

# Creating and Modifying Fax Profiles

## To create or modify a Fax Profile:

1. In the WebUI, click the **Settings** tab.
2. In the left navigation pane, go to **Media > Media Profiles**.
3. From the **Create Media Profile** drop down box, select **Fax Codec Profile**.

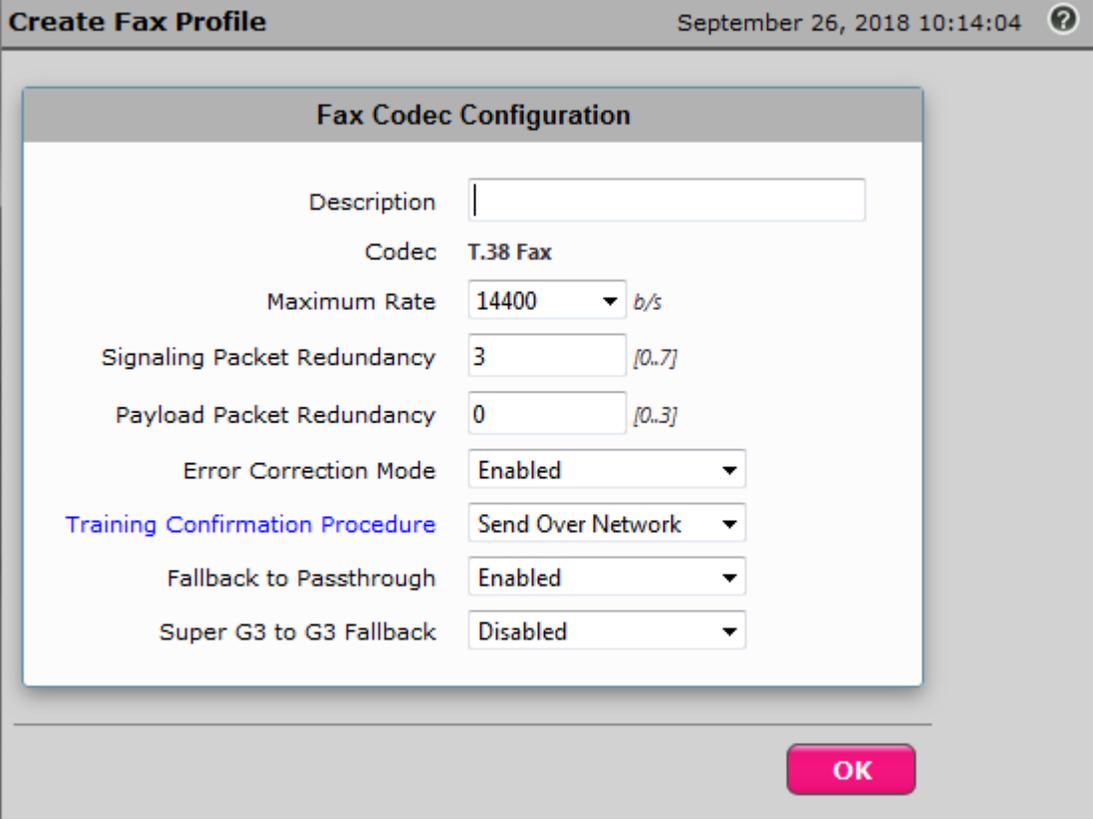
## Modifying a Fax Profile

1. Click the **expand** (  ) Icon next to the entry you wish to modify.
2. Edit the entry properties as required, [see details below](#).

## Creating a Fax Profile

1. From the **Create Media Profile** drop down box at the top of the **Media Profiles** page, select **Fax Codec Profile**.

Figure 1: Create Fax Profile



The screenshot shows a 'Create Fax Profile' dialog box with a title bar containing the text 'Create Fax Profile' and a timestamp 'September 26, 2018 10:14:04' with a help icon. The main content area is titled 'Fax Codec Configuration' and contains the following fields:

Description	<input type="text"/>
Codec	T.38 Fax
Maximum Rate	14400 <small>b/s</small>
Signaling Packet Redundancy	3 <small>[0..7]</small>
Payload Packet Redundancy	0 <small>[0..3]</small>
Error Correction Mode	Enabled
Training Confirmation Procedure	Send Over Network
Fallback to Passthrough	Enabled
Super G3 to G3 Fallback	Disabled

An 'OK' button is located at the bottom right of the dialog box.

## Fax Profile - Field Definitions

## Fallback to Passthrough

Specifies whether or not the T.38 will fall back to Fax Passthrough if not supported by peer.

If fallback is disabled and the SBC Edge (SBC) detects a fax call and attempts to switch-over to T.38 mode, the call fails if the peer gateway does not support T.38 protocols.

If fallback is enabled under the same circumstances as above, then when T.38 switch-over fails, the SBC attempts to switch-over to the G.711 codec (if the peer supports it).

## Maximum Rate

Specifies the maximum FAX connection bit rate (bits/second).

This is the maximum rate at which a fax call will be negotiated between the SBC and the fax machine. It takes longer to transfer a page at lower rate, however, lower rate may make the fax call more reliable.

## Signaling Packet Redundancy

Specifies the number of redundant packets sent for each T.30 (signaling) message.

In a T.38 fax call, there are two types of packets exchanged between the two gateways: signaling packets carrying fax call control information and payload packets carrying page data. The Signaling Packet Redundancy parameter controls the number of redundant packets sent by SBC for each T.38 signaling packet. Use a low value for this parameter if the data network is of good quality with no or little packet loss.

## Payload Packet Redundancy

Specifies the number of redundant packets sent for each packet containing page data.

This feature is similar to the Signaling Packet Redundancy feature, except that it applies to the payload packets instead of signaling packets.

## Error Correction Mode

Specifies the error correction mode (ECM) for fax calls.

ECM is used to make the fax call reliable (using retransmissions between fax machines). When disabled in the SBC configuration, ECM will not be used, even if both fax machines support it.

## Training Confirmation Procedure

Specifies the Training Confirmation (TCF) procedure for fax calls.

**Note:** For the SBC SWe Lite, this field is set to **Send over the Network** and is not configurable. For the SBC 1000/2000, both options are available.

- **Locally Generate:** The TCF data is not passed across the IP network. Each gateway independently generates or checks the TCF and only the result of the training is passed over the network.
- **Send over the Network:** The TCF data is passed across the IP network in the same way as any other page data.

## Super G3 to G3 Fallback

 **Note:** This parameter is not applicable for the SBC SWe Lite.

Super G3 to G3 Fallback is applicable to fax calls in TDM-to-IP or IP-to-TDM directions. It is not applicable to TDM-to-TDM or IP-to-IP fax calls.

The Super G3 to G3 Fallback feature enables the SBC to unconditionally use T.38 protocol between two Super G3 fax machines. The call is always negotiated as if it were a G3-to-G3 fax call. Available options: **Enabled** (T.38 protocol is always negotiated between two Super G3 fax machines), or **Disabled** (T.38 protocol may not be negotiated between two Super G3 fax machines. Under many conditions, the call may come up as a modem pass-through call).

T.38 must be properly configured in the SBC according to the following guidelines:

- **T.38** must be added/selected in the Media Profiles List for both ends of the call. See [Creating and Modifying Media Lists](#).
- The **Super G3 to G3 Fallback** option must be enabled (through Fax Codec Configuration) on the fax origination side, termination side, or both sides.
- If the Signaling Group (for which the SG3 to G3 Fax Fallback is activated) is dedicated to voice and fax calls only (i.e. modem calls are not expected and the Modem Passthrough parameter in the Media List is disabled), the TDM switch inside the SBC is used to manipulate the connection to the called fax machine to force fallback to T.38 mode. This method is very reliable, but it disrupts modem calls--that is why it is used only if modem calls are not expected over the signaling group.
- If all call types (voice, fax and modem) are allowed over the signaling group, then a DSP-based method is used to squelch some signals to the called fax machine. This method does not disrupt modem calling, however, it may not work reliably if the IP network has excessive packet loss and/or jitter.

## Additional Notes About Fax Support

- The SBC 1000/2000 supports fax transmission using fax passthrough (G.711 codec) or using the T.38 protocol. When fax passthrough is the selected method, transmission speed is dependent upon the quality of the IP network. When the T.38 protocol is selected, the maximum speed is limited to 14.4 Kbps in this implementation.
- If T.38 protocol is used in conjunction with V.34, the Super G3 to G3 Fax Fallback feature should be enabled. This allows V.34 fax over T.38 at a rate of 14.4 Kbps.
- The SBC 1000 supports fax on all TDM interfaces (PRI, BRI, FXS, and FXO). TDM calls, which have both call legs as TDM, use T.30 protocol. If either one or both of the call legs are IP (SIP), then the calls use T.30 protocol or inband audio. The SBC 1000 supports both the G3 and Super G3 fax protocols.

