



Grandstream Networks, Inc.

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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
Save

Basic Settings
Media
Features
Specific Time
Follow Me

\* Select Extension Type: FXS Extension

Select Add Method: Single

General

\* Extension: 4000

CallerID Number:  

Voicemail: Enable Local Voicemail

Skip Voicemail Password:

Verification:  

Disable This Extension:

Analog Station: FXS 1

\* Permission: Internal

\* Voicemail Password: 77102091

Send Voicemail to Email: Default

Keep Voicemail after Emailing: Default

Emergency Calls CID:

**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
Save

Basic Settings
Media
Features
Specific Time
Follow Me

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 RX Flash: 1250

\* 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.

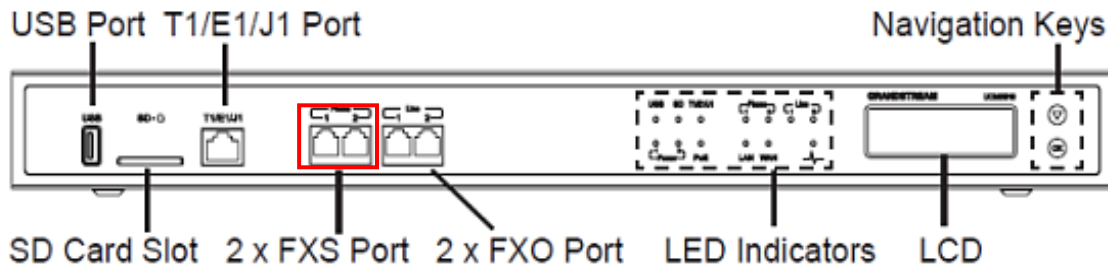
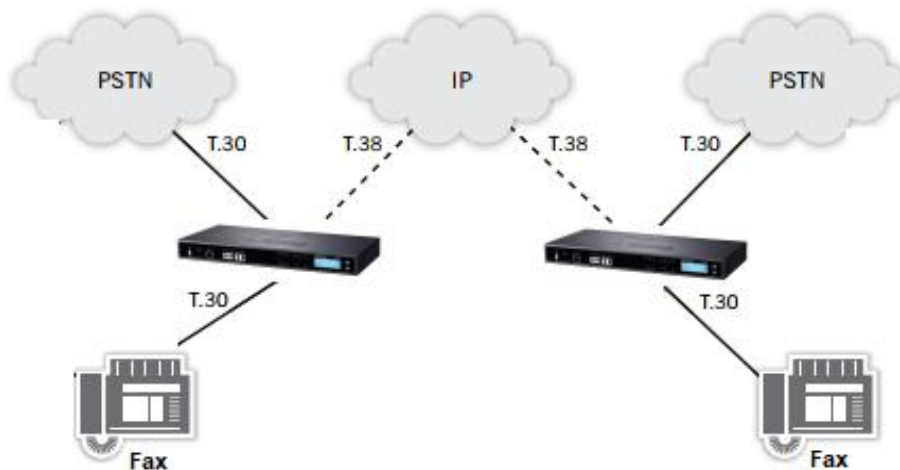


Figure 3: FXS Ports of UCM6510 (Example)

## 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**.
2. Click on **+ Create New Analog Trunk** 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”.

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

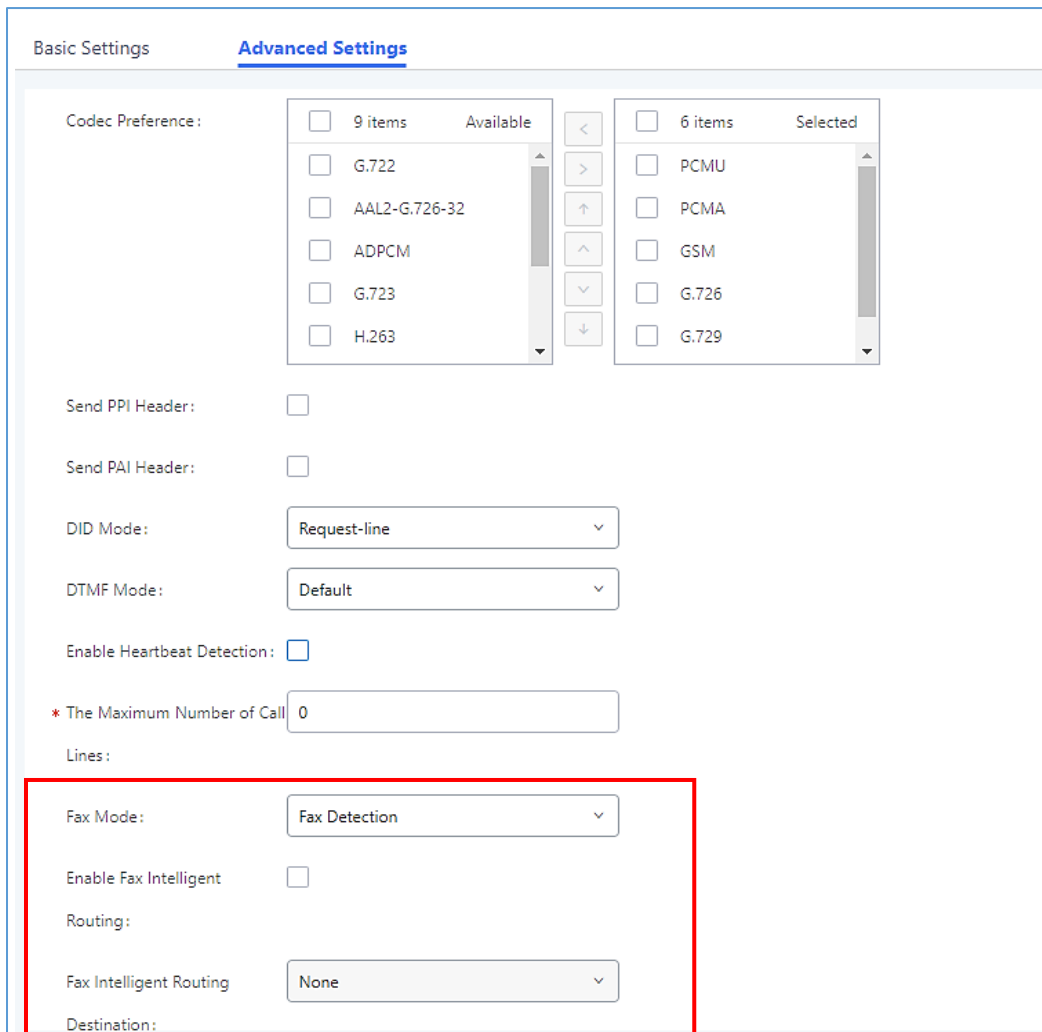




## Create VoIP Trunk

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

1. Go to UCM6xxx Web UI → **Extension/Trunk** → **VoIP Trunks**.
2. Click on **+ Create New 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”.



The screenshot shows the 'Advanced Settings' tab for a VoIP Trunk configuration. The 'Codec Preference' section has two lists: 'Available' (9 items) and 'Selected' (6 items). The 'Available' list includes G.722, AAL2-G.726-32, ADPCM, G.723, and H.263. The 'Selected' list includes PCMU, PCMA, GSM, G.726, and G.729. Below these are checkboxes for 'Send PPI Header' and 'Send PAI Header', both of which are unchecked. The 'DID Mode' is set to 'Request-line' and 'DTMF Mode' is set to 'Default'. 'Enable Heartbeat Detection' is unchecked. 'The Maximum Number of Call' is set to 0. A red box highlights the 'Fax Mode' dropdown (set to 'Fax Detection'), 'Enable Fax Intelligent' (unchecked), 'Routing' (empty), and 'Fax Intelligent Routing' dropdown (set to 'None').

**Figure 5: VoIP Trunk with Fax Detection**

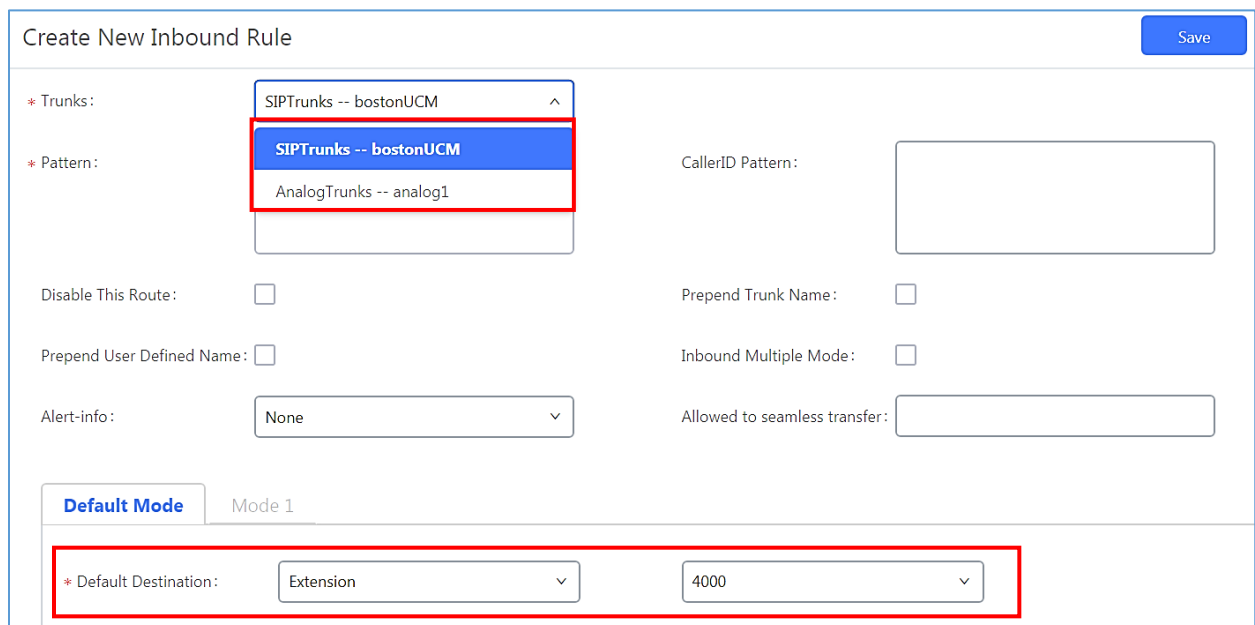
**Note:** As shown above, under advanced Settings, user can set Fax Mode on “Fax Detection”, enable “Fax Intelligent Routing”, and set the destination in order to automatically forward the Fax to the right destination set by the user.



## 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. Select the created FXS extension for Fax machine as the default destination.



The screenshot shows the 'Create New Inbound Rule' configuration page. Key elements include:

- Trunks:** A dropdown menu with 'SIPTrunks -- bostonUCM' selected.
- Pattern:** A dropdown menu with 'SIPTrunks -- bostonUCM' selected.
- CallerID Pattern:** An empty text input field.
- Disable This Route:** An unchecked checkbox.
- Prepend Trunk Name:** An unchecked checkbox.
- Prepend User Defined Name:** An unchecked checkbox.
- Inbound Multiple Mode:** An unchecked checkbox.
- Alert-info:** A dropdown menu with 'None' selected.
- Allowed to seamless transfer:** A dropdown menu with '4000' selected.
- Default Mode:** A tab labeled 'Default Mode' with 'Mode 1' selected.
- \* Default Destination:** A dropdown menu with 'Extension' selected.

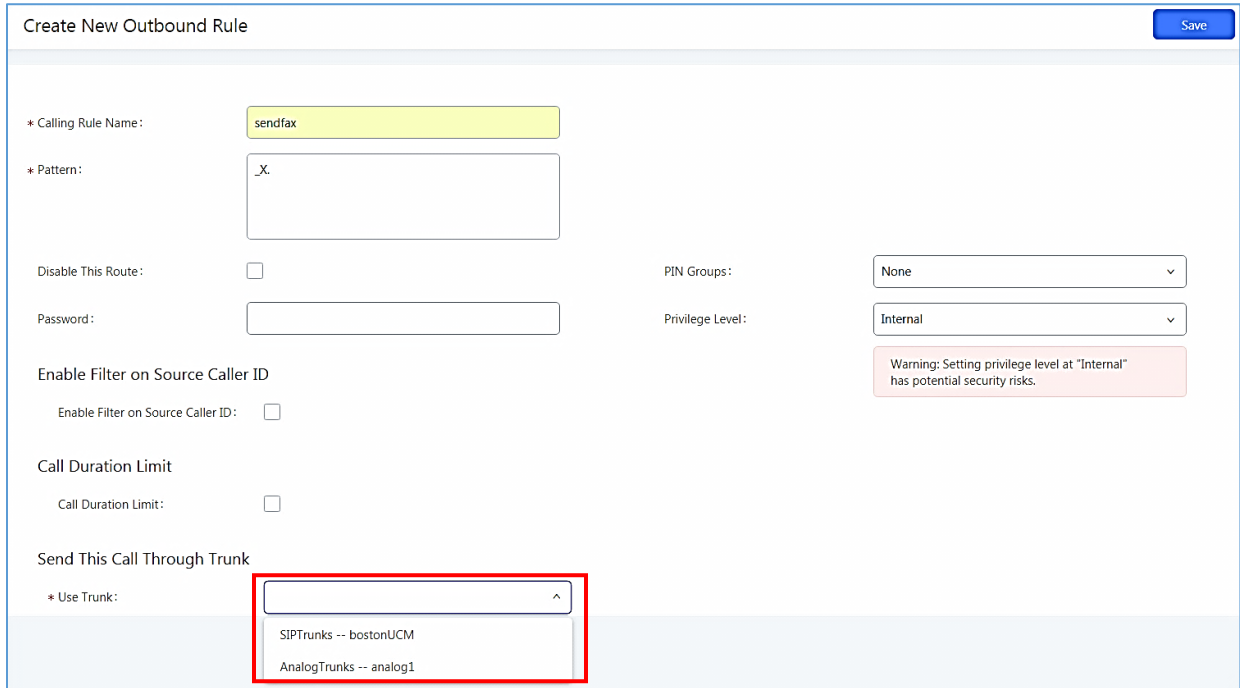
**Figure 6: Inbound Route with FXS Extension as default destination**

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 Save

\* Calling Rule Name:

\* Pattern:

Disable This Route:

Password:

PIN Groups:

Privilege Level:

Enable Filter on Source Caller ID

Enable Filter on Source Caller ID:

Call Duration Limit

Call Duration Limit:

Send This Call Through Trunk

\* Use Trunk:   
SIPTrunks -- bostonUCM  
AnalogTrunks -- analog1

Warning: Setting privilege level at "Internal" has potential security risks.

**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.

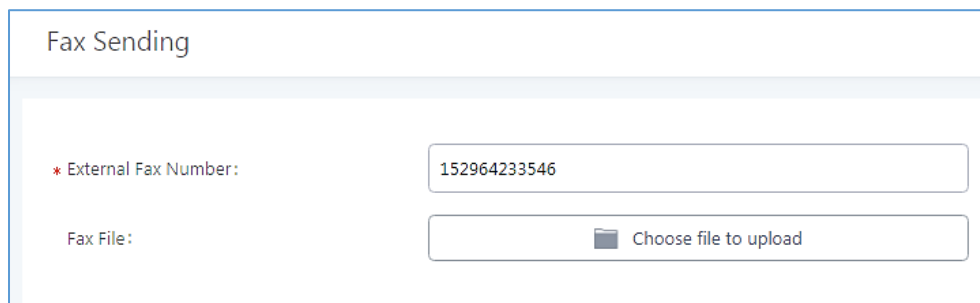
Among these features we have the fax sending from web GUI, fax to email, email to fax and fax detection.



### 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.

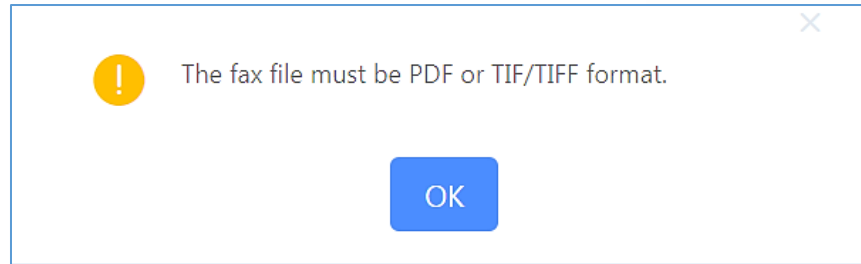


Fax Sending	
* External Fax Number:	<input type="text" value="152964233546"/>
Fax File:	<input type="button" value="Choose file to upload"/>

**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 ↕	Send Status ↕	Current Progress ↕	Options
<input type="checkbox"/>	pdf.pdf	2019-06-25 07:01:25 UTC-04:00	admin	98653214	Sending	<div style="width: 25%; background-color: #007bff;">25%</div>	
<input type="checkbox"/>	pdf.pdf	2019-06-25 07:00:01 UTC-04:00	admin	0625985847	Failed	<div style="width: 10%; background-color: #dc3545;">10%</div>	<a href="#">Resend</a>
<input type="checkbox"/>	pdf.pdf	2019-06-25 06:59:20 UTC-04:00	admin	7200	Success	<div style="width: 100%; background-color: #28a745;">100%</div>	

**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 ↕	Send Status ↕	Current Progress ↕	Options
<input type="checkbox"/>	pdf.pdf	2019-06-25 07:00:01 UTC-04:00	admin	0625985847	Failed	<div style="width: 50%; background-color: #f00; height: 10px;"></div>	<input type="button" value="Resend"/> <input type="button" value="Delete"/>

**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**

<b>TLS Enable</b>	Enable or disable TLS during transferring/submitted your Email to another SMTP server. The default setting is "Yes".
<b>Type</b>	<p>Select Email type:</p> <ul style="list-style-type: none"> <li>• <b>MTA:</b> 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.</li> <li>• <b>Client:</b> Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.</li> </ul>
<b>Email Template Sending Format</b>	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.
<b>Domain</b>	Specify the domain name to be used in the Email when using type "MTA"
<b>SMTP Server</b>	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. <b>Note:</b> Port number is optional.
<b>Enable SASL Authentication</b>	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.
<b>Username</b>	Enter the username of the Email account.
<b>Password</b>	Enter the password of the Email account. It is recommended to save the password via HTTPS.
<b>Enable Email-To-Fax</b>	<p>Enable or Disable Email-to-Fax feature.</p> <p>If enabled, the UCM will monitor the configured email inbox (using provided <b>[Error! Reference source not found.]</b> and <b>[Error! Reference source not found.]</b>) for emails with the subject "<b>SendFaxMail To XXX</b>". Example : SendFaxMail To 7200</p> <p>The UCM will extract the attachments of detected emails and send it to the <b>XXX</b> 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>
<b>Email-To-Fax Blacklist/Whitelist</b>	Enables the Email to fax Blacklist/Whitelist functionality.



<b>Email-to-Fax Subject</b>	Specify the Email subject format for fax sending, the subject can be either "SendFaxMail To XXX" or "XXX" with XXX the fax number.
<b>Internal Blacklist/Whitelist</b>	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.
<b>External Blacklist/Whitelist</b>	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. <b>Note:</b> Multiple addresses can be separated with semicolon (;) i.e. " XXX;YYY "
<b>POP/POP3 Server Address</b>	Configure the POP/POP3 server address for the configured username Example: pop.gmail.com
<b>POP/POP3 Server Port</b>	Configure the POP/POP3 server port for the configured username Example: 995
<b>Display Name</b>	Display Name in FROM header.
<b>Sender</b>	Configure the sender as your Email address.





### Email Settings

Email Settings
Email Template
Email Send Log

TLS Enable :	<input checked="" type="checkbox"/>
Type :	<input type="text" value="Client"/>
Email Template Sending :	<input type="text" value="HTML"/>
Format :	
* SMTP Server :	<input type="text" value="192.168.6.202:587"/>
* Enable SASL Authentication :	<input checked="" type="checkbox"/>
* Username :	<input type="text" value="adminSntp"/>
* Password :	<input type="password" value="....."/>
Enable Email-to-Fax :	<input checked="" type="checkbox"/>
Email-to-Fax :	<input type="text" value="Disable"/>
Blacklist/Whitelist :	
Email-to-Fax Subject :	<input type="text" value="XXX"/>
Format :	
* POP/POP3 Server Address :	<input type="text" value="192.168.6.202"/>
* POP/POP3 Server Port :	<input type="text" value="991"/>
* Display Name :	<input type="text" value="Branch_PBX"/>
* Sender :	<input type="text" value="Branch1@domain.local"/>

**Figure 13: Email Settings**

This way we confirmed that UCM can send emails via Its built-in SMTP client, specified The Email address blacklist for local/external contacts preventing faxing from unauthorized email addresses. Moreover, users can customize the emails that will be sent along with the FAX, this can be done under Email template page as shown below.



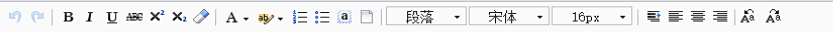
Edit Email Template: Fax Save

\* Subject:

\* Message in Text Format: 

```
Hi ${RECEIVEEXTEN},  
You have received a new fax ${FILENAME} (${FAXPAGES} pages) at ${FAXDATE} from ${CALLERIDNUM} ${CALLERIDNAME}.
```

[Restore Default Template](#)

Message in HTML Format: 

```
Hi ${RECEIVEEXTEN},  
You have received a new fax ${FILENAME} (${FAXPAGES}  
pages) at ${FAXDATE} from ${CALLERIDNUM} ${CALLERIDNAME}.
```

[Preview](#) [Restore Default Template](#) [Upload](#)

**Figure 14: Email Template for FAX**

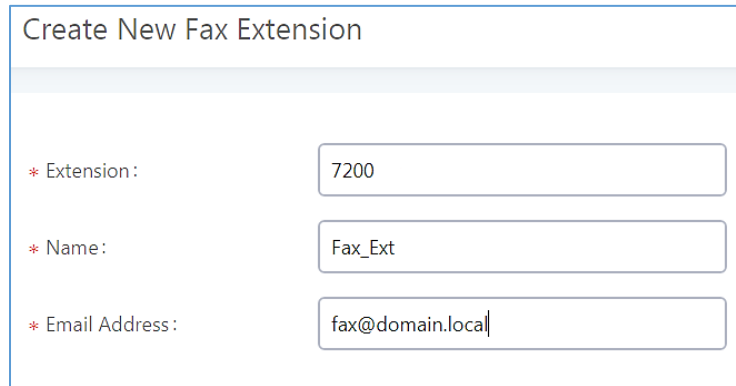


## Create/Edit Virtual FAX Extensions

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 **+ Create New Fax Extension** 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:

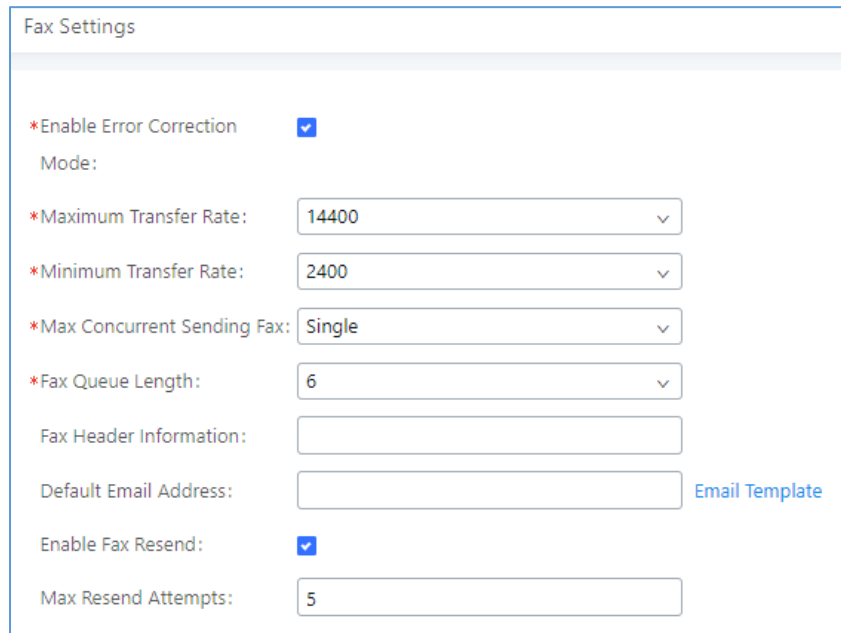
\* Name:

\* Email Address:

**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:

\*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 16: Fax Settings**



**Table 2: FAX/T.38 Parameters**

<b>Enable Error Correction Mode</b>	Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".
<b>Maximum Transfer Rate</b>	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.
<b>Minimum Transfer Rate</b>	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.
<b>Max Concurrent Sending Fax</b>	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"> <li>• <b>Single:</b> Under this mode, the UCM6xxx allows only single user to send fax at a time.</li> <li>• <b>More:</b> Under this mode, the UCM6xxx supports multiple concurrent fax sending by the users.</li> </ul>
<b>Fax Queue Length</b>	Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.
<b>Fax Header Information</b>	Adds fax header into the fax file.
<b>Default Email Address</b>	Configure the Email address to send the received Fax to if user's Email address cannot be found.  <b>Note:</b> 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.
<b>Template Variables</b>	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"> <li>• <b>`\${CALLERIDNUM}</b> : Caller ID Number</li> <li>• <b>`\${CALLERIDNAME}</b> : Caller ID Name</li> <li>• <b>`\${RECEIVEEXTEN}</b> : The extension to receive the Fax</li> <li>• <b>`\${FAXPAGES}</b> : Number of pages in the Fax</li> <li>• <b>`\${VM_DATE}</b> : The date and time when the Fax is received</li> </ul> <b>Note:</b> The templates variables are available once you press on " <b>EMAIL Template</b> ". For more details please refer to: <i>Customizing FAX EMAIL Template</i>



<b>Enable Fax Resend</b>	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</i> → <i>Fax Sending</i> to allow manual resending.
<b>Max Resend Attempts</b>	Configures the maximum number of attempts to resend the FAX.

## 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
Save

\* Trunks: SIPTrunks -- bostonUCM ^

\* Pattern: SIPTrunks -- bostonUCM  
AnalogTrunks -- analog1

CallerID Pattern:

Disable This Route:

Prepend Trunk Name:

Prepend User Defined Name:

Inbound Multiple Mode:

Alert-info: None v

Allowed to seamless transfer:

Default Mode
Mode 1

\* Default Destination: Fax v Fax\_Ext v

**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](mailto: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

Delete Selected Fax Files
Delete All

Callee Number

Q Search


<input type="checkbox"/>	Name ↕	Date ↕	Size ↕	Options
<input type="checkbox"/>	VFAX-5000-20170828-110103-1503932444.50.pdf	2017-08-28 11:01:25 UTC-04:00	1573	<span style="font-size: 1em;">↓</span> <span style="font-size: 1em;">🗑</span>
<input type="checkbox"/>	VFAX-5000-20170828-110103-1503932444.50.tiff	2017-08-28 11:01:20 UTC-04:00	5871	<span style="font-size: 1em;">↓</span> <span style="font-size: 1em;">🗑</span>

**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 Settings		<b>Email Template</b>	Email Send Log	
<input type="button" value="Upload Template Images"/> <input type="button" value="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**

<b>TLS Enable</b>	Enable or disable TLS during transferring/submitted your Email to another SMTP server. The default setting is "Yes".
<b>Type</b>	<p>Select Email type:</p> <ul style="list-style-type: none"> <li>• <b>MTA:</b> 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.</li> <li>• <b>Client:</b> Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.</li> </ul>
<b>Email Template Sending Format</b>	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.
<b>SMTP Server</b>	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. <b>Note:</b> Port number is optional.
<b>Enable SASL Authentication</b>	<p>Enable SASL Authentication. When disabled, UCM will not try to use the user name and password for mail client login authentication.</p> <p>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.</p>
<b>Username</b>	Enter the username of the Email account.
<b>Password</b>	Enter the password of the Email account. It is recommended to save the password via HTTPS.
<b>Enable Email-to-Fax</b>	<p>Enable or Disable Email-to-Fax feature.</p> <p>If enabled, the UCM will monitor the configured email inbox (using provided <b>[Error! Reference source not found.]</b> and <b>[Error! Reference source not found.]</b>) for emails with the subject "<b>SendFaxMail To XXX</b>". Example : SendFaxMail To 7200</p> <p>The UCM will extract the attachments of detected emails and send it to the <b>XXX</b> extension by fax.</p> <p>The attachment must be in PDF/TIF/TIFF format.</p> <p><b>Note:</b> This field will appear when using Type "Client".</p>





<b>Email-to-Fax Blacklist/Whitelist</b>	Used to add whitelisted or blacklisted emails that can use Email to Fax features, default is "Disable"
<b>Email-to-Fax Subject Format</b>	Users can either choose the subject to be " <b>SendFaxMail To XXX</b> " or " <b>XXX</b> " when sending the email where XXX is the fax number.
<b>POP/POP3 Server Address</b>	Configure the POP/POP3 Server Address.
<b>POP/POP3 Server Port</b>	Configure the POP/POP3 Server Port
<b>Display Name</b>	Display Name in FROM header.
<b>Sender</b>	Configure the sender as your Email address.

### Email Settings

Email Settings
Email Template
Email Send Log

TLS Enable:

Type:

Email Template Sending Format:

\* SMTP Server:

\* Enable SASL Authentication:

\* Username:

\* Password:

Enable Email-to-Fax:

Email-to-Fax Blacklist/Whitelist:

Email-to-Fax Subject Format:

\* POP/POP3 Server Address:

\* POP/POP3 Server Port:

\* Display Name:

\* Sender:

**Figure 20 : Email Settings**

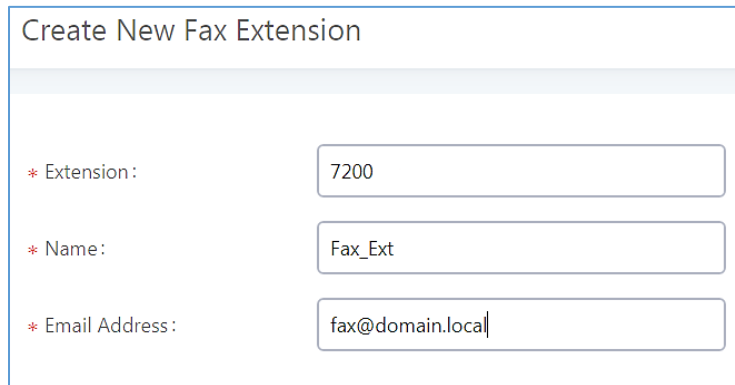


## Create/Edit Virtual FAX Extensions

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 **+ Create New Fax Extension** 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:

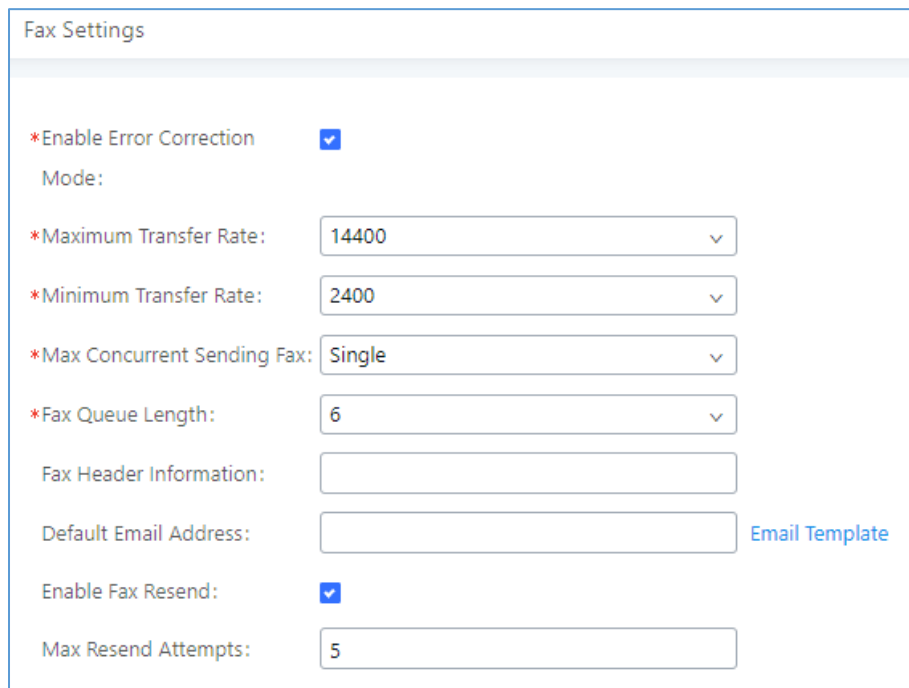
\* Name:

\* Email Address:

**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:

\*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 22: Fax Settings**

**Table 4: FAX/T.38 Parameters**

<b>Enable Error Correction Mode</b>	Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".
<b>Maximum Transfer Rate</b>	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.
<b>Minimum Transfer Rate</b>	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.
<b>Max Concurrent Sending Fax</b>	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"> <li>• <b>Single:</b> Under this mode, the UCM6xxx allows only single user to send fax at a time.</li> <li>• <b>More:</b> Under this mode, the UCM6xxx supports multiple concurrent fax sending by the users.</li> </ul>
<b>Fax Queue Length</b>	Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.
<b>Fax Header Information</b>	Adds fax header into the fax file.
<b>Default Email Address</b>	Configure the Email address to send the received Fax to if user's Email address cannot be found.  <b>Note:</b> 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.
<b>Template Variables</b>	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"> <li>• <code>#{CALLERIDNUM}</code> : Caller ID Number</li> <li>• <code>#{CALLERIDNAME}</code> : Caller ID Name</li> <li>• <code>#{RECEIVEEXTEN}</code> : The extension to receive the Fax</li> <li>• <code>#{FAXPAGES}</code> : Number of pages in the Fax</li> <li>• <code>#{VM_DATE}</code> : The date and time when the Fax is received</li> </ul> <b>Note:</b> The templates variables are available once you press on "EMAIL Template". For more details please refer to: <i>Customizing FAX EMAIL Template</i>



<b>Enable Fax Resend</b>	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</i> → <i>Fax Sending</i> to allow manual resending.
<b>Max Resend Attempts</b>	Configures the maximum attempts number to resend the FAX.

## 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).

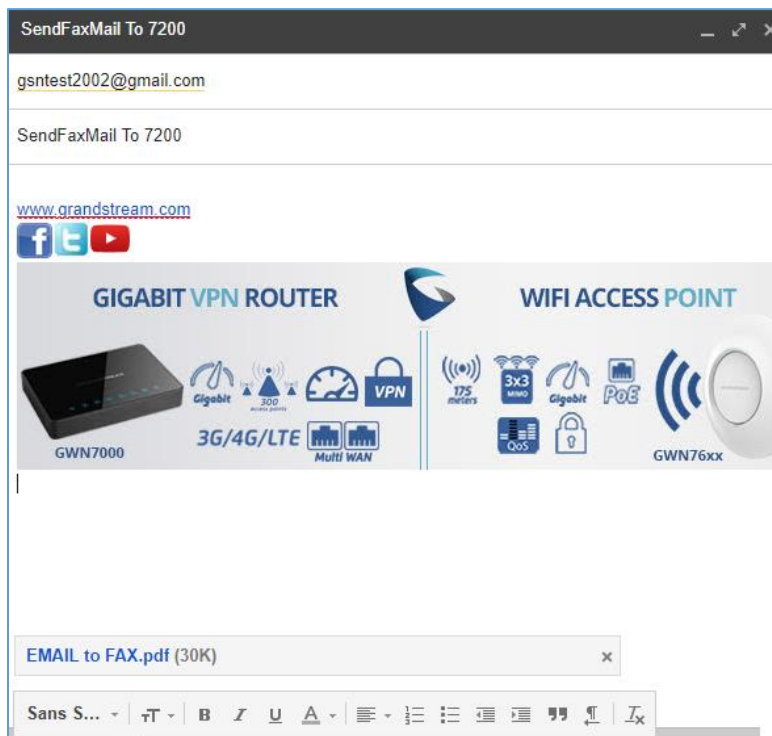
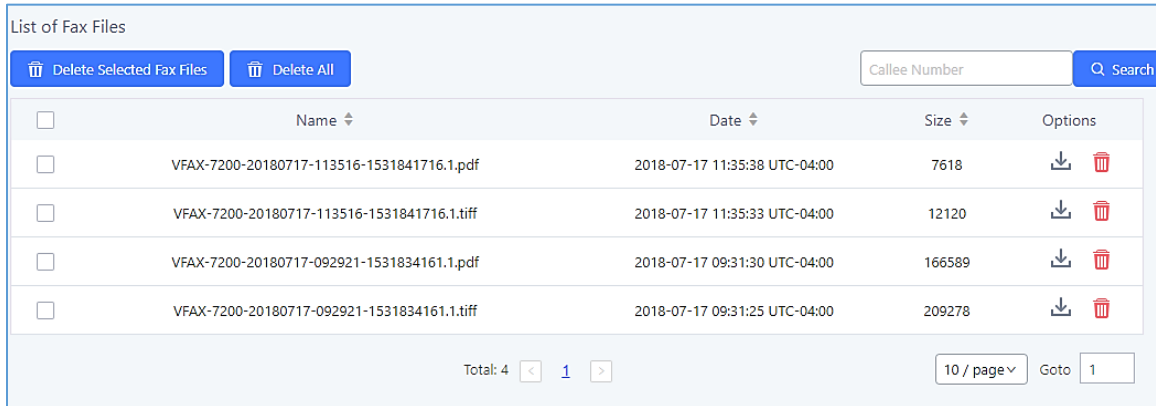


Figure 23: Example of EMAIL to FAX

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.

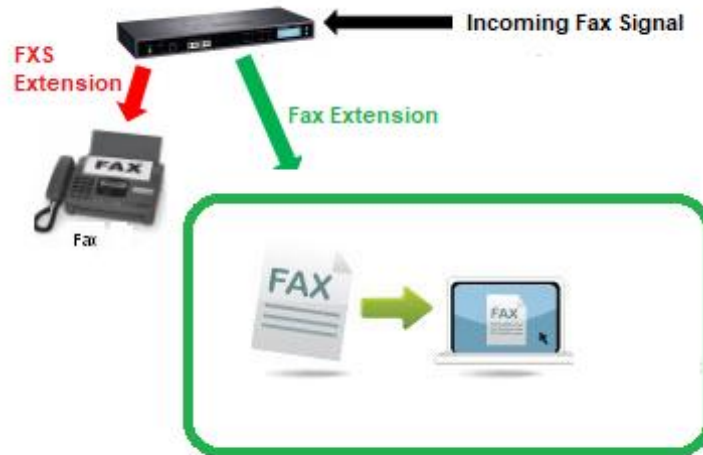


<input type="checkbox"/>	Name	Date	Size	Options
<input type="checkbox"/>	VFAX-7200-20180717-113516-1531841716.1.pdf	2018-07-17 11:35:38 UTC-04:00	7618	
<input type="checkbox"/>	VFAX-7200-20180717-113516-1531841716.1.tiff	2018-07-17 11:35:33 UTC-04:00	12120	
<input type="checkbox"/>	VFAX-7200-20180717-092921-1531834161.1.pdf	2018-07-17 09:31:30 UTC-04:00	166589	
<input type="checkbox"/>	VFAX-7200-20180717-092921-1531834161.1.tiff	2018-07-17 09:31:25 UTC-04:00	209278	

**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 → VoIP Trunk → Edit SIP Trunk → Advanced Settings. Setting “Fax mode” to “Fax detection” will enable detecting the Fax Signal during a call, and the received Fax file will be sent to the configured Email address otherwise it will be sent to the default Email address configured in Fax Page in the case.



**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 Faxes Extension. The user needs to choose this extension number from the available extensions in “Fax Intelligent Routing Destination”. See *figure 5 for more information about Fax detection and Intelligent Routing Configuration*.