

The Advantages of Integrating Multi-Function Peripherals (MFPs) with Fax Servers

A Joint White Paper from Open Text and Dialogic® Technology

Open Text Fax and Document Distribution Group
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Contents

Executive Summary / Introduction	3
Limitations of MFP Fax Modems	4
Limitations of fax-enabled MFPs with fax modems	5
Fax Operational and Productivity Challenges	6
Benefits of integrating MFPs with a fax server	6
Compliance Requirements	8
IP Migration	9
Advantages of Integrating MFPs with Fax Servers	11
Compliance Benefits	13
Feature Benefits of Fax Servers	14
Performance Benefits of Fax Servers	15
Support for IP migration.....	15
Deploying Integrated Fax Server Solutions	16
Efficient and secure faxing with Open Text Fax Server, RightFax Edition	16
The proven market leader in fax server and electronic document delivery	17
The most reliable and robust fax server integrations and connectors	17
Helping the Enterprise Drive Revenue, Cut Costs and Meet Compliance Goals	18
Leveraging proven Dialogic fax technology	18
Conclusion	20



Executive Summary / Introduction

Multi-Function Peripherals (MFPs) are increasingly being deployed to replace traditional copying, printing, faxing and scanning devices with a single peripheral. By consolidating these functions on one device, IT organizations save valuable time, resources and office space. Demand for MFPs continues to grow, and in its report, *U.S. MFP and Digital Copy 2005 Vendor Shares*, market research firm IDC estimated the growth of MFPs in the United States alone to be over 15 percent that year. As MFPs are increasingly deployed, organizations can select two alternate methods of integrating faxing with MFPs—they can install fax modems into MFPs or choose to integrate MFPs with a centralized fax server.

In addition to providing fax capability at the device, fax servers can enable business applications and desktop computers to send and receive faxes. Fax servers also allow users to choose from cover pages, specify transmission instructions, integrate contact information from directories, fax to group lists, receive delivery notifications and receive faxes directly in their email inbox.

By selecting a centralized fax server, organizations can overcome the limitations of MFP fax modems and reap operational benefits from high-performance, centrally managed fax solutions. This white paper contrasts integrating MFPs with fax servers versus deploying fax modems within MFPs, and it discusses the productivity, performance, compliance, security, Internet Protocol (IP) migration, and economic advantages of integrating fax servers with MFPs. It also reviews the cost savings of fax server solutions and highlights the advantages of centrally capturing, storing and securing fax documents.



Limitations of MFP Fax Modems

Installing a fax modem in every MFP can be expensive, and it limits the ability to scale the deployment of multiple MFPs across the enterprise. It perpetuates the deployment and cost of analog phone lines, creates unnecessary security risks, lacks key fax functionality, and obstructs an organization's ability to migrate to converged IP networking.

MFP fax modems offer a limited upgrade path to IP communications. They are available strictly as analog or Integrated Services Digital Network (ISDN) modules, and because of their limited scalability potential, they do not lend themselves to corporate-wide fax implementations. Additionally, fax-enabled MFPs do not support the International Telecommunication Union (ITU) T.38 standard for sending fax messages over IP networks, and they will not integrate with the IP Private Branch Exchange (PBX) systems to which many companies are migrating. Some MFP fax modems are simply re-purposed Class 1 or Class 2 fax modems which support data communications protocol such as the V.90 specification, which potentially allows hackers to connect with an MFP to intrude into an enterprise network.

MFP fax modems lack Direct Inward Dialing (DID) for routing inbound faxes directly to the desktop of the intended recipient, and some do not support Error Correction Mode (ECM)—a standard protocol for correcting errors in the fax transmission process and reducing the number of unsuccessful fax attempts

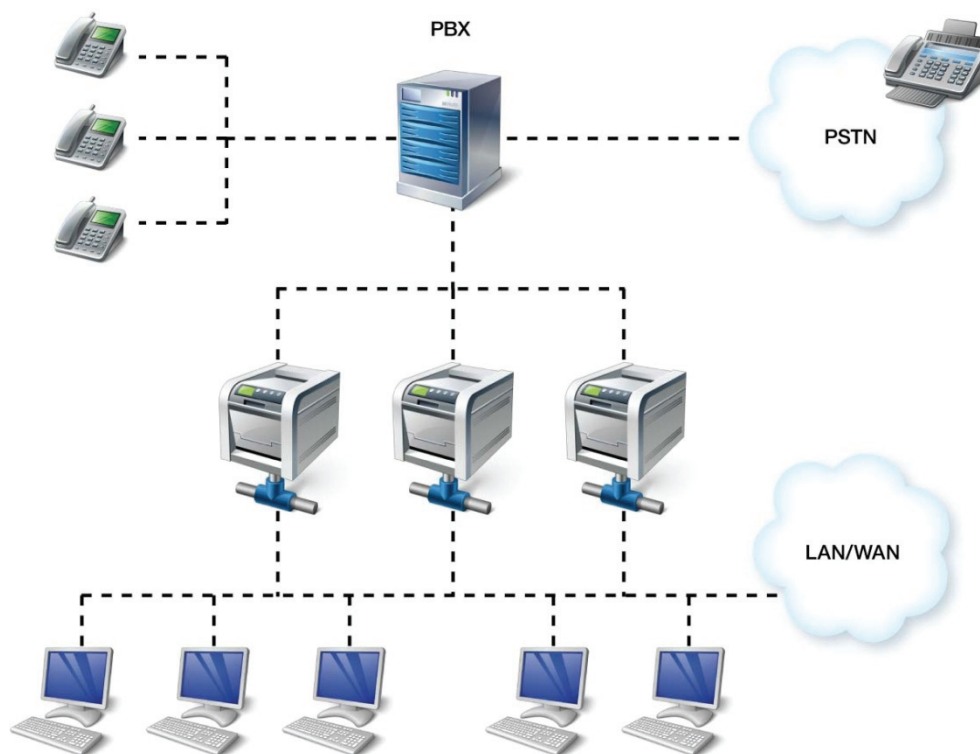


Figure 1: Installing fax modems within MFPs increases infrastructure complexity by requiring each MFP to be connected to both the Local Area Network (LAN) and to a PBX port.



Limitations of fax-enabled MFPs with fax modems

- Perpetuates the deployment and cost of analog phone lines and increases the complexity of the overall infrastructure
- Creates unnecessary security risks
- Lacks key fax functionality (DID)
- Obstructs an organization's ability to migrate to converged IP networking and to scale with growth
- Lacks the ability to retain fax images or data about these images



Fax Operational and Productivity Challenges

Each time a fax is sent manually via a stand-alone fax machine, the user has to print the document, walk to the fax machine, write out the cover sheet, type in the fax number and then typically wait around the fax machine to send the fax and confirm delivery. This process can easily take five minutes per fax; if the person responsible for sending faxes is paid \$12-18/hour, then the cost of manually sending faxes can range from \$1-\$1.50 per fax. Multiply that by the number of faxes an organization sends each year and the labor cost for faxing quickly becomes overwhelming.

Deploying fax-enabled MFPs does have some advantages over using stand-alone fax machines. Users can send and receive faxes from the MFP just like they can with a fax machine, and since an MFP is connected to a LAN, some fax-enabled MFPs offer basic fax server features such as faxing to and from desktop computers. However, this option lacks many useful capabilities that are offered by a fax server.

By integrating MFPs with fax servers, organizations can further improve productivity and streamline operations. Inbound faxes can be automatically directed to a user's email inbox, and users can generate outbound faxes using fax software deployed on the desktop. Desktop fax enables users to send and receive faxes confidentially and securely from a PC.

Fax servers also allow businesses to implement production faxing so enterprise applications can automatically generate faxes without manual intervention. Businesses can integrate existing file and mail servers, hosts, Enterprise Resource Planning (ERP), or Customer Relationship Management (CRM) systems with fax software to automate the electronic delivery of standard documents; such as purchase orders, invoices, and order confirmations. Organizations can also centrally archive inbound and outbound faxes, and implement Optical Character Recognition (OCR) to enable easier searches to find and retrieve fax documents.

By integrating multiple MFPs with a fax server, organizations get the best of both worlds. An MFP not only acts like a stand-alone fax machine, allowing users to fax hard copy documents, but the fax server also provides advanced faxing services to the MFP user, while at the same time supporting desktop faxing and production faxing from enterprise applications. Integrating MFPs with a fax server also allows organizations to enforce standard processes for all fax traffic, and it allows companies to implement and automate formalized frameworks for fax workflows, document management, and document retention.

Benefits of integrating MFPs with a fax server

- Enables desktop faxing both inbound and outbound
- Enforces standard processes for all fax traffic
- Provides confidential and secure fax transmission



- Enables production faxing from enterprise applications
- Consolidates all faxing operations under centralized management
- Retains a copy of the fax image and the data related to that image so the enterprise can store business-critical information
- Provides an archive of both inbound and outbound faxes



Compliance Requirements

Whether it's Sarbanes-Oxley (SOX), the Freedom of Information Act, the Health Insurance Portability and Accountability Act (HIPAA), Basel II, SEC Rule 17a, the Gramm-Leach-Bliley Act, or any other regulatory framework, compliance has vaulted to the top of almost every company's agenda around the globe. Compliance with regulations for protecting access to information requires some basic elements—including structure, repeatable processes, security, auditability, and archiving. These aspects can be achieved with an MFP fax server integration that enforces compliance with process and information security for faxes that are otherwise typically handled manually—if they are even handled at all.

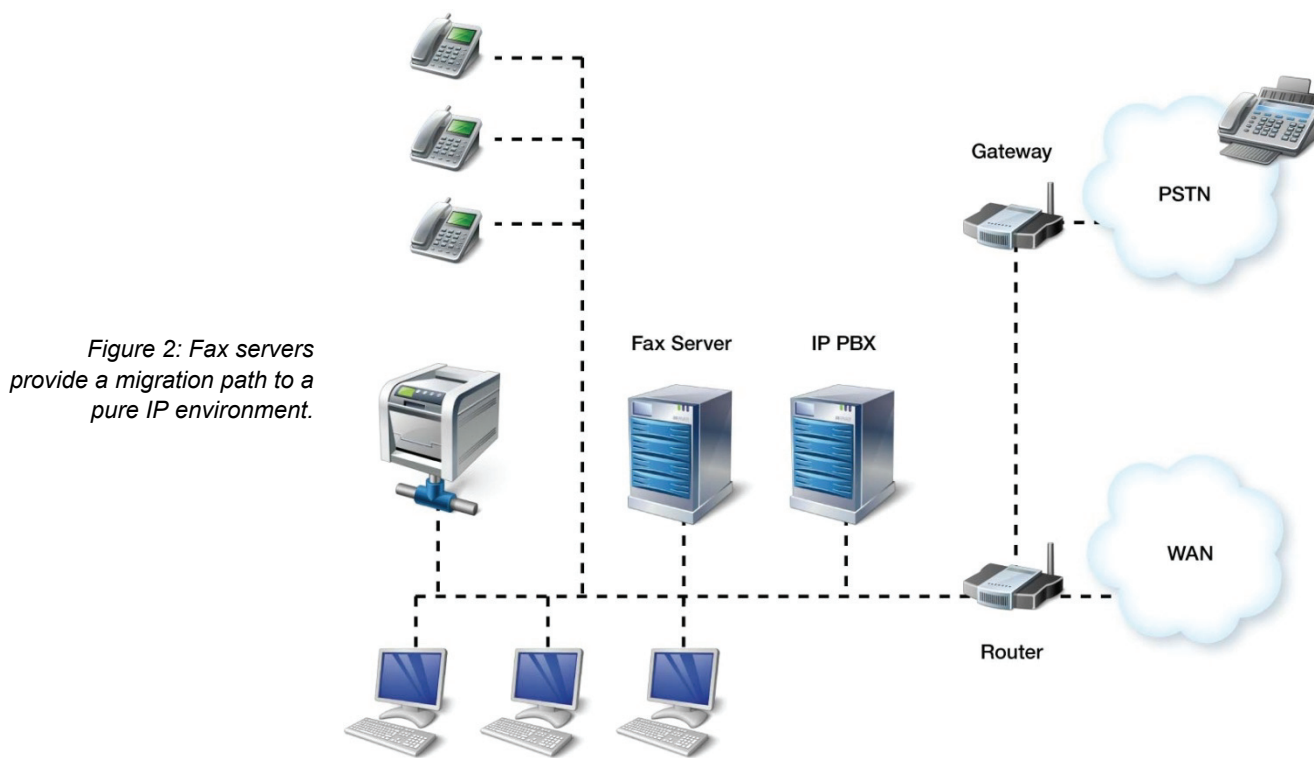


IP Migration

According to market research firm Gartner®, 91 percent of all enterprise telephone sales will be IP-capable by the year 2009. Implementing a converged IP communications network delivers tremendous benefits, but an area often overlooked by companies migrating to Voice over IP (VoIP) is how to handle fax traffic.

MFPs must be connected to IP networks to support printing and scanning, but if the enterprise deploys a fax modem in the MFPs, each device must be concurrently connected to both the LAN and a PBX port.

MFP devices do not provide IP fax support and only offer analog or ISDN fax modules, while fax servers provide a migration path to a pure IP environment. With the ongoing shift to converged IP networks, the best choice is to purchase a fax server that supports Fax over IP (FoIP) and integrate the MFPs with it



Integrating MFPs with a fax server offers major benefits over deploying MFPs with fax modems into MFPs across the enterprise



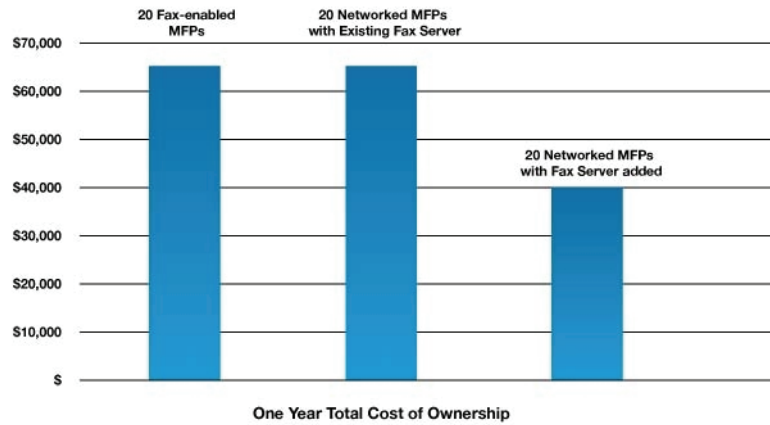
MFPs Integrated with a Fax Server	MFPs with Fax Modems
Consolidation of phone lines	Perpetuates modems and analog phone lines
Supports high-volume processing	Not scalable for high-volume fax traffic
Enables centralized capture of all fax traffic	No centralized capture, storing, or archiving
Enables scalable desktop faxing	Not scalable for growing communities of desktop fax users
Centralized administration of fax functionality	No centralized administration of fax functionality
Comprehensive reporting and auditing capabilities	No centralized reporting capabilities
Enables integration with enterprise applications	No back-office integration capabilities
Inbound fax routing to multiple destinations	Routes inbound faxes to a shared MFP
Interface to DID trunks	No interface to DID trunks
Certified and encrypted delivery options	No certified and encrypted delivery options
Simplified deployment of MFPs via LAN connections	Requires both a LAN and a PBX connection
Supports Error Correction Mode	Many MFPs lack ECM support
Secure from inbound attacks	Internal modem potentially exposes backdoor to the enterprise LAN
Efficient support for Fax over IP	No migration path to Fax over IP



Advantages of Integrating MFPs with Fax Servers

Integrating a fax server with MFPs has many advantages over the option of deploying fax modems in MFPs. The first advantage is cost. Fax enablement of an MFP costs an average of more than \$1,000 per device, when you analyze the cost of purchasing the fax modem and software. When an organization has five or more MFPs, it is more economical to consider a fax server. Organizations also have the ongoing costs of tying up a PBX port for each fax line, including the per-port maintenance cost companies pay for PBX platforms. Also, since it is difficult to deploy FoIP with analog fax modems, using an MFP fax modem restricts organizations from benefiting from routing fax traffic over their VoIP networks.

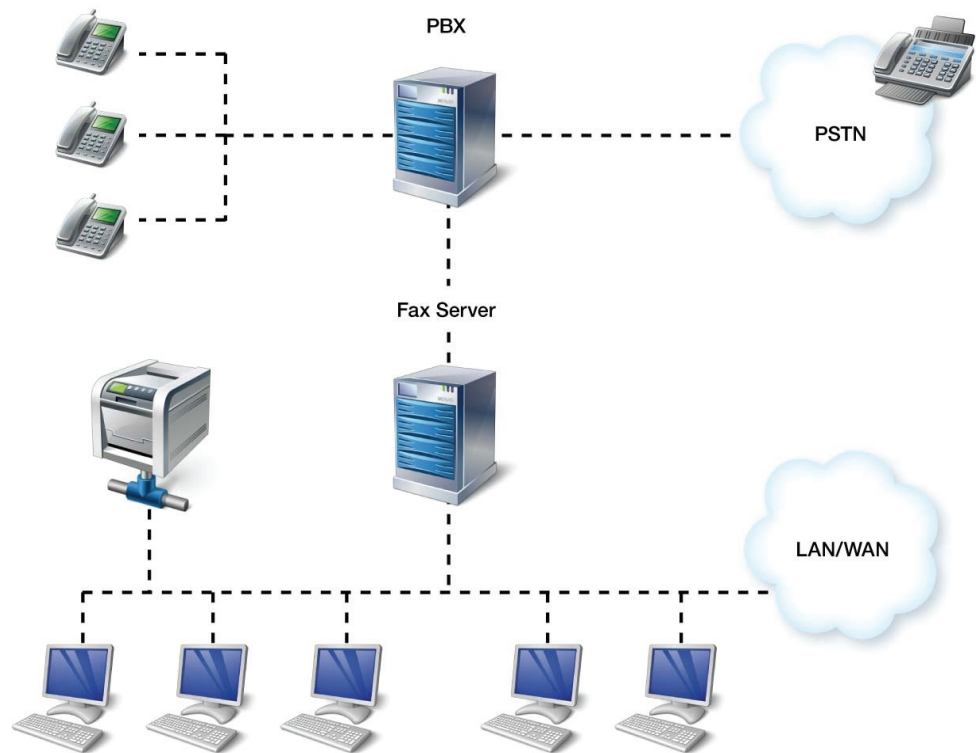
Figure 3: Integrating a fax server with MFPs is a more cost-effective solution than deploying a fax modem in each MFP.



Research from Open Text found that it is much more cost effective to integrate MFPs with a fax server than to deploy fax modems into MFPs and deploy and manage analog lines. Not only is the initial outlay more in line with cost reduction initiatives, but the organization also gains the ability to scale faxing tremendously while tracking and auditing all documents being sent or received. Investment breakeven for networked MFPs with a fax server is normally achieved in less than a year.



Figure 4: Fax servers support the scalable and efficient deployment of MFPs throughout the enterprise by eliminating the analog telephone line needed for MFP fax modems.



In addition to the cost benefits gained through reduced infrastructure complexity, organizations can leverage fax servers to automate and streamline business processes. Each user can be assigned a fax number, and inbound faxes can be routed directly to the email inboxes of the intended receivers. Users can fax documents directly from their PCs, avoiding the downtime of walking to an MFP to send and receive faxes. Organizations can also integrate a fax server with existing enterprise applications to increase document delivery efficiency by relying on production fax. With production fax, a company can reduce the cost of manually faxing documents by as much as 90 Percent by automating fax delivery and reducing the administrative costs of printing and then mailing or faxing documents.

Inbound faxes are delivered directly to the desktops of recipients, and the enterprise uses less toner and paper, since faxed documents are only printed when necessary. Centralized fax servers are much easier to install and administer than deploying fax modems in many MFPs located throughout the organization. There is no need to connect MFPs to PBXs, and fax traffic can be centrally monitored and managed. Companies can avoid the many difficulties involved with converting analog fax traffic to run over IP infrastructure and develop a more cost-effective migration path to VoIP and FoIP.



Compliance Benefits

Many companies deploy fax machines today as shared devices in public places. But this makes it impossible to comply with regulatory requirements for protecting access to information. For example, Gramm-Leach-Bliley mandates strict controls for financial services account information, HIPAA requires healthcare providers to protect patient information, and Sarbanes-Oxley places the obligation on publicly held corporations to enforce internal process controls on financial information. Managing the privacy of inbound fax traffic is one of the fastest-growing issues in fax compliance. When confidential information arrives by fax, companies do not want it to be reviewed by random “fax bystanders”.

Stand-alone fax machines and fax-enabled MFPs are unsuitable for processes governed by compliance frameworks. Fax servers can support DID routing to intended recipients without the need for manual processing of inbound faxes. Without a dedicated user or log on, walk-up fax machines and fax procedures are inherently unstructured. Walk-up faxing is unsuitable for complying with regulations to protect information, but network faxing provides the security and process control advantages needed to meet compliance requirements. Fax documents are essential to a range of key business processes in all industries, and fax servers allow organizations to centrally control inbound and outbound faxing, and improve process control, auditability, and archiving of all fax traffic from a multitude of applications and devices, such as MFPs connected to the corporate network.

With heightened demands to retain and manage information for compliance and risk-reduction purposes, organizations are under more pressure than ever to provide long-term, secure storage of fax messages. Fax traffic can be integrated with document management systems, allowing organizations to store and archive both inbound and outbound faxes. Centralized fax servers can also be integrated with business process management and workflow solutions to deliver improved productivity, increased accountability, and standardized workflows for protecting fax document security and enabling continuous process improvement across the enterprise.



Feature Benefits of Fax Servers

Fax/data modems used in fax boards installed in MFPs do not support DID routing. But a fax server based on intelligent fax technology can capture DID information from an inbound fax call, look up the user associated with that DID information, and forward the fax to the intended recipient at a desktop computer or to an enterprise application that automatically processes the inbound fax. Organizations can centralize faxing and integrate faxing with multiple fax client software applications and back-office business processes.

Fax servers can also be integrated with enterprise applications to enable production fax and application-generated outbound faxes such as a purchase order, invoice, or payment receipt. Many previously labor-intensive processes can be automated so that applications automatically generate faxes. Production faxing increases organizational efficiency, extends the value of enterprise applications, and allows companies to improve customer satisfaction by providing efficient order and information processing.



Performance Benefits of Fax Servers

Server-based faxing allows organizations to improve throughput and performance. Intelligent fax servers allow organizations to centrally implement OCR and archive faxes for easy search and retrieval. They are highly scalable, and can support DID inbound routing for direct delivery of faxes to the desktop. Fax servers are purpose-built to do one thing well—send and receive faxes.

Unlike fax modems that can be installed in MFPs, a fax device installed in a fax server is designed strictly for faxing and does not expose the organization to security threats. There is no risk of a hacker dialing into an MFP and leveraging an internal V.90 data modem to illegally access applications via the LAN.

Fax servers support ECM, which automatically detects and corrects errors in the fax transmission process. The page data is divided into octets, and when the receiver has received all the octets, it examines them and then advises the transmitting fax of any octets that are in error. The transmitting fax then needs to only resend the blocks with errors rather than a whole page. ECM provides a higher likelihood of a fax transmission succeeding over a noisy analog line.

Support for IP migration

Traditional fax technology has been designed for analog transmission over a circuit-switched network, and it is inherently incompatible with transmission over a packet-switched network, primarily because of packet loss and jitter. MFPs with internal analog or ISDN fax modems do not support real-time FoIP, and options for migrating to converged IP networks are limited.

While fax modems deployed in MFPs have no practical upgrade path for IP communications, fax servers generally support T.38 and allow organizations to migrate to converged IP networks. T.38 is an ITU standard for sending faxes across IP networks in a real-time mode. It describes the process for transferring fax documents in real-time between two standard Group 3 fax devices over the Internet or IP networks. The need for reliable faxing over IP networks—including the Internet—is increasing as the popularity of VoIP increases.



Deploying Integrated Fax Server Solutions

Organizations can capitalize on the advantages of integrating MFPs with fax servers by deploying a technology solution from Open Text and Dialogic®. Knowledgeable resellers offer the products from Open Text and Dialogic, and provide the professional services expertise to offer robust integrated network fax solutions.

Open Text is a leading provider of software products that automate business processes, manage documents electronically, and provide efficient information delivery. Dialogic provides enabling communications hardware and software that empowers the creation and delivery of anytime, anywhere IP-based communications applications. Open Text and Dialogic work together closely to deliver an integrated network fax solution that allows organizations to centrally manage all faxing throughout an enterprise. Customers can purchase a complete bundled solution from Open Text that includes the Dialogic fax products and centralize control over MFP faxing.

Efficient and secure faxing with Open Text Fax Server, RightFax Edition

The Open Text Fax Server, RightFax Edition family of fax servers provides enterprise fax and electronic document delivery capabilities. Designed to be scalable and expandable, Fax Server servers can meet the document delivery needs of any size organization, from small departments to the largest enterprises. Fax Server servers help organizations to reduce costs, improve productivity, and meet compliance goals by integrating fax with email, desktop, and document management applications and by enabling high-volume document delivery from CRM, ERP, and host applications.

The Open Text Fax Server MFP Connector offers out-of-the-box support for many MFPs vendors, enabling organizations to rapidly implement a consolidated solution for faxing, printing, scanning, and copying. The Fax Server MFP Connector makes it simple to connect the MFPs to the fax server¹. A comprehensive set of administrative tools makes Fax Server easy to install, configure, and manage. Synchronization with Microsoft® Windows Server® Active Directory makes it even simpler to administer users from a single location. Fax Server is tightly integrated with Open Text Document Server, Alchemy Edition, and Open Text Workflow Server, .NET Edition to provide end-to-end document delivery, workflow, and document management.

1 Note: Support for other MFP manufacturers is continually being added by Open Text or the vendor, and the list of supported features may vary from manufacturer to manufacturer—please contact Open Text or the related vendor for up-to-date support information before purchasing.



The proven market leader in fax server and electronic document delivery

Fax Server is installed worldwide in thousands of organizations. According to the *2005-2010 Computer-Based Fax Markets Report* by Davidson Consulting, Fax Server has over 30 Percent share of the global fax server software market and its share is more than two and a half times larger than that of its nearest competitor. Fax Server is proven in a variety of industries----including healthcare, financial services, government, manufacturing, and legal----and Open Text offers tailored solutions for healthcare and financial services organizations. Open Text has strong and deep channel relationships. The company has more than 1,000 partners worldwide, with some partnerships lasting more than 15 years.

The most reliable and robust fax server integrations and connectors

Reliability is the number one reason why new customers choose Fax Server from Open Text----it supports 24/7 fax operations. Fax Server uses Microsoft® SQL Server™ for enterprise scalability, reliability, performance, and interoperability. Open Text provides a breadth of offerings in add-on modules and connectors, and the ability to add document delivery channels and capacity. Fax Server offers the simplest set of integrations to most back-office and front-office systems, and it provides open Application Program Interfaces (APIs) to enable easy integration with other enterprise applications. Fax Server has more certified, tested and endorsed integrations than any other vendor, and Open Text has long-standing integrations and partnerships with many leading technology companies.



Helping the Enterprise Drive Revenue, Cut Costs and Meet Compliance Goals

Fax Server reduces information delivery costs by eliminating manual document delivery processes and associated labor, equipment, and supply costs. It provides tamper-resistant document delivery, receipt, and tracking from virtually any enterprise application. Fax Server supports certified and encrypted document delivery, and it is relied upon as a centralized, secure information delivery hub that supports corporate compliance to government regulations. Fax Server helps organizations automate processes and reduce errors, and it allows organizations to allocate resources more effectively by eliminating error-prone, time-consuming manual faxing.

Leveraging proven Dialogic fax technology

With over 70 Percent market share worldwide, Dialogic is the market leader in intelligent fax platforms. The Dialogic Brooktrout® intelligent fax technology reduces cost and maximizes Return on Investment (ROI) by providing the most reliable and secure fax platforms available. Regardless of whether faxes are being sent over IP or over the Public Switched Telephone Network (PSTN), patented Dialogic inbound fax routing technology enables companies to fully automate document delivery directly to the desktop.

Dialogic has continually innovated and contributed to the improvement of fax technology, and co-authored the T.38 real-time FoIP protocol. Dialogic's implementation of T.30 has been more extensively field-tested than any other T.30 protocol stack on the market. Nearly 50 application software companies support Dialogic's intelligent fax technology.

The Dialogic Brooktrout SR140 offers businesses of all sizes real-time FoIP capability in a software-only form factor delivering the same high performance that companies have come to expect from the Dialogic intelligent fax boards. The SR140 is a host-based intelligent fax platform from Dialogic that takes advantage of the latest advances in computational processing power. Host-based processing allows media processing and call control functions—traditionally performed by specialized Digital Signal Processors (DSP) on boards—to be performed on general-purpose host processors in industry-standard servers.

The SR140 is available in a variety of densities, from two to 60 channels, and is suitable for a variety of computer-based fax applications such as fax server, unified messaging, fax document management, and compliance systems. It supports both SIP and H.323 call control and has been tested and certified with market leading T.38 gateways.

The Dialogic Brooktrout TR1034 is a high-performance intelligent fax board offering support for PSTN and FoIP connectivity. It delivers unmatched call completion at the fastest possible connection rates, across a wide variety of fax machines and line conditions—while delivering the ultimate in flexibility.



The TR1034 T1/E1 preserves enterprise investment by supporting both PSTN and VoIP networks, enabling companies to install fax technology with the confidence that fax servers can continue to be leveraged as organizations transition to VoIP. For IP network connectivity, the TR1034 digital T1/E1 provides an Ethernet interface and supports real-time FoIP via T.38, SIP, and H.323 call control protocols. For PSTN-based faxing, the TR1034 is offered in a variety of analog, Basic Rate Interface (BRI), and Primary Rate Interface (PRI) configurations.

Dialogic also offers the Dialogic Brooktrout TruFax®, a line of intelligent fax boards that offer small businesses and departmental workgroups dependable network fax capabilities. The TruFax intelligent fax boards are available in several configurations, with up to four channels per board for dedicated send and receive channel configuration. The TruFax one-channel analog and two-channel BRI fax boards are designed for customers who have occasional faxing requirements but still require a highly reliable and dependable intelligent fax board.

With nearly 20 years experience since pioneering the intelligent fax technology category, Dialogic has built a solid reputation for delivering the best value in the industry.



Conclusion

The TR1034 T1/E1 preserves enterprise investment by supporting both PSTN and VoIP networks, enabling companies to install fax technology with the confidence that fax servers can continue to be leveraged as organizations transition to VoIP. For IP network connectivity, the TR1034 digital T1/E1 provides an Ethernet interface and supports real-time FoIP via T.38, SIP, and H.323 call control protocols. For PSTN-based faxing, the TR1034 is offered in a variety of analog, Basic Rate Interface (BRI), and Primary Rate Interface (PRI) configurations.

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About Open Text

Open Text is a leader in Enterprise Content Management (ECM). With two decades of experience helping organizations overcome the challenges associated with managing and gaining the true value of their business content, Open Text stands unmatched in the market.

Together with our customers and partners, we are truly The Content Experts,[™] supporting 46,000 organizations and millions of users in 114 countries around the globe. We know how organizations work. We have a keen understanding of how content flows throughout an enterprise, and of the business challenges that organizations face today.

It is this knowledge that gives us our unique ability to develop the richest array of tailored content management applications and solutions in the industry. Our unique and collaborative approach helps us provide guidance so that our customers can effectively address business challenges and leverage content to drive growth, mitigate risk, increase brand equity, automate processes, manage compliance, and generate competitive advantage. Organizations can trust the management of their vital business content to Open Text, The Content Experts.

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