

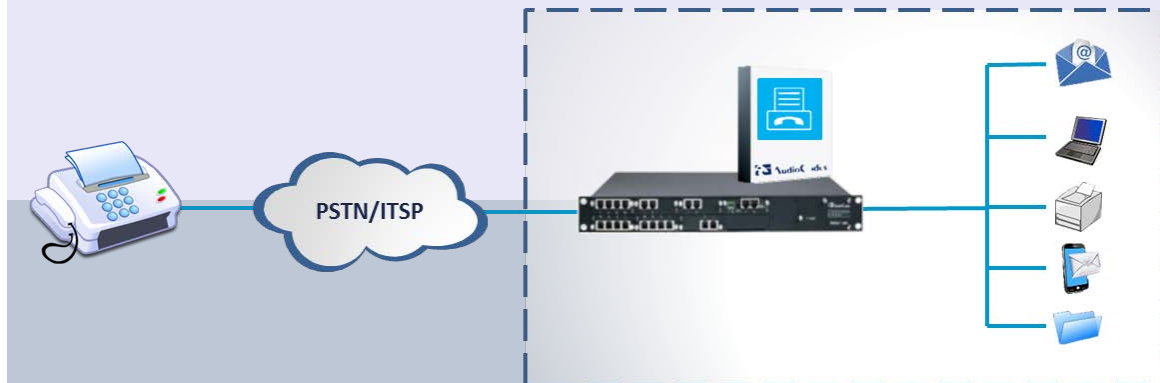
AudioCodes® Fax Server

Fax2Mail / Mail2Fax Applications

Survivable Branch Appliance (SBA)

Application Note

Fax Server for Microsoft® Lync™



Microsoft Partner
Gold Communications



Version 2.0

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Notice

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1 Introduction

AudioCodes' Fax server is a powerful and flexible tool for managing incoming and outgoing fax calls and delivering them efficiently to the correct destination. The Fax server is part of AudioCodes One Voice for Microsoft Lync, a new unified product and service program intended to simplify and accelerate voice-enablement of Microsoft Lync implementations.

The Fax server includes:

- Fax2Mail – Inbound Fax application
- Mail2Fax – Outbound Fax application

As part of AudioCodes' One Voice for Microsoft Lync offering, AudioCodes' Fax server can be deployed together with AudioCodes' Survivable Branch Appliances (SBAs) in branch offices to offer local Fax capabilities.

AudioCodes' Fax server is a pure software application which can also be deployed on standard server hardware.

For a multi-branch organization, the Fax server may be deployed per local branch or as a centralized application in the data center that serves all remote branches.

1.1 About Fax Server

The following describes the features and the value proposition of the Fax server.

1.1.1 General Features

The following is a list of AudioCodes' Fax server features:

- Incoming faxes are received as an email with PDF attachments and can be viewed on PCs and smartphones. They can also be printed, archived and forwarded to others.
- Incoming faxes can be delivered to one or multiple destinations.
- Outbound faxes can be sent from the company email (e.g., 123456@fax.server)
- Different document types can be sent as a fax (e.g., DOC, PDF, Excel, PPT, TXT, etc.)
- Automatic Fax Detection is supported by T.38 and T.30 Fax protocols.
- Easy-to-use Web interface for managing system service.
- Easy- to-setup integration with the enterprise's Active Directory (LDAP) and the enterprise's mail server (SMTP).
- Scalable for a few and up to tens of fax ports.
- Available on the AudioCodes Mediant 800/1000 SBA platforms.

1.1.2 Value Proposition

AudioCodes' Fax server is an essential part of enterprise communications and a proven and effective way to maximize company and employee productivity including the following:

- Support for corporate fax, dedicated fax number per user or combined voice/fax mailbox savings on Direct Inward Dialing (DID) lines (i.e., one DID per user for both voice and fax calls).
- More reliable service - No maintenance is required for fax machines. No more "Out of paper", "Out of toner", "Paper Jam" or "Faxes Getting Lost".
- Save time and productivity - No need to waste time waiting by the fax machine for sending and receiving faxes.
- Secured delivery - Avoid sensitive faxes being left unattended at the fax machine.
- "Always-on" service and available 24/7.
- "Go Green" - Eliminate massive paper consumption and annoying piles of spam faxes.
- Send faxes from your PC or mobile.
- Archiving – All received and sent faxes are automatically archived in the user's email account.

2 Installing Fax Server on the Network

AudioCodes' Fax server is a pure software application running on a Windows 2008 R2 Server. It can be installed on the customer's dedicated server or on the AudioCodes SBA server.



Note: When installed on an SBA server, the Fax server runs on a separate operating system using Hyper-V virtual machine.

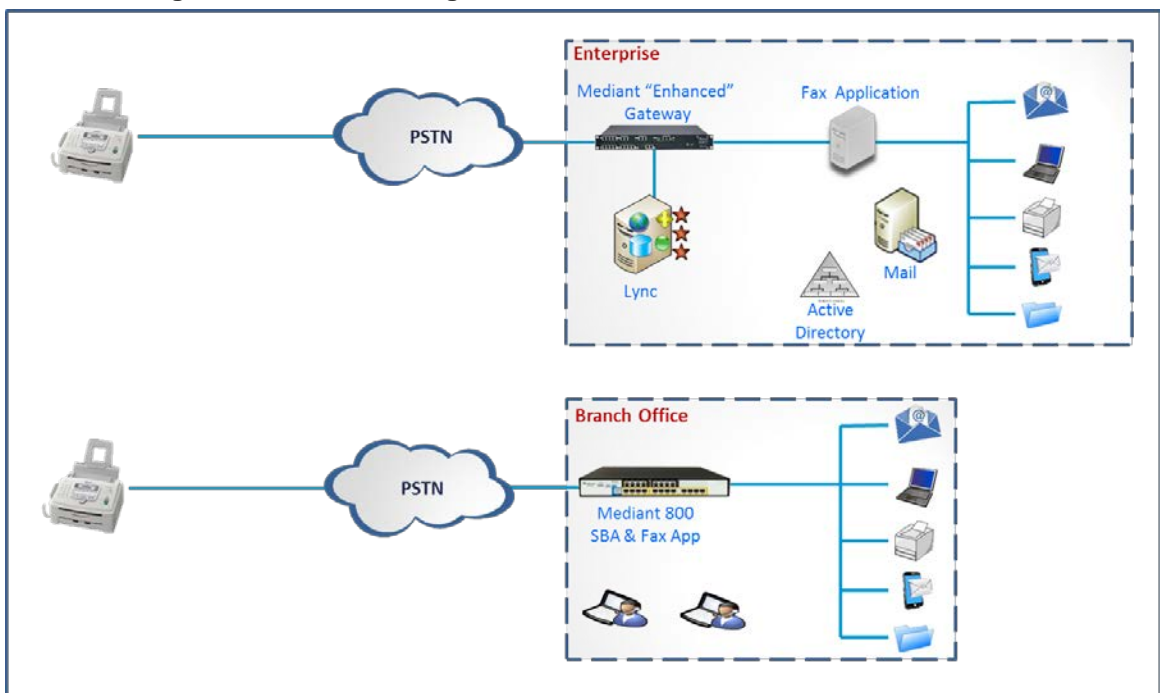
AudioCodes' Fax server is supported for Microsoft Lync 2010 and Lync 2013 and can be installed in either of two ways:

- Distributed Fax installation
- Centralized Fax installation

2.1 Distributed Fax Installation

The diagram below shows a company with an Enterprise and a branch office. The Fax server is installed in both the Enterprise and in the branch.

Figure 2-1: Network Diagram – Distributed Fax Installation

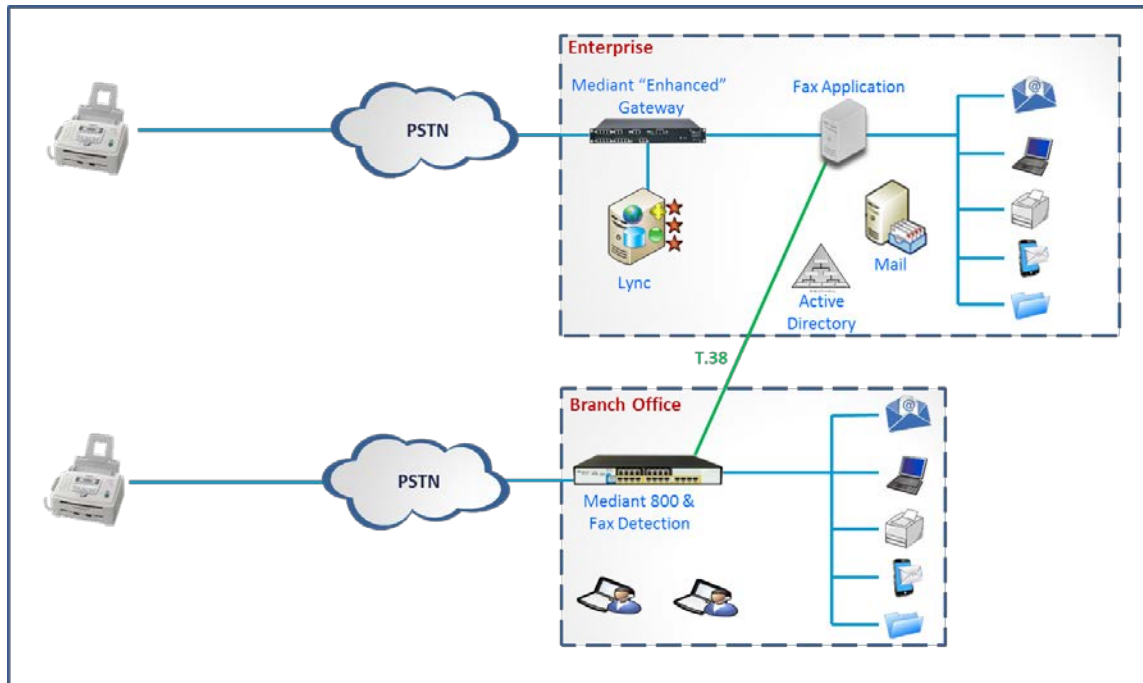


2.2 Centralized Fax Installation

The diagram below shows a company with an enterprise and a branch office. The Fax server is installed in the Enterprise.

In the remote branch, the local gateway is configured to detect fax calls and re-route these calls to the Fax server in the Enterprise via T.38.

Figure 2-2: Network Diagram – Centralized Fax Installation



Notes:

- AudioCodes' Gateway is used for local PSTN or SIP trunk connectivity.
- SBAs are used for local survivability service for Microsoft Lync clients.

3 Fax Server Features

The following describes the features the AudioCodes' Fax server.

3.1 Fax Server General Features

Fax server supports the following:

- Local archive of faxes
- Online monitoring and reporting tool
- Import and export of users settings
- Backup and restore system settings
- Web-based administrator to manage Fax server settings

3.2 Fax2Mail and Mail2Fax Features

AudioCodes' Fax server supports two main applications:

- Fax2Mail
- Mail2Fax

3.2.1 Fax2Mail Features

Fax2Mail supports the following:

- Receiving incoming faxes as emails with a PDF attachment
- Integrating with the Company Active Directory (LDAP)
- Optionally overriding the LDAP settings with a self-defined users table
- Allowing default or reception mailbox to be defined for receiving unrecognized fax destinations
- Customizing the format of the Fax2Mail emails.

3.2.2 Mail2Fax Features

Mail2Fax supports the following:

- Sending faxes from the company email (office, home or mobile) with attachments
- Sending faxes to one or multiple destinations
- Supporting different file formats such as DOC, PDF, Excel, Power Point, Images, TXT, etc.
- Retrying mechanism for outgoing fax attempts (e.g., busy line or no answer)
- Sending email notification for failed or successful fax operations. The email includes a PDF copy of the sent fax.
- Cover Page - System wide with sender details or personal cover page

Reader's Notes

4 Call Flow Descriptions

The following describes the call flow for incoming and outgoing faxes.

4.1 Incoming Fax2Mail Flow

The figure below shows the typical call flow for an incoming fax call to the company.

Figure 4-1: Call Flow - Incoming Fax2Mail

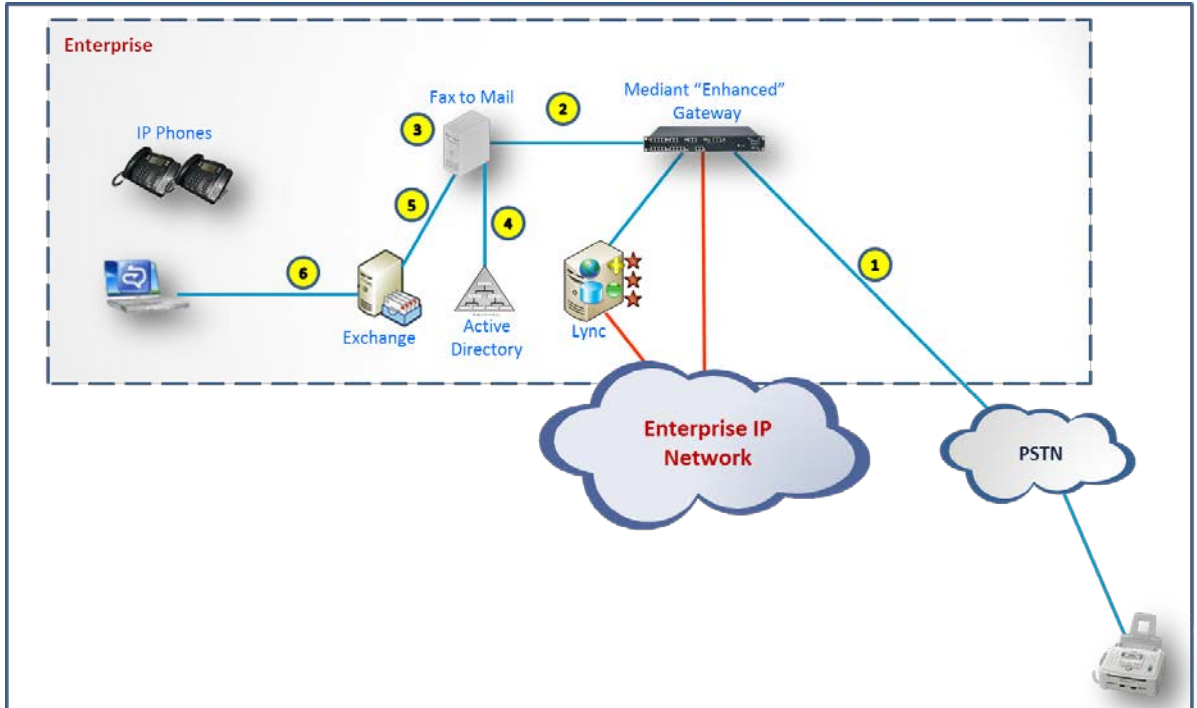


Table 4-1: Call Flow - Incoming Fax2Mail Description

Step #	Description
1	Incoming Fax Call from PSTN to the AudioCodes Gateway (T.38 or G.711).
2	If the Direct Inward Dialing (DID) setting is defined as FAX, the call is routed to the Fax2Mail service.
3	Fax2Mail service terminates the fax call (T.38).
4	Fax2Mail service finds the destination user email in the company Active Directory (LDAP).
5	Fax2Mail sends an email with a PDF attachment to the mail server (SMTP).
6	User receives a fax message in Outlook.

4.2 Incoming Fax2Mail Flow with Fax Detection

The figure below shows the typical call flow for an incoming fax call to the company. In this configuration, the call is sent to the Microsoft Lync user. If it is a fax call, the call will be routed to the Fax server.

Figure 4-2: Call Flow - Incoming Fax2Mail with Fax Detection

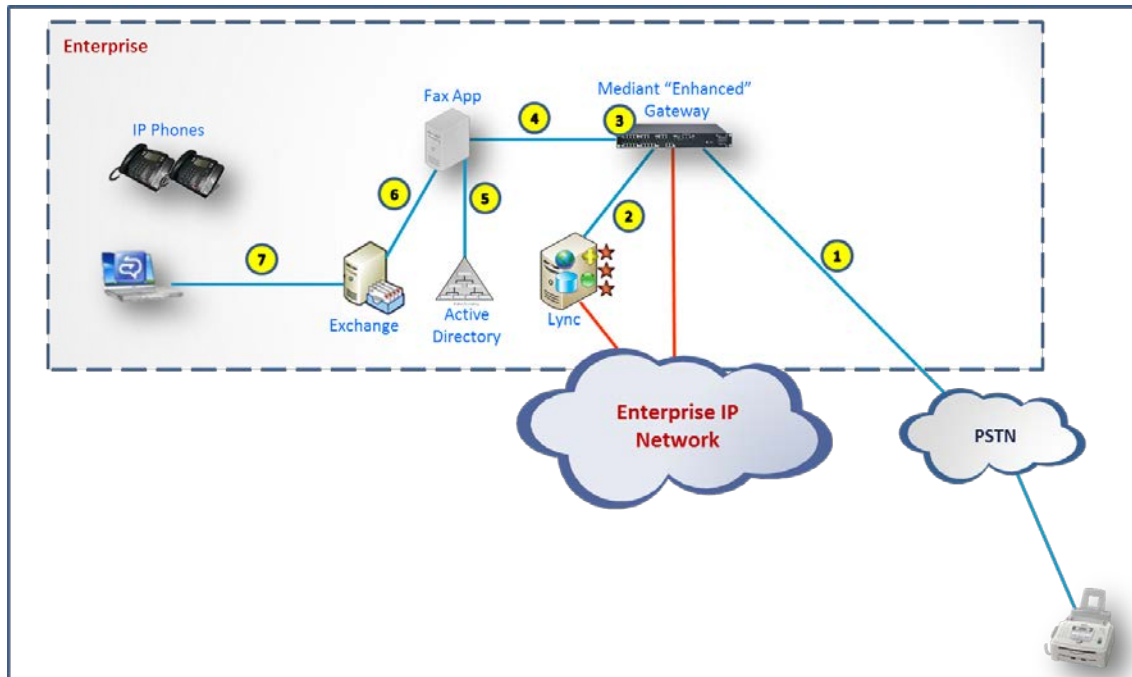


Table 4-2: Call Flow - Incoming Fax2Mail with Fax Detection Description

Step #	Description
1	Incoming Fax Call from PSTN to the AudioCodes Gateway (T.38 or G.711).
2	Call is routed to the Lync. The Lync user answers the call.
3	Gateway Fax Detection monitors the call. If the fax call is detected, the call is re-routed to the Fax server (T.38).
4	Fax server terminates fax call.
5	Fax2Mail service finds the destination user email in the company Active Directory (LDAP).
6	Fax server send email with PDF attachment to the mail server (SMTP).
7	User receives fax message in Outlook.

4.3 Outgoing Mail2Fax Flow

The diagram below illustrates the call flow for an outgoing fax call from the user.

Figure 4-3: Call Flow - Outgoing Mail2Fax

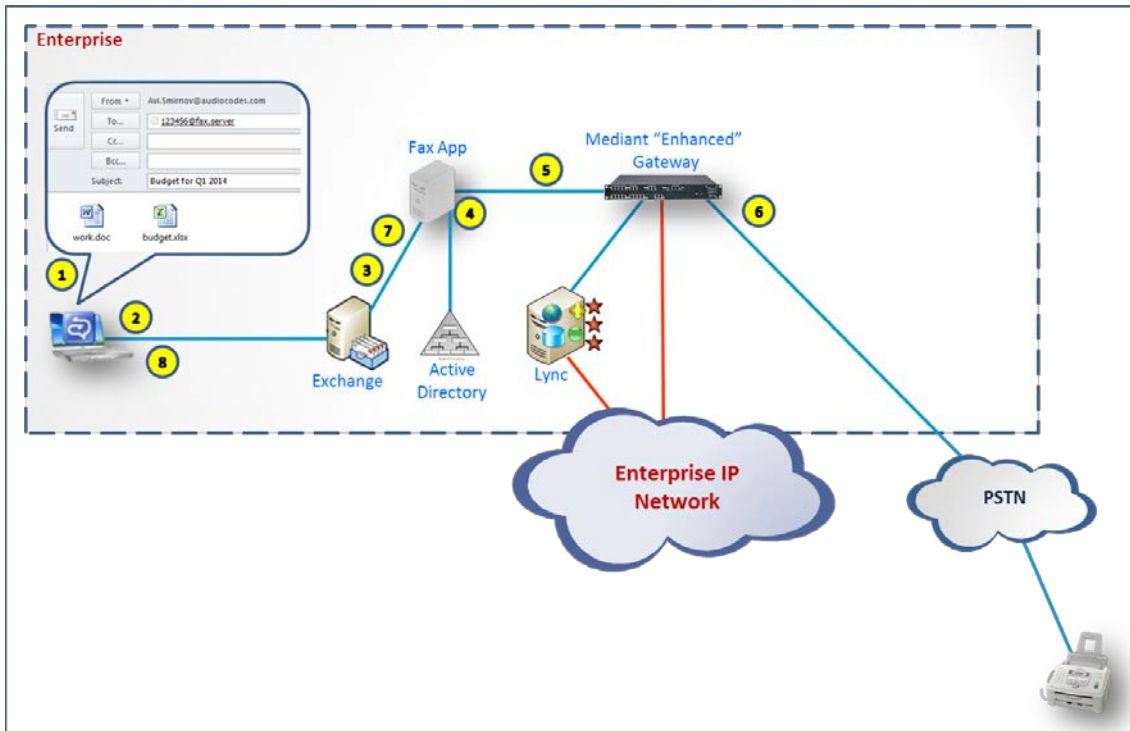


Table 4-3: Call Flow – Outgoing Mail2Fax Description

Step #	Description
1	User creates a new email with attachments and sends to <i>number@fax.server</i> (e.g. +972123456@fax.server).
2	Email is sent to the company mail server.
3	Company mail server forwards email to Fax server.
4	Fax server converts the email and attachments to fax format.
5	Fax server sends the fax via T.38 to the PSTN gateway.
6	Fax is sent to PSTN via AudioCodes gateway (T.38 or G.711).
7	Fax server sends a success/fail delivery email to the Mail server.
8	User receives success/fail report for the fax send operation.

Reader's Notes

5 Supported File Formats

The Mail2Fax application includes a file convertor tool that is responsible for converting the email attachments files into a Fax format.

The following file formats are supported by Mail2Fax:

- Adobe PDF
- ASCII Text
- ANSI Text
- Microsoft RTF
- HTML

The following graphic file formats are supported by Mail2Fax:

- BMP - MS Windows Bitmap image file
- FAX - Group 3 FAX encoding
- GIF - CompuServe graphics interchange format
- ICO - MS Windows Icons
- JPEG - Joint Photographic Experts Group JFIF format
- JPG - Joint Photographic Experts Group JFIF format
- PNG - Portable Network Graphics
- TIF, TIFF - Tagged Interchange File Format
- WMF - Windows Meta File

The following Office Processing formats¹ are supported:

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

For supporting additional file formats please contact your AudioCodes representative.

¹ Requires Microsoft Office to be installed on the Fax server.

Reader's Notes

6 Server Requirements

AudioCodes' Fax server requires a Windows 2008 R2 server. The Fax server can be installed on either:

- Dedicated server
- AudioCodes Mediant 1000 SBA server
- Mediant 800 SBA server

The minimum server specifications for running the Fax server include:

- 2 cores 2.4GHz with 2G RAM
- 120G hard disk or higher
- Must support running Hyper-V virtual machine

Reader's Notes

7 Managing Fax Server

AudioCodes' Fax server is managed using a Web interface that allows enterprise network administrators to manage General Settings such as Authentication settings, Users, License management, Backup and Restore procedures, etc.

The Fax server Web interfaces support online views for current fax send and receive operations and a reporting tool for historical fax transactions.

Web-based administration and management functions include:

- Manage all fax server settings for users, SMTP, LDAP, Licensing, etc.
- Online monitoring for sent and received faxes
- Historical fax call logs including advanced filtering and export to Excel capabilities.
- Import and export of users
- System backup and restore
- Customize email templates

The figure below shows an example of the Fax server online status Web interface.

Figure 7-1: Fax Server Web Interface – Fax Online Status

The screenshot displays the 'Welcome to Application Web Administration' interface. It is organized into three main sections:

- Fax To Mail:**
 - Messages in Progress: 0
 - Mails Sent Successfully: 4
 - (December 9). From: 7600. To: From Trunk 7600.
 - (December 9). From: 7600. To: From Trunk 7600.
 - (December 9). From: 4720. To: shay test.
 - (December 9). From: 4720. To: shay test.
 - Failed Messages: 0
- Mail To Fax:**
 - Messages in Progress: 0
 - No New Messages
 - Faxes Sent Successfully: 63
 - (17 minutes ago). From: Shay Harel. To: 4515.
 - (22 minutes ago). From: Shay Harel. To: 4515.
 - (28 minutes ago). From: Shay Harel. To: 4515.
 - (34 minutes ago). From: Shay Harel. To: 4515.
- General:**
 - Services Status:
 - Fax Engine:
 - Fax Server:
 - Fax To Email:
 - Email To Fax:
 - System Watchdog:
 - SMTP:
 - Fax Server:
 - Fax Received since startup: 0
 - Max Fax Ports: 8
 - System: 10.1.1.16
 - License: expiration
 - Version: ...

Reader's Notes

8 Licensing

AudioCodes' Fax server is licensed per the number of concurrent fax calls (incoming or outgoing). At any time, customers can purchase an additional license to increase the number of concurrent fax calls supported.

It supports activating a trial license that allows a limited number of concurrent calls for a limited time.

Reader's Notes

9 Technical Specifications

The table below lists the main technical specifications of the fax server.

Table 9-1: Fax Server Technical Specifications

Function	Description
Fax to Mail Features	
Methods	DID, LDAP search, fax detection, Number to Email table
Destinations	User email, administrator email, mailing list, local archive
Notification Type	Email with PDF attachment and fax details (from, date, pages)
Mail to Fax Features	
Send from	Outlook, OWA, Mobile client, Any SMTP email client.
Destination	One or multiple destinations
Cover page	Company cover page, self-user cover page
Retry	Mechanism for outgoing Fax attempts (e.g. Busy line or no answer)
Notification	Email notification for fail/success fax send, email includes the fax as PDF.
Least Cost Routing (LCR)	Send fax to remote gateway according to country codes
CLI Number manipulation	Manage the user outbound fax number
Supported Document Formats	
Document	Adobe PDF, ASCII Text, HTML, Microsoft RTF, ANSI Text
Graphic	BMP, FAX, GIF, ICO, JPEG, JPG, PNG, TIF, TIFF, WMF
Microsoft Office Software	Microsoft Word, Excel, Power Point
Other Windows application supporting Print-file	For additional file formats please contact AudioCodes
Administration	
	Web-based administration tool
	Manage users, SMTP, LDAP, License, General Settings, etc.
	Import and export users
	System backup and restore
	Web-based administration tool
Monitoring and Reporting	
	Online monitoring in process in/out faxes, server status
	Local archive of faxes.
	Historical calls logs, reports, filtering (from, to, time interval, from email, status), export to excel.
	Application services logs

Function	Description
Server Requirements	
	AudioCodes Mediant 1000 SBA, Mediant 800 SBA
	Dedicated server - Minimum server specifications include 2 Cores 2.4GHz, 2G RAM, 120G hard disk
	Windows 2008 R2 server, Hyper-V virtual machine
Fax Protocols	
	ITU T.38, T.30 G.711
	SIP UDP, TCP, TLS
Mail Server Integration	
	Microsoft Exchange
	SMTP Connector
	SMTP mail server
Gateway Integration	
	AudioCodes Gateways: Mediant 1000, Mediant 800, MediaPack 1xx
	PSTN Type: E1, T1, BRI, FXO, SIP Trunk
	T.38 and G.711 SIP Trunk
Security	
	Encrypted Fax Transmission over SRTP
	HTTPS for secured Web Client communications
	Send only to allowed destinations
	Only defined users may send and/or receive faxes

Reader's Notes



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