



Grandstream Networks, Inc.

UCM6XXX Series

Fax Server Guide

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INTRODUCTION

Fax Server is one of the most useful and important UCM6xxx features that allows the user to send and receive Fax files. The UCM6xxx IP-PBX series support T.30 for legacy analog Fax transmissions along with T.38 and Pass-through for Fax Over IP. The UCM6xxx series provide a lot of options and methods to perform sending/receiving Fax files depending on user's resources and the way he/she wants to proceed.



UCM Fax Server supports T.38 which is a protocol that dictates how to send a fax over a computer data network and requires a T.38-capable VoIP service or gateway (please check with your service provider for this protocol support), otherwise the transmission of Fax will proceed via pass through using RTP for sending facsimile signals.

This guide describes the steps to follow in order to perform sending and receiving fax files when the user has an Analog Fax machine connected to UCM6xxx's FXS Port or when he only wants to use a virtual fax machine and benefit from the value-added features of the UCM6xxx related to fax.



SETUP UCM6XXX WITH PHYSICAL FAX MACHINE

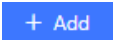


FXS Extension Configuration

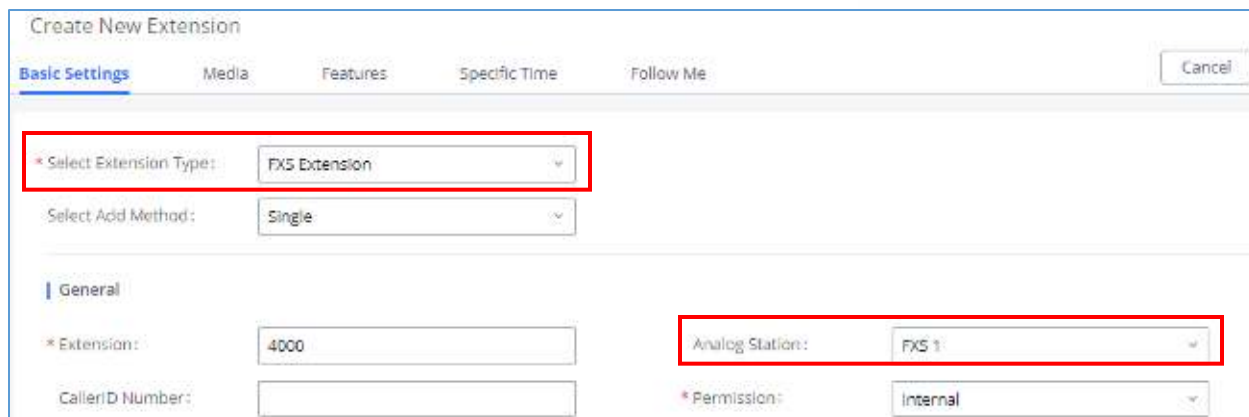
FXS (**F**oreign **x**change **s**tation) is any telephone interface that is used for end-user analog telephony equipment, (i.e. analog fax machine and analog phones) to provide battery power, dial tone and generate the ringing voltage and therefore the user needs to create a “FXS Extension” for the Fax machine to be used.

All the UCM IP-PBX models have two FXS ports to connect analog phone and Fax machine for typical SMB installations.

Please, refer to the following steps in order to create the FXS extension:

1. Go to UCM6xxx Web GUI → **Extension/Trunk** → **Extension**.
2. Click on .
3. Under “Basic Settings”, configure the extension’s parameters.





Create New Extension

Basic Settings | Media | Features | Specific Time | Follow Me | Cancel

* Select Extension Type: FXS Extension

Select Add Method: Single

General

* Extension: 4000

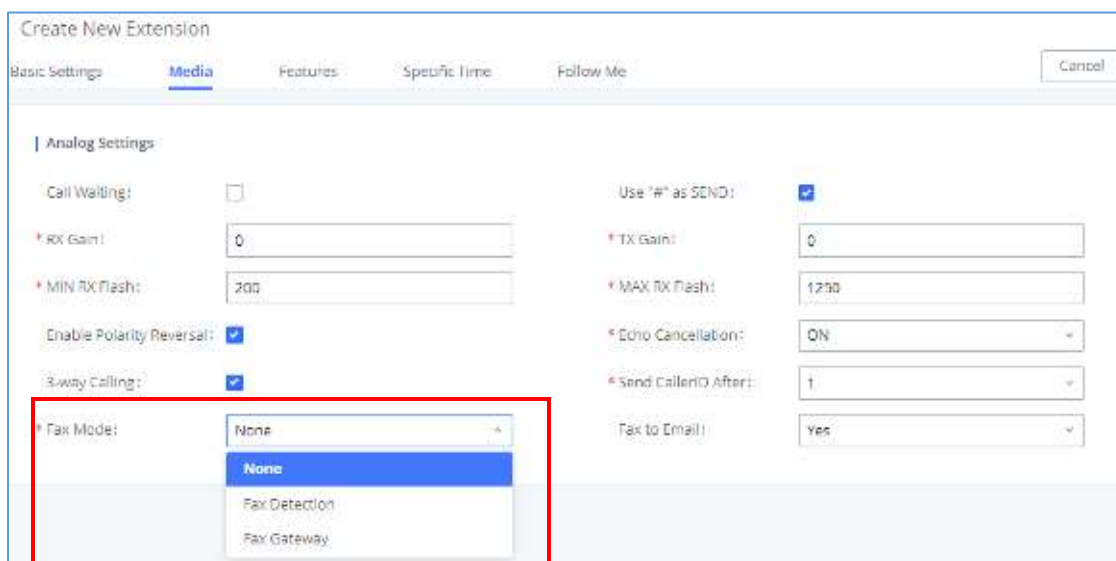
CallerID Number:

* Permission: Internal

Analog Station: FXS 1

Figure 1: Create FXS Extension for Fax Machine (Basic Settings)

4. Select the extension type to be “FXS Extension” and select which FXS port where the FAX machine will be connected.



Create New Extension

Basic Settings | Media | Features | Specific Time | Follow Me | Cancel

Analog Settings

Call Waiting: ☐

* RX Gain: 0

* MIN RX Flash: 200

Enable Polarity Reversal: ☒

3-way Calling: ☒

* Fax Mode: None

Use '#' as SEND: ☒

* TX Gain: 0

* MAX TX Flash: 1200

* Echo Cancellation: ON

* Send CallerID After: 1

Fax to Email: Yes

Figure 2: Create FXS Extension for Fax Machine (Media)

5. Under “Media”, set the “Fax Mode” to “Fax Gateway” so that the UCM6xxx can support conversation and processing of Fax data from T.30 to T.38 and T.38 to T.30.
6. Click on **Save** and **Apply** changes.

Connecting FAX Machine to UCM

After creating the FXS extension, the user needs to make sure of connecting his Fax Machine to the chosen and configured FXS Port. The following figure shows the example of UCM6510's FXS Ports.



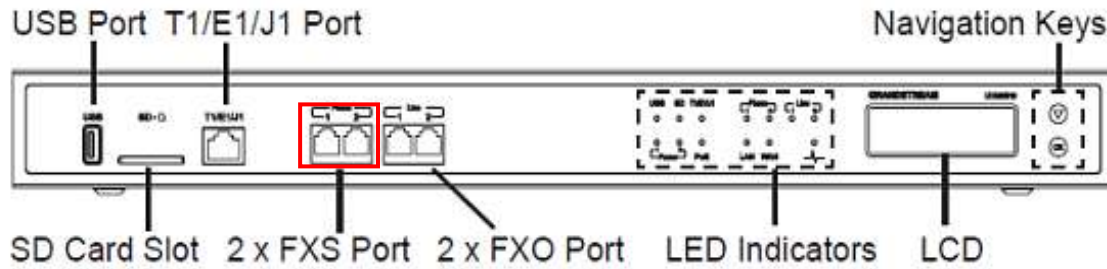
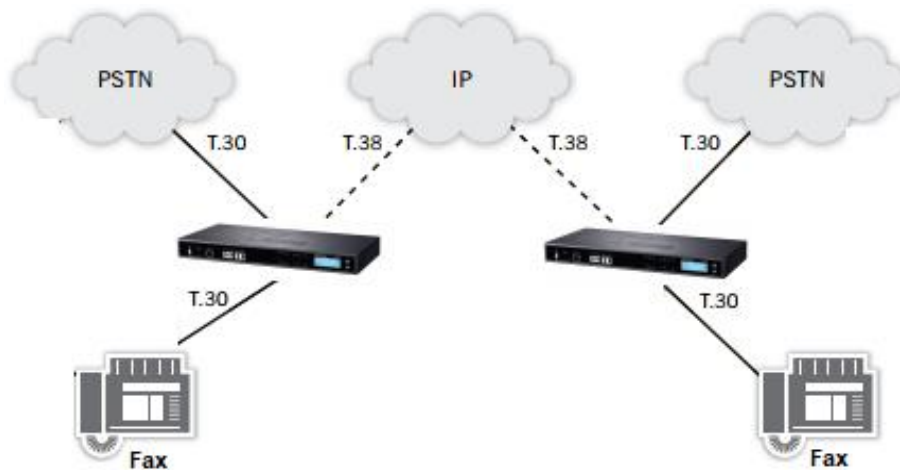


Figure 3: FXS Ports of UCM6510 (Example)

Routing FAX Calls

As shown on below diagram, the fax transmission originates from the physical Fax machine as a T.30 fax. Then the built-in T.38 gateway module in UCM6xxx translates the fax transmission to T.38 format and sends it over the IP network to the other UCM6xxx.

The second Server translates back the transmission to T.30 and sends it the attached Fax Machine or over the PSTN line for external numbers.



User needs to setup Trunks and call routing rules in order to route incoming and outgoing fax through the desired trunk, we will show the steps to use analog and VOIP trunk to perform sending and receiving Fax files.

Create Analog Trunk

Please, refer to the following steps in order to create an analog trunk:

1. Go to UCM6xxx Web UI → **Extension/Trunk** → **Analog trunks**.



- Click on **+ Add** to create a new Analog Trunk, or on  to edit an existing one.

Edit Analog Trunk: Test
Save

* FXO Port:
☒ 1
☐ 2

* Trunk Name:

Advanced Options

SLA Mode:
☐

Enable Polarity Reversal:
☐

Current Disconnect Threshold (ms):
☒

* RX Gain:

Use CallerID:
☒

Caller ID Scheme:

Auto Record:
☐

DAHDI Out Line Selection:

Echo Cancellation Mode:

* Ring Timeout:

* TX Gain:

Fax Mode:

* FXO Dial Delay (ms):

Disable This Trunk:
☐

* The Maximum Number of Call Lines:

Direct Callback:
☐

Tone Settings

Busy Detection:
☒

Congestion Detection:
☒

* Tone Country:

* Congestion Tone Settings:

* Busy Tone Count:

* Congestion Count:

* Busy Tone:

PSTN Detection:
Detect

Figure 4: Analog Trunk for Fax

Note:

Make sure to choose the right FXO port where PSTN Line is connected and to set Fax Mode on “none”.

- Click on “Save” and “Apply Changes”.

Create VoIP Trunk

Please, refer to the following steps in order to create a VoIP Trunk:

- Go to UCM6xxx Web UI → **Extension/Trunk** → **VoIP Trunks**.
- Click on **+ Add SIP Trunk** to create a new VoIP Trunk.



3. Set the SIP credentials given by the service provider (server IP or domain, username and password...etc).
4. Click on “Save” and “Apply Changes”.

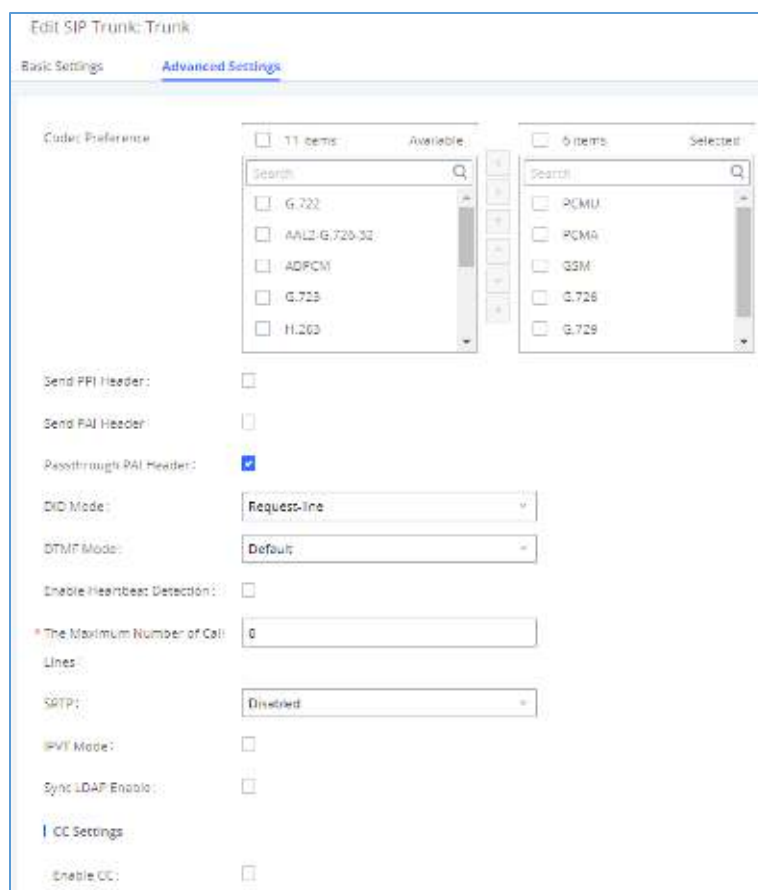


Figure 5: VoIP Trunk

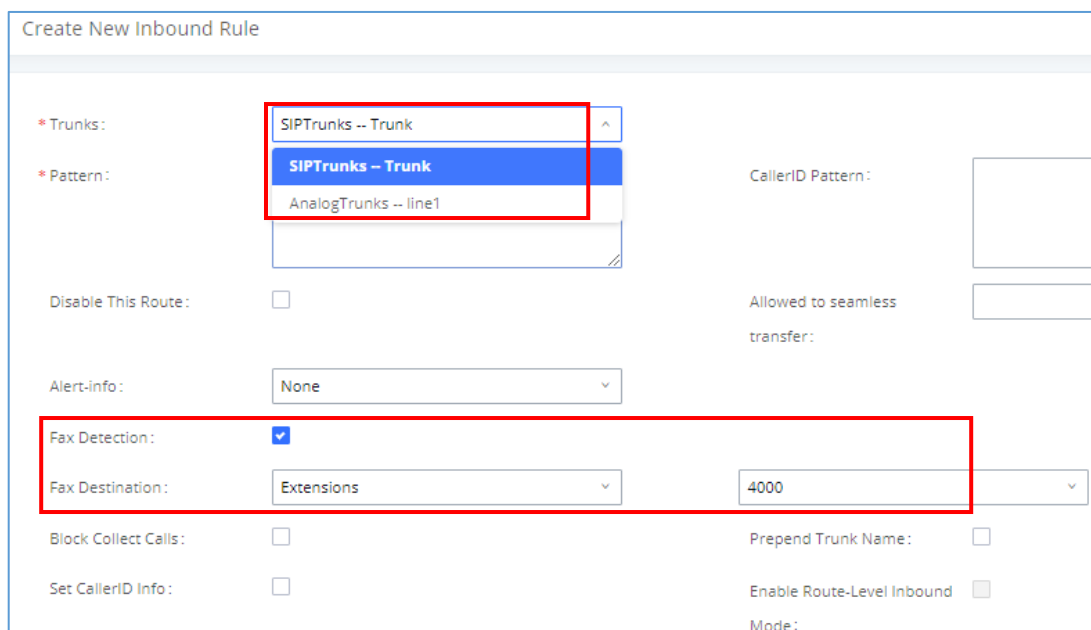
Sending/Receiving Fax Files using Fax Machine

Please, refer to the following steps in order to manage sending/receiving faxes using a fax machine.

1. Connect Fax machine to the UCM6xxx FXS port.
2. Connect PSTN line to the UCM6xxx FXO port (in the case of using Analog Trunk).
3. Go to Web GUI → **Extension/Trunk** page.
4. Create or edit a Trunk:
 - Analog trunk: *Please, refer to the chapter [Create Analog Trunk]*
 - VoIP trunk: *Please, refer to the chapter [Create VoIP Trunk]*
5. Go to UCM6xxx Web GUI → **Extension/Trunk** → **Extensions** page.



6. Create or edit the extension for FXS port. *Please, refer to the chapter [FXS Extension Configuration].*
7. Under Web GUI→**Extension/Trunk→Inbound Routes** page, click on **+ Add** in order to create an inbound route to use the Fax trunk to receive fax files.
8. Select the trunk you created (Analog Trunk or SIP Trunk).
9. Enable Fax Detection then select the created FXS extension for Fax machine as the default destination.



Create New Inbound Rule

* Trunks: SIPTrunks -- Trunk

* Pattern: SIPTrunks -- Trunk
AnalogTrunks -- line1

CallerID Pattern:

Disable This Route: ☐

Alert-info: None

Fax Detection: ☒

Fax Destination: Extensions 4000

Block Collect Calls: ☐

Set CallerID Info: ☐

Allowed to seamless transfer:

Prepend Trunk Name: ☐

Enable Route-Level Inbound: ☐

Mode:

Figure 6: Inbound Route with FXS Extension as default destination

10. Click on “Save” and “Apply changes”.
- In order to send outbound fax, users should follow below steps:

1. Under Web GUI→**Extension/Trunk→Outbound Routes** page, click on **+ Add** in order to create an outbound route to use the fax trunk to send files.
2. Select the trunk you created (Analog Trunk or SIP Trunk).



Create New Outbound Rule

General

* Calling Rule Name:

* Pattern:

PIN Groups:

Password:

Disable This Route: ☐

Privilege Level:

Warning: Setting privilege level as "Internal" has potential security risks

PIN Groups with Privilege Level: ☐

Enable Filter on Source Caller ID

Enable Filter on Source Caller ID: ☐

ID:

Outbound Route ID:

Call Duration Limit

Call Duration Limit: ☐

Main Trunk

* Trunk:

Script:

Prepend:

Figure 7: Outbound Route

3. Click on "Save" and "Apply changes".

After this configuration is done, Fax files can be received and sent with the Fax Machine connected to UCM6xxx on the FXS Port.



UCM6XXX FAX VALUE ADDED FEATURES

The UCM IP-PBX series have many value-added features related to fax and which can help users who don't have PSTN lines and FAX machine to send and receive fax files in PDF format.

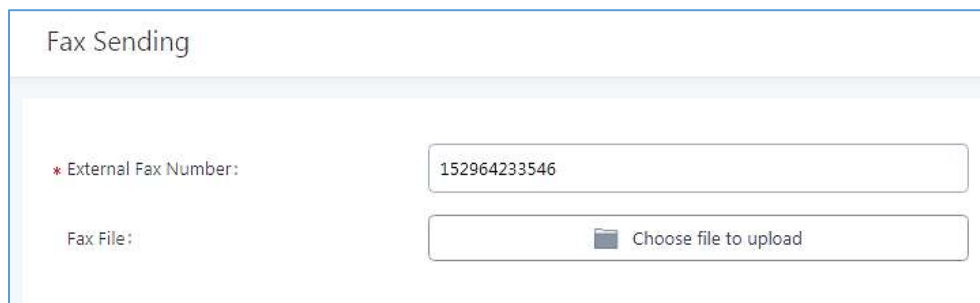
Among these features we have the fax sending from web GUI, fax to email, email to fax and fax detection.



WEB GUI FAX SENDING

In order to use the FAX sending feature of the UCM, users need to follow below steps:

1. Under Web GUI → **Extension/Trunk** → **Outbound Routes** page, click on **+ Add** in order to create an outbound route to use the fax trunk to send files. Refer to the previous steps [Outbound Routes].
2. Select the trunk already created (Analog Trunk or SIP Trunk).
3. Access to UCM web GUI either using admin account or user portal (more on user portal [here](#)).
4. Go to UCM6xxx Web GUI → **Value-added Features** → **Fax Sending**.
5. Enter the fax number and upload the file to be faxed.



Fax Sending	
* External Fax Number:	<input type="text" value="152964233546"/>
Fax File:	<input type="button" value="Choose file to upload"/>

Figure 8: Fax Sending Settings

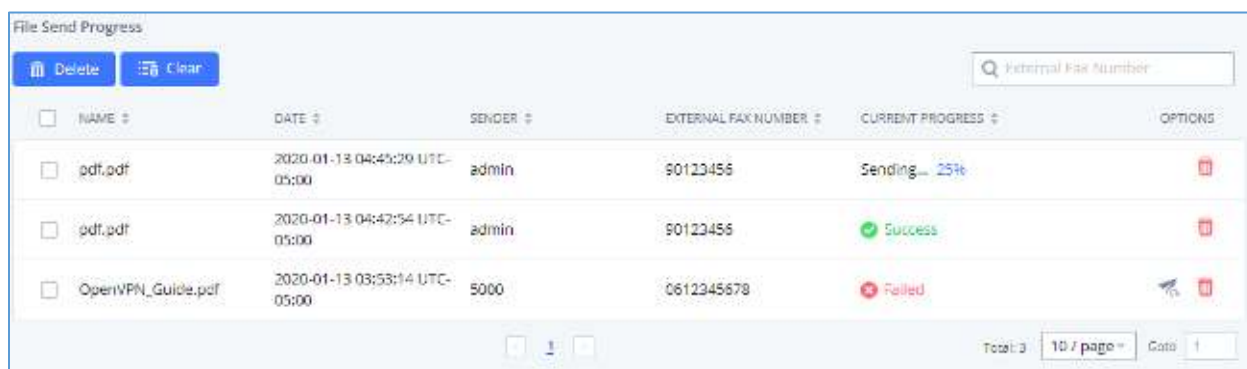
Note: The File needs to be a PDF or TIF/TIFF File.











Figure 9: Format Error Message

Once the right file is selected, the Fax File will be successfully placed in the send queue and the user can view the File Send progress that shows the status and progress percentage of files with also the possibility to resend the failed ones using the resend button.



<input type="checkbox"/>	NAME	DATE	SENDER	EXTERNAL FAX NUMBER	CURRENT PROGRESS	OPTIONS
<input type="checkbox"/>	pdf.pdf	2020-01-13 04:43:29 UTC-05:00	admin	90123456	Sending... 25%	 
<input type="checkbox"/>	pdf.pdf	2020-01-13 04:42:54 UTC-05:00	admin	90123456	Success	 
<input type="checkbox"/>	OpenVPN_Guide.pdf	2020-01-13 03:53:14 UTC-05:00	5000	0612345678	Failed	 

Total: 3 10 / page Goto: 1

Figure 10: File Send Progress

FAX RESENDING

The UCM6xxx supports the options “Enable Fax Resend” and “Max Resend Attempts” which are available under **Call Features→Fax/T.38→Fax Settings** page. These options allow the UCM to keep attempting to send faxes up to a specified amount of times.

Additionally, if a fax still fails to send, a Resend button will appear in the **File Send Progress** list in **Value-Added Features→Fax Sending** to allow manual resending.

To enable the FAX resend feature, please refer to following steps:

1. Under UCM6xxx Web UI → **Call Features** → **Fax/T.38**, check the option “Enable FAX Resend”.
2. Configure the “MAX Resend Attempts” with the maximum attempts number to resend the FAX.
3. Click on “Save” and “Apply Changes”.



Fax Settings

*Enable Error Correction ☒

Mode:

*Maximum Transfer Rate:

*Minimum Transfer Rate:

*Max Concurrent Sending Fax:

*Fax Queue Length:

Fax Header Information:

Default Email Address: [Email Template](#)

Enable Fax Resend: ☒

Max Resend Attempts:

Figure 11: FAX Settings

Note: When the fax fails to send, a **Resend** button will appear in the **File Send Progress** list in **Value-Added Features → Fax Sending** to allow manual resending as displayed on the following screenshot.



<input type="checkbox"/>	NAME	DATE	SENDER	EXTERNAL FAX NUMBER	CURRENT PROGRESS	OPTIONS
<input type="checkbox"/>	OpenVPN_Guide.pdf	2020-01-13 03:53:14 UTC-05:00	5000	0612345678	✖ Failed	<div style="border: 1px solid red; padding: 2px;"> </div>

Figure 12: FAX File Send Progress List

USING FAX-TO-MAIL

UCM EMAIL Settings

First step in setting up fax-to-mail feature is to configure UCM Email settings; this can be done by following below steps:



1. Log into the web GUI as an admin under **System Settings→Email Settings→Email Settings**
2. Enter the required information for SMTP.
3. Click on “Save” then “Apply Changes”.
4. Click on “Test” Button and test if the email settings are correct and that a test mail has been received.

Please refer to the following table and screenshot to have more information about the email settings configuration.



Table 1: Email Settings

TLS Enable	Enable or disable TLS during transferring/submitting your Email to another SMTP server. The default setting is "Yes".
Type	<p>Select Email type:</p> <ul style="list-style-type: none"> • MTA: Mail Transfer Agent. The Email will be sent from the configured domain. When MTA is selected, there is no need to set up SMTP server for it or no user login is required. However, the Emails sent from MTA might be considered as spam by the target SMTP server. • Client: Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.
Email Template Sending Format	Select the email template format to be sent. The "HTML" format is compatible with most mail clients and is recommended. If the mail client does not support the "HTML" format, please select the "Plain Text" format.
Domain	Specify the domain name to be used in the Email when using type "MTA"
SMTP Server	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. Note: Port number is optional.
Enable SASL Authentication	Enable SASL Authentication. When disabled, UCM will not try to use the user name and password for mail client login authentication. Most of the mail server requires login authentication while some others private mail servers allow anonymous login which requires disabling this option to send Email as normal. For Exchange Server, please disable this option.
Username	Enter the username of the Email account.
Password	Enter the password of the Email account. It is recommended to save the password via HTTPS.
Enable Email-To-Fax	<p>Enable or Disable Email-to-Fax feature.</p> <p>If enabled, the UCM will monitor the configured email inbox (using provided [Error! Reference source not found.] and [Error! Reference source not found.]) for emails with the subject "SendFaxMail To XXX". Example : SendFaxMail To 7200</p> <p>The UCM will extract the attachments of detected emails and send it to the XXX extension by fax.</p> <p>The attachment must be in PDF/TIF/TIFF format.</p> <p>Note: This field will appear when using Type "Client".</p>
Email-To-Fax Blacklist/Whitelist	Enables the Email to fax Blacklist/Whitelist functionality.



Email-to-Fax Subject Format	Specify the Email subject format for fax sending, the subject can be either "SendFaxMail To XXX" or "XXX" with XXX the fax number.
Fax Sending Success/Failure Confirmation	If enabled, the UCM will send an email notification to the sender about the fax sending result.
Internal Blacklist/Whitelist	Specify the Email address blacklist/whitelist for local extensions. This feature prevents faxing from unauthorized email addresses. The internal list includes only contacts with local extensions.
External Blacklist/Whitelist	Specify the Email address blacklist/whitelist for non-local contacts. This feature prevents faxing from unauthorized email addresses. The external list is for non-local contacts. Note: Multiple addresses can be separated with semicolon (;) i.e. "XXX;YYY "
POP/POP3 Server Address	Configure the POP/POP3 server address for the configured username Example: pop.gmail.com
POP/POP3 Server Port	Configure the POP/POP3 server port for the configured username Example: 995
Display Name	Display Name in FROM header.
Sender	Configure the sender as your Email address.



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Figure 13: Email Settings

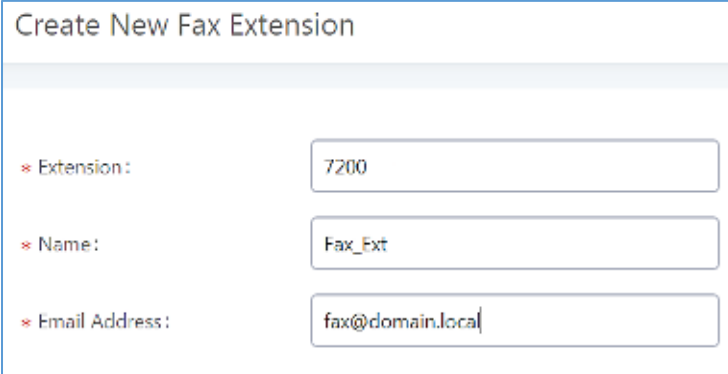


Create/Edit Virtual FAX Extensions

The second step is to create a new Fax extension which will be mapped with a certain email address.

Please, follow below steps:

1. Go to UCM6xxx Web GUI → **Call features** → **FAX/T.38**
2. Click on **+ Add** and enter the number and name of the extension.
3. Enter the Email Address where to send the received Faxes.





Create New Fax Extension

* Extension: 7200

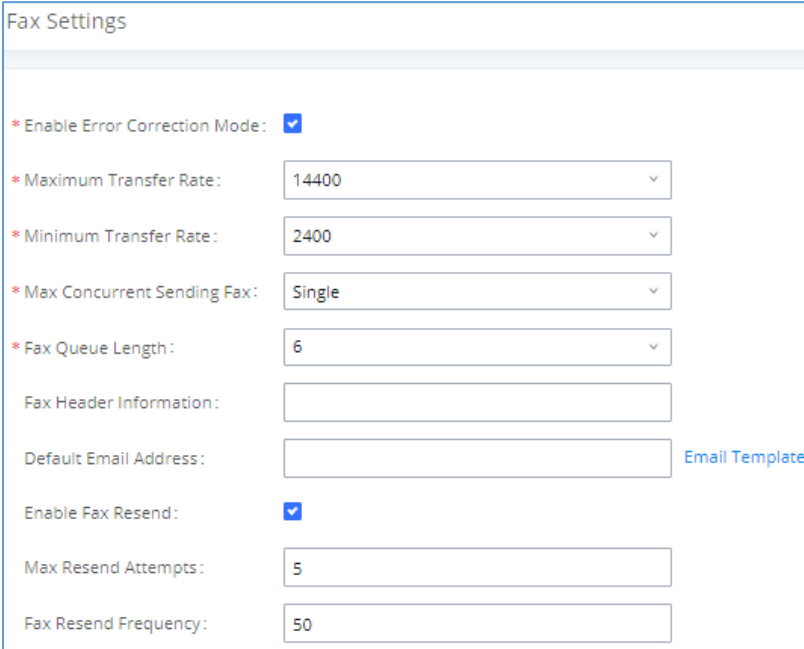
* Name: Fax_Ext

* Email Address: fax@domain.local

Figure 15: Create New Fax Extension

Once the user created the extension, it will be displayed in the FAX/T.38 menu with the possibility of editing the extension's information by clicking on  button or deleting them with  button.

User can click on "Fax settings" in order to configure the Fax/T.38 parameters as the following figure.



Fax Settings

* Enable Error Correction Mode: ☒

* Maximum Transfer Rate: 14400

* Minimum Transfer Rate: 2400

* Max Concurrent Sending Fax: Single

* Fax Queue Length: 6

Fax Header Information:

Default Email Address: [Email Template](#)

Enable Fax Resend: ☒

Max Resend Attempts: 5

Fax Resend Frequency: 50

Figure 16: Fax Settings



Table 2: FAX/T.38 Parameters

Enable Error Correction Mode	Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".
Maximum Transfer Rate	Configure the maximum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14400. The default setting is 14400.
Minimum Transfer Rate	Configure the minimum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14000. The default setting is 2400.
Max Concurrent Sending Fax	Configure the concurrent fax that can be sent by UCM6XXX. Two mode "Single" and "More" are supported. By default, this option is set to "Single". <ul style="list-style-type: none"> • Single: Under this mode, the UCM6xxx allows only single user to send fax at a time. • More: Under this mode, the UCM6xxx supports multiple concurrent fax sending by the users.
Fax Queue Length	Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.
Fax Header Information	Adds fax header into the fax file.
Default Email Address	Configure the Email address to send the received Fax to if user's Email address cannot be found. Note: The extension's Email address or the Fax's default Email address needs to be configured in order to receive Fax from Email. If neither of them is configured, Fax will not be received from Email.
Template Variables	Fill in the "Subject:" and "Message:" content, to be used in the Email when sending the Fax to the users. The template variables are: <ul style="list-style-type: none"> • \${CALLERIDNUM} : Caller ID Number • \${CALLERIDNAME} : Caller ID Name • \${RECEIVEEXTEN} : The extension to receive the Fax • \${FILENAME} : The name of the generated Fax file • \${FAXPAGES} : How many pages in the Fax • \${FAXDATE} : The date and time of when the Fax was received Note: The templates variables are available once you press on " EMAIL Template ". For more details please refer to: <i>Customizing FAX EMAIL Template</i>



Enable Fax Resend	Enables the fax resend option which allow the UCM to keep attempting to send faxes up to a specified amount of times. Additionally, if a fax still fails to send, a Resend button will appear in the File Send Progress list in <i>Value-Added Features → Fax Sending</i> to allow manual resending.
Max Resend Attempts	Configures the maximum number of attempts to resend the FAX.
Fax Resend Frequency	Configures Fax Resend Frequency.

Receiving FAX Files using Virtual Faxing

Now, that email settings and virtual fax extension have been set up and in order to receive Fax files using virtual faxing, please refer to the following steps:

1. Under UCM6xxx Web UI → **Call Features** → **Fax/T.38**, create a new Fax extension. *Please refer to the chapter [Create/Edit Virtual FAX Extensions].*
2. Create or edit a Trunk:
 - Analog trunk: *Please, refer to the chapter [Create Analog Trunk]*
 - VOIP trunk: *Please, refer to the chapter [Create VoIP Trunk]*
3. Under Web GUI → **Extension/Trunk** → **Inbound Routes** page, click on **+ Add** in order to create an inbound route to use the Fax trunk to receive fax files.
4. Select the trunk you created (Analog Trunk or SIP Trunk).
5. Select the created FAX extension as the default destination.



Create New Inbound Rule

* Trunks: SIPTrunks -- Trunk

* Pattern: SIPTrunks -- Trunk

CallerID Pattern:

Disable This Route: ☐

Alert-info: None

Fax Detection: ☐

Block Collect Calls: ☐

Set CallerID Info: ☐

Inbound Multiple Mode: ☐

Allowed to seamless transfer: ☐

Prepend Trunk Name: ☐

Enable Route-Level Inbound Mode: ☐

Default Mode Mode 1

* Default Destination: Fax FAX

Figure 17: Inbound Route with Fax Extension as Default Destination

6. Click on “Save” and “Apply Changes”.

Once successfully configured, the incoming Fax from external Fax machine to the PSTN line number will be converted to PDF file and sent to the Email address fax@domain.local set when Fax Extension was created. The list of received Fax files is displayed under UCM6xxx Web UI → **Call Features** → **Fax/T.38**.

List of Fax Files

Q: Call Number

<input type="checkbox"/>	NAME	DATE	SIZE	OPTIONS
<input type="checkbox"/>	VFAX-7200-20200113-045013-1578909013.20.pdf	2020-01-13 04:50:32 UTC-05:00	1.51 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>
<input type="checkbox"/>	VFAX-7200-20200113-045013-1578909013.20.tif	2020-01-13 04:50:27 UTC-05:00	5.71 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>


Figure 18: List of Fax Files

Customizing FAX EMAIL Template

The EMAIL templates on the UCM can be used to send an email notification about the fax and the users can customize this template based on their needs.

Please refer to the following steps to have more details about the customization of the FAX EMAIL template:



1. Access the Web GUI→**Settings**→**Email Settings**→**Email Templates**
2. Select the FAX template and press the edit button  under the options column to edit the template as desired.

Email Settings

Email SettingsEmail TemplateEmail Send Log

Upload Template Images

Reset All Template Images











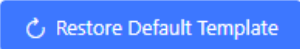
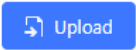
Type	Name	Time	Options
Conference Schedule	conference_template.html	2018-06-26 04:44:53 UTC-04:00	
User Password	password_template.html	2018-06-26 04:44:53 UTC-04:00	
Fax Sending	sendfax_template.html	2018-06-26 04:44:53 UTC-04:00	
Alert Events	alert_template.html	2018-06-26 04:44:53 UTC-04:00	
Extension	account_template.html	2018-06-26 04:44:53 UTC-04:00	
CDR	cdr_template.html	2018-06-26 04:44:53 UTC-04:00	
Voicemail	voicemail_template.html	2018-06-26 04:44:53 UTC-04:00	
Call Queue Statistics	callqueuestatistics_template.html	2018-06-26 04:44:53 UTC-04:00	
Fax	fax_template.html	2018-06-26 04:44:53 UTC-04:00	

Figure 19: FAX EMAIL Template

3. Configure the fields of the template
 - Users have the ability to preview mail sample by clicking on  .
 - Click on  in order to restore the default email template.
 - Finally, users can click on  to upload a custom picture to the email template to display their own logo in the sent mails for example

USING MAIL-TO-FAX

UCM Email Settings

First step in setting up fax-to-mail feature is to configure UCM Email settings; this can be done by following below steps:

1. Log into the web GUI as an admin under **System Settings**→**Email Settings**→Email Settings.



2. Select the Type Client and enter the required information for SMTP.
3. Click on "Save" then "Apply Changes".
4. Click on "Test" Button and test if the email settings are correct and that a test mail has been received.

Please refer to the following table and screenshot to have more information about the email settings configuration.

Table 3: Email Settings

TLS Enable	Enable or disable TLS during transferring/submitting your Email to another SMTP server. The default setting is "Yes".
Type	Select Email type: <ul style="list-style-type: none"> • MTA: Mail Transfer Agent. The Email will be sent from the configured domain. When MTA is selected, there is no need to set up SMTP server for it or no user login is required. However, the Emails sent from MTA might be considered as spam by the target SMTP server. • Client: Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.
Email Template Sending Format	Select the email template format to be sent. The "HTML" format is compatible with most mail clients and is recommended. If the mail client does not support the "HTML" format, please select the "Plain Text" format.
SMTP Server	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. Note: Port number is optional.
Enable SASL Authentication	Enable SASL Authentication. When disabled, UCM will not try to use the user name and password for mail client login authentication. Most of the mail server requires login authentication while some others private mail servers allow anonymous login which requires disabling this option to send Email as normal. For Exchange Server, please disable this option.
Username	Enter the username of the Email account.
Password	Enter the password of the Email account. It is recommended to save the password via HTTPS.



Enable Email-to-Fax	<p>Enable or Disable Email-to-Fax feature.</p> <p>If enabled, the UCM will monitor the configured email inbox (using provided [Error! Reference source not found.] and [Error! Reference source not found.]) for emails with the subject "SendFaxMail To XXX". Example : SendFaxMail To 7200</p> <p>The UCM will extract the attachments of detected emails and send it to the XXX extension by fax.</p> <p>The attachment must be in PDF/TIF/TIFF format.</p> <p>Note: This field will appear when using Type "Client".</p>
Email-to-Fax Blacklist/Whitelist	Used to add whitelisted or blacklisted emails that can use Email to Fax features, default is "Disable"
Email-to-Fax Subject Format	Users can either choose the subject to be " SendFaxMail To XXX " or " XXX " when sending the email where XXX is the fax number.
Fax Sending Success/Failure Confirmation	If enabled, the UCM will send an email notification to the sender about the fax sending result.
POP/POP3 Server Address	Configure the POP/POP3 Server Address.
POP/POP3 Server Port	Configure the POP/POP3 Server Port
Display Name	Display Name in FROM header.
Sender	Configure the sender as your Email address.



Email Settings

[Email Settings](#)
[Email Template](#)
[Email Send Log](#)

* SMTP Server:

* Enable SASL

☒

Authentication:

* Username:

* Password:

Enable Email-to-Fax:

☒

Email-to-Fax

Blacklist/Whitelist:

Email-to-Fax Subject

Format:

Fax Sending

☒

Success/Failure

Confirmation:

* POP/POP3 Server

Address:

* POP/POP3 Server Port:

* Display Name:

* Sender:

Figure 20 : Email Settings

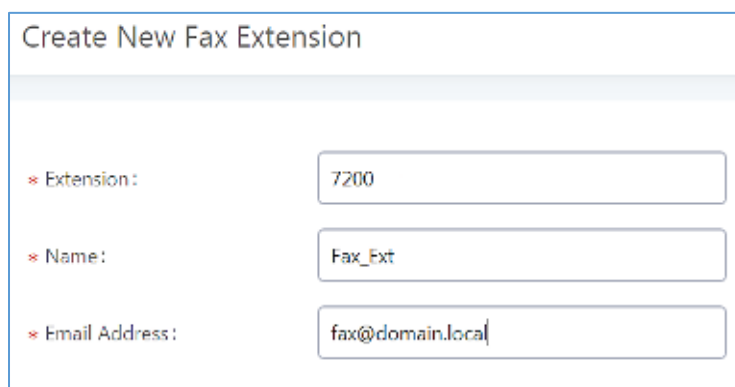


Create/Edit Virtual FAX Extensions

The second step is to create a new Fax extension which will be mapped with a certain email address.

Please, follow the next steps below:

1. Go to UCM6xxx Web GUI → **Call features** → **FAX/T.38**.
2. Click on **+ Add** and enter the number and name of the extension.
3. Enter the Email Address where to send the received Faxes.





Create New Fax Extension

* Extension: 7200

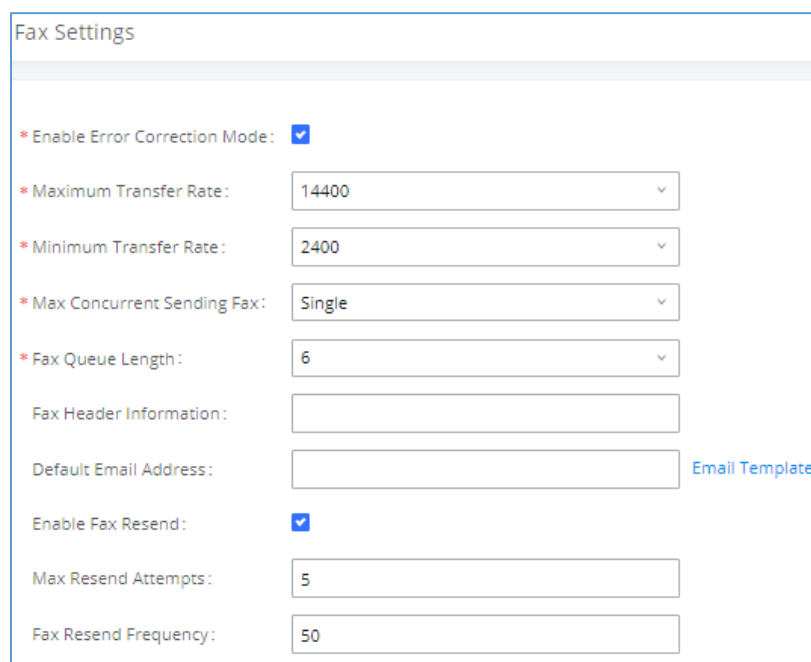
* Name: Fax_Ext

* Email Address: fax@domain.local

Figure 21: Create new Fax extension

Once the user created the extension, it will be displayed in the FAX/T.38 menu with the possibility of editing the extension's information by clicking on  button or deleting them with  button.

User can click on "Fax settings" in order to configure the Fax/T.38 parameters as the following figure.



Fax Settings

* Enable Error Correction Mode: ☒

* Maximum Transfer Rate: 14400

* Minimum Transfer Rate: 2400

* Max Concurrent Sending Fax: Single

* Fax Queue Length: 6

Fax Header Information:

Default Email Address: [Email Template](#)

Enable Fax Resend: ☒

Max Resend Attempts: 5

Fax Resend Frequency: 50

Figure 22: Fax Settings



Table 4: FAX/T.38 Parameters

Enable Error Correction Mode	Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".
Maximum Transfer Rate	Configure the maximum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14400. The default setting is 14400.
Minimum Transfer Rate	Configure the minimum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14000. The default setting is 2400.
Max Concurrent Sending Fax	Configure the concurrent fax that can be sent by UCM6XXX. Two mode "Single" and "More" are supported. By default, this option is set to "Single". <ul style="list-style-type: none"> • Single: Under this mode, the UCM6xxx allows only single user to send fax at a time. • More: Under this mode, the UCM6xxx supports multiple concurrent fax sending by the users.
Fax Queue Length	Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.
Fax Header Information	Adds fax header into the fax file.
Default Email Address	Configure the Email address to send the received Fax to if user's Email address cannot be found. Note: The extension's Email address or the Fax's default Email address needs to be configured in order to receive Fax from Email. If neither of them is configured, Fax will not be received from Email.
Template Variables	Fill in the "Subject:" and "Message:" content, to be used in the Email when sending the Fax to the users. The template variables are: <ul style="list-style-type: none"> • \${CALLERIDNUM} : Caller ID Number • \${CALLERIDNAME} : Caller ID Name • \${RECEIVEEXTEN} : The extension to receive the Fax • \${FILENAME} : The name of the generated Fax file • \${FAXPAGES} : How many pages in the Fax • \${FAXDATE} : The date and time of when the Fax was received Note: The templates variables are available once you press on " EMAIL Template ". For more details please refer to: <i>Customizing FAX EMAIL Template</i>



Enable Fax Resend	Enables the fax resend option which allow the UCM to keep attempting to send faxes up to a specified amount of times. Additionally, if a fax still fails to send, a Resend button will appear in the File Send Progress list in <i>Value-Added Features → Fax Sending</i> to allow manual resending.
Max Resend Attempts	Configures the maximum attempts number to resend the FAX.
Fax Resend Frequency	Configures the maximum Fax Resend Frequency.

Sending MAIL to FAX

After enabling and configuring the MAIL to FAX option, the UCM monitors the configured email inbox for emails with the subject "**SendFaxMail To XXX**" and it will extract the attachments of detected emails and send it to the configured extension by fax. The attachment must be in PDF/TIF/TIFF format.

Please refer to the following steps:

1. Access your EMAIL box and compose a new email.
2. Fill the email address configured on the UCM as destination.
3. Specify the subject with "**SendFaxMail To 7200**", on this example 7200 is the FAX extension that we have already configured on the UCM.
4. Insert the attachment to be sent (The attachment must be in PDF/TIF/TIFF format).



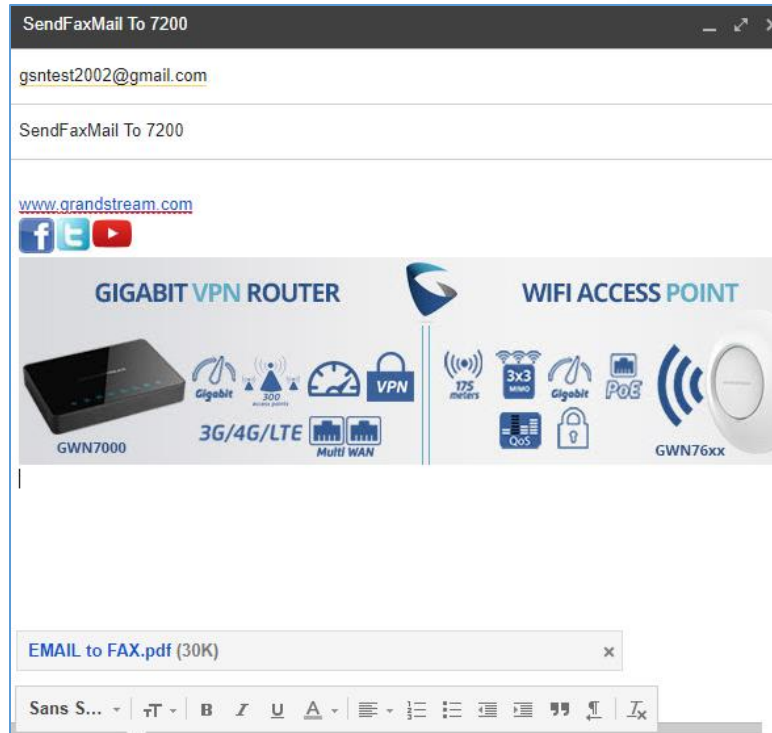


Figure 23: Example of EMAIL to FAX

Now the UCM will extract the attachments of detected emails and send it to the configured extension by fax, users can also check the list of the fax files received under the web GUI → **Call Features** → **Fax/T.38** as shown on the following screenshot.

List of Fax Files				
<input type="button" value="Delete"/> <input type="button" value="Clear"/>		<input type="text" value="Q Callee Number"/>		
<input type="checkbox"/>	NAME #	DATE #	SIZE #	OPTIONS
<input type="checkbox"/>	VFAX-7200-20200113-045831-1578909511.24.pdf	2020-01-13 04:58:49 UTC-05:00	1.51 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>
<input type="checkbox"/>	VFAX-7200-20200113-045831-1578909511.24.tiff	2020-01-13 04:58:45 UTC-05:00	5.71 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>
<input type="checkbox"/>	VFAX-7200-20200113-045013-1578909013.20.pdf	2020-01-13 04:50:32 UTC-05:00	1.51 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>
<input type="checkbox"/>	VFAX-7200-20200113-045013-1578909013.20.tiff	2020-01-13 04:50:27 UTC-05:00	5.71 KB	<input type="button" value="Download"/> <input type="button" value="Delete"/>

Figure 24: List of Fax Files

FAX DETECTION AND INTELLIGENT ROUTING

Users can configure the Fax detection and intelligent routing under UCM6xxx Web GUI → Extension/Trunk → Inbound routes. Enabling the option **"Fax Detection"** will enable detecting the Fax Signal during a call, and the received Fax file will be sent to the configured Fax destination.



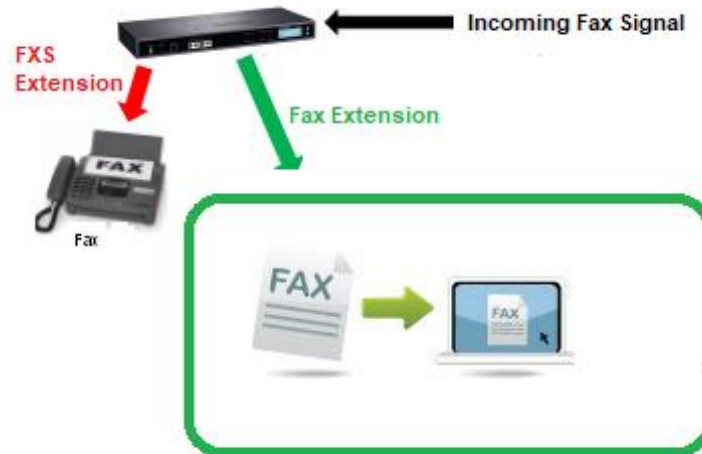


Figure 25: Fax Intelligent Routing after a Fax Signaling Detection

The user can also Enable Fax intelligent Routing in order to route directly the Fax signal to the appropriate FXS Extension connected to the Physical Fax Machine or the Virtual Faxing Extension. The user needs to choose this extension number from the available extensions in “Fax Destination”.

