

FaxFinder FFx30 T.37 Store & Forward Fax (T.37)

Introduction

The FaxFinder implements T.37 Store and Forward Fax (RFC2304) to convert emails into facsimile transmissions. The FaxFinder fax server accepts specifically addressed emails and converts the contents into a suitable format for sending as a fax. Normally, you send an email to a person at a company or institution (Jane.Doe@multitech.com). The email arrives at the destination because (in part) your local email server contacts the destination email server based on the domain name portion of the "To" address (e.g. @multitech.com).

To use the Store and Forward Fax feature of the FaxFinder, the email's 'To' address (recipient's address) must be destined for the FaxFinder fax server and it must include the fax number of where you want the email faxed to. The domain name portion of said 'To' email address must match the host name or IP address of the FaxFinder, e.g. fax=617637851234@ff830.multitech.com.

There are two ways emails can be routed to the FaxFinder fax server. The path used is dictated by the configuration of the email clients that generate the emails/faxes.

1) SMTP Relay – via hostname lookup. This implementation is most common. To support this environment define an appropriate host name for your FaxFinder (see Network Setup menu). Then make the name resolvable via DNS (make an MX or A record in the DNS system used by the SMTP server of your email clients). The T.37 email will go from the email client software to its normal (local) mail server and then onto the FaxFinder.

2) Directly - via adding a new account to each email client program (add the FaxFinder as an SMTP Server to each email client). The email will go from the email client software directly to the FaxFinder.

Note: Both routing mechanisms can be implemented simultaneously within your working environment only when the FaxFinder's "Require Authentication" feature is disabled. SMTP Relay does not use authentication between the local SMTP server and the SMTP server of the destination domain (e.g. between your local email server and the FaxFinder).

Requirements

Emails sent to the FaxFinder fax server must meet the following criteria to be processed for sending as a fax:

- A) The 'To' address (email recipient address) must follow the syntax "fax=faxnumber@faxfinderhostname" (e.g. fax=617637851234@ff830.multitech.com) or "fax=faxnumber@faxfinderIPaddress" (e.g. "fax=617637851234@192.168.2.1").
- B) The supported email format type is plain text (HTML formatted messages and signatures are ignored).
- C) Documents attached to the email must be one of the following types:
 - Text (.txt)
 - PDF (.pdf)
 - Tiff (.tif or .tiff)
 - Post Script (.ps)

Please Note: All OTHER Types of documents are Not supported (.doc .xls, etc).

D) The total size of the email (email body text and attachments) must not exceed the maximum fax size supported by your model of FaxFinder fax server. The size of the document (or total size of multiple documents) before attaching, must be approximately 4.5 MB or smaller for the FF130/230 models and 8.25 MB or smaller for the FF430/830 models. The total number of bytes increases by approximately 1/3 when your email program base64 encodes the document(s) being attached. The FaxFinder's max fax size limitation is 6 MB and 11 MB for the respective models.

If an email with an *incorrectly* formatted “To” address is sent to the FaxFinder, the FaxFinder *will not* process it as a fax, and it will instead send an email notification back to the sender, informing them of the send fax failure due to an invalid T.37 fax address. Please see the “Fax=number” command in the “T.37 Advance Usage” section for additional formatting details and options.

Configuration

The following pages will explain the Store & Forward Fax T.37 menu parameters and operation.

Store & Forward Fax (T.37): Parameters	
Enable T.37	<input checked="" type="checkbox"/>
Require Authentication	<input type="checkbox"/>
Set User From Envelope Sender	<input checked="" type="checkbox"/>
Default Scheduling Priority	2
Maximum Tries	3
Interval Between Tries	101 secs
Email Fax Receipt	never
Fax Attachment with Receipt	PDF
Include Cover Page	<input checked="" type="checkbox"/>
Default Cover Page	mts_template1.pdf
Use Email Body as Comments	<input checked="" type="checkbox"/>
Save	

Store & Forward Fax (T.37): Additional Hosts		Add
Recipient Host	Action	
fax.mts.prv	Edit Delete	

This menu is used to enable the Store and Forward Fax feature and to define the default settings (options) that are applied to all T.37 submitted faxes when the incoming email does not specify how a specific option(s) should be set. Set these parameters to match the most common needs of the users submitting T.37 faxes via email. *Most* of the parameters in this menu can be overridden per fax with the use of T.37 commands (options) included in the “To” address of the T.37 email. Users with specific needs can include the appropriate T.37 command option(s) to override the default setting(s). See the **T.37 Advanced Usage** section for more details on using the available commands.

Enable T.37

Check this box to allow the use of the Store and Forward Fax feature on this FaxFinder unit.

Require Authentication

The use of this feature only applies when your email client is configured with a specific account that logs directly into the FaxFinder (a *non-relay* environment as described by option 2 on the previous page). Check the Require Authentication box if you want to force all users (SMTP Clients) to provide a valid username and password when using Store and Forward Fax (T.37). This parameter can not be overridden by the advanced T.37 command set.

Set User From Envelope Sender

Check this box if you want to associate all T.37 faxes with FaxFinder User accounts. The FaxFinder will look to match the Envelope Sender email address (contained within the T.37 email), with the email address of a user account contained within its Users database. When a match occurs, the fax will be logged as having been sent by this user. Additionally, if the Include Cover Page option is enabled, the user's information will be used to populate the Sender Information of the cover page. Please Note: When this option is unchecked the Sender information fields on the Cover Page will all be blank except for the email field, which will contain the Envelope Sender address of the T.37 email. This parameter can not be overridden by the advanced T.37 command set.

Default Scheduling Priority

This parameter selects the scheduling priority for faxes submitted via T.37 Store and Forward Fax emails. The range is 0 to 5, with 0 being the highest priority. This setting will come in to play when there are more pending faxes in the queue than there are available modems. This parameter can be overridden by the advanced option “fax-priority=0-5”.

Maximum Tries

Enter the maximum number of tries that you want the FaxFinder to attempt without a successful completion before declaring the state of the fax as “failed” and then recording it into the Outbound Fax log. This parameter can not be overridden by the advanced T.37 command set.

Interval Between Tries

Enter the time in seconds that you want the FaxFinder to wait between unsuccessful transmission attempts. This parameter can not be overridden by the advanced T.37 command set.

Email Fax Receipt

Select the condition that will trigger an email notification to the fax sender.

There are three options:

Failure – An email receipt will only be sent if the state of the fax is declared to be “failed”.

Always – After successful transmission or when the state of the fax is declared to be “failed”.

Never – The FaxFinder will not send a receipt for any result.

The fax confirmation receipt will be emailed back to the sender after the sending process (max tries and interval between tries) has completed. This parameter can be overridden by the advanced option `RECEIPT=always|failure|never`.

Fax Attachment with Receipt

This option allows you to include a copy of the sent fax with the Email Fax Receipt. Use this drop down box to set the attachment format type. Options are PDF, TIFF or None with the default set to .pdf format. This parameter can be overridden by the advanced option `RECEIPT-ATTACHMENT=pdf|tiff|none`

Include Cover Page

Check this box if you want the FaxFinder to automatically add (and populate) a cover page to every fax that is submitted via email. The cover page that will be used is selected via the “Default Cover Page” option. If unchecked, then no cover page will be added automatically to the T.37 submitted faxes. This parameter can be overridden by the advanced option “COVER-PAGE-ENABLED=*true|false*”.

Elements of the T.37 email are used to populate fax Cover Page fields (when the “include Cover Page” option is enabled). The subject line of the email will be used to populate the “Subject” field of the cover page. The body of the email can be sent as comments in the cover page or be sent as a separate page. The “To” field will be populated with the destination fax number. The “From” section will be populated with the Envelope Sender address unless the option “Set User From Envelope Sender” is enabled (then User account details will be used to populate the From fields on the cover page). When cover pages are used, the following two commands can also be included in the To/Recipient Address to specify details about who the recipient is, “ATTN=*name*” and “ORG=*name*” (see the **T.37 Advanced Usage** section for more details).

Default Cover Page

This option selects which cover page will be used when the “Include cover Page” option is enabled. This parameter can be overridden by the advanced option “COVER-PAGE-NAME=*name*”.

Use Email Body as Comments

Check this box if you want to have the message body of the T.37 email inserted into the comments section of the selected cover page. Email body text/data that is not in plain text format is ignored and not used. The maximum amount of text that can be placed into the comments section of a cover page is a variable per cover page design. If the amount of text in the message body exceeds the maximum number of characters supported by the cover page, once the comments field is full the remaining text will be discarded and not appear in the fax. If this field is unchecked, email body text will be a separate page(s) and will be transmitted as the first

page(s), preceding the page(s) of the attachment(s). This parameter can be overridden by the advanced option "inline-comments=true/false". Please Note: An attachment to an email is within a different part of a multipart email and is not considered message body text.

Save button

When you have entered your information, be sure to click the save button before navigating away from this page, else your changes will be lost.

Store & Forward Fax (T.37): Additional Hosts

This feature allows you to specify more than one host name (alias) for your FaxFinder. The flexibility of associating multiple host names to the fax finder can be useful in scenarios when you have more than one domain, or more than one application or group of users with pre-established variables. For example, users from Group A could specify "fax=1234@ff430.multitech.com" ("ff430.multitech.com" being the host name defined in Network Setup) while users from Group B could be specifying "fax=4321@faxsever.prv" ("faxserver.prv" being defined as an additional Recipient Host) and in both cases the emails would be accepted by the FaxFinder for sending as a fax. Generally speaking, when emails are being relayed to the FaxFinder via host name resolution, for each alias defined here a corresponding DNS record would be needed in your DNS system.

Recipient Host

This displays the list of hostnames (Additional Hosts) that the FaxFinder will accept when receiving Store and Forward Fax (T.37) emails.

Action

These are the action item links available when managing the Additional Hosts feature.

Edit

This will bring up the editing screen for changing the recipient host.

Delete

This will delete the recipient host.

Add

Located in the title bar at the right margin, the Add link will bring up the Add Recipient Host screen where you can add a new recipient host as noted above. Make sure to click the Save button after entering the information or it will be lost once you browse away or close the screen. If you do not wish to add a new recipient, click on the Cancel button and you will be sent back to the Store & Forward Fax screen.

Store and Forward Fax Behavior and Trouble Shooting Information:

No Fax Generated scenarios: The T.37 email is accepted by the FaxFinder but there is no "pending" outbound fax shown in the Fax Status menu nor in the various log menus (no fax transmission is attempted/no modem activity). This can occur based on a combination of email contents and defined T.37 options.

Condition A) Use of cover page is disabled, email format and message body is HTML only and there is no valid attachment (no supported type of document is attached to the email, or the document is blank).

With no cover page, no valid message body text and no valid attachment – there is nothing to fax.

Condition B) Email format is plain text, message body contains plain text, no supported document is attached, use of cover page is disabled, but the option use email body as comments is enabled.

If use of cover page is disabled while use message body as comments is enable, valid message/body text will have no place to go because without a cover page there is no comments field (processing stops).

How to prove T.37 email activity via the mail logs:

T.37 emails sent to (received by) the FaxFinder are not displayed in the Status and Logs > Mail Log menu. The "Mail Log" menu only displays details about emails generated (sent) by the FaxFinder. The "Mail Queue" menu

displays emails in process, sent or received. However the processing occurs quickly and it is not often you will see/catch emails being listed here.

To determine if the T.37 email is reaching the FaxFinder, you will need to examine the "mail" log file found in the /var/log/ff/ folder on your FaxFinder. Use an ssh capable terminal program like putty to cat or vi the file or use an scp program to download the file from the FaxFinder to be examined with any text editor.

The following 7 events are an example of what is written to the mail log when one T.37 email is accepted by the FaxFinder:

```
Jun 16 17:27:26 ff8309234a qmail: 1308263246.835633 new msg 216067
Jun 16 17:27:26 ff8309234a qmail: 1308263246.835898 info msg 216067: bytes 18199 from
<john.doe@yourcompany.com> qp 14208 uid 0
Jun 16 17:27:26 ff8309234a qmail: 1308263246.915906 starting delivery 29: msg 216067
to local mail2ff-fax=5341@ff8309234a.yourcompany.com
Jun 16 17:27:26 ff8309234a qmail: 1308263246.916146 status: local 1/2 remote 0/4
Jun 16 17:27:27 ff8309234a qmail: 1308263247.171795 1308263246 216067 delivery 29:
success: did_0+0+1/
Jun 16 17:27:27 ff8309234a qmail: 1308263247.172050 status: local 0/2 remote 0/4
Jun 16 17:27:27 ff8309234a qmail: 1308263247.172118 end msg 216067
```

For each separate email processed by the FaxFinder (sent or received), the message starts with "new msg" (and a unique internally generated *id number*, i.e. 216067) and ends with "end msg *id number*". What signifies the above sequence to be a T.37 email is simply that the address includes "*fax=number*" in it.

Users receive "Error Sending Message" email notification after sending a T.37 email to the FaxFinder.

This type of notification would NOT be coming from the FaxFinder, but rather from your local email server. Your local SMTP email server can not resolve the destination recipient address. There are multiple possibilities as to why it may not be able to resolve the address (no DNS entry for the FaxFinder, DNS server is down, network access to the FaxFinder is down, bad recipient address, email client configuration regarding public and private accounts, etc).

When a user (email client software) is configured with multiple accounts (AKA setup to use more than one email server) and wants to send a fax via email, they must remember to send "From" the email account that is setup to use the FaxFinder as it's SMTP server (when creating a new email, make sure the From address reflects the correct account).

T.37 Advanced Usage

Introduction

What if the settings in the Store and Forward Fax menu (Web management menu) are not appropriate for all faxes submitted via email?

Per email (individually submitted fax), you can use the T.37 options (commands) below to override certain settings defined in the Store and Forward Fax (T.37) Web Management menu. Using T.37 commands involves entering one or more options in a specific format (e.g. **OPTION=value@faxfinder**), with multiple options separated by a forward slash '/' (e.g. **OPTION=value/OPTION=value/OPTION=value@faxfinder**).

Use of the command "**fax=number**" is required for every recipient address in the To list of the email.

The following is a list of supported options (commands). For illustration purposes, the **OPTION** is in boldface capitalized letters with its **value** in boldface italics. Depending on the option, the value is to be one of the variables shown or replaced with characters and/or numbers specific to the fax you are sending. The commands are not case sensitive. The syntax format of the commands must be maintained. Commands formatted incorrectly will result in an invalid To address and an email notification will then be sent back to the T.37 sender, informing them of the send fax failure due to an invalid T.37 fax address.

Options

FAX=number

Required option, use of all other commands is optional. Where "**number**" is the fax number to be dialed by the FaxFinder. Example: **FAX=555-1234@example.test**.

If the phone line(s) connected to FaxFinder requires the use of a pause(s) when dialing out (i.e. **6,1800...** to access an outside line) the *number* portion of the command supports the use of the letter **c** to represent a comma. Commas are used by modems to implement a pause in-between digits being dialed. One "**c**" represents a 2 second pause. Multiple pauses can be strung together and or used at various points within the number string.

Example: **FAX=6c555-1234@example.test**.

Example: **FAX=6c1-800-555-1234cccc98765@example.test**

COVER-PAGE-ENABLED=true/false

Example: **FAX=5551234/COVER-PAGE-ENABLED=false@example.test**

COVER-PAGE-NAME=name

Where "name" is the filename of the cover page that is to be used.

Example: **FAX=5551234/COVER-PAGE-NAME=mts_template2.pdf@example.test**

ATTN=name

Where "name" is the name of the person or entity the fax is being sent to and will be filled in on the cover page. This command does not have a corresponding Web Management menu option.

Example: **FAX=5551234/ATTN=John.Smith@example.test**

Please Note: The space character is commonly used between someone's first and last name. Use a period (.) to represent a space in the name value. The first 2 instances of a period in the value will each be converted to a space on the cover page (e.g. **attn=John.Doe.Sr.** will be translated to John Doe Sr.).

ORG=name

Where "name" is the name of organization the fax is being sent to and will be filled in on the cover page. This command does not have a corresponding Web Management menu option.

Example: **FAX=5551234/ORG=MultiTech@example.test**

Please Note: If the ATTN or ORG commands are used when the use of a cover page is disabled, these options will simply be ignored and the email will still be accepted for fax transmission. If a space is used with either command, the space will be omitted.

INLINE-COMMENTS=*true/false*

Inline comments specifies whether the message body is treated as cover page comments or as a separate page. When set to **true** the body text will be inserted into the comments section of the cover page and when set to **false** the comments will be sent as a separate page. If this command is set true when the use of a cover page is disabled, message body text will be discarded.

Example: FAX=5551234/INLINE-COMMENTS=false@example.test

FAX-PRIORITY=0-5

The fax priority specifies the order of scheduling (0 is highest and 5 is lowest).

Example: FAX=5551234/FAX-PRIORITY=5@example.test

RECEIPT=*always/failure/never*

Controls when an email receipt for the fax is sent to the sender. "always" means send an email receipt for successful and failed faxes, "failure" means only send a receipt if the fax failed to send, and "never" means not to send any receipt.

Example: FAX=5551234/RECEIPT=failure@example.test

RECEIPT-ATTACHMENT=*pdf/tiff/none*

This parameter determines whether or not a copy of the fax is attached to the email receipt, and if so what format the copy should be in. A value of "pdf" will attach a copy of the sent fax in PDF format, "tiff" will attach a copy of the sent fax in TIFF format, and "none" will not attach a copy to the receipt. If this command is used when the send fax email receipt is set to never, this option will simply be ignored and the email will still be accepted for transmission.

Example: FAX=5551234/RECEIPT-ATTACHMENT=pdf @example.test.

Using T.37 Options

The following illustrates how and who might use the advanced T.37 options in conjunction with the default settings defined in the Store and Forward Fax (T.37) menu.

The administrator uploads 3 different custom cover pages to the FaxFinder (e.g. main.pdf, sales.pdf and legal.pdf) and then defines the following Store and Forward Fax default settings:

- Include cover page is enabled
- Sets default cover page to main.pdf
- Use email body as comments is enabled
- Set user from sender envelope is enabled
- Email fax receipt is set to always
- Sets fax attachment with receipt to PDF

Any recipient address that is constructed with just the required minimum option (e.g. fax=7859874@ff830.prv), will result in the submitted fax being handled via the settings defined in the Store and Forward Fax menu (i.e. using the company's standard cover page main.pdf & etc as defined above).

Commonly, people sending a fax with a cover page want to specify on the cover page who the fax is for. The default T.37 settings do not provide for this. By default only the destination fax number is added to the recipient section of the cover page. This can be enhanced by including the attn=name and/or org=name options in the recipient address (e.g. fax=7859874/attn=John.Doe/org=Multi-Tech@ff830.prv).

The following depicts command usage when the default Store and Forward Fax settings are not appropriate for all faxes.

For instance, members of the Sales team use a special cover page for certain scenarios, but otherwise want the same options implemented by default when submitting the fax. They would construct a recipient address using the T.37 option “cover-page-name=value” (e.g. fax=7859874/cover-page-name=sales.pdf@ff830.prv).

Members of HR may have different requirements, where they need a specific cover page that contains fixed language and requires comments to be on a separate page. They would construct a recipient address using the T.37 options “inline-comments=value” and “cover-page-name=value” when submitting the fax (e.g. fax=7859874/cover-page-name=legal.pdf/inline-comments=false@ff830.prv). Setting the inline-comments to false, overrides the menu option “Use email body as comments” (for just this fax), allowing the comments in the email body to be on a page separate from the specified cover page.

If someone wanted to send fax without a cover page and only wanted to be notified if the fax failed to be sent, they would construct a recipients address with the “cover-page-enabled=value” and the “receipt=value” options when submitting the fax (e.g. fax=7859874/cover-page-enabled=false/receipt=failure@ff830.prv).

The combination of commands used is based on the sender’s needs that are different from default.