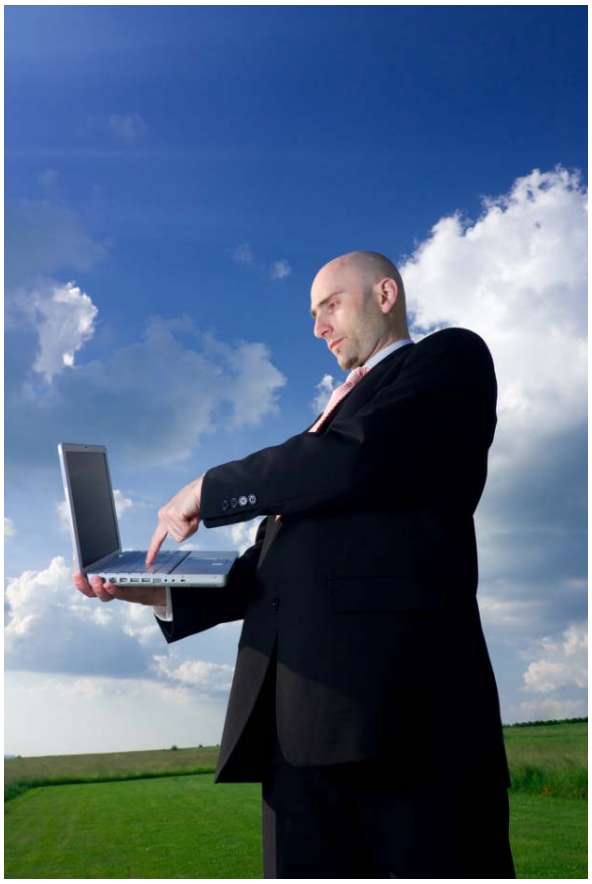
Concord Technologies: Moving Fax into the Cloud



Concord Technologies

SECTION I: From Fax Machines to Internet Fax

In the 1980s, the fax machine was a necessary, if not indispensable, common device for business and personal use. It allowed anyone to transmit a document electronically at any given time or place. Two decades later, faxing is still a core method of communicating. Faxing equipment, such as the fax machine and fax servers, has gradually become more of a nuisance and, frequently, a financial burden. This is especially true for companies who have invested in the latter which require substantial technical and human infrastructure. Even with the advent of Fax over IP (FoIP) solutions in the late 1990s, organizations have been shifting toward internet-based services and doing away with costly and archaic fax machines or fax server solutions, that often did not live up to expectations. This is in line with the broad movement toward "cloud computing", or “in the cloud” services, which espouses outsourcing services, and similar rent-don't-own trends. An important component of this movement is that capital expenses are eliminated altogether (no equipment purchases). In its place are operating expenses (fee for service), which are markedly lower both in the short and long term.

This certainly makes sense as expenses associated with the use of traditional faxing are numerous and include hardware, software, toner, paper, phone lines, as well as time and labor for the actual faxing and the upkeep of these systems. The latter two are especially relevant as labor cost rise and productivity measures are taken into account. Most faxed documents originate on the computer; thus, faxing via a fax machine is actually counterproductive as a user has to print the document, create and print a cover page, and physically fax this document to the recipient. These actions, besides involving costs in time and money spend, produced an enormous amount of paper waste. It is estimated that over 17 million trees are felled each year in the U.S. for the purpose of faxing [1]. At a time when environmental consciousness and the push to be “green” are on the rise, a good way for businesses to be environmentally friendly is by eliminating as much paper waste as possible.

Section II. Life before Internet Fax

Internet Fax utilizes the internet to send and receive faxes directly to and from a personal computer to a fax machine, and vice versa. This has revolutionized the fax industry as faxing has been converted from a paper-based, manual process to an electronic process, conferring far more benefits than its predecessor. These benefits include lower costs, productivity gains and an electronic paper trail for record keeping purposes. This is increasingly important given the prevalence of government regulation at the state and federal levels, and is pertinent to both individuals and companies of any size.

Companies recognized the benefits of electronic faxing as early as the late 1980s with the arrival of fax servers [2]. Fax servers are a set of software that runs on a computer server which is equipped with one or more fax-capable modems attached to telephone lines. Fax servers accept documents from users and convert them to faxes before transmitting them. They can also receive fax calls (i.e. documents) and either store these or pass them on to users. As a stand- alone system, a fax server typically requires on-site installation, training and ongoing maintenance costs. This solution requires a server, fax software and telecommunications equipment. The most costly items, however, are the software maintenance and IT personnel costs to administer and maintain the fax server. In addition ,there are the monthly phone line charges, PBX ports, and telecom and email integration. Even for mid to large-sized corporations, these solutions are costly alternatives to IP fax services.

Because of the high costs, fax server solutions are often not practical for small to medium sized businesses (SMBs). These organizations make up 98% percent of all the nation's employer businesses and employ more than half of the non-farm private sector work force [3]. Some of the SMBs have relied on traditional solutions such as fax machines, which have the disadvantages cited earlier -- labor-intensive and lacking in an electronic storage method. For electronic storing SMBs typically scan and electronically store faxed pages, which is time-consuming, highly unproductive and prone to employee errors. Other SMBs, especially mid-sized organizations, have implemented fax servers solutions, but with the results cited above -- costly start-up and ongoing maintenance.

SECTION III: Internet Faxing "In the Cloud"

As aforementioned, IP Fax Solutions belong to the "In the Cloud" trend. "In the Cloud" can satisfy all of a company's computing needs or, in this case, faxing communications and collaboration needs -- no more data centers or physical infrastructure as everything one needs is "out there" in the cloud, accessible as needed. Faxing in the cloud utilizes a company's email and technological infrastructure with no additional investment in hardware or software. Users have the ability to fax at their fingertips, without the time and costs associated with deploying a fax server solution or employing a traditional fax solution. Utilizing a service provider to transmit fax communications also eliminates the need to install expensive servers and reduces the demand of IT staff, whose skills can be employed elsewhere in the organization.

Outsourcing fax services is in line with the upcoming trend of email outsourcing – using a third-party to host email servers rather than maintain an in-house email server. This is common today for most small businesses, but not for mid to large sized companies. Recently, Microsoft has unveiled its Exchange Online solution – a hosted enterprise messaging solution based on the Microsoft Exchange Server. Already, some Fortune 200 companies have moved to this outsourced email solution. Microsoft expects that 50% of its Microsoft Exchange mailboxes will be hosted (Exchange Online) within five years. This means 150 million Exchange mailboxes by 2013 [4]. This offering (outsourced email servers) only lends more momentum to "in the cloud" faxing as fax servers rely on email servers; thus companies who move to Exchange Online will no longer be able to run fax servers.

Microsoft Office natively supports IP fax services since the advent of Office 2003. Users have the functionality of IP fax within the MS Office applications enabling them to send documents, presentations and spreadsheets to any fax number worldwide by signing up with a fax service provider. They can then send and receive faxes, much like they send and receive emails, to and from any fax number worldwide. With Fax-to-Email (also known as in-bound faxing), faxes can be received anywhere the user's email is available – at a desktop, laptop or PDA. Email-to-fax (or out-bound faxing) allows users to send a fax by attaching a document, similarly to sending an email.

IP fax services result in better management of communications (among employees, customers, and partners), better mobility, and increased confidentiality. The end result is increased efficiency by eliminating capital expenses and reducing operating expenses – typical of the hosted "in the cloud" services.

SECTION IV: The Real Costs of Traditional Faxing

Fax machines are perceived to be inexpensive – after all, relatively high-quality All-In-One workstations, which include copier, scanner and fax functionality be purchased anywhere from several hundred dollars (a low-end solution for small offices) to several thousand dollars for larger workstations (mid-large sized businesses) [5]. On top of this, one must add monthly phone line charges, long distance charges and supplies. Companies that require more capacity must purchase more additional machines and lines and must factor in leasing and maintenance costs.

Labor, however, is the greatest concealed operating cost as the time employees spend walking to the machine, sending a fax, waiting for fax the confirmation, and returning to his/her desk is time which could have been spent in more productive ways. Experts in the fax industry estimate that the cost of sending a single page fax, with a cover page, costs US$3.20. There are cost to retrieve faxes as well which average $1.43.

On a larger scale basis, for 100 employees, each sending 600 and receiving 600 pages each, the costs of a traditional fax machines amount to $42,100 per year. The costs, on a 500-employee basis, amounts to $218,600 a year. See Table I below:

Table 1.	**Per 100 Employees**	**Per 500 Employees**
	Fax machine	
Set up costs	n/a	n/a
Fax Machines	$10,000(10)	$50,000(50)
Send Labor	$19,200(6000 faxes)	$96,000(30k faxes)
Phone line costs	$3,600(10 lines)	$18,000(50 lines)
Printing costs	$720(24k pp)	$3,600(120 pp)
1,800(60K) Retrieval costs	$8,580(6k faxes)	$51,000(30k faxes)
Monthly fees(12 months)	n/a	n/a
Total	$42,100	$218,600

Adapted partially from Davidson, P. Cost Analysis: IP fax vs. Fax Machines & Fax Servers, 2004 [6].

SECTION V: The Real Costs of Fax Server Solutions

To the end user, an internet fax service and a fax server offer similar functionality, with the caveat that former offers more customization and options. However, implementing a fax server solution involves buying a fax server, fax software and telecommunications costs (lines, ports). Moreover, the maintenance costs involved are considerable – requiring a person to set up, administer and maintain this system. Training is an added expense for both administrators and users. In summary, a fax server solution, although somewhat popular in mid to large sized companies, is an expensive proposition.

Table 2.

Annual Costs	**100 Users**	**500 Users**
Cost Factor	**Fax Server**	
Set up fees	n/a	n/a
Fax boards	$6,400(10 ports)	$17,000
Fax server software	6,400	17,000
PC server	400	2,000
Installation	400	2,000
Train end users	2,000	10,000
Train administrators	800	4,000
Monthly phone line fees	3,000	4,200
Maintenance fees	1,920	5,100
In-house support	10,400	48,000
Monthly fees	n/a	n/a
Pages sent week	3,000 (30/wk/user)	15,000 (30/wk/user)
Pages sent year	150,000	750,000
1st Year Totals (long distance costs per page $0.03, including VAT)	$4,500	$22,500
TOTAL ANNUAL COST	$36,220	$131,800

Adapted partially from Davidson, P. Cost Analysis: IP fax vs. Fax Machines & Fax Servers, 2004 [6].
Costs annualized and updated to reflect 2008 prices.

SECTION VI: CONCORD FAX SOLUTIONS

Concord Fax Online is designed to meet the needs of businesses that depend on fax in their daily operations. The Concord solutions provide a complete range of functions that enable users to eliminate fax machines, fax servers, telephone lines, and supplies. There is no capital equipment to purchase or install, and businesses can be fax- enabled, over multiple fixed and mobile locations, within hours. By enabling users to send and receive faxes using their computer or mobile device just as easily as they send and receive email, over a secure connection, Concord Fax Online enables organizations to log, store, and manage their faxing using security and confidentiality of their IT structure.

Concord's service includes a number of across-the-board features designed to meet the most demanding fax requirements, including: international DID numbers, toll free numbers, support for any email client, comprehensive order processing, billing, and help desk support, global fax delivery, and a redundant, geographically distributed network designed for uptime exceeding 99.99%.

Concord's fully redundant IP fax platform supports multiple secure methods for customers to connect. Concord supports TLS (Transport Layer Security) for e-mail based services as well as VPNs (Virtual Private Network) for secure connectivity and HTTPS (Hyper Text Transport Protocol Secure) for web

services. Leased lines are another option, should the customer desire. Messages within the Concord network are moved through private lines and in case of a transfer from a data center to another, sent encrypted through a VPN. The Concord data centers are protected by state of the art firewalls and intrusion detection systems and all access by employees is monitored and logged. Strict password strength and change requirements are enforced. As a result, the Concord IP fax service is compliant with many recent regulations such as HIPAA, Sarbanes-Oxley (SOX), Gramm-Leach Bliley (GLB), Patriot, Know Your Customer and BaseII and many more. Organizations benefit tremendously as they can still rely on faxing for their communication needs while eliminating the disadvantages of not complying with the security and privacy regulations of their particular industry.

Additionally, Concord's network supports a comprehensive range of service offerings including versatile Web Services that facilitate integration with any corporate software application. Concord customers enjoy all the benefits of feature-rich fax communications without the cost, effort, and maintenance issues associated with conventional fax systems and alternative fax technologies. This is achieved by platform-independent integration of fax and email, which in turn adds value to existing IT infrastructure and maximizes return on IT investments. Overall operations efficiency is greatly increased by the reduction of paper volume and the automation of document handling. Concord's software development kits enable easy customization of any software application to render it "fax enabled". And, Concord's fax services are also available as a brand-labeled solution for OEM customers.

SECTION VI: CONCORD: Leadership Through Technology

For over 15 years, Concord has been leading the industry with innovative solutions that pushed the edge of what is possible. Today, Concord is spearheading the industry with its fully redundant, SIP/T38 enabled network. Based on a pair of fully redundant data centers located in Seattle, WA and Chicago, IL, Concord provides full fax functionality even in the case of regional catastrophic events. Concord's revolutionary data center failover technology enables rerouting of fax traffic almost instantaneously resulting in exceptional business continuity and reliability.

What sets Concord apart is its network architecture which provides real-time failover for both inbound and outbound communications. Real-time failover for inbound communications, a product of significant capital investment, represents a technological breakthrough for the IP fax industry and is unique to Concord. Most IP fax providers and in-house solutions only offer outbound failover, making their networks less reliable. Concord customers enjoy the unique advantage of a robust network which is built for reliability and speed.

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Contact your Concord Account Manager today to learn how Concord can help you save money and improve operations.

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