IMECOM DM FAX SERVER FOR FoIP

Migrate your network fax services from traditional PSTN-based faxing to Fax over IP (FoIP) with DM Fax Server for FoIP

DATASHEET

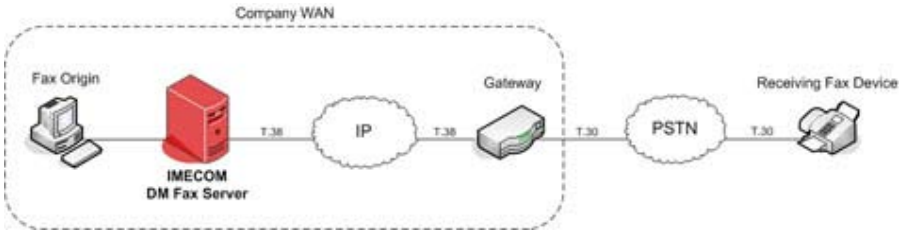
OVERVIEW

DM Fax Server from Imecom Group gives you all the features and capabilities to fax-enable your entire organization. You can implement and deploy faxing to all desktop PCs, integrate faxing into your existing email server environment, use your web browsers to send and receive faxes, and automate faxing and electronic document delivery of mission-critical business documents from all of your business applications.

DM Fax Server is a Windows-based enterprise fax server solution. It features a flexible rules-based architecture that enables system administrators to tailor the system to meet specific needs and requirements.

Imecom designed DM Fax Server to meet enterprise faxing needs of large organizations, however small- and mid-size businesses can also take advantage of all of the features and benefits offered with DM Fax Server.

This document focuses on the Fax over IP (FoIP) features and capabilities offered with DM Fax Server. You will learn about what Fax over IP is, how it can be used, and what the main features and benefits are for using FoIP.



FEATURES & BENEFITS

- Reduce network management and maintenance costs with a single converged voice, fax and data network.
- Leverage your corporate WAN to consolidate and centralize fax services across multiple locations, which in turn reduces management and telecommunications costs.
- Lower your long distance fax bill with least cost routing over the WAN.
- Eliminate analog fax lines and integrate multi-function peripherals to deliver "walk up" fax services over your VoIP network.
- Virtualize your network fax server. DM Fax Server for FoIP is available in an all-software version - no PCI-based fax cards required.

ABOUT IMECOM GROUP

Imecom Group began developing and selling fax server software and image conversion/printer driver software in 1989. Headquartered in New Hampshire, Imecom Group presently supports over 12,000 solutions in 62+ countries, and we're growing fast. As we continue to reach new technology levels, one thing remains constant: excellent customer support. Imecom Group maintains the highest quality level of customer support services in our market. It is one of the many reasons companies such as Alticor, Sears, Cigna, Johnson & Johnson Healthcare, Cerner, and others choose to implement our technology. We do not, and will not, forget that it is our customers who help us be successful.

Imecom Group's main products and solution include the DM Fax Server, part of the Use it Messaging product family, and Print-2-Image DM Fax Server is a true enterprise network fax server solution that offers desktop faxing email to fax and fax to email capabilities, and numerous fax and e-document delivery integrations for everyday applications. Print-2-Image is a robust image conversion software solution that functions like a printe and provides fast, high-quality image rendering.

Imecom Group's products and support services introduce newer, more efficient ways to process, deliver, and receive mission-critical information, resulting in improved productivity and increased cost savings.

IMECOM
Reinventing Reliable

WHAT IS FAX OVER IP?

With the increased implementation of VoIP networks, companies are now beginning to realize the advantages of implementing an enterprise-wide Fax over IP (FoIP) solution. With Imecom Group's DM Fax Server v8.0 and later, you can build on and leverage your existing VoIP network to send and receive faxes in real-time over your company's IP network.

Real-time Fax Over IP

Companies can achieve dramatic savings by integrating Imecom Group's DM Fax Server with their VoIP network.

Imecom Group, a Dialogic Application Partner, offers the Dialogic Brooktrout SR140 and TR1034 fax board platforms that support real-time fax-over-IP, providing you with the ability to integrate Imecom's DM Fax Servers with your VoIP network. As a result, you will achieve the same high levels of performance, reliability and scalability, all while capturing the benefits of fax-over-IP.

Imecom Group provides DM Fax Server solutions that may include the Brooktrout TR1034 fax board. This fax board supports both TDM and VoIP networks, giving you a smooth migration path from TDM fax to IP fax. And because Imecom's DM Fax Server is a single platform to support and maintain company-wide, we can help you eliminate the hidden costs of maintaining multiple vendor platforms. If you're looking for a corporate fax standard, Imecom is your best option.

In addition to physical fax board hardware, Imecom also supplies and supports the Brooktrout SR140 host-based fax-over-IP platform. The SR140 is perfect for companies that have already made the transition to VoIP, and are now looking to integrate a pure IP-based fax solution into the existing VoIP network. SR140 is a software-only solution that requires no additional hardware.

Why Fax-over-IP? Why not email?

With nearly 200 million fax machines installed worldwide, businesses must have a fax strategy. Simply, facsimile technology is the preferred method for electronically transmitting an original hard copy document. Critical functional areas such as finance, legal, human resources, sales, and procurement rely on fax to conduct their business. Demand for fax technology is not dependent upon the transport protocol, rather it is driven by the business needs that fax technology fulfills.

HOW DOES FoIP WORK?

Understanding how faxes are sent over an IP network requires a basic understanding of the T.38 and T.30 protocols. T.38 is the protocol that describes the process for sending and receiving faxes in real-time over a packet-switched network. T.30 is the protocol that describes the communication process between two fax devices on a circuit-switched network.

For an Internet aware fax device, such as a fax board, to reliably send and receive faxes over IP, that device must support the T.38 protocol. T.38 is designed to preserve the traditional fax experience, and ensures that faxes are successfully sent and received by making adjustments for jitter, latency, and packet loss, which are inherent in all IP networks. Without T.38, fax devices, which are sensitive to timing, cannot reliably send and receive faxes over an IP network.

Faxing over an IP network involves a piece of equipment, called a gateway. Shown in the diagram below, the gateway acts as an intelligent bi-directional bridge between circuit-switched and IP networks.

While the gateway sits between the two fax end-point devices, in this case the Imecom DM Fax Server and a fax machine, the faxing intelligence resides in the end point devices. As in traditional circuit switched fax technology, fax-over-IP devices are responsible for negotiating, synchronizing, and communicating with each other.

On the back end, the gateway sends and receives T.30 data wrapped in T.38 packets while in front it receives a traditional T.30 fax signal. The gateway recognizes the data as a fax and the repackages the data for consumption by both end points.

T.30, the same protocol used for faxing over traditional circuit-switched networks, remains at the heart of every IP fax connection with each end point requiring a high degree of T.30 interoperability. This is necessary since Internet aware fax devices must also be able to communicate with legacy fax devices.

Imecom Group's DM Fax Server supports the use of Brooktrout TR1034 and SR140 fax board technology, both of which also support real-time fax over IP. The TR1034 series fax boards supports traditional T.30 for faxing over a circuit-switched network and T.38 for fax over IP. The SR140 is a boardless virtual fax board that supports only T.38 for fax over IP.

IS FAX OVER IP SECURE?

Safe and Secure Faxing with DM Fax Server

In today's fast moving Internet economy, protecting your network from malicious hacker attacks, viruses, and fraud has become a serious requirement and not just a concern. Your world never stops - neither should your vigilance against attack. Connecting Imecom's DM Fax Server to a network can save you time and money in terms of reduced labor costs and improved productivity. However, IT professionals may be concerned that someone might infiltrate the network through their DM Fax Server. In addition, as companies migrate their voice and data networks to IP, IT administrators may also be concerned about the additional risk of security breaches.

Security of a "Fax Only" Enterprise Fax Server

Unlike other fax solutions that use dual-purpose fax and data modems, Imecom Group's DM Fax Server utilizes Cantata's Brooktrout intelligent fax boards which are single purpose fax boards that transmit information only via the T.30 and T.38 "fax only" protocols. For IT administrators, this translates to zero added security risk from the Imecom DM Fax Server.

T.30 is a fax handshake protocol that describes the overall procedure for establishing and managing communication between two fax devices. Because Imecom's DM Fax Server utilizes Brooktrout intelligent fax boards, trying to hack into a network is like trying to hack into a fax machine. T.30 does not allow for the processing of data or the transmission of data, and only allows for the transfer of fax images (known as T.4 and T.6 images).

T.38 is an IP-based protocol that closely inter-works with T.30 to enable the same fax procedures over IP in real-time. T.38 only handles images. It does not handle files that could potentially contain viruses, worms or Trojans. Furthermore, T.38 only handles image data that is not executable.

In DM Fax Server configurations that include a TR1034 fax board, the board interprets the content of the data that was sent to it, either over the PSTN or over the IP network, prior to DM Fax Server passing it on to the network. This interpretation means that malicious code cannot pass through it in any way. If it's not a valid T.30 message, it gets dropped. If it's in the image data, the error handling that is done during image decoding will throw it out.

On the contrary, alternative fax server solutions that support inexpensive, simple data modems can expose your network to attacks. Data modems that support both the V.90 and V.92 protocols, which are 56Kbps data transfer standards and have data exchange capability, are merely transport devices that do not interpret the data packets they are carrying. This means that when a data modem is connected to the network, it's just like having an IP connection to the computer network. The fact that a data modem allows the transfer of data, and not just fax images, makes a network very susceptible to security breaches by would be hackers, viruses, worms and Trojans. It is very important to consider this when making your decision on a fax server.

"BOARDLESS" FAX SERVER SOLUTIONS

The Imecom DM Fax Server for FoIP leverages the Dialogic Brooktrout SR140 "boardless" fax software to route fax traffic over VoIP networks. The Brooktrout SR140 can be deployed in SIP, H.323, and MGCP environments and provides native SIP and H.323 support. It has been successfully tested for interoperability with IP-PBX and VoIP gateways from leading vendors such as Cisco, Avaya, Nortel, Mitel, Siemens, AudioCodes, and many others.

No Fax Boards To Install Or Maintain

Faxing without fax board hardware reduces complexity and simplifies deployment and logistics. Upgrades are now accomplished with software downloads. The need to stock spare fax boards is eliminated.

Lower Faxing Costs

Enabling Fax over IP on VoIP networks can reduce long distance and toll charges, bringing your overall fax communication costs way down. Furthermore, FoIP reduces administrative and maintenance costs. Maximize your VoIP network by migrating traditional fax to FoIP!

DID Fax Routing Support

The Imecom DM Fax Server and Brooktrout SR140 support DID fax routing. This enables you to route faxes to specific users, email inboxes, network folders, printers, workflows and document management applications, and compliance systems - automatically.

Scalability

Each Brooktrout SR140 supports anywhere from 2-60 channels, but you can run as many as 120 ports per DM Fax Server. Furthermore, scaling the number of ports is as easy as activating more licenses. With SR140, you no longer have to worry about adding more cards or running out of space in your server.

Virtualization

Because the DM Fax Server uses SR140 boardless fax software rather than traditional PCI-based fax board hardware, you can now deploy DM Fax Server on virtual server platforms such as VMware ESX Server and Microsoft Hyper-V.

IP TELEPHONY COMPATIBILITY

The following IP Telephony and Network Access Services have been tested and certified for interoperability with the Virtual DM Fax Server system. Required protocols include T.38 and SIP or H.323.

For a complete list of interoperable products and services, including specific protocol and version/release information, please visit the FoIP Compatibility Page on our website.

If you do not see your equipment or service listed, it does not necessarily mean that it is not interoperable with the Virtual DM Fax Server. Imecom is open to testing new products for interoperability. Contact your sales representative for more information.

IP-PBX and VoIP Gateways

- Aastra Ericsson MX-ONE
- Alcatel OmniPCX Enterprise and OmniPCX Office (OXO)
- AudioCodes Mediant and MP-114
- Avaya Communication Manager and Avaya Media Gateway Services
- Cisco Unified Communication Manager (Unified CallManager), Cisco Integrated Services Router, Cisco AS Universal Gateway Series, and Cisco High Performance Gatekeeper Series
- Dialogic DMG 1000, 2000, 3000, and 4000 Series and Dialogic IMG 1010 *
- Linksys SPA 8000 Gateway
- Mitel 3300 MXe
- MultiTech MVP210
- Nortel Communication Server 1000
- Patton 4960 PRI Gateway
- Quintum Tenor Series
- Siemens HiPath 8000 and Siemens RG8702 Media Gateway
- ShoreTel IPBX/Gateway Release 10 or higher
- 3Com VCX v7000 and 3Com Media Gateway

* Imecom Group sells Dialogic analog and digital media gateways. Ask your sales representative for more information and pricing.

Network Access/SIP Trunking Services

- Global Crossing
- Broadvox

System Requirements

DM FAX SERVER HARDWARE REQUIREMENTS

Recommended	Minimum
• Intel Pentium IV (or equivalent) 2GHz Processor • I GB RAM • 40 GB Hard Disk • Network Interface Card (NIC) • VGA adapter and monitor • CD-ROM Drive	• Intel Pentium III (or equivalent) 500MHz Processor • 512 MB RAM • 20 GB Hard Disk • Network Interface Card (NIC) • VGA adapter and monitor • CD-ROM Drive

SUPPORTED OPERATING SYSTEMS

DM Fax Server – Server Software	DM Fax Server – Client Applications
• Windows Server 2008 Enterprise Edition (x32 and x64) • Windows Server 2008 Standard Edition (x32 and x64) • Windows Server 2008 Cluster (x32 and x64) • Windows Server 2003 Enterprise Edition (x32 and x64) • Windows Server 2003 Standard Edition (x32 and x64) • Windows Server 2003 Cluster (x32 and x64) • Windows 2000 Advanced Server • Windows 2000 Server	• Windows 7 (x32 and x64) • Windows Vista (x32 and x64) • Windows XP Professional SP2 (x32 and x64) • Windows 2000 Professional SP2

VMWARE *

Dialogic Brooktrout SR140	VMware
• SR140 SDK 5.1.3 or later (TR1034 is not compatible with VMware at this time) • VMware ESX Server version 3.0.1 or later within the 3.0.x product line or ESXi Server 4.0.0 or later using Windows • Windows Server 2008 Enterprise & Standard Editions • Windows 2003 Enterprise Edition, Service Pack 2 • Windows 2003 Standard Edition, Service Pack 2 • Windows 2000, Service Pack 4	The VMware virtual environment created for SR140 must meet SR140 minimum requirements as well as the minimum processor emulated by VMware, which is the Xeon processor. Therefore, the minimum requirements of the virtual machine presented to SR140 are: • Single Xeon Processor - 2 GHz • 512 MB memory This results in approximately 15% CPU utilization when running 120 simultaneous SR140 faxes.

* The Dialogic Brooktrout SR140 must be used in order to run the DM Fax Server on a VMware platform. Traditional PCI-based fax cards are not supported.

SUPPORTED FAX BOARD PRODUCTS

Dialogic Brooktrout
• TR1034 Series - T1, PRI, E1, BRI, Analog, and Analog DID fax boards • SR140 Series - “Boardless” fax board software • TruFax Series - Analog fax boards