

Moving to IP Fax For Efficient Enterprise Communications

White Paper



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Introduction

Business executives today understand one of their primary challenges is efficient and effective communications. The number of parties needing to communicate, namely suppliers, customers, employees, and partners, is steadily growing as are the ways in which they exchange information (email, fax, mobile devices, tablet PCs and instant messaging). Moreover, these parties demand communication solutions which are customized to their specific needs today yet are flexible and scalable for future growth.

This white paper addresses the present and emerging issues of paper-based communications in enterprises today and how to implement a cost-effective fax messaging platform with Venali IP fax.

Enterprise Communications Today

Enterprise communications can be grouped into two categories:

1. Individual written communications between parties, an exchange of messages, which can be accomplished via email, fax or IM (instant messaging).
2. Large scale (massive) written communications – both internal and external – such as invoices, purchase orders, human resources communications, confirmations, notifications and other. These can be accomplished through email, fax or postal mail.

Parties may choose fax for individual communications for a variety of reasons, including legal issues. Most enterprises today employ some form of desktop fax solution, namely fax server software, which uses traditional phone lines coupled with hardware (i.e. PBX, fax boards). Maintaining these solutions in-house triggers a number of issues including continuous software and hardware upgrades, user licenses, and compatibility/support issues with applications and operating systems. Another significant issue with fax servers is the in-house maintenance required to achieve an acceptable level of system performance and reliability. Even with a team dedicated to a fax server solution, system uptime can be as low as 80%, a level not conducive for effective corporate communications.

Companies that do not employ fax server software still rely on traditional fax machines to send faxes. Fax machines also require dedicated phone lines and maintenance as well as toner, paper and other supplies. The emergence of tablet PC's further reduces the need for fax machines as users will be able to sign and fax communications over IP directly from their PC screen.

When tackling large-scale communications, companies rely on either ERP systems such as SAP, JD Edwards, People Soft or legacy systems to handle key company processes. The areas most affected are finance/accounting, human resources and functions across the supply chain. Many industries are adopting XML standards to communicate while many are still relying on paper-based communications and will continue to do so.

The drawback of ERP systems for paper-based communications is that many times they do not provide an easy interface on how to extend fax communication capabilities that are both automated and personalized. Additionally, these capabilities must be achieved without disrupting the existing ERP infrastructure, and in a cost-effective and scalable way.

Customer Scenarios: Applications

Venali's Enterprise IP Fax solutions are fitting for virtually any enterprise. Traditional fax solutions are difficult to maintain and are many times unreliable. Furthermore, they are expensive (software, hardware, maintenance, user licenses) and require a specialized expertise. By implementing an IP Fax solution, a company's TCO (total cost of ownership) is greatly optimized by utilizing its existing IT and email infrastructure with little to no investment in hardware or software. Venali's Enterprise IP Fax solutions are easy to implement, maintain, are fully scalable, and provide the reliability and security that enterprises today require.

Venali Enterprise IP Fax solutions accommodate enterprises with varied characteristics:

GLOBALY-DISPERSED ENTERPRISES | Multinational enterprises usually benefit tremendously from FoIP (Fax-over-IP) due to the vast amount of desktop users around the world and the amount of international fax communications generated. It is also a convenient way to have local in-bound numbers in locations where enterprises would not employ a fax server solution.

LARGE ENTERPRISES | Enterprises which conduct a large amount of domestic (U.S.) business also benefit tremendously with Venali Internet Fax Service, both from a cost and productivity standpoint (as compared to traditional fax methods of communication).

ENTERPRISES WITH A LARGE AMOUNT OF FAX MACHINES | With Venali Internet Fax Service, the need for fax machines is virtually eliminated. Many customers may choose to keep a small amount of fax machines should the need arise to fax a document that is not available electronically. For these companies, Venali does offer options to enable a fax machine over an IP network.

ENTERPRISES USING FAX SERVER SOFTWARE | Venali Internet Fax Service can be used with or without a fax server. By eliminating the cost of phone lines associated with fax servers and benefiting from reduced rates for domestic and international traffic, the cost savings provided by Venali are tremendous.

Enterprise IP Fax Solutions

Venali's Internet Fax solutions utilize a company's existing email and technological infrastructure, thereby resulting in almost a zero cost investment in additional hardware or software. Enterprises also benefit by using a single fax solution in all locations with the same interface and administration tools for managing fax numbers using a single vendor.

Except in the case of Internet Fax Web Services, where there may be a small amount of development work, a company can enable a large number of employees with Venali Enterprise IP Fax in a matter of days. Users now have the tools and benefits at their fingertips that they otherwise could not have with traditional fax methods, and without the time and costs associated with deploying a fax server solution.

Internet Fax Desktop Solutions

Venali Internet Fax helps companies optimize the flow of information to communicate more effectively, increase efficiency and reduce operating costs. Users can send and receive faxes to and from any fax number worldwide as easy as sending/receiving an email. The result is better management of communications between employees, customers and partners around the world.

A key advantage of in-bound fax, or fax to email, is mobility. Faxes can be received in the user's email inbox anywhere email is accessible – at a desktop, laptop, or PDA. Receiving a fax is the same as receiving an email. Users can select an individual in-bound fax number from hundreds of locations worldwide where faxes are delivered into the user's email inbox as an attachment (PDF or TIFF). Users must click on the TIFF or PDF to read the fax.

Another key benefit of in-bound fax is confidentiality. Faxes are no longer delivered to a shared fax machine where it might be viewed by a non-intended recipient, misplaced or lost. Venali also offers an option to reduce unwanted spam faxes transmitted through our network.

Out-bound fax, or email to fax, allows users to send faxes by attaching a document, just as they would an email. This eliminates the hassles of printing documents and manual fax procedures. Multiple documents can also be attached to a single fax transmission, and faxes can be sent to multiple recipients simultaneously in just minutes.

To the sender of the fax, the process is transparent – the user simply faxes from a fax machine to the recipient's fax number or an individual in-bound number. An in-bound fax notification will show up in the user's inbox as an email from emessaging@venali.com [Venali eMessaging]. The body of the email will display the fax number where it was sent from (if available) and the number of pages received.

Microsoft® Office 2003

Venali Internet Fax Desktop Solutions are directly integrated into Microsoft® Office 2003. Office 2003 offers some fax features that are not available in previous versions of Office, including:

PRE-CONFIGURED COVER PAGES | Three different templates (business fax, standard fax and personal fax) are available.

PRE-INSTALLED CUSTOM COVER PAGES | Customer cover pages can be pre-installed using the Office 2003 Resource Kit. An enterprise may decide to import a standard corporate cover page or use various cover pages within a company. Please note that in previous versions of Office, companies can also request a customer cover page – this is not exclusive to Office 2003.

SECURITY FAX TOKENS | A mechanism to guarantee authenticity of fax transmissions. Please read the Authenticity section for more information.

Internet Fax Web Services

Venali Internet Fax Web Services include production fax and web to fax. These services provide a redundant, unlimited and seamless process that integrates directly with existing applications. By enhancing company processes with Venali web services, businesses can significantly improve communications and efficiency, ultimately providing a quicker response to changing business conditions and a higher return on investment.

With automated production fax, companies are able to increase efficiencies by automating high-volume delivery of essential business documents. Venali's production fax solution establishes a connection between a company's IT environment and the Venali global IP network, leveraging the existing IT infrastructure and adding increased efficiency. Data can be instantly received from an ERP/ legacy application, or data can be merged onto our system. The data is reformatted and overlaid onto electronic documents and then dispatched by fax over the Venali IP network.

The Venali web to fax solution enables users to send documents from websites or an enterprise intranet to any fax machine worldwide, and supports most document formats as well as HTML. A company's website or intranet must have the ability to send emails. Documents that are stored or created on a website can automatically be sent as the content of an email or as an email attachment.

Internet Fax Document Archiving

A company requiring document backup can subscribe to Venali's Internet Fax Document Archiving service. This service is a helpful tool for managing the implementation of a company's document retention policy. This fulfills legal requirements and is an easy way to comply with government regulations. Fax in many industries is a legally-binding communication, and many companies are required to retain operational, financial, and business documents. The knowledge that files are protected, private and secure eliminates the worry associated with retaining sensitive documents for extended periods of time. Also, companies storing a large volume of faxes may experience memory constraints on their exchange email server.

Access to document archiving can be limited through a VPN or private line connection. Companies can then designate or grant access privileges only to authorized users through the Venali Account Management Center.

Benefits include:

- Quick retrieval of information and search capabilities to increase productivity
- Increased savings vs. cost of managing paper records
- Long-term preservation of important and sensitive documents assists companies when implementing a retention policy
- Large amounts of data are securely protected in case of disaster
- Copies of archived document files can be delivered monthly or quarterly on a CD or other electronic means for off-site storage

Network Architecture

The immediate goal of Venali was to develop a system that incorporated the cost advantages of the public Internet with the security and reliability of the PSTN (Public Switched Telephony Network). Through the use of VPN (Virtual Private Networking) technology, Venali was able to create a global network of fax servers, which are interconnected over the Internet using an encrypted tunnel. The use of field proven and widely adopted security and network technologies, combined with Venali's vigilant network monitoring and permanent maintenance, guarantee the quality, integrity and inherent security of the PSTN.

Network Operating Center Architecture

Venali operates five fully redundant, geographically diverse, NOC's (Network Operating Centers): four in the U.S. and one in Europe. All of these sites are located in fully secured facilities. Each location is supported on a 24/7 basis with multi-feed commercial power, uninterruptible and long term backup-power systems (diesel generators).

The scalable cluster based hardware architecture deployed at each NOC is entirely multi-redundant with no single point of failure. All nodes are interconnected with a dual 100M Ethernet Network utilizing state-of-the-art components from leading manufacturers. Just like the entire network, each node is designed to allow for graceful degradation, thus keeping the system in operation, even if a single component fails. Also, communication between all NOC's has been designed and sized so that in the event of a catastrophic failure at either site, the remaining NOC's will automatically take over the network load and will support at least 80% of current peak hour traffic. Periodic capability tests of the network and procedures verify the fallback capability.

Remote Server Node Architecture

Venali has deployed a proprietary global fax server network. These remote nodes are currently deployed in several countries around the world. Additionally, many remote locations will be deployed throughout Europe and Asia. All remote locations employ the same fully redundant cluster based architecture as the NOC's. Connection between the remote locations and the NOC is via VPN over the Internet – therefore maximizing security and cost efficiency. As an additional fail-over mechanism, each remote site has multiple connections where possible and backup capability to ensure connectivity in case Internet connection fails or is congested.

Facility Architecture

Venali currently maintains interconnection with seven major U.S. or Europe-based international carriers – each of which is connected through multiple feeds to multiple carriers. In addition, Venali maintains interconnections with local service providers. Currently, the Venali network supports the delivery of approximately 10 million fax pages per day. The same redundancy is being deployed for the Internet connectivity, which is connected via at least two recognized leading global ISP's (Internet Service Providers). Venali uses in-house BGP-routing technology to ensure uptime even if one of the ISP's goes down. Each NOC is connected to the Internet via multiple T1-lines.

Connecting to the Venali Network

Depending on an individual company’s security requirements or policy, connecting to the Venali network can be achieved in several ways. In all scenarios, the Venali technical team will implement the necessary solution.

Security Level Required			
Standard Security Messages travel through public Internet	Elevated Security Messages travel through public Internet at one connection point		High Security Messages do not travel through public Internet
Connection: Email Using existing email infrastructure, messages are encrypted and secure once received by the Venali network.	Connection: VPN Connection between company’s VPN and Venali network is made at virtual tunnel; encryption and authentication performed on both ends. Very secure.	Connection: S/MIME Entire message body plus attachment is encrypted. Uses Security Fax Tokens for authentication. Very secure.	Connection: Private Line Two private lines are required to achieve redundancy – one from company to Venali’s data center and the second as a fall over line. Most secure and most costly.

Advantages of Venali

The key advantage of using Venali over the competition is the rich value that our solutions provide. We specialize on a core set of fax messaging solutions to deliver cost and service advantages. The cost-efficient and innovative eMessaging solutions that Venali provides, along with a proven IP platform, offers complete security and reliability – two crucial components in today’s fast-paced and rapidly changing communications environment. Other advantages include:

Superior customer service – Venali focuses on desktop and production fax messaging, to deliver the best possible service, expeditiously meeting customer needs.

Network architecture – Venali employs state-of-the-art technology and operates one of the largest IP fax networks worldwide. The Venali network offers full scalability, complete system redundancy, and continual technology upgrades to meet the business needs of our clients.

Network Operations Support 24/7 – Venali provides a dedicated support team around the clock that is available should the need arise.

Secure IP platform – The Venali network employs best security practices guidelines (read more about this in the Security section). Our systems are well maintained and our internal security policy addresses the most pertinent security issues in today’s technology environment.

Account Management Center – Venali web-based administrative tool provides real-time monitoring and reporting for both administrators and users to view and track fax activity as well as modify account information online.

Company Growth – Venali has implemented clear and sound business strategies to maintain financial stability and continued growth in the industry, and is focused on developing new eMessaging technologies in the near future.

Scalability

Compared to other fax communication methods, scalability within an enterprise is fast and easy. The Venali network is designed to accommodate growth and is able to quickly and easily deploy thousands of users in less than 24 hours, with no investment required from the company.

The system offers virtually unlimited scalability and a highly distributed architecture:

- **Messages are entirely independent of each other** – no bottleneck is created
- **Atomic unit is one message** – no bottlenecks are created allowing for a highly parallel architecture
- **Similar to P2P technology** – as there is no central server, no bottlenecks occur, and Venali can always add more POPs or processing centers

Security

By adopting FoIP technology vs. conventional forms of fax communication (fax server software or fax machines over PSTN lines), enterprises will operate more efficiently, strengthen their productivity and dramatically reduce costs.

As enterprises communicate with their employees, suppliers, partners and customers around the globe, a key component is ensuring the secure delivery of documents to and from the corporate network to geographically-dispersed locations and/or mobile devices. Venali has taken steps so that these processes remain convenient from the user perspective while maintaining high standards of network and information security.

Network Security

Venali provides both virus and firewall security. The Venali network is protected through firewalls on packet and application levels. It is constantly monitored by an intrusion detection system.

Customer documents within the Venali network are encrypted with a symmetric cipher (3DES) for privacy and confidentiality. Upload/download of documents is protected using TLS for email or SSL when using HTTP. Transmissions over the public Internet to our remote locations are protected using VPN technology (IPSEC).

Features include:

- **Standard design (FW, DMZ)** – Venali employs best practices to ensure network stability
- **VPN access in separate DMZ** – 3rd party access to the Venali network is separated; VPN's are additionally separated
- **Automated statistical intrusion detection** – a sophisticated system for detecting any changes in the network. All system files are additionally verified by MD5
- **Strict password policy** – Venali employ best practices for implementing the strictest password policy
- **Regular network scan by third party (friendly fire)** – as an additional measure, an independent third party is contracted to perform security checks

Confidentiality and Privacy

By virtue of an employee possessing an individual in-bound fax number, fax communications can only be viewed by the recipient to whom the fax (email) was addressed.

Faxes (emails) are destroyed by Venali as soon as confirmations are successfully delivered. Documents are internally encrypted and cannot be viewed by Venali personnel. Document delivery is also protected using Virtual Private Network (VPN) technology; therefore it is private and secure.

Processes and precautions include:

- Secure envelope (3DES) – every message and all the information about the message is stored in one encrypted archive
- Safe deletion – messages are overwritten multiple times to erase all traces of such
- Hardware destruction – hardware is physically destroyed on site as opposed to files being deleted on unused or older equipment
- Data backup – copies are kept off-premise in a vaulted bank that is inaccessible to the public

Integrity

Venali ensures the integrity of a customer's document – the content is never changed or altered.

Features include:

- MD5 is part of secure envelope – the integrity is verified using a secure checksum (MD5)
- Envelope contains complete information – the document itself and the information pertaining to such (destination, sender and other) is kept together so as to ensure documents are not misdirected

Authenticity

Even after initial authentication, Venali uses an extra method to ensure the authenticity of a fax.

SECURITY FAX TOKENS | Each time a user sends a fax, a Security Fax Token is activated and sent along with the fax. One Security Fax Token is used for each fax transmission, regardless of whether it was successful or not. This process validates and provides an additional layer of security during delivery.

User Access/Security

The Venali Account Management Center offers companies the flexibility to decide which users they want to enable with access and specific privileges to this secure web-based interface. To access these services, users log-in with an ID and password provided by Venali on the home page (www.venali.com). Users can monitor fax activity, view account balances and statements, designate user privileges, and view billing information.

Conclusion

In the past decade, billions of pages have been transmitted via fax per year. Despite the advent of other forms of written communication, this trend appears to be rising, not only in the number of pages but in the level of complexity and personalization required of each party in the communication chain. Businesses that fail to provide these flexible and customized fax communications solutions will lose customers.

Enterprises that decide to leverage their existing technology infrastructure and automate the flow of documents will benefit from cost savings and superior communications. Venali Enterprise IP Fax solutions offer an easy integration into company applications and infrastructure that will extend a company's communication capabilities.

Visit www.venali.com for more information.

Company Profile

As the leader in Enterprise IP Fax, Venali is dedicated to delivering exceptional customer service, offering competitive pricing, and developing new products that respond to customer and market needs.

Our innovative eMessaging solutions help companies optimize the flow of information to communicate more effectively with their customers through IP-based desktop solutions, such as email to fax and fax to email, and through web services, such as production fax and web to fax. We are the provider of choice for businesses seeking to improve communications in a cost-efficient manner.

Venali has years of experience developing and perfecting messaging applications. Our proven IP platform was developed to receive and deliver instant, secure messaging and we have successfully handled hundreds of millions of document transactions. Our network also offers full scalability, 24/7 system support, complete system redundancy, and continual technology upgrades. Venali understands the dynamics of the industry and is poised to move decisively to exploit new opportunities.

Venali services all business sectors including travel, financial, government, high tech, manufacturing, health and retail, and has developed numerous strategic alliances worldwide with leading software companies, telecom carriers and communications equipment manufacturers. Some of our strategic relationships include ACCPAC, a division of Computer Associates, Microsoft, BVRP, Alcatel and Natural Data. Our growing client base incorporates many leading Fortune 2000 corporations.

Venali was founded in 1996 and presently has over 60 employees. The company's corporate headquarters are located in Miami, FL. European operations are headquartered in Munich, Germany.

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Additional Resources

INTERNET FAX DESKTOP SOLUTIONS | Provides details on Venali's email to fax and fax to email solutions.

www.venali.com/solutions/desktop_intro.asp

INTERNET FAX WEB SERVICES | Get more information about Venali production fax and web to fax services.

www.venali.com/solutions/web_services/intro.asp

INTERNET FAX DOCUMENT ARCHIVING | Provides information on archiving services and advantages.

www.venali.com/solutions/web_services/intro.asp

SUPPORT | Covers support topics such as account information, customer service, desktop solutions, web services, security, and technology..

www.venali.com/support/index.asp

Corporations that would like to receive additional information or to sign-up for services should contact the Venali Corporate Accounts team at corporateaccts@venali.com.



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