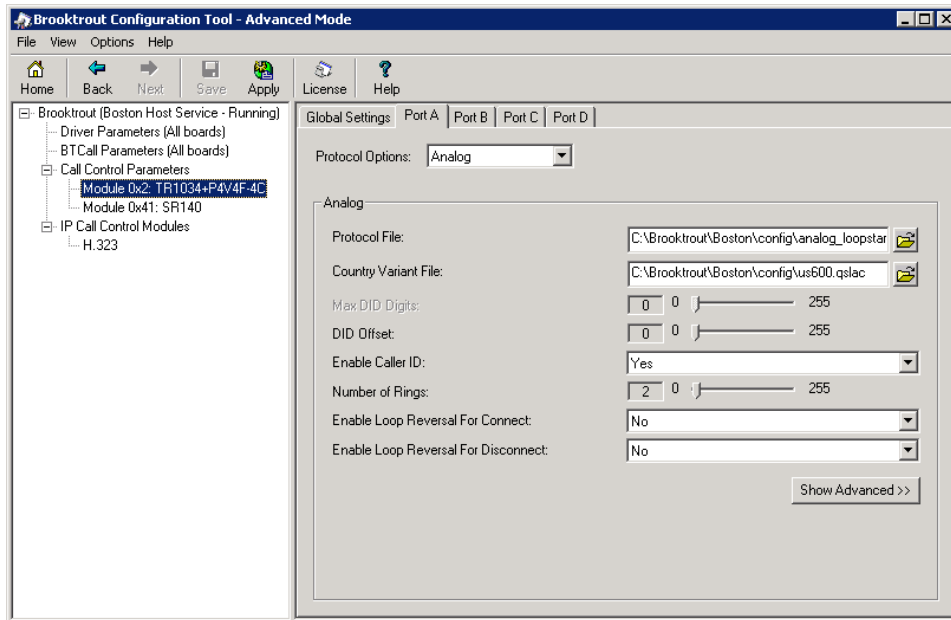


Under **Call Control Parameters**, select the TR1034 module.



Select the Port to Configure and then select Analog as the Protocol Option. Verify that the settings for the Protocol File and Country Variant File are correct and then click **Apply** to save the configuration settings and initialize the TR1034. If the configuration settings are successfully applied to the system and the TR1034

initializes properly, the following screen will be presented to the user with the status of the Brooktrout Boston Host Service identified as Running.



8. Frequently Asked Questions

- *"I'm configured as near as possible to this the sample configuration described in this document, but calls are still not successful; what is my next step?"*
 - ➔ Provide this document to your gateway support.
 - ➔ Ensure T.38 is enabled on the gateway.
 - ➔ Confirm that basic network access is possible by pinging the gateway.
- *"How do I obtain Wireshark traces?"*
 - ➔ The traces can be viewed using the Wireshark network analyzer program, which can be freely downloaded from <http://www.wireshark.org>.
 - ➔ To view the call flow in Wireshark, open the desired network trace file and select "Statistics->VoIP Calls" from the drop down menu. Then highlight the call and click on the "Graph" button.

9. References

Cisco Unified Communications 500 Series Configuration

http://www.cisco.com/en/US/docs/voice_ip_comm/uc_system/UC7.0.1/iptsmb_system_arch/small/infrastructure/RCccU500.html

Dialogic Brooktrout SR140 Fax Software – Windows User Guide

<http://www.dialogic.com/webhelp/Brooktrout/SDK64/WindowsEndUserGuide.pdf>

Dialogic Brooktrout Fax Products SDK – Installation and Configuration Guide

<http://www.dialogic.com/webhelp/Brooktrout/SDK64/SDKInstallConfig.pdf>