



Virtual Fax Server Solutions

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// MESSAGEmanager
Solutions

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Executive Summary

In 2009 while many ICT budgets were suspended, projects frozen and confidence in the macro-economic situation began to slip away, virtualisation continued to be an avenue for CIOs and IT managers to do more with less.

As analyst firm IDC noted, while a lot of hardware spend was put off during the economic downturn, those organisations looking to cut costs out of their operations more often than not looked to adopt a virtual infrastructure. Unlike many other IT purchasing decisions, virtualisation was seen as more amenable to CFOs who were demanding a better return on investments.

‘Using virtualisation to gain a competitive advantage and improve efficiency is now a top priority for CIOs,’ according to the largest face-to-face survey of CIOs ever conducted (Global CIO Study 2009 ‘The New Voice of the CIO’ recently released by IBM).

As business expectations shift from a focus on greater cost-based efficiencies to achieving better results based on enterprise and IT productivity, virtualisation is one of the top 10 tech priorities for 2010 according to a survey conducted by Gartner on 1,568 CIOs in medium to large enterprises around the globe.

With media processing hardware being replaced by IP Fax software, Fax Server Virtualisation is now a reality. According to fax industry analyst Davidson Consulting Latest Report*, sales of IP based fax servers grew by over 70% in 2009 due in large part to the emergence of virtualised fax solutions.

MESSAGEmanager fax customers have reported reductions in fax operational costs by up to 40% by virtualising their fax server.

Ivor Livingston

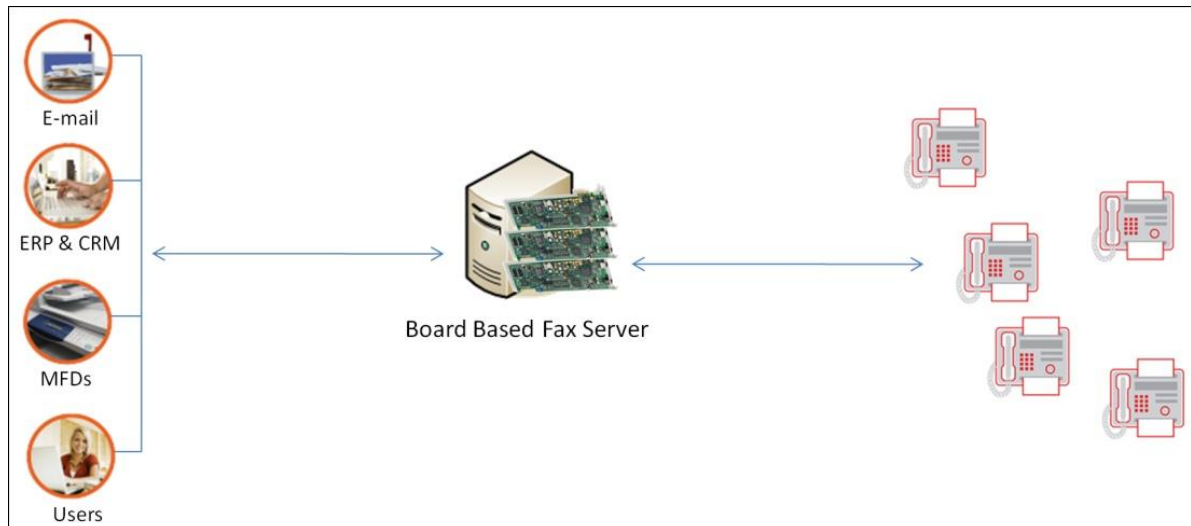
CEO, MESSAGEmanager Solutions



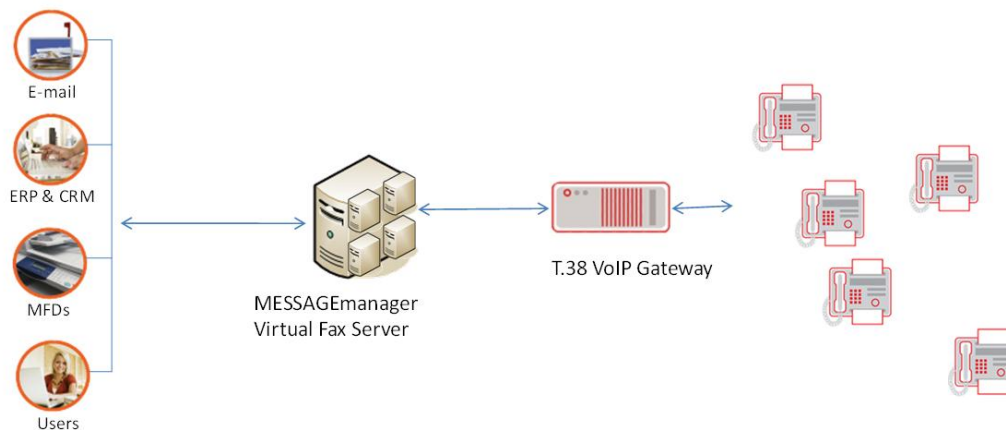
Virtual Fax Server

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Historically fax server deployments include fax boards that connect directly to the phone network (PSTN) through a local PBX or Telephone Exchange. Prior to IP, fax technology was typically deployed in a distributed architecture with physical E1/T1 PRI, analog or BRI trunks connected to server computers, and a fax server in each of a company's primary locations.



In an IP implementation, the fax boards are replaced with T.38 IP Fax software. The IP Fax server is connected to T.38-enabled routers or gateways on the VoIP network which are in turn connected to the phone network. Fax communication remains real time point-to-point delivery from the IP fax server to and from the fax device on the PSTN.



This configuration results in approximately 15% CPU utilisation when sending/receiving 120 simultaneous IP Fax messages.

Processor, speed and memory	% CPU utilization with simultaneous fax channels				
	4 lines	8 lines	24 lines	48 lines	120 lines
Pentium 4 – 2.4 GHz, 512 MB memory	1%	3%	5%	10%	25%
Pentium 4 – 3 GHz, 512 MB memory	1%	2%	2%	5%	12%
Dual Xeon – 3.4 GHz, 512 MB memory	1%	1%	2%	2%	6%

At MESSAGEmanager Solutions Virtual fax server deployments have rapidly become the standard platform of choice as business benefits from:

- Reduced software and hardware costs – No requirement for dedicated physical machine.
- Accelerated installation, upgrades and development rolled out to users regardless of application or where they are located.
- Improved disaster preparedness - MESSAGEmanager integrates quickly into backup, data replication and disaster recovery scenarios.

MESSAGEmanager fax customers have reported reductions in fax operational costs by up to 40% by virtualising their fax server. Deploying fax on the VoIP network enables organisations to eliminate the legacy telephone network and combine all communications modes, including fax, in a single network topology reducing staff requirements and redundant administration costs by transitioning phone and fax services to the data networking group.

Virtual IP Fax configurations are usually centralised (with a DR server in a DR site) eliminating the need for a fax server in every location as the IP gateways provide the interface to the PSTN. Local phone numbers are retained.

Although virtualisation reduces the amount of administrative work necessary for hardware, it does not eliminate system administration. MESSAGEmanager provides versatile capabilities for management and reporting, application and infrastructure integration.

Board based servers are inflexible and underutilised with their processors dedicated to fax processing remaining idle for the majority of time. Eliminating the need for a dedicated physical server a Virtual IP Fax solution dramatically increases server utilisation and reduces energy costs.

Dynamic Sizing of Fax Services

A further advantage of MESSAGEmanager is the ability to respond rapidly to changing application and load requirements. Often in high volume multi user sites the conversion process of document attachments from their original format (Word, Excel, Postscript PCL etc) to G3 fax can become a bottleneck preventing full use of available fax resources.

In a Virtual configuration multiple instances of the fax conversion engine can be run as separate virtual processes on any number of virtual machines significantly improving the speed of conversions for all users and applications in the enterprise.



Virtual conversion engines don't all need to support the same file types. Conversion jobs are automatically routed to a virtual machine that supports the document file type. Multiple Fax servers can share conversion engines.

A dual-core Pentium at 2GHz can support four virtual machines running conversion engines provided the host system is not running CPU-intensive software. Four virtual machines will need 2GB of RAM for the virtual machines alone, in addition to memory needed for the host operating system and any software running on the host.

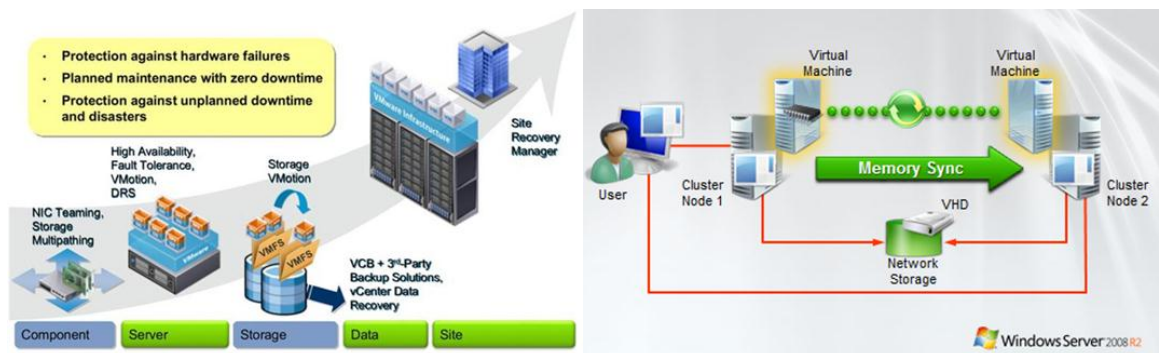
A dual-core Xeon at 2GHz can support ten virtual machines running conversion engines provided the host system is not running CPU-intensive software. Ten virtual machines will need 5GB of RAM for the virtual machines alone, in addition to memory needed for the host operating system and any software running on the host.

Disaster Recovery

The consequences of having your communication systems disrupted even for a short period of time can have a significant impact on your business. If your Fax server is unavailable the business users and applications cannot send facsimiles and you are unable to receive facsimiles from the outside world.

One of the most important benefits of virtualisation is the mobility of virtual machines, given that an entire application and operating system environment can be encapsulated in a virtual machine and then moved from machine to machine, migrated without downtime from one machine to another and replicated to disaster recovery sites.

With MESSAGEmanager Fax software in a virtual environment such as Hyper-V and VMware you can automate Fax Server High Availability (HA) and Disaster Recovery Fault Tolerance (DR) processes and ensure rapid and cost-effective resolution of Fax server outages by configuring the virtual environment to automatically relocate the IP Fax software from one host to another should an outage occur.



About the Author

Ivor Livingston is the founder and Chief Executive Officer of MESSAGEmanager Solutions. In this role he is responsible for driving the strategic direction of the company by identifying emerging and powerful technologies that meet industry demands, high-level consulting and international expansion initiatives. Ivor has over 25 years of experience in researching, marketing and delivering computer telephony solutions.

MESSAGEmanager Solutions is a pioneer of computer based telex, fax, voice messaging and communications. The company is credited with developing the world's first Fax Server in 1986 for Australian Carriers Telecom and OTC. Today we are acknowledged as a global leader in IP Fax and voice messaging and communication solutions.

MESSAGEmanager Solutions is a Microsoft Gold Certified Partner, IBM PartnerWorld Member, SAP Certified Solution, HP Development Partner, Dialogic, Nuance, Avaya Gold Partner, Cisco Technology Developer and Audiocodes Partner.

Our technical services have designed and implemented IP solutions on various platforms including Cisco, Avaya, Alcatel, and Audiocodes in USA, UK, Singapore, Canada, South Africa, Israel, Asia and Australia.



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