

Product: ShoreTel | GFI

System Version: ShoreTel 13.X

Abstract

By integrating GFI FaxMaker with the ShoreTel System, the customer can have a complete telephony solution for both voice and fax. Faxes can be sent through the ShoreTel System directly from any application or from a user's email client, and can be automatically routed to a user's email inbox.

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ShoreTel tests and validates the interoperability of the Member's solution with ShoreTel's published software interfaces. ShoreTel does not test, nor vouch for the Member's development and/or quality assurance process, nor the overall feature functionality of the Member's solution(s). ShoreTel does not test the Member's solution under load or assess the scalability of the Member's solution. It is the responsibility of the Member to ensure their solution is current with ShoreTel's published interfaces.

The ShoreTel Technical Support organization will provide Customers with support of ShoreTel's published software interfaces. This does not imply any support for the Member's solution directly. Customers or reseller partners will need to work directly with the Member to obtain support for their solution.

Overview

This document is meant to provide information about GFI Software and its product GFI FaxMaker, describing how GFI FaxMaker can integrate with the ShoreTeI System to provide a complete telephony solution. This document will tell how to contact GFI Software and it will provide product specifics, interoperability testing results, typical setup configurations, troubleshooting steps and other important product-related information.

This document outlines two options for inbound fax routing: Application 1 - One Main Number for Both Voice and Fax - Fax Redirect (p. 7), and Application <math>2 - User with a Unique Voice Extension and a Unique Fax Extension. The choice between these two options is based on the customer's requirements but it is important to let GFI and ShoreTel support know which method is used when performing troubleshooting.

GFI Overview and Contact

GFI Software provides a single source of Web & Mail Security, Archiving, Backup & Fax, Networking & Security and Hosted solutions software for small to medium-sized enterprises. With award-winning technology, an aggressive pricing strategy, and a strong focus on the unique requirements of small to medium-sized enterprises, GFI Software satisfies the needs of SME organizations on a global scale.

GFI Software has offices in USA (North Carolina & California), UK (London & Scotland), Australia, Austria, Romania, and Malta which support hundreds of thousands of installations worldwide and is a channel-focused company with a global network of thousands of partners. GFI Software is also a Microsoft Gold Certified Partner.

For general sales questions, please contact your reseller or contact GFI Software directly at:

GFI Sales

(888) 243-4329 sales@gfi.com

www.gfi.com

GFI Product Information



Network fax server software for Exchange/SMTP/Lotus

With GFI FaxMaker, less time is spent on sending, collecting and distributing faxes, saving your company noticeable costs. Faxes sent/received are also saved in digital format as an email attachment.

GFI FaxMaker is easy to install, requires little maintenance and integrates with existing messaging clients and customized solutions. It seamlessly integrates with your mail server, allowing users to send and receive faxes using their email client. Your company can also search for and back up all faxes in the same way that emails are stored and retrieved on the network.

GFI FaxMaker supports analog, digital, and Fax over IP (FoIP) connectivity options. For FoIP, it integrates with IPenabled PABXs and Brooktrout's SR140 technology to send faxes over an IP infrastructure. GFI FaxMaker is an award-winning fax server and has been voted #1 by Windows IT Pro readers for 3 years running.

Current pricing information may be obtained at the following site: <u>http://www.gfi.com/products-and-solutions/email-and-messaging-solutions/gfi-faxmaker</u>

Architecture Overview

GFI FaxMaker sits on the network and is connected to the Email Server through an SMTP connector. See the diagram below.



Figure 1 – Call Flow Diagram

Call Flow When Receiving Faxes

When the ShoreTel system detects that an inbound call is a fax, the call is routed to the fax device located in the GFI FaxMaker server. This fax device receives the fax and provides it to the GFI FaxMaker application. After conversion to the desired format (PDF, TIF, GIF, JPG, or PNG), GFI FaxMaker attaches the received fax to an email transmission report and sends it to the email server for delivery to the designated user.

Call Flow When Sending Faxes

Internal users send an email to either a business fax contact or to <u>number@FaxMaker.com</u> which is then routed by the email server to the GFI FaxMaker server. GFI FaxMaker converts the email and any attachments to a fax format and utilizes the fax device for transmission to the ShoreTel system. The ShoreTel system handles the connection between the fax device and the public switched telephone network (PSTN) cloud. After the successful or unsuccessful transmission of the fax, GFI FaxMaker sends an email transmission report back to the sender of the email with the status. GFI FaxMaker also supports sending via API and printer driver as well as receiving to printer or folder.

Requirements, Certification and Limitations

System Requirements:

- Windows 2003/2008/2012 machine
- 1GB of RAM
- 2GHz Processor
- Fax device (such as a Dialogic Brooktrout SR140 Fax Software)
- All ShoreTel ShoreGear Switches that participate in a T.38 fax call MUST support T.38 protocol
- The fax machine/fax server behind the ShoreTel PBX should disable V34 to avoid using the G711/Linear clear channel
- V.34 faxes are not supported
- ShoreTel only supports T.38 in udptl form. T.38 calls in RTP or TCP forms are not supported at this time
- ShoreTel does not support either IP media or RFC2833-based fax tone detection (in RFC2833, ShoreTel only supports DTMF, no named telephony events).
- ShoreTel depends on fax CNG tone detection or T.38 invite to redirect an incoming fax call. If the fax connection is established with on SIP-based endpoint (such as SIP extension or SIP trunk), ShoreTel depends on the SIP invite to either establish a fax connection or redirect the call to a preconfigured fax device.
- T.38 support is not supported on SIP-BRI

Version Support

Note: Version 2011 support will be dropped by GFI in November 2013.

ShoreTel Release	GFI FaxMaker	
	Version 2011	Version 2013
10.x	✓	\checkmark
11.x	√	\checkmark
12.x	✓	~
13.x		\checkmark

Table 1 - Supported Software Version Matrix (see note on page 45 for version 13.x)

Special considerations:

The following switches do not support T.38 protocol. For those and older switches, G711/L16 clear channel is used for fax purposes.

- ShoreGear 8
- ShoreGear 12
- ShoreGear- 120
- ShoreGear T1
- ShoreGear E1
- ShoreGear TW
- ShoreGear 24 and ShoreGear 24a

Certification Testing Results Summary

Table 1 - Initialization and Basic Feature Test Cases

ID	Name	Description	Results
1.1	Configure a User for Testing with GFI FaxMaker	ShoreTel Certification lab will add a user to both the GFI FaxMaker Server and GFI FaxMaker Client for use.	Pass
1.2	Sending Faxes with GFI FaxMaker Client	ShoreTel Certification lab will use the GFI FaxMaker Client to send a Fax to a Fax Machine using FoIP and the ShoreGear SIP Proxy switch.	Pass
1.3	Automatic Faxing with NetPrintQueue2Fax	ShoreTel Certification lab will use the NetPrintQueue2Fax to send a Fax to a Fax Machine using FoIP and the ShoreGear SIP Proxy switch.	Pass
1.4	Sending Faxes with TextAPI	ShoreTel Certification lab will use the GFI FaxMaker Client to send a Fax to a Fax Machine using FoIP and the ShoreGear SIP Proxy switch.	Pass
1.5	Receiving Faxes with GFI FaxMaker	ShoreTel Certification lab will receive a fax from an external fax machine to a mailbox (either Internet mail or local mail).	Pass
1.6	Receive a Transmission Report with GFI FaxMaker	ShoreTel Certification lab will send a fax and receive a Transmission Report using GFI FaxMaker.	Pass

Table 2 - Installation and Configuration Tests

ID	Name	Description	Notes
2.1	Installing and configuring	ShoreTel Certification lab will install Microsoft IIS and	Pass
	Microsoft Internet	configure it for successful use with GFI FaxMaker.	
	Information Services (IIS)		
2.2	Installing GFI FaxMaker	ShoreTel Certification lab will install GFI FaxMaker 14.	Pass
2.3	Software installation of the	ShoreTel Certification lab will install the Brooktrout	Pass
	Brooktrout SR140 drivers	SR140 drivers.	

Table 3 - Fault Insertion

ID	Name	Description	Notes
3.1	Telephony Connectivity	Telephony Connectivity Failure should result in easily	Pass
	Failure between	recognizable symptoms.	
	ShoreGear SIP Proxy		
	switch and Brooktrout		
3.2	SMTP Connection Failure	SMTP Delivery Failure should not prevent faxes from	Pass
		being transmitted.	

Table 4 - Documentation

ID	Name	Description	Notes
4.1	GFI FaxMaker Manual	Product manual for GFI FaxMaker 14 – provides	Pass
		installation procedures and general configuration/usage	
		information regarding the product.	
4.2	Installing the SR140	Technical document for installing SR140 Digital board –	Pass
	Digital / Ethernet PCI	contains diagram of board as well as installation	
	Board documentation	instructions.	

Table 5– Fax transmissions

ID	Name	Description	Notes
5.1	Incoming fax test	Receive a 10 page fax using T.38 at 9600bps	Pass
5.2	Outgoing fax test	Send a 10 page fax using T.38 at 9600bps	Pass

T.38 Fax Applications

Application 1 – One Main Number for Both Voice and Fax – Fax Redirect

It is common for businesses to have a main number for unified communications. In this application, all fax and voice communications are received through one main number. The ShoreTel system will manage all incoming fax communications so that they are routed via SIP Redirect Method to the GFI fax server. The GFI fax server will then forward the fax in an email format to the email address designated for the intended recipient's or to a general fax mailbox.

Note: When working with GFI or ShoreTel support, specify that you are using this method as the DID fax number displays differently within the SIP packet as opposed to application 2.

Note: Enable a ShoreGear SIP Proxy switch to be the SIP proxy for the site where you want to add the SIP UM server. This switch is referred to as the site SIP proxy switch.

ShoreTel Configuration

This section describes the ShoreTel system configuration to support T.38 fax using the GFI FaxMaker software.

Step 1: Call Control Settings

The first settings to configure within ShoreWare Director are the Call Control Options. To configure these settings for the ShoreTel system, log into ShoreWare Director and select "Administration" then "Call Control" followed by "Options"

ShoreTel	
Director	
Build 18.61.2202.0 Logoff Edward Cho	
Administration Users Trunks IP Phones Platform Hardware Call Control Call Control Account Codes Bridged Call Appearances Hunt Groups Hunt Groups Nusic On Hold Paging Groups Pickup Groups Route Points Supported Codecs Codec Lists Options Voice Mail Auto-Attendant Menus Workgroups Schedules Communicator	^

Figure 2 – Call Control Options

Call Control Options Edit	Save	Reset	Help
Edit this record	Refresh this page		
General:			
Use Distributed Routing Service for call routing	uting		
Enable Monitor / Record Warning Tone.			
Enable Silent Coach Warning Tone.			
Generate an event when a trunk is in-use for	or 240 minute	5.	
Park Timeout (1-100000) after 60	seconds.		
Hang up Make Me Conference after 20	minutes of silen	ce.	
Delay before sending DTMF to Fax Server:	2000	msec	
DTMF Payload Type (96 - 127):	102		
SIP:			
Realm:	ShoreTel		
✓ Enable SIP Session Timer.			
Session Interval (90 - 3600):	1800	sec	
Refresher:	Caller (UAC) 🗸		
Voice Encoding and Quality of Service:			
Maximum Inter-Site Jitter Buffer (20 - 400):	300	msec	
DiffServ / ToS Byte (0-255):	184	(DSCP = 0x2e)	
Media Encryption:	None	~	
Admission control algorithm assumes RTP	header compression	is being used.	

Always Use Port 5004 for RTP (This option is unavailable because your system utilizes SIP Servers, SIP Trunks or SIP Extensions. This feature is incompatible with SIP devices.)

Figure 3 – Edit Call Control Options

1. Confirm that the parameter, "Always Use Port 5004 for RTP" is unchecked or grayed out. Disabling this parameter is required for implementing SIP on the ShoreTel system. For SIP configurations, Dynamic User Datagram Protocol (UDP) must be used for RTP Traffic. If the parameter is disabled, Media Gateway Control Protocol (MGCP) will no longer use UDP port 5004; MGCP and SIP traffic will use dynamic UDP ports. Once this parameter is disabled (unchecked), make sure that "everything" (IP Phones, ShoreGear® Switches, ShoreWare Server, Distributed Voice Mail Servers / Remote Servers, Conference Bridges and Contact Centers) is "fully" rebooted – this is a "one time only" item. By not performing a full system reboot, one-way audio will probably occur during initial testing.

2. Configure the SIP Profile

GShoreTel	SIP P	Profiles			
Director	SIP Ser	rver Profiles	0 rec	cords checked.	
Build 18.61.2202.0 Logoff Edward Cho		Name	User Agent	Enabled	Priority
Administration • Users	· -	DuVoiceHospitality GFI FaxMaker		Yes	100
 Trunks IP Phones Platform Hardware Call Control Voice Mail Auto-Attendant Menus Workgroups Schedules Communicator System Directory Application Servers SIP Servers SIP Servers SIP Servers SIP Servers SIP Servers SIP Servers Sites System Parameters 	<u>9 1998-20</u>	Microsoft Exchange		Yes	50

Figure 4 – SIP Server SIP Profile

- a. Click the Administration link to expand the submenus
- b. Click on SIP Servers
- c. Click on SIP Profiles
- d. Click on New button

A new SIP Profiles screen is displayed (Figure 5)

SIP Profile Edit SIP Server Profile	New Copy Save Delete Reset
Edit this record	Refresh this page
Name:	GFI FaxMaker
User Agent:	ł 🔶
Priority:	100
Enable	
System Parameters:	
Custom Parameters:	acceptMWI=notify Accept302=sip HoldSupport=no AddrSupport=diversion EnableSymmetricDtmf=yes UseSipProxyOut=yes OAEMedialessPort=8600 AllowedCodecs=PCMU/8000 OptionsPing=0

Figure 5 – Edit SIP Server Profile

- 3. Complete the form to create a new SIP Profile
 - a. Name: This parameter is the label by which Director refers to the profile

- b. User Agent: This parameter is the expression ShoreWare uses to identify devices covered by the profile, it is not used by the SIP servers. The profile cannot be saved without a value, so you should define it as '.*' (without the single quotes, should just be period followed by the asterisk).
- c. Priority: This parameter lists the status of the profile. The default is 100 and there is no need to modify this parameter.
- d. Enabled: This check-box controls whether the profile is available for use. The default is not enabled (not checked) be sure to enable / check this option
- e. System Parameters: This field lists the device characteristics and default settings.
- f. Custom Parameters: The contents of this field list additional device settings or overwrite default settings listed in the System Parameters field. Make sure to include the following entries in the Custom Parameters (note these are case sensitive):
 - i. acceptMWI=notify
 - ii. Accept302=sip
 - iii. HoldSupport=no
 - iv. AddrSupport=diversion
 - v. EnableSymmetricDtmf=yes
 - vi. UseSipProxyOut=yes
 - vii. OAEMedialessPort=8600
 - viii. AllowedCodecs=PCMU/8000
 - ix. OptionsPing=0

Note: Please do not disable any of the default SIP Profiles. In case there are issues with the custom profile defined, disabling the system profiles may cause the GFI FaxMaker to not be added to the ShoreTel system. Refer to the ShoreTel Administration Guide for more information.

4. Configure the GFI FaxMaker as a SIP UM Server

GShoreTel		SIP Se	rvers				
Shoreler		SIP Serve	er List				
Director		Delete	New				
Build 18.61.2202.0 Logoff Edward Cho			Name	Extension	Site	Host	Override Default Port
Administration			DuVoice	10000	Headquarters	10.0.1.15	
Users	^		GFI Faxmaker	10001	Headquarters	10.0.1.10	5060
 Platform Hardware Call Control Voice Mail Auto-Attendant Menus Workgroups Schedules Communicator System Directory Application Servers SIP Servers SIP Servers SIP Servers SIP Profiles Sites System Parameters Preferences 							

Figure 6 – SIP Servers New

- a. Click the *Administration* link to expand the submenus
- b. Click on SIP Servers
- c. Click on SIP Servers
- d. Click on the New button

A new SIP Server screen is displayed

	Gri Faxihaker
Site:	Headquarters V
Protocol:	UDP 🗸
Host (Name / Address / Domain):	10.0.1.10 Ping
Override Default Port:	5060
Allow External Voice Mail for E	xtension-Only User
Allow Fax Redirect to This Ser	ver
Extension:	10001
Assigned User Group:	Executives
SIP Profile:	GFI FaxMaker 🗸
Digest Authentication:	<none> V</none>
Username:	
Dassword:	
russworu.	

Figure 7 – SIP Server New Screen

Enter the SIP Server information for the new server as described in the table below.

Table 6 displays the SIP server configuration fields and descriptions.

Field	Description
	Description
Name:	Enter an appropriate descriptive server name
Site:	Select the appropriate site location
Protocol:	Select UDP
Host (Name/Address/Domain):	Enter the IP address of the GFI FaxMaker server
Override Default Port:	Enter 5060
Allow Ext. Voice Mail for Extension-Only User	Leave unchecked
Allow Fax Redirect to This Server	Check this parameter
Extension:	The system will automatically assign the next available extension, however you can define a different unused extension.
Assigned User Group:	Assign an appropriate user group that has access to the necessary trunks, in this example we selected the "Executives" user group.
SIP Profile:	Enter the SIP profile created in previous step, see Figure 5 .
Digest Authentication:	Leave this as <none></none>
User ID:	Leave blank
Password:	Leave blank

Table 6 - SIP Server Info Requirements

- e. Click <u>Save</u> to store your changes
- 5. Enable SIP Proxy Ports on ShoreGear Switch

When allocating Ports for SIP extensions, these changes are modified by selecting "Administration," "Platform Hardware", then "Voice Switches / Service Appliances" then "Primary" in ShoreWare Director (see Figure 8)

- a. Click the Administration link to expand the submenus
- b. Click on Platform Hardware
- c. Click on Voice Switches / Service Appliances
- d. Click on Primary

ShoreTel	Primary V	Primary Voice Switches / Service Appliances									
Director											
Build 18.61.2202.0 Logoff Edward Cho	Add new s	witch/app Quick	oliance at site	e: Headquarte	ers ∨ of typ	e: Appliance	100 Colla	boration V	Go		
Administration	Name	Launch	Description	Site	Server	Server	Туре	IPAddress	MAC Addre		
• Users	SG24A-01			Headquarters	Headquarters		SG-24A	10.0.1.30	00-10-49-1E-		
• Trunks	SG24A-02			Headquarters	Headquarters		SG-24A	10.0.1.31	00-10-49-1E-		
Platform Hardware	SG24A-03			Headquarters	Headquarters		SG-24A	10.0.1.32	00-10-49-1E-		
o Voice Switches /	SG24A-04			Headquarters	Headquarters		SG-24A	10.0.1.33	00-10-49-1E-		
Service Appliances	<u>SG90-01</u>			Headquarters	Headquarters		SG-90	10.0.1.20	00-10-49-23-		
 Primary Spare 	SGt1k-01			Headquarters	Headquarters		SG-T1k	10.0.1.40	00-10-49-1E-		
 Conference Bridges 	<u>SGt1k-02</u>			Headquarters	Headquarters		SG-T1k	10.0.1.41	00-10-49-1E-		
Call Control	SoftSwitch		SoftSwitch	Headquarters	Headquarters	Headquarters	SW	10.0.1.10			
 Voice Mail Auto-Attendant Menus Workgroups Schedules 	<u>© 1998-2013</u>	ShoreTel, In	c. All rights reserv	ed.							

Figure 8 – List of Primary Switches

This action brings up the "Primary Switches" screen. From the "Switches" screen, simply select the name of the switch to configure. The "Edit ShoreGear ...Switch" screen will be displayed (see Figure 9). Within the "Edit ShoreGear ...Switch" screen, define one of the "Port Type" settings from the available ports to "100 SIP Proxy", then save the change.

Voice Switches Edit ShoreGear 90 Switch	<u>N</u> ew <u>C</u> o	py <u>S</u> ave	Delete Reset
Edit this record	Refresh this page		
Name:	SG90-01	<	
Description:			
Site:	Headquarters		
IP Address:	10.0.1.20	Find Switches]
Ethernet Address:	00-10-49-23-2D-53		
Server to Manage Switch:	Headquarters 🗸		
Caller's Emergency Service Identification (CESID)	c	(e.g. +1 (408) 331-3	300)
Built-in Capacity:	IP Phone + SIP Trun	k = Total	
	29 + 1] = 30 of 30 (0 SIP pro	oxy ports)
Enable Jack Based Music On Hold			
Jack Based Music On Hold Gain (-49 to 13):	0 dB		
Use Analog Extension Ports as DID Trunks			
	ShoreTel		
	123456	7 8 9 10 11 12	
5690-01			
Port Port Type True	nk Group	Description	Jack Number Lo
	<u> </u>	P01	
2 SIP Phones V	<u> </u>	PUZ	

Figure 9 – Edit ShoreGear Switch

If the ShoreGear switch that you have selected has "built-in" capacity (i.e., ShoreGear 50/90/220T1/E1, etc.) for IP phones and SIP trunks, you can also remove 5 ports from the total number available to provide the "100 SIP Proxy" configuration necessary.

Note: Every 5 ports you remove from the total available will result in "100 SIP Proxy" ports being made available.

One dedicated ShoreGear 120 switch can act as a proxy for the entire site and support up to 2400 SIP phones.

6. Modifying the Site Settings

The next settings to address are the administration of sites. These settings are modified under the ShoreWare Director by selecting "Administration" then "Sites" (Figure 10)

- a. Click on Sites
- b. Click on an existing site or add a new site where the users will be using the fax service. In this example, Headquarters is the site where the users are located.

ShoreTel	Sites					Help
Director	Add new site in:	United States of America 🖌 <u>Go</u>				
Build 18.61.2202.0 Logoff Edward Cho	Site	Country	Area Code	Bandwidth	Switches	Servers
Administration	Headquarters	United States of America	212	0	8	Headquarters
 Users Trunks IP Phones Platform Hardware Call Control Voice Mail Auto-Attendant Menus Workgroups Schedules Communicator System Directory Application Servers Sites System Parameters Preferences 	© 1998-2013 Shore Tel.	Inc. All rights reserved.				

Figure 10 – Sites

Within the "Sites" screen, select the name of the site to configure. The "Edit Site" screen will then appear. Scroll down to the "SIP Proxy" parameters (Figure 11).

Sites Edit Site	New Copy Save Delete Reset
Edit this record	Refresh this page
Name:	Headquarters
Service Appliance Conference Backup Site:	<none> V</none>
Country:	United States of America 🗸
Language:	English(US) V
Parent:	Top of Tree
Use Parent As Proxy	
Local Area Code:	212
Additional Local Area Codes:	Edit
Caller's Emergency Service Identification (CESID):	(e.g. +1 (408) 331-3300)
Time Zone:	(UTC-05:00) Eastern Time (US & Canada), Eastern Standard Time
Night Bell Extension:	
Night Bell Switch:	None Call Handling
Paging Extension:	
Paging Switch:	None V
Operator Extension:	10713 : OperatorLine Search
FAX Redirect Extension:	10001 : GFI Faxmaker Search
SMTP Relay:	192.168.1.11 Ping
Network Time Protocol Server:	10.0.1.8
Bandwidth:	
Admission Control Bandwidth:	0 kbps
Intra-Site Calls:	High Bandwidth Codecs V
Inter-Site Calls:	Low Bandwidth Codecs
FAX and Modem Calls:	Fax Codecs - High Bandwidth
SIP Proxy:	
Virtual IP Address:	
Proxy Switch 1:	SG90-01 V
Proxy Switch 2:	None V
Emergency Number List:	

Figure 11 – Edit Site

- 7. If editing an existing Site, select that Site
 - a. For the parameter FAX Redirect Extension, click on the search button and select the GFI FaxMaker server created earlier, see Figure 7. The FAX Redirect Extension must be an existing user. In this example, the SIP UM Server extension created earlier, "10001: GFI Faxmaker" is the fax redirection number
 - b. For the parameter FAX and Modern Calls, select "Fax Codecs High Bandwidth"

Note: T.38 has been added to the default Codec Lists (Fax Codecs – High Bandwidth and Fax Codecs – Low Bandwidth)

- c. In the "SIP Proxy:" parameter area, for the parameter "Proxy Switch 1:", select the appropriate ShoreTel SIP Proxy Switch that supports T.38
- d. Click on Save

For additional details on configuring SIP Proxy or Virtual IP Address please refer to the ShoreTel Administration Guide.

Note: Bandwidth of 2046 is just an example. Please refer to the *ShoreTel Planning and Installation Guide* for additional information on setting Admission Control Bandwidth.

- 8. Modify Individual Users for Fax Creating a SIP Extension
 - a. Click on Users
 - b. Click on Individual Users



Figure 12 – Individual Users

Users	New	<u>C</u> opy	Save	Delete	<u>R</u> eset	Help
Edit User						* modified
🔝 General 🕨 Per	sonal Option	ns 🕨 Distril	bution List	Workgrou	ps	Refresh this page
First Name:		1st Floor				
Last Name:		Conferen	ce Room			
Number:		10150				
License Type:		Extension	n-Only	~		
Access License:		Personal		✓ □ Enable C	ontact Cent	er Integration
Caller ID:				(e.g. +1 (408) 33	1-3300)	
DID Range:		+1212744	8922 (1 of 1 av	ailable) PRI		View System Directory
DID Number:		+1212744	3922	(Range:	+12127448	922 - 12127448922)
PSTN Failover:		None	~			
User Group:		Executive	s	✓ Go to this	<u>User Group</u>	
Site:		Headquar	rters 🗸			
Language:		English(U	IS) 🗸			
Primary Phone Port:		IP PI	nones 00-10	49-22-94-FE 🗸		
		O Ports	5 SG24/	A-04 - 2 🗸		
		O Softs	Switch Softs	witch 🗸		
Current Port:		00-10-49-2	22-94-FE	10	Go Pri	mary Phone
Jack #:						
Mailbox Server:		Headquar	rters 🗸 Esc	alation Profiles ar	nd Other Ma	ilbox Options
Accept Broadcast Mes	sages		_			
✓ Include in System Dial	By Name Dire	ctory				
Make Number Private						
Fax Support:		User - Re	direct	~		
Allow Video Calls:		None		-		
Allow Telephony Prese	nce					
Shared Call Appearance	es					
Associated BCA:						

Figure 13 – Edit User

9. Select the user whose fax calls you want to be redirected to the Fax Redirected Extension (GFI FaxMaker server). If this is a new user then select any existing user, then click on the New button to create a new user

- a. For the parameter "Fax Support:", make sure to select "User Redirect" (this is the default setting)
- b. Click the Save button

Application 2 - User with a Unique Voice Extension and a Unique Fax Extension

ShoreTel's implementation of fax redirect requires that the call be answered (either by the user or voice mail) in order for the fax call to be redirected to the proper fax redirect extension. Some users prefer not to hear the CNG (fax) tones when receiving a fax call, and instead prefer to have a separate fax phone number (DNIS/DID) that would route directly to their fax server (GFI FaxMaker), then the fax server would deliver the fax to the user's email

Should your implementation require a unique number for fax that is different from the voice number, then you will need to configure the ShoreTel system and GFI Fax server for SIP trunks using Off System Extensions (OSEs) rather than a SIP UM server.

Note: When working with GFI or ShoreTel support, specify that you are using this method as the DID fax number displays differently within the SIP packet as opposed to application 1.

The following steps describe how to configure the ShoreTel system for faxing using SIP Trunks and Off System Extensions (OSEs).

Switch Settings - Allocating Ports for SIP Trunks

These settings are modified by selecting Administration, then Platform Hardware followed by Voice Switches / Service Appliances followed by Primary in the ShoreWare Director section (Figure 14).

Shore Tel [°]	Primary St	witches					
Director				_			-
Build 18.61.2202.0 Logoff Edward Cho	Add new s	witch at site:	Headquarters	of type:	ShoreG	ear T1k	<u>Go</u>
Administration	Name	Description	Site	Server	Туре	IPAddress	MAC /
Users Trunks	Brentwood	SG 60/12	Headquarters	Headquarters	60/12	192.168.0.5	00-10-4
• IP Phones	SoftSwitch	SoftSwitch	Headquarters	Headquarters	SW	192.168.0.1	
Platform Hardware Voice Switches /	<u>T1K</u>		Headquarters	Headquarters	SG-T1k	192.168.0.6	00-10-4
Service Appliances Primary Spare Conference Bridges	@ 1998-2010 S	ShoreTel, Inc. All	rights reserved.				

Figure 14 – Switches Administration

This will bring up the **Switches** screen. From the **Switches** screen simply select the name of the switch to configure. The **Edit ShoreGear Switch** screen will be displayed. Within the **Edit ShoreGear Switch** screen, select the desired number of SIP trunks from the ports available (**Figure 15**).

	Status O Lan ShoreTel BioreGenr 30 0 </th							
Port	Port Type	T	unk Group	Description				
1	100 SIP Proxy	~	~	P01				
2	5 IP Phones	~	~	P02				
3	5 IP Phones	~	~	P03				
1	5 SIP Trunks	~	~	P04				
5	Conference	~	~	P05				
6	Conference	~	~	P06				
,	Conference	~	~	P07				
3	Conference	~	~	P08				

Figure 15 – ShoreGear Switch Settings

Each port designated as a SIP trunk port type enables the support for 5 individual SIP trunks.

ShoreTel System Settings – Trunk Groups

ShoreTel trunk groups only support Static IP Address SIP endpoint Individual Trunks.

The settings for trunk groups are changed by selecting **Administration**, then **Trunks** followed by **Trunk Groups** in the **ShoreWare Director** section (**Figure 16**).

Trunk Groups						1
		1				
Add new trunk group at	site: Headquarters V	of type: SIP	~	Go		
Name	Туре	Site	Trunks	DID	Destination	Access Code
Analog Loop Start	Analog Loop Start	Headquarters	0	No	20700	9
Digital Loop Start	Digital Loop Start	Headquarters	0	No	20700	9
Digital Wink Start	Digital Wink Start	Headquarters	0	No	20700	9
GFI Faxmaker	SIP	Headquarters	2	Yes	20700	8
PRI	PRI	Headquarters	19	Yes	10100	9
SIP Trunk via Mediatrix	PRI	Headquarters	23	Yes	10100	9
	Trunk Groups Add new trunk group at Name Analog Loop Start Digital Loop Start Digital Wink Start GFI Faxmaker PRI SIP Trunk via Mediatrix	Trunk Groups Add new trunk group at site: Headquarters Name Type Analog Loop Start Digital Loop Start Digital Loop Start Digital Loop Start Digital Wink Start GFI Faxmaker PRI SIP Trunk via Mediatrix PRI	Trunk Groups Add new trunk group at site: Headquarters Name Type Site Analog Loop Start Analog Loop Start Headquarters Digital Loop Start Digital Loop Start Headquarters Digital Wink Start Digital Wink Start Headquarters GFI Faxmaker SIP Headquarters PRI PRI Headquarters SIP Trunk via Mediatrix PRI Headquarters	Trunk Groups Add new trunk group at site: Headquarters of type: SIP Name Type Site Trunks Analog Loop Start Analog Loop Start Headquarters 0 Digital Loop Start Digital Loop Start Headquarters 0 Digital Wink Start Digital Wink Start Headquarters 0 GFI Faxmaker SIP Headquarters 19 PRI PRI Headquarters 19 SIP Trunk via Mediatrix PRI Headquarters 23	Trunk Groups Add new trunk group at site: Headquarters I of type: SIP Go Name Type Site Trunks DID Analog Loop Start Analog Loop Start Headquarters 0 No Digital Loop Start Digital Loop Start Headquarters 0 No Digital Wink Start Digital Wink Start Headquarters 0 No GEI Faxmaker SIP Headquarters 2 Yes PRI PRI Headquarters 19 Yes SIP Trunk via Mediatrix PRI Headquarters 23 Yes	Trunk Groups Add new trunk group at site: Headquarters of type: SIP Go Name Type Site Trunks DID Destination Analog Loop Start Analog Loop Start Headquarters 0 No 20700 Digital Loop Start Digital Loop Start Headquarters 0 No 20700 Digital Wink Start Digital Wink Start Headquarters 0 No 20700 GFI Faxmaker SIP Headquarters 19 Yes 10100 SIP Trunk via Mediatrix PRI Headquarters 23 Yes 10100

Figure 16– Trunk Groups Administration

From the dropdown menus on the **Trunk Groups** screen, select the site desired and select *SIP* as the trunk type to configure. Then click the **Go** link right from the **Type** field. The **Edit SIP Trunk Group** screen will appear (**Figure 17**).

Trunk Groups	New Copy Save Delete
Edit SIP Trunk Group	
Edit this record	Refresh this page
Name:	New Trunk Group
Site:	Headquarters
Language:	English(US) 🗸
Enable SIP Info for G.711 DTMF Signaling	
Profile:	Default Tie Trunk 🗸
Digest Authentication:	<none></none>
Username:	
Password:	
Inbound:	
Number of Digits from CO:	0
	Edit DNIS Map
	Edit DID Range
Extension	
Translation Table:	
Prepend Dial In Prefix:	
Use Site Extension Prefix	
Tandem Trunking	
User Group:	~
Prepend Dial In Prefix:	
Destination:	20700 : Default Search
☑ Outbound:	
Network Call Routing:	
Access Code:	
Local Area Code:	
Additional Local Area Codes:	Edit
Nearby Area Codes:	Edit
Billing Telephone Number:	(e.g. +1 (408) 331-3300)
Trunk Services:	

Figure 17– Edit SIP Trunk Group

The next step within the Edit SIP Trunks Group screen is to define the name for the trunk group. .

The **Enable SIP Info for G.711 DTMF Signaling** parameter should be disabled (checkbox clear). Enabling SIP info is currently only used with SIP tie trunks between ShoreTel systems.

The "Profile" parameter defaults to "Default Tie Trunk", no further modification is required..

The **Digest Authentication** parameter defaults to *<None>*; no modification is required here.

Next, you need to make the appropriate settings for the **Inbound** parameters in the **Edit SIP Trunks Group** screen (**Figure 18**).

bound:	
Number of Digits from CO:	10
DNIS	Edit DNIS Map
	Edit DID Range
Extension	
Translation Table: <pre></pre>	
Prepend Dial In Prefix:	
Use Site Extension Prefix	
Tandem Trunking	
User Group:	Executives 🗸
Prepend Dial In Prefix:	9
Destination:	20700 : Default Search

Figure 18 – Inbound Settings

Within the **Inbound** settings, the **Number of Digits from CO** should match what the ShoreGear SIP trunk switch will be receiving from this public network and this is usually configured to match the systems extension length. It is not necessary to enable the **DNIS** or **DID** parameters as they are not required. Ensure that the **Extension** and **Tandem Trunking** checkboxes are selected. For additional information on these parameters refer to *ShoreTel's Planning and Installation Guide*

The following section is configured in the same way as any normal trunk group.

Trunk Groups Edit SIP Trunk Group	w <u>C</u> opy	Save	Delete	Reset	<u>Help</u>
☑ Outbound:					
Network Call Routing:					
Access Code:	8				
Local Area Code:	212				
Additional Local Area Codes:	Edit				
Nearby Area Codes:	Edit				
Billing Telephone Number:		(e.g. +1 (408	8) 331-3300)		
Trunk Services:					
✓ Local					
☑ Long Distance					
✓ International					
Enable Original Caller Information					
☑ n11 (e.g. 411, 611, except 911 which is specified below)	f				
Emergency (e.g. 911)					
Easily Recognizable Codes (ERC) (e.g. 800, 888, 900)					
Explicit Carrier Selection (e.g. 1010xxx)					
☑ Operator Assisted (e.g. 0+)					
Caller ID not blocked by default					
		94 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -	401 CMC	55. 1 40 44	

Figure 19 – Outbound and Trunk Services

Select the Outbound checkbox and specify a Trunk Access Code and Local Area Code as appropriate.

In the **Trunk Services** section, there is no real need to enable any specific options as access to GFI FaxMaker will be via Off System Extensions (OSE's).

The last parameter ("Caller ID not blocked by default"), this parameter determines if the call is sent out as <unknown> or with caller information (Caller ID), this parameter should be enabled (checked).

Next, configure the **Trunk Digit Manipulation** (Figure 20):

Trunk Digit Manipulation:

 □ Remove leading 1 from 1+10D

 Hint: Required for some long distance service providers.

 □ Remove leading 1 for Local Area Codes (for all prefixes unless a specific local prefix list is provided below)

 Hint: Required for some local service providers with overlay area codes.

 □ Dial 7 digits for Local Area Code (for all prefixes unless a specific local prefix list is provided below)

 Hint: Local prefixes required for some local service providers with mixed 7D and 1+10D in the same home area.

 □ Dial in E.164 Format

 Local Prefixes:

 Prepend Dial Out Prefix:

 Off System Extensions:

 Edit

 Translation Table:

Figure 20 – Trunk Digit Manipulation

You need to define an **Off System Extension** (OSE), but before you can do so, you'll need to save your settings by clicking **Save** to input the changes. You will be prompted to give all User Groups access to this newly created trunk group (see **Figure 21**). It is not necessary to grant access as connectivity is via Off System Extensions, so click **Cancel**.

Windows	Internet Explorer
?	Please click on OK to give all existing User Groups access to this new trunk group, or click on Cancel to save the Trunk Group without enabling access. Users will not be able to make calls with the Trunk Group until their User Group is given access.
	OK Cancel

Figure 21 – Grant User Groups access to new Trunk Group

After you have saved your changes you will need to define your Off System Extension range. This can be any extension not currently in use on the ShoreTel system. Click **Edit** to the right of the **Off System Extensions** field in the **Trunk Digit Manipulation** section (see **Figure 18**), The **Off System Extensions Ranges** dialog will be displayed as shown in **Figure 22**.

Off System Extension Ranges We	bpage Dialog 💌
Range:	
10174 to 10174	New
10178 to 10178	Edit
2 Standard State (and an an activities (and a state)	Remove
OK Cance	4
<	>

Figure 22 – Off System Extension Ranges

Click New to get the New Range dialog as shown in Figure 23.

New Range Webpage Dialog	
First:	
Last:	
OK Cancel	

Figure 23 – Off System Extension - New Range Dialog

Define a single extension range that is within your ShoreTel PBX extensions and click **OK**. This range must match the extension range of the users defined on the GFI FaxMaker server.

This completes the settings needed to set up the trunk groups on the ShoreTel system.

Note: Each individual Off System Extension will be an individual user's fax destination, be certain to add a sufficient OSE range to cover all the individual users that require faxing capabilities.

ShoreTel System Settings – Individual Trunks

This section covers the configuration of the individual trunks. Select **Administration**, then **Trunks** followed by **Individual Trunks** to configure the individual trunks (**Figure 27**).

Shore Tel [®]	
Director	
Build 18.61.2202.0 Logoff Edward Cho	
Administration Users Trunks Individual Trunks Trunk Groups SIP Profiles ISDN Profiles Local Prefixes IP Phones Platform Hardware	^

Figure 24 – Individual Trunks

The Trunks by Group screen is used to change the individual trunks settings that appear (Figure 25).

Add new trunk at	site: Headquarters 🗸	in trunk group:	GFI Faxmaker	~	Go	
Show page: 1:P	RI01 - PRI02 (12)	~		44 Reco	ords 25 🗸 per	page
Delete	6	Turne	Cita	Cutitab	D. dicharal	
Name	Group	Type	Site	Switch	Port/Channel	SIP IP Address
<u>Name</u> <u>PRI01</u>	PRI	PRI	Headquarters	SGt1k-01	Port/Channel	SIP IP Address
Name PRI01 PRI01 (14)	PRI PRI	PRI PRI	Headquarters Headquarters	SGt1k-01 SGt1k-01	Port/Channel 1 14	SIP IP Address
Name PRI01 PRI01 (14) PRI01 (15)	PRI PRI PRI	PRI PRI PRI PRI	Headquarters Headquarters Headquarters	SGt1k-01 SGt1k-01 SGt1k-01	1 14 15	SIP IP Address

Figure 25– Trunks by Group

Select the site for the new individual trunk(s) to be added and select the appropriate trunk group from the dropdown menus at the top of the screen. In this example, the site is Headquarters and the trunk group is *GFI Faxmaker*, as created above, see **Figure 17**. Click **Go** to bring up the **Edit Trunk** screen (**Figure 26**).

Trunks Edit Trunk	New Copy Save Delete	Reset
Edit this record	Defect this parts	* modified
Luit this record	Reiresh this page	
Site:	Headquarters	
Trunk Group:	GFI Faxmaker	
Name:	GFI Faxmaker X	
Switch:	SG90-01 V	
IP Address:	10.0.1.10	
Number of Trunks (1 -	220): 10	
© 1998-2013 ShoreTel Inc	All rights reserved	

Figure 26 - Edit Trunk Screen for Individual Trunks

On the **Edit Trunk** screen for individual trunks, enter a **Name** for the individual trunks. It is recommended to name the individual trunks the same as the name of the trunk group so that the trunk type can easily be tracked.

Next, select the appropriate **Switch** upon which the individual trunk will be created. This will be the ShoreGear switch that you defined to have SIP Trunks, see **Figure 16**.

Next, specify the IP address of the GFI FaxMaker server under IP Address.

Next ,enter the number of individual trunks desired into the **Number of Trunks** field. Each individual trunk supports "one" audio path – example if 10 is configured, then 10 audio paths can be up at one time, meaning that you can have up to 10 fax calls connected at once.

Once these edits are complete, click **Save** to commit the changes.

After setting up the trunk groups and individual trunks, refer to the *ShoreTel Planning and Installation Guide* to make the appropriate changes for the User Group settings. This completes the settings for the ShoreTel system side.

GFI Configuration

The GFI FaxMaker software will need to be installed on a Windows 2003, 2008 or 2012 server operating system with Microsoft IIS/SMTP installed. GFI FaxMaker is supported on a Hyper-V or VMware based virtual machine when using the Brooktrout SR140 for Fax over IP.

Additionally, an SMTP connection to either an Internet email account or a local email server will be necessary from the GFI FaxMaker server for the fax delivery to a user's mailbox.

The most common mistake is not restarting the GFI FaxMaker services following a change in the configuration. Any time a change is made (i.e. adding lines, changing users, etc.) the GFI FaxMaker services should be restarted. For additional FAQs, please visit <u>http://www.gfi.com/FaxMaker/</u> and click on the "Support" link.

Configuration for the GFI/Brooktrout SR140

1. From the GFI server PC, click Start/All Programs/GFI FaxMaker Brooktrout TR1034 Drivers/Brooktrout Configuration Tool



Figure 27 – Brooktrout Configuration Wizard

2. Click on Advanced Mode



Figure 28 – Brooktrout Configuration Wizard Question

3. Click on Yes



Figure 29 – Brooktrout Configuration Tool Advanced Mode

4. Expand the tree. Click on IP Call Control Modules. Click on SIP

Rrooktrout Configuration Tool - Advance	ed Mode	
File View Options Help		
l Carlon	S ? License Help	
Brooktrout (Boston Host Service - Running)	General Information IP Parameters T.38 Parameters	RTP Parameters
- BTCall Parameters (All boards)	Fax Transporting Protocol:	T.38 only
IP Call Control Modules	Generate CED tone over RTP:	Yes
SIP	Maximum Bit Rate, bps:	14400
	Media Renegotiate Delay Inbound, msec:	1000
	Media Renegotiate Delay Outbound, msec:	·1
	T30 Fast Notify:	No
	UDPTL Redundancy Depth Control:	<u>5</u> 0 <u> </u>
	UDPTL Redundancy Depth Image:	2 0J 2
		Show Advanced >>

Figure 30 – Brooktrout Configuration Tool Advanced Mode T.38 Parameters

- 5. Click on T.38 Parameters Tab
 - a. Adjust the UDPTL Redundancy Depth Image from 0 to 2

The Advance of the Ad	ed Mode	
Image: Applied of the sector of the sect	Eicense Help	
Brooktrout (Boston Host Service - Stopped) Driver Parameters (All boards) BTCall Parameters (All boards) Call Control Parameters Module 0x41: SR140 D. IP Call Control Modules D. SIP	General Information IP Parameters T.38 Parameters RTP Parameters Maximum SIP Sessions: 256 Primary Gateway: 10.3.0.39 5060 Primary Proxy Server: 10.3.0.39 10.3.0.39 Additional Proxy Server #2: 0 0 Additional Proxy Server #3: 0 0 Additional Registrar Server #14: 0 0 Primary Registrar Server #3: 0 0 Additional Registrar Server #4: 0 0 From Value: GFI Faxmaker <sip:10001@10.3.0.46:5060> 0 Contact IPv4 Address: 10 3 0 46:5060 Username: session Name: no_session_name 5 5060 Description URI: Email Address: 0 5 5060 0 Phone Number: Show Advanced 2 5 5 5 5 5</sip:10001@10.3.0.46:5060>	

Figure 31 – Brooktrout Configuration Tool Advanced Mode IP Parameters

- 6. Click on IP Parameters Tab
 - Primary Gateway Enter the IP address of the ShoreGear SIP Proxy Switch and enter the default SIP UDP port 5060
 - b. Primary Proxy Server Leave blank.
 - c. From Value: Enter the GFI FaxMaker Request URI (For this example GFI Faxmaker <<u>sip:10001@10.3.0.46:5060</u>>), where "GFI Faxmaker" is the name that will be used in the SIP call request and "10001" is the extension defined for the GFI. After the"@" you should define the IP address of the GFI server followed by a colon ":" and 5060.

- d. Contact: Enter the IP address of the GFI Fax Server and the SIP UDP port 5060
- e. Click on the Show Advanced button

Brooktrout Configuration Tool - Advan	ced Mode	
Home Back Next Save Apply	S ? License Help	
Brooktrout (Boston Host Service - Running) Driver Parameters (All boards) BTCall Parameters (All boards) Call Control Parameters Module 0x41: SR140	General Information IP Parameters T.38 Parameters RTP Parameters Advanced Settings Do not change these parameters unless you have been instructed to do so	1
SIP	Primary Registrar Server Address of Record.	
	Primary Registrar Server Password:	
	Primary Registrar Server Expiration: 3600	
	Additional Registrar Server #2 AOR:	
	Additional Registrar Server #2 Username:	
	Additional Registrar Server #2 Password:	
	Additional Registrar Server #2 Expiration: 3600	
	Additional Registrar Server #3 AOR:	
	Additional Registrar Server #3 Username:	
	Additional Registrar Server #3 Fassword.	
	Additional Registral Server #3 Expiration. 35000	
	Additional Registrar Server #4 Username:	
	Additional Registrar Server #4 Password:	
	Additional Registrar Server #4 Expiration: 3600	
	Registration Interval: 60	
	Maximum Forwards: 70 1	
	Route URL:	
	Session Timeout:	
	Session Refresh Interval: -1	
	Session Refresh Method:	
	IP Interface For SIP:	
	IP Interface Port: 5060	
	Redirect As Calling Party:	
	Redirect As Called Party:	-

Figure 32 – Brooktrout Configuration Tool Advanced Mode IP Parameters Advanced Settings

7. Redirect As Called Party – Adjust the value from 0 to 1. The parameter tells the GFI FaxMaker Server to route fax calls based on the Diversion Header of the Invite message instead of the Request URI.

Note: Set the "Redirect As Called Party" value to 0 if you are configuring your fax solution using SIP Trunks and Off System Extensions (OSEs) rather than a SIP UM server.

File View Options Help		
Home Back Next Save Apply	License Help	
□- Brooktrout (Boston Host Service - Running) □- Driver Parameters (All boards)	General Information IP Parameters T.38 Parameters RTP	Parameters
 BTCall Parameters (All boards) Call Control Parameters 	Maximum SIP Sessions:	
Module 0x41: SR140	Primary Gateway:	10 . 3 . 0 . 39 : 5060
	Primary Proxy Server:	
	Additional Proxy Server #2:	
	Additional Proxy Server #3:	
	Additional Proxy Server #4:	
	Primary Registrar Server URL:	
	Additional Registrar Server #2:	

Figure 33 – Brooktrout Configuration Tool Advanced Save

8. Click on Save

	/	
Brooktrout Configuration Tool - Advan File View Options Help	ncer, Mode	
Image: Control of the sector of the sect	S ? License Help	
Brooktrout (Boston Host Service - Running)	General Information IP Parameters T.38 Parameters RTP Parameters	
BTCall Parameters (All boards) BTCall Parameters (All boards) Call Control Parameters	Maximum SIP Sessions: 256 1 - 1000	-
Module 0x41: SR140	Primary Gateway: 10 . 3 . 0 . 39 : 5060	
IP Call Control Modules In SIP	Primary Proxy Server:	
	Additional Proxy Server #2:	
	Additional Proxy Server #3:	
	Additional Proxy Server #4:	
	Primary Registrar Server URL:	
	Additional Registrar Server #2:	

Figure 34 – Brooktrout Configuration Tool Advanced Apply

- 9. Click on Apply
- 1. Launch the GFI FaxMaker Configuration Application from the Start/Programs menu
 - a. Click on GFI FaxMaker Configuration to expand the menu tree
 - b. Click on Line/Devices

c. Click on Properties

2. Configuring GFI Lines

- a. Launch the GFI FaxMaker Configuration Application
- b. Click on GFI FaxMaker Configuration
- c. Click on Lines/Devices
- d. Click on properties



Figure 35 – GFI FaxMaker Configuration

General	
Set the properties of your fax devices and r lines.	nap them to fax server
Device BROOKTROUT1 on line number 1 Device BROOKTROUT2 on line number 0 Device BROOKTROUT3 on line number 2 Device BROOKTROUT4 on line number 3	Add Delete Properties
	Detect

Figure 36 – Lines/Device Properties

- 3. Click on Add to add a new line or to edit an existing just highlight that line and Click on properties
 - a. Reference: Click the Help button for details explanation on all the parameters

ice Line options Advanced Users Line test BROOKTROUT1 Card type: Brooktrout SR140 Line capabilities: None DTMF OID/ISDN	e BROOKTROUT1 o	n line number 1 l	Properties
BRODKTROUT1	rice Line options A	dvanced Users	Line test
Card type: Card t		111	
Card type: Brootktrout SE140 Line gapabilities: None O DTMF O DID/ISDN	bilookiiloo		
	Card type:		
Line capabilities: C None C DTMF C DID/ISDN Line options: T Tone dialling Wait for dialtone Rings until answer:	STOOKTOUT S	R140	-
None ○ DTMF ○ DID/ISDN Line options: □ Tone dialling □ Tone dialling □ Wait for dialtone Bings until answer: 1	Line capabilities:		
Line options: Tone dialling Wait for dialtone <u>Bings until answer:</u> 1	C None	C DTMF	🖲 DID/ISDN 🔫
Rings until answer:	Tone dialling	ne	
	<u>R</u> ings until answer:		
		10000	The second se

Figure 37 – Device Brooktrout Line Number Properties Device Tab

- 4. Select the Card type as Brooktrout SR140
 - a. Line capabilities, select DID/ISDN
 - b. Ring until answer, select the number 1
 - c. Click the Help button for details explanation on all the parameters
 - d. Verify that the Line options parameters (Tone dialing and Wait for dialtone) are not enabled (checked)

Note: After making any changes to the GFI FaxMaker Lines/Devices configuration make sure to restart the GFI FaxMaker Fax Server service for the changes to take effect. Then check the Fax Server Monitor to make sure that the lines have been initialized.

Device BROOKTROUT1 on line number 1 Properties	×
Device Line options Advanced Users Line test	
Max. resolution: Fine (200x200dpi)	
Local fax ID: +14083315494	
Image: Receive incoming faxes Image: Send outgoing faxes	
Dial prefix & suffix: 9	
✓ Do not dial prefix if fax number is:	
C less than: 📀 equal to:	
# of digits: 3	
Fax header:	
Number of retries: 3	
Retry delay: 30	
Disable use of <u>E</u> CM if available	
OK Cancel Help	

Figure 38 – Device Brooktrout Line Number Properties Line Options Tab

5. Click on the Line options tab

- a. Local fax ID: This is the number that will be given to the receiving fax machine as part of the transmission process. Usually a fax number is entered as the local fax id.
- b. Click the Help button for details explanation on all the parameters

Note: After making any changes to the GFI FaxMaker Lines/Devices configuration make sure to restart the GFI FaxMaker FAX Server service for the changes to take effect. Then check the Fax Server Monitor to make sure that the lines have been initialized.

Device Line options Advanced Users Line test Auto-print faxes received on this line: Setup printers Backup faxes received on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: File format: PDF file (.pdf) Routing Mumber of DTMF/DID digits to capture: Generate beep tone before capture: 1000Hz v	Device BROOKTROUT1 on line number 1 Properties	×
Auto-print faxes received on this line: Setup printers Backup faxes received on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: PDF file (.pdf) Routing Image: Setup for the following file to capture: Mumber of DTMF/DID digits to capture: Image: Setup format for	Device Line options Advanced Users Line test	
Setup printers Backup faxes received on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: PDF file (.pdf) Routing Image: Setup for DTMF/DID digits to capture: Generate beep tone before capture: 1000Hz	Auto-print faxes received on this line;	
Backup faxes received on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: PDF file (.pdf) Routing Mumber of DTMF/DID digits to capture: Generate beep tone before capture: 1000Hz	Setup printers	
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Backup faxes gent on this line: Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: PDF file (.pdf) Routing Mumber of DTMF/DID digits to capture: Generate beep tone before capture: 1000Hz	Folder: C:\Program Files\GFI\FAXmaker\arc	
Folder: C:\Program Files\GFI\FAXmaker\arc Backup faxes in the following file format: File format: PDF file (.pdf)	Backup faxes sent on this line:	
Backup faxes in the following file format: File format: File format: PDF file (pdf) Routing Mumber of DTMF/DID digits to capture: Generate beep tone before capture: 1000Hz	Folder: C:\Program Files\GFI\FAXmaker\arc	
File format: PDF file (.pdf) Routing Image: Second sec	Backup faxes in the following file format:	
Routing Image: Number of DTMF/DID digits to capture: 3 Image: Generate beep tone before capture: 1000Hz	File format: PDF file (.pdf)	
Image: Mumber of DTMF/DID digits to capture: 3 Image: Generate beep tone before capture: 1000Hz	Bouting	
☐ Generate beep tone before capture: 1000Hz ▼	✓ <u>N</u> umber of DTMF/DID digits to capture:	4
	Generate beep tone before capture:	
Elash after DTMF capture and before fax tone.	Elash after DTMF capture and before fax tone.	
		-1
	UK Lancel Help	

Figure 39 – Device Brooktrout Line Number Properties Advanced Tab

Repeat the above steps to add any additional lines you wish to use with GFI FaxMaker.

- 6. Click on Advanced tab (if you plan to use fax routing to route faxes to individual users based on the DID number, click on the Advanced tab and then select the Number of DTMF/DID digits to capture check box. The number of digits should be set to the size of the range of numbers you will be capturing. (i.e. For a range of 0-99 you should capture two digits. For a range of 0000-5000 you would capture 4 digits)
 - a. Enable (checkbox) the "Number of DTMF/DID digits to capture:" parameter
 - b. Enter the number of digits to capture (equal to the number of digits for your extension dial plan or equal to the extension length of your Off System Extensions (OSE)).
 - c. Click the Help button for details explanation on all the parameters

Note: After making any changes to the GFI FaxMaker Lines/Devices configuration make sure to restart the GFI FaxMaker Fax Server service for the changes to take effect. Then check the Fax Server Monitor to make sure that the lines have been initialized.

7. Adding a User



Figure 40 – GFI FaxMaker Configuration New

- 8. Click on Licensed Users
 - a. Click on the "New FaxMaker user" icon on the top menu bar

New Licensed User		×
Enter the name user below:	and e-mail address of the new 🗕	OK Cancel
User login name:	Test	
<u>F</u> ull name:	User	
<u>E</u> -mail address:	Test@msdemo3.shoretel.com	_
		<< <u>P</u> ersonal
First <u>n</u> ame:	User	
Last name:	l	
<u>C</u> ompany:		
Department:	<u></u>	
Fa <u>x</u> No.:		
⊻oice No.:		
Internet e-mail:	Test@msdemo3.shoretel.com	

Figure 41 – GFI FaxMaker Configuration New Licensed User

9. Enter all the user information in the blank form, then Click OK

Expand the "Routing" tree and click on "DTMF/DID":

🛞 GFI FAXmaker Configuration					
Eile Action View Help					
Console Root	DTMF/DID 3 routing rule(s)				
GFI FAXmaker Configuration (Local)	🚯 GFI FAXmaker DTMF/D	ID Routing Configuration			
A Licensed users	Coofigure a list of DIME/DID	DTMF/DID Number	Users/Groups		
Routing	numbers to be used for routing	109			
DTMF/DID	+ New	▶ 111 ▶ 113			
CCR	Add a new DTMF/DID route.				
MSN					
E Coverpages E SMS					
NetPrintQueue2Fax					
Sending/Receiving Options					
Advanced					
⊞-@ General					
				1	
	GFI FAXmaker DTMF/DID Ro	uting Configuration 🔨 Standa	rd /		<u>•</u>

Figure 42 – GFI FaxMaker DTMF/DID Routing Configuration

Click on the "New" link.

New DT	MF/DID Route(s)	×
•	Specify DTMF/DID numbers/ranges. Use commas (",") to delimit multiple entries.	OK Cancel
	DTMF/DID numbers/ranges.	
🔽 Se	et number of DTMF/DID digits to:	4
Note: front.	Numbers short of the mandatory number of digits are p	added with 0s in

Figure 43 –New DTMF/DID Range

10. Configuring DID/DTMF Routing

Associate the DID numbers with the users, this is called a DID route. This will be the digits received by GFI from ShoreTel (either the user's extension number or the Off System Extension).

- a. Define the "DTMF/DID numbers/ranges" to the desired user extension. **Note:** You can also add as a range. Please refer to GFI FaxMaker documentation for further details.
- b. Enable (check) the parameter "Set number of DTMF/DID digits to:" and set the value to match the digits being received by GFI. **Note:** this parameter will default to a value of previously defined DID routes.
- c. Click OK, this action brings up the properties for the DTMF/DID routing entry you just created, see **Figure 44**.



Figure 44–Properties Users Tab

Click on the "Add..." button.

ame	Login	E-mail
Administrator	Administrator	Administrator@FAXmaker.com
gfaxmaker	gfaxmaker	gfaxmaker@msdemo3.shoretel.com
<u> </u>		
	Login	E-mail

Figure 45–Select FaxMaker Users or Groups

Click on the desired user, which was created above see **Figure 40 & 41**, then click on the "Add" button, then click on OK.

4545 Properties	? ×
Users Options Printers Backup2Folder	
Configure fax auto-printing	
Enable fax auto-printing	
Select printer: 📚 GFI FAXmaker printer	•
Printers can be configured using the 'Printers' node in the configuration.	
OK Cancel Ap	ply

Figure 46 – Properties Printer Tab

You can also specify that any faxes received on this route should be printed on a particular printer. To do this, select the printers tab, enable 'Automatically print faxes routed through this rule' and select the printer in the printer list box.

Note: You must configure any printers you wish to use in an inbound route in the printer's node. If you do not have any printers configured, this tab will appear grayed out. For information on how to configure printers, see the previous paragraph 'general routing options'.

Importing/Exporting a range of DID routes

If you have a large number of users, it might be easier to prepare a list of DID numbers and associate user names in another application like Excel.

To import or export a range of DID numbers:

1. In the GFI FaxMaker configuration, right-click on the **Routing** ► **DTMF/DID** node.

2. From the menu, select either import or export DTMF/DID range. A file dialog will appear asking you to specify a text file with the data to be imported. The data must be in the following CSV format:

"did/dtmf number", "user1", "user2", "user3", ...

E.g.

"1234", "John J, Doe", "Bill Smith", "Roger Brown", "Joe Bloggs"

Specify the user name as either the Active Directory display name, or the SMTP email address.

Note: The configuration will link the user name specified to either the user's display name or any of the user's SMTP email addresses. All the user accounts to be imported must be in the Licensed Users list. On Export, the configuration will use the user's display name for the user fields.

Click OK when finished

0.3.0.46 - Remote	Desktop					
Services						
e Action View	Help					
→ 🔃 😭	 ∄ ⊑₀ ∰ ▶ = =>					
Services (Local)	Services (Local)					
		-				
	GFI FAXmaker Fax Server	Name 🛆	Description	Status	Startup Type	Log On As
		Alerter	Notifies sel		Disabled	Local Service
	Start the service	Application Experience Looku	Processes	Started	Automatic	Local System
	1	Application Layer Gateway Se	Provides s	Started	Manual	Local Service
	Description:	Replication Management	Processes i		Manual	Local System
	Fax server engine that sends and	Automatic Updates	Enables th	Started	Automatic	Local System
	receives faxes.	Background Intelligent Transf	Transfers		Manual	Local System
		Brooktrout Boston Host Service		Started	Manual	Local System
		ClipBook	Enables Cli		Disabled	Local System
		COM+ Event System	Supports S	Started	Automatic	Local System
		COM+ System Application	Manages t		Manual	Local System
		Computer Browser	Maintains a	Started	Automatic	Local System
		Cryptographic Services	Provides th	Started	Automatic	Local System
		DCOM Server Process Launcher	Provides la	Started	Automatic	Local System
		DHCP Client	Registers a	Started	Automatic	Network S
		Distributed File System	Integrates		Manual	Local System
		Distributed Link Tracking Client	Enables cli	Started	Automatic	Local System
		Distributed Link Tracking Server	Enables th		Disabled	Local System
		Distributed Transaction Coord	Coordinate	Started	Automatic	Network S
		DNS Client	Resolves a	Started	Automatic	Network S
		Error Reporting Service	Collects. st	Started	Automatic	Local System
		Event Log	Enables ev	Started	Automatic	Local System
		File Replication	Allows files		Manual	Local System
		ETP Publishing Service	Enables thi	Started	Automatic	Local System
		GEI FAXmaker Fax Server	Fax server		Automatic	.\Administ
		GFI FAXmaker Message Trans	Transport f	Started	Automatic	.\Administ
		We Help and Support	Enables He	Started	Automatic	Local System
		WANTTP SSI	This servic	Started	Manual	Local System
		dit .		200,000	. An instan	Local System

Figure 47 –Services

- 14. Start the GFI FaxMaker Fax Server service
- 15. Launch the GFI FaxMaker Monitor
 - a. Start/All Programs/GFI FaxMaker/GFI FaxMaker Monitor
 - b. Click on Fax Server
 - c. Click on Restart server

🔜 GFI FAXmaker Monitor					- 🗆 ×
Eile Action View Help					
⇔ ⇒ 🗈 🔮					
Console Root	Initialise X Abort 2020el Initialise X Abort 2020el Initialise X Abort 2020el Initialise X Abort 38140 on line 1 Last error: Success : 0 Initialise X Abort 38140 on line 1	bug 🏘 Change view 🧟 Res	tart server Waiting for call		<u>^</u>
	Last error: Success : 0 [3] Brooktrout SR140 on line 2 Last error: Success : 0 [4] Brooktrout SR140 on line 3		Waiting for call Waiting for call		
	Local			Read/Write	×
	Dut queue: U item(s) Converter: Idle Last hile: 8/14/2010 12:59:27 PM - Brooktrout unit 0 specific error: waitforcall::BfvLineWaitForCall [res.status = 2] [res.line_status = 7] 8/14/2010 12:59:27 PM - Brooktrout unit 2 specific error: waitforcall::BfvLineWaitForCall [res.status = 2] [res.line_status = 7] 8/14/2010 12:59:27 PM - Brooktrout unit 1 specific error: waitforcall::BfvLineWaitForCall [res.status = 2] [res.line_status = 7] 8/14/2010 12:59:27 PM - Brooktrout unit 1 specific error: waitforcall::BfvLineWaitForCall [res.status = 2] [res.line_status = 7]				•
<u> </u>	<u>p</u>				<u> </u>

Figure 48 – GFI FaxMaker Monitor

GFI FaxMaker note for ShoreTel version 13.x

The following registry entry should be added on the GFI FaxMaker server under HKLM\Software\GFI Fax & Voice\Faxmaker\config.

Type: String value Name: AppendDomainToClip Value: <ip address of the fax server>

This change is used to modify the "From" header in the INVITE from "From: <sip:phonenumber>tag=..." "From:sip:phonenumber@ipaddress>tag=..." to match the expected format required by ShoreTel.

GFI Troubleshooting

To troubleshoot GFI FaxMaker, go into the FaxMaker Configuration Module, expand the Advanced tree and click on Miscellaneous. Click Properties. Check the checkbox for Enable Debug mode under Troubleshooting Options. Restart the FaxMaker Fax Server Service. Run GFI FaxMaker until the issue presents itself again.

After the issue occurs again, go to Start, Programs, GFI FaxMaker Troubleshooter and follow the instructions of the Troubleshooter Wizard. After the wizard is complete, create a support ticket online at http://www.gfi.com/support/technical-support-form, or call GFI Technical Support at 855-832-6434.

GFI Technical Support

GFI Software Technical Support can be contacted via telephone at 855-832-6434, Monday through Friday from 8:00 AM to 6:00 PM Eastern Time. GFI Software Technical Support can also be contacted via email by submitting a support request at http://www.gfi.com/support/technical-support After hours technical support is also available through the GFI offices in Europe and Australia. See http://www.gfi.com/support/technical-support-form. After hours technical support is also available through the GFI offices in Europe and Australia. See http://www.gfi.com/support/technical-support-form.

Application Note Feedback

ShoreTel IP PBX administrators who would like to provide feedback on the contents of this document should send it to INFeedback@ShoreTel.com. Please be sure to note the TPP app note number and the date of the document when providing feedback

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