



Fax Support

The media components of the SBC enable fax VoIP calls. The SBC supports the following types of fax over IP calls, using either SIP or H.323:

- G.711 fax passthrough
- T.38 fax passthrough only over the following protocols:
 - RTP: Real-time Transport Protocol
 - UDP-TL: a lightweight transport protocol for fax media that runs over User Datagram Protocol
- Fax signaled by both NTE and Cisco NSE. Note that SBC does not detect these events itself, but permits passthrough of either inband signaling format.

Feature History for Fax Support

Release	Modification
Release 3.4.1	This feature was introduced on the Cisco XR 12000 Series Router.
Release 3.5.0	No modification.
Release 3.6.0	No modification.

Contents

This module contains the following sections:

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- [Restrictions for Fax Support, page SBC-336](#)
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Information About Fax Support

The SBC supports two types of fax over IP: G.711 passthrough, and T.38 passthrough. Passthrough is a method of passing a FAX PCM stream across a VoIP network. It involves selecting a high-bandwidth codec(G711), disabling silence suppression and enabling echo cancellation. FAX passthrough is signalled by protocol stacks H323 and SIP.

G.711 Passthrough

G.711 is a high-bit rate (64 Kbps) International Telecommunication Union (ITU) standard codec. It is the native language of the modern digital telephone network. G.711 is supported by most VoIP providers. Using G.711 for VoIP gives the best voice quality; since it uses no compression and it is the same codec used by the PSTN network and ISDN lines, it sounds just like using a regular or ISDN phone. It also has the lowest latency (lag) because there is no need for compression, which costs processing power. G.711 fax passthrough is the simplest fax method, where fax is sent in the RTP stream of a normal G.711 call.



Note

The SBC's billing records for the call do not show anything explicitly because of the fax nature of the call. They merely report the standard set of metrics for the call, as they would do for a voice call.

T.38 Passthrough

T.38 is an ITU standard for sending FAX across IP networks in a real-time mode. In the SBC, T.38 fax calls are sent in-band using a fax-specific codec (rather than a general-purpose audio codec). T.38 fax uses a separately negotiated stream, which can either be negotiated at the start of the call (bandwidth will be reserved for it at that point), or renegotiated during the call (which may fail).

T.38 fax passthrough is supported in both SIP and H.323.

Restrictions for Fax Support

The following is a list of restrictions for fax support in SBC.

- T.38/G.711 interworking is not supported.
- Cisco proprietary fax is not supported, although it may work in the passthrough mode, since the SBC does not police the RTP payload types, only bandwidth, and Cisco proprietary fax uses RTP.
- Call-agent-signaled upspeed is not supported.

Additional References

The following sections provide references related to fax support in the SBC.

Related Documents

Related Topic	Document Title
Cisco IOS XR master command reference	Cisco IOS XR Master Commands List
Cisco IOS XR SBC interface configuration commands	<i>Cisco IOS XR Session Border Controller Command Reference</i>
Initial system bootup and configuration information for a router using the Cisco IOS XR Software	<i>Cisco IOS XR Getting Started Guide</i>
Cisco IOS XR command modes	<i>Cisco IOS XR Command Mode Reference</i>

Standards

Standards	Title
No new or modified standards are supported by this feature, and support from existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
—	To locate and download MIBs using Cisco IOS XR software, use the Cisco MIB Locator found at the following URL and choose a platform under the Cisco Access Products menu: http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

RFCs

RFCs	Title
RFC 2543	<i>Session Initiation Protocol</i>
RFC 3261	<i>SIP: Session Initiation Protocol</i>

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

