

Computer-Based Fax Markets, 2012-2017

by

Peter Davidson and Deborah Peckham
Davidson Consulting

Davidson Consulting
806 S. Lakeview Avenue
Sturgis, MI 49091
269-651-3157

Copyright, July 2013

The purchasers of this report have the right to read the report. No rights are given whatsoever to disseminate the report to other people and no rights are given to post the report to the Internet. You have the right to pass the report physically to another co-worker in your company who can then read the report and pass it on to another co-worker. There are no rights to duplicate or email the report to several co-workers to read the report simultaneously. To gain such a right, you need to acquire a site license.

Table of Contents

Section 1	Executive Summary	1
Section 2	Hybrid Fax Services Become a Key Factor for Fax Server Sites	3
	Portable Faxing Becomes a Strategic Imperative	3
	Methodology	3
	Definitions	4
	Assumptions	4
Section 3	Fax Server Market Characteristics	5
	Current Fax Server Market	6
	Market Drivers and Impediments	6
	Current FoIP Market	9
	MFPs and Fax Server Sales	9
	Largest Vertical Markets	10
	Fax Server Sales by Region	15
	Production Fax	16
	Hybrid Services	17
	Inbound Routing	19
	Web and Email Integration	20
	Unified Communications	21
	Portable Faxing	23
	Fax Laws	23
Section 4	Fax Board Market Characteristics	25
	Fax Board Market Size	26
	Fax Board Sales by Region	26
	Fax Board Sales by Distribution	27
Section 5	Fax Server Suppliers	28
	Fax Server Supplier Shares by Region	30
	Fax Server Suppliers by Business Size	31
	Production Fax Market Size	31
	Fax Server Supplier Profiles	32
	ActFax	
	Alt-N Technologies	33
	Axacore	33
	Biscom	34
	bitbone	37
	Cleo	38

Copia International	38
Data Techniques	39
DPD International	39
Equisys	40
Esker Software	42
Extracomm	44
FaxBack	45
FaxCore	45
Fenestrae	48
GFI	49
IBM	50
iFax Solutions	51
Imagicle	51
Imecom	52
JoyFax Software	53
Kofax	54
Lane Telecommunications	55
Microsoft	56
Multi-Tech Systems	57
OceanFax	58
Omtool	58
Open Text	59
Quadrant	62
RTE	63
SagemCom (Sagem-Interstar)	64
Sepe	65
Servonic	66
Softlinx	66
Soft Solutions	67
Solgenia	67
STR Software	69
TE-Systems	70
Tobit	71
2Ring	72
Section 6 Fax Board Suppliers	73
US Fax Board Supplier Structure	73
European Fax Board Supplier Structure	74
Supplier Profiles	74
AcuLab	74
Audiocodes	75
Commetrex	76
Dialogic Corporation	77

Lancom Systems	79
Mainpine	79
PIKA Technologies	80
VOCAL Technologies	80
Section 7 Five-Year Market Forecasts	82
Five-Year Forecast for Fax Servers	82
Five-Year Forecast for Fax Servers by Region	82
Five-Year Forecast for Conventional Versus FoIP Fax Servers	83
Five-Year Forecast for Fax Server Sales Related to MFPs	84
Five-Year Forecast for Production Fax	85
Five-Year Forecast for Fax Server Sales Through Unified Messaging	86
Five-Year Forecast for Portable Faxing	87
Five-Year Forecast for Inbound Routing	87
Five-Year Forecast for Hybrid Faxing	88
Five-Year Market Forecast for Conventional and IP Fax Boards	88
Five-Year Market Forecast for Fax Boards by Servers and Services	89
Section 8 Conclusions	91

Section 1

Executive Summary

The overall 2012 fax server market did not grow, despite a -8% drop in fax server revenues (see Table ES-1). The primary reason is that maintenance revenues were up 3.3% in 2012 and hardware revenues were up 5.1%, largely due to an increase, again, in maintenance revenues. The other reason why the market didn't grow was that FoIP server sales had a disappointing year, only up 11.6% and conventional fax servers were down again, by -14.7% in 2012. A final major trend that affected the fax server market was that the European segment was down, with many European fax server vendors suffering declines in 2012 revenues.

Table ES-1		
Overall 2012 Fax Server Market (\$M)		
	2012	2011
Fax Server revenues	\$125	\$135
Service (Maintenance) revenues	156	151
Hardware revenues	104	99
TOTAL revenues	\$385	\$385
Source: Davidson Consulting, Sturgis, MI, 2013.		

In terms of five-year forecasts, the overall computer-based fax market will grow from \$385 million in 2012 to \$455 million in 2017, a 3.4% compound annual growth rate (CAGR). This growth is way down from what the 12.1% CAGR we predicted only a year ago. The FoIP market's growth will slow dramatically, from a projected 22.4% CAGR a year ago to 10.8% CAGR in this year's forecast. Conventional fax servers will decline at a -14.8% CAGR through 2017.

For the fax server software itself, the factors that vendors need to watch are led by:

- fax over IP servers, the growth of which will be driven by the virtualization of servers, by the fax-enabling of Sharepoint applications, and because FoIP saves businesses money during installation and operation.
- production fax, which will grow in its FoIP form and decline in its TDM (time-division multiplexing) form.

- multifunction peripherals (MFPs), where growth is now seen as being half that of year ago, 11.4% CAGR versus 22.4% CAGR in last year's forecast.
- unified messaging, which will continue to grow gradually throughout the forecast period.
- portable faxing, which, although it will generate only minimal revenues, will be a key item in enterprise fax server bids.
- hybrid faxing, by which we mean combination systems of fax servers and hosted fax services. Hybrid fax systems are being used to provide disaster recovery for fax servers without enterprises having to buy so many extra phone lines. This will be the hottest part of the computer fax market as it will more than double in size by 2017.

The growth of hybrid faxing is also a negative issue for computer fax because it highlights the increasing role that fax services are taking in the marketplace.

Open Text was the overall leader in 2012, despite not having any growth in its revenues this year. Sagemcom, the number two supplier, also had a minor dip in its 2012 revenues.

Section 2

Introduction

Hybrid Fax Services Become a Key Factor for Fax Server Sites

Hybrid fax services are systems where fax vendors offer both fax servers and fax services that can be used in unison. An increasing number of fax vendors offer this kind of service and interest in hybrid fax services is on a rapid upswing as enterprises move much of their computing to the cloud. Hybrid fax services have several applications that save enterprises money and provide utility. This is led by hybrid fax systems supporting disaster recovery when required rather than having to install extra phone lines that are very expensive and may never be used, handling overflow traffic, the ability to prove out a fax service's capabilities by initially leaving most of an enterprise's fax traffic on fax servers or to test applications that will eventually run on fax servers, and simultaneous operation where an enterprise chooses to use the fax server for certain applications (e.g., production fax) and the fax services for other applications (e.g., desktop faxing).

The one application that nearly a third of all fax server sites used in 2012 was disaster recovery which saves enterprises large amounts of money.

Portable Faxing Becomes a Strategic Imperative

Portable faxing is becoming more important to fax server users, especially in conjunction with corporate applications where signed faxes are required. This ability to send and receive signed faxes is becoming strategic for many enterprises and now so many employees are mobile.

While the selling of portable faxing capabilities is not an endeavor likely to bring in substantial revenues, the very ability to offer the capability to enterprises is becoming a critical factor in many enterprise fax bids. So, vendors will offer portable faxing or face the loss of enterprise accounts. In fact, many fax vendors are utilizing integrations from third-party vendors to offer portable faxing to speed their availability.

Methodology

The subject matter for this report is the market for computer-based fax systems, namely fax servers and intelligent fax boards.

The primary goals of this report are to provide an accurate assessment of current market size, segmentation, and vendor shares. A five-year forecast is also provided for various

segments of the computer fax arena.

The data presented is based on 35 interviews and confidential surveys that were conducted with vendors, resellers and channel players, from the United States and abroad, that were assiduously cross-referenced with all available information contained in the Davidson Consulting database and in public corporate filings.

Definitions

Most market figures and the majority of the analysis in this report are based on worldwide market activity. Revenues are based on software license sales, maintenance fees (professional services are not included) and hardware.

The report covers both conventional TDM-based fax servers and FoIP servers. Fax server revenue numbers for both conventional and FoIP fax servers sold with fax boards include fax board sales. Fax board sales are also provided separately, so fax board sales are counted twice, but not in market totals. For FoIP fax server sales that are software-based, sales of fax-board emulation software is included with fax server revenues, not fax board revenues.

Assumptions

All market projections reflect calculations based on historical growth rates, factors that may increase or reduce those rates, elasticity effects on unit sales and performance, the impact of new product benefits on price stability, the effects of key existing and emerging trends, market saturation levels, and technological advances.

Davidson Consulting assumes that the use of email will not eliminate the need for fax, especially given the advantages that fax has over email in the areas of audits and security.

Given the difficult economic environment, less than normal economic growth is assumed -- approximately 1% to 0% in the United States.

Section 3

Fax Server Market Characteristics

Fax servers allow users to send and receive faxes as easily as emails, using either the same email application or a web-based interface to handle sending the messages. All fax uses the T.30 standard, set by International Telecommunications Union, which handles how a fax call is set up, processed and shut down. A related protocol, T.4, details fax sizes, compression methods and other important aspects. Then there are two fax standards for Internet faxing: T.37, a standard for store-and-forward faxing (like email) which doesn't support confirmations in all cases, and T.38, a real-time fax standard that uses spoofing techniques to adjust for the timing variances that occur on packet-switched networks (compared with public switched telephone network [PSTN]).

Conventional fax servers and FoIP servers offer the same exact capabilities to end users although FoIP servers offer enterprises advantages over conventional fax servers including virtualization, centralization of fax servers, and less expensive disaster recovery solutions.

A fax server can sort inbound faxes and deliver them automatically and confidentially to the electronic emailboxes of the intended recipients. It can also pre-process the received fax so that receiving a fax and processing its data contents can be in a matter involving minimal human labor. Also, the fax can be put into a workflow where received faxes are sent to particular agents for rapid processing, although we do not include workflow revenues in this report because workflow does not use T.30 and is not strictly fax. Users can send and receive faxes directly from their computers. Fax servers can reduce fax transmission costs by sending non-urgent faxes at off-peak hours and by sending them over the Internet.

Fax servers can be used for production fax, where businesses send out batches of documents all at once and every document has different information on it. Production fax handles turnaround documents like invoices and purchase orders. Fax servers can also be used as shared systems in environments that require high volumes of inbound and outbound faxes. Production fax is now becoming a major part of the faxing picture, as it accounts for over 40% of all fax server use.

Users also can track the success rates of their faxes. Every fax returns a confirmation or error report so fax servers can provide audit trails. This gives fax an upper hand relative to email as emails can't confirm if the email is actually received so no audit trail is possible. In addition, businesses can troubleshoot any failures during fax transmissions and potentially take measures so subsequent transmissions won't fail.

What fax *servers* do and what fax *services* do is essentially the same, although differences do exist. For one, most Internet fax services do the basic job of sending and receiving faxes, but some fax services, particularly ones offered by fax server vendors, support all manner of APIs (application programming interfaces) so the services can be integrated tightly with business applications. Only some of the Internet fax service providers support APIs and most of those don't support the range of APIs that fax server suppliers support. Also, many non-enterprise oriented hosted fax service providers generally don't offer the same robust integrations with applications and MFPs. In high-volume fax operations, fax servers can fax at much lower transmission rates than services can offer. Nonetheless, fax services have become tough competition for fax server companies, bleeding off a percentage of sales every year. The reason for this is that many enterprises have now placed an emphasis on going to the cloud, even if it costs them more money.

Current Fax Server Market

FoIP servers and conventional fax servers saw opposite trends in 2012. While FoIP Servers grew nicely during the year, from \$175 million in 2011 to \$215 million in 2012, an 11.6% growth rate, conventional fax servers saw growth decline by -14.7%, which meant that the overall fax server did not grow at all during 2012. FoIP servers generated more revenues from new sales while conventional fax servers generated more revenues from maintenance fees. Still, FoIP servers grew at only about half the rate as in 2011.

Table 3-1			
Overall 2012 Fax Server Market (\$M)			
	2012	2011	Growth
Conventional fax server revenues inc. hardware	\$145	\$170	-14.7%
FoIP fax server revenues including hardware	240	215	11.6%
TOTAL revenues	\$385	\$385	0.0%
Source: Davidson Consulting; Sturgis MI; 2013			

Market Drivers and Impediments

Conventional fax servers aren't growing, but drivers for conventional fax servers include that companies have them installed and don't want to upgrade, in large part because the idea that FoIP servers don't have as high of completion rates as conventional fax servers continues to hold traction in roughly half the market. This notion, along with a desire to keep production fax call-completion rates as high as possible, is keeping many fax servers buyers in the conventional fax server category. Also, conventional fax servers continue to rack up maintenance revenues.

FoIP server sales are being driven by server virtualization, by fax-enabling Sharepoint applications, and because FoIP saves businesses money during installation and operation. Surveys show that more than 60% of businesses are virtualizing their servers when they move to FoIP. Also, Davidson Consulting believes that nearly a quarter of all businesses are thinking about implementing Sharepoint workflows, with many of them adding fax as a capability. So, FoIP is now the key driver of fax server sales.

Compliance regulations are another key driver of growth of the fax server market, intensifying the demand for fax. Sarbanes-Oxley (SOX), the Health Insurance Portability and Accountability Act (HIPAA), the USA Patriot Act, the California Security Breach law, the Securities and Exchange +Commission rule 17a-4, and many other acts are all forcing compliance issues on IT departments, which are often supporting compliance through the use of fax. Fax, unlike email, provides audit trails. Compliance is forcing corporations to track all their messages, make them retrievable, and to secure their confidentiality. In turn, corporations are installing fax servers, document management systems, and replacing fax machines with multifunction devices that can be secured. Compliance is the second-largest driver of fax server sales.

The MFP (multifunction peripheral) is also a key driver of fax server sales. MFPs integrated with fax servers have taken over for fax machines in many corporations, largely because of security and compliance issues.

Corporations are continuing to centralize fax operations as a way to lower their operating costs, in the process buying larger fax servers and mainly FoIP servers. FoIP servers open the possibility to place servers anywhere on an IP network and be able to serve any PC on the network. Of course, server virtualization is also a factor here.

Businesses also cut costs by choosing to send out purchase orders, invoices and other turnaround documents by fax rather than by postal mail. The cost of printing out the documents, folding and inserting them and adding postage costs much more than a simple fax phone call. And by faxing the documents, turnaround time is also greatly reduced.

So moving to production fax is a key driver of fax server sales.

In terms of impediments to fax server sales, this would include email, digital signatures, and Internet fax services.

Email has cut into fax traffic tremendously. It has reduced the number of fax machines in the corporate office and it has reduced their usage, particularly in terms of cover-page faxing which has been almost entirely usurped by email. But email also has a long list of problems that come with the benefits, starting with an explosion of email and simultaneously of junk email. Email also can carry viruses. First and foremost, email doesn't provide audit trails, a huge advantage for fax where businesses need to comply with regulations. Businesses also have concerns that email causes loose talk so the odds are higher that when sending email, people will attach messages that get the businesses into trouble with lawsuits and e-discovery. With production fax, only documents are sent, without human intervention, so no comments are included.

People also receive 200 billion spam messages every day, approximately 90% of the world's email traffic. Of course, they filter the spam messages but some email of value gets lost in the process. Then there are the viruses that email attachments carry, making many users afraid to open attachments. Then there is the possibility that hackers may sit on an email server and capture every email that is sent or received in or out of the server. Also hackers can sit on any link between any two routers and pick off emails. All this creates security worries over email and has left a window open for fax to carry some of the most vital messages.

Corporations are responding by sending out vital documents by fax. Davidson Consulting now estimates that more than half of all faxes sent are transmitted by production fax systems. Faxes are almost entirely made up of mission-critical information and companies are turning to fax to send invoices, bills, contracts, and anything that requires a signature. Because fax servers just sent out the document – without human intervention – workers' assessments of the data in the transmissions are not included. Fax is a document-only transmission mode, which raises its visibility among many IT departments. Also there are no emails that go out with the faxed documents, unlike when documents are sent by email. So lawyers can't e-discover corporate intentions in the notes that personnel add via email.

Digital signatures will eventually obviate the need for faxes to carry signatures. But digital signatures remain used almost exclusively within corporate firewalls. There is not much use of digital signatures on messages that travel from corporation to corporation. Davidson Consulting cannot identify a single digital signature vendor with anywhere near

the \$90 million in fax revenues that Open Text has. Of course, this is a generational thing, and eventually as the next generation takes over, digital signatures will get wider use and will drive fax from the marketplace. Adobe now has a digital signature capability, but it is primarily used by individuals. Fax is primarily an enterprise communications medium.

In the end, fax will not go away because of some new technology in the marketplace. Rather, it will be the passing of generations until key enterprise positions are assumed by younger people who lack familiarity with fax. And that assumes that the people taking over those positions will not be influenced by arguments about email raising the possibility of corporate liability.

The third impediment to fax server use is the Internet fax service. These services, epitomized by eFax from jFax, are taking the market by storm, growing by rates of as high as 20% per year. This trend is apparently cutting the fax server market off from growth opportunities, particularly in the small and medium business segment. Large corporations are less interested in Internet fax services because the fax capabilities that they want are more varied than the services can supply and they can save money in high-volume situations by using fax servers. But the Internet fax services have clearly taken over the small business and professional user communities. Not only are Internet fax services taking hold in the market, but the market is just now starting to move all kinds of capabilities to the “cloud.” This is increasing the lure of Internet fax services to enterprises.

Current FoIP Market

The FoIP industry grew by 11.6% in 2012, which is about half its growth rate in the previous year (22.9%) (see Exhibit 3-2). FoIP is still seeing strong adoption in the enterprise space, much of it due to the fact that enterprises are virtualizing their server farms and so moving to FoIP is quite natural, plus the cost savings that FoIP installations engender. Now SIP (session-initiation protocol) trunking is just starting to take hold in the marketplace, mostly in small to medium-sized businesses to date, and this is causing a boost in demand for effective support of fax in access-provider and backbone IP networks. This move to interconnect the enterprise and wide area networks, instead of merely placing gateways at the edge of IP networks, creates new interoperability requirements.

Table 3-2		
FoIP Market Size for 2012 and 2011		
2012 FoIP Market	2011 FoIP Market	Growth
\$240	\$215	10.4%
Davidson Consulting; Sturgis MI; 2013		

MFPs and Fax Server Sales

Multifunction peripherals (MFPs), despite the fact that sales are down, continue to play a major role in fax server sales. All the MFP vendors, mostly out of Japan, have played the MFP market by allying with fax server vendors. The one exception to that rule was Sagemcom, a French player that led the European market in sales of thermal transfer fax machines and also had a large share in MFPs. Sagemcom resold the Interstar fax servers with its MFPs and did very well. Other leading MFP manufacturers, led Xerox, Canon and Ricoh, allied with third-party fax server vendors. Open Text appears to rank ahead of Sagem Communications as a leading provider of fax servers for MFPs as it has relationships with all the major MFP vendors. HP, which sells lots of MFPs in the small and medium-sized business market, does tremendous business with Open Text. We estimate that as many as 40% of fax server sales are driven by MFPs.

Compliance is the big driver for the linking of MFP to fax servers because it means that MFPs create computerized audit trails. When hooked to a fax server, message notifications can be delivered back on the MFP or directly into the user’s mailbox. Incoming messages can be delivered (printed) to an MFP and/or delivered simultaneously to an inbox, public/shared folder or distribution list.

Also, MFP integration makes fax servers more appealing than fax services because fax servers have richer connections to MFPs. Many hosted fax service providers merely allow MFPs to send faxes as emails.

Largest Vertical Markets

The five leading market segments for fax servers in 2012 were healthcare, financial services, government, legal, and manufacturing. All these markets continued to perform well in 2012, although there was lots of noise about threats to fax dominance in the healthcare arena.

Without question, the health arena is the largest fax vertical market. Fax is used everywhere in the health sector and one main reason is that all the leading health IT systems, for instance McKesson, GE and Siemens, are all proprietary and incompatible. The one major traditional force for interoperability in the health vertical is fax. Another major issue in healthcare is that the Health Information Portability and Accountability Act (HIPAA) is used to justify faxing among health sector participants because fax is secure and confidential compared to email and helps meet HIPAA regulatory guidelines.

But now, the Direct Project, a consortium that has developed specifications for a secure, scalable, standards-based way to establish universal health addressing and transport for participants (including providers, laboratories, hospitals, pharmacies, patients, and health information exchanges [HIX]) to send encrypted health information directly to known, trusted recipients over the Internet, has attempted to set a standard for secure multimedia email that, according to the Direct Project, could replace fax usage in health institutions. The Direct Project has specified a form of email whose message content is packaged using Multipurpose Internet Mail Extensions, whose confidentiality and integrity of the content of messages is handled through S/MIME encryption and signatures, where the authenticity of the message's sender and receiver is established with X.509 PKI (public key infrastructure) digital signatures. Message routing is handled with SMTP. But the Direct Project also has its limitations including:

- Like email and unlike fax, it does *not* provide confirmation on successful transmissions.
- Likewise, no audit trail is provided.
- Its use of X.509 PKI cryptography makes it cumbersome.
- It is still subject to the whims of email and generally will not support large files, which will put in question its ability to handle CT (computerized tomography) scans and MRI (magnetic resonance imaging) images.
- It offers multi-hop transmission instead of single-hop, like fax.
- There are internal problems, like the fact that Direct Project reference implementations only come in Java and .NET at this point, rather than in PHP (Hypertext Preprocessor), Python, and Ruby, languages that are more popular with entrepreneurs.
- It is still *email*, which makes it vulnerable to employee unintentional misuse

that can cause trouble when lawsuits arise. And lawsuits are a major factor in the health arena.

Also, Direct Project (DP) email does nothing to end the *interoperability* problems that have plagued the health industry. Fax is already the de facto common interoperability standard, it handles images of any size easily, fax servers and Internet fax services handle confidentiality, fax boosts healthcare productivity, and fax, by using a number of automatic reception programs, can support electronic health records (EHR) by instantly placing metadata into the health records.

Apparently realizing that it came up short with its specification, the Direct Project has offered the XDR (eXternal Data Representation) and XDM (eXternal Data Manager) specifications for direct messaging. This second specification deals with zipped email packages in directed messaging, so the issue with not handling large files goes away. Once again, the email is encrypted, so there are no security issues except for making the process of using it cumbersome. The XDR specification allows senders to represent metadata so it can be received despite any incompatible health IT systems. However, while that is true, and potentially makes a huge difference when dealing with incompatible health IT systems, when a non-XDR source sends to an XDR destination, the metadata cannot be recognized by the XDR system and has to be entered manually. With automatic fax reception, metadata can always be entered into electronic health records with virtually no manual keystrokes required.

So, despite XDR *and* XDM, Direct Project email still has its shortcomings, including:

- Like email and unlike fax, it does *not* provide confirmation on successful transmissions.
- Likewise, no audit trail is provided.
- While it starts to make some headway towards making health IT systems interoperable, it falls short when the sender doesn't also use XDR/XDM. Then metadata must be entered manually.
- Its use of X.509 PKI cryptography and zipping files makes it cumbersome.
- It is still *email*, which makes it vulnerable to employee unintentional misuse that can cause trouble when lawsuits arise. And, again, malpractice lawsuits are a major issue in the health arena.

Meanwhile, there are 50 states, each with its own rules and regulating agencies, that could delay the Direct Project's email endeavors. While XDR and XDM email is projected to replace fax, without interoperability issues being dealt with fully, it falls short of what fax already does. The question becomes how fast and how widely it catches on. Right now, Davidson Consulting predicts that about 30% of health organizations will start using it, many of which are already using email.

The question is how fast and how widespread will adoption of DP email be? Davidson Consulting believes that the health industry is moving toward EHR interoperability, but is unsure when they will embrace it. Looking at the pilot projects, it looks like 30% of the health community could adopt DP email to some degree. But many health organizations are likely to gain exemptions so they won't be forced to go to EHRs until 2019.

Meanwhile, even if the DP email impacts fax sales in the health arena, it does not have to be a loss for FoIP vendors. After all, it is the fax vendors that have relationships with the health organizations now, and they can use this closeness to push secure email. Secure email, which several FoIP vendors already market, works like this: (1) At the send end, an email is sent, fully encrypted, to specified web site, (2) The intended recipient is sent a URL (universal resource locator), (3) When they click on the hyperlink, they gain access to the email, (4) At the same time, the send-end server is sent a confirmation that the recipient has accessed the email. And any size file can be sent. So, secure email can send any size, multimedia email, encrypted, to any user and the sender ends up with a confirmation and an audit trail. The recipient doesn't have to mess with any cryptographic keys and gets a password-protected email. Secure email is superior to DP email and fax vendors can take advantage of that.

As health care providers adopt electronic records, the challenges have proved daunting, with a potential for mix-ups and confusion that can be frustrating, costly and even dangerous. Some doctors complain that the electronic systems are clunky and time-consuming, designed more for bureaucrats than physicians. For example, the public health system in Contra Costa County in California slowed to a crawl under a new information-technology system. Doctors told county supervisors they were able to see only half as many patients as usual as they struggled with the unfamiliar screens and clicks. Nurses had similar concerns. At the county jail, they said, a mistaken order for a high dose of a dangerous heart medicine was caught just in time.

In fact, the current information tools are still difficult to set up. They are hard to use. They fit only parts of what doctors do, and not the rest. Long before computers, many hospitals and doctors charged for services in ways that maximized insurance payments. Now critics say electronic records make fraudulent billing all too easy, and suspected abuses are under

investigation by the Office of the Inspector General at the Department of Health and Human Services.

Like all computerized systems, electronic records are vulnerable to crashes. Parts of the system at the University of Pittsburgh Medical Center were down recently for six hours over two days; the hospital had an alternate database that kept patients' histories available until the problem was fixed. Even the internationally respected Mayo Clinic, which treats more than a million patients a year, has serious unresolved problems after working for years to get its three major electronic records systems to talk to one another. Mayo staffers are working actively on a number of fronts to make the systems interoperable, but the Clinic is not close to solving the problem.

Reliable data about problems in the electronic systems are hard to come by, hidden by a virtual code of silence enforced by fears of lawsuits and bad publicity. A recent study commissioned by the government sketches the magnitude of the problem, calling for tools to report problems and to prevent them. Based on error rates in other industries, the report estimates that if and when electronic health records are fully adopted, they could be linked to at least 60,000 adverse events a year.

According to the surveys by the American College of Physicians and AmericanEHR Partners, as noted above, overall user satisfaction dropped by 12 percentage points between 2010 and 2012 and the "very dissatisfied" group grew by 10 percentage points. Among the findings:

- 39% of clinicians would not recommend their EHR to a colleague, up from 24 percent who said so in 2010.
- With regard to ability to improve patient care, the "very satisfied" group dropped by 6 percentage points, while the "very dissatisfied" group grew by 10 points. Surgical specialists were the least-satisfied group, while primary-care doctors were the more satisfied; medical sub-specialties fell between the two.
- Satisfaction with ease of use fell 13 percentage points. Thirty-seven percent reported increased dissatisfaction.
- 34% of users were very dissatisfied with the ability of their EHR to decrease workload, up from 19 percent in 2010.

- Respondents also said it is becoming more difficult to return to pre-EHR implementation productivity levels. In 2012, 32% of respondents said they had not returned to the previous level of productivity; 20% said so in 2010.

Training remains a major issue at all levels of implementation, according to an AmericanEHR blog post, citing one survey linking satisfaction and ease-of-use rankings with the duration of training.

A recent Black Book Rankings survey predicted that 2013 would be the "Year of the Great EHR Vendor Switch," with up to 17% of physician practices planning to ditch their current EHR system.

The average physician lost nearly \$44,000 over five years of implementing an EHR, according to recently research published in Health Affairs. Just 27% of physicians in that study achieved a five-year positive return on investment and only 14 percent more would come out ahead if meaningful use payments were factored in.

So, no matter how loud the cheerleading about electronic medical records, the reality is that they are only slowly taking over the medical arena. Fax remains in use in over 60% of healthcare providers and that isn't going away overnight.

In financial services, companies are all focused on implementing strategies targeted at operational efficiency and all are facing cut-throat competition. IP fax servers can be used in commercial bank back-office operations to move thousands of credit applications quickly to credit centers where they can be processed. Fax is an excellent choice for this application because it supports the ability to transmit signatures exactly. By fulfilling credit orders quickly, banks can increase customer loyalty, retention, and activity. In addition, faxing documents this way meets with strict regulatory policies and compliance issues. IP fax servers also can automate the reception of trade confirmations to provide customers access to their information quickly and in compliance with guidelines that mandate the protection of client information. For banking and financial trading organizations, IP fax servers provide a method for sending and receiving millions of confidential documents. Centralized document delivery hubs provide full regulatory compliance, and the server also provides tamper-resistant document delivery and receipt as well as encrypted and certified delivery options. Financial service outfits must provide secure, reliable and timely information to customers, partners, and regulating agencies. They must maintain confidentiality of sensitive financial documents, and they must comply with Sarbanes-Oxley, Gramm-Leach-Bliley, Basel II, and other compliance acts. Again, compliance is driving the fax market in finance as well.

Government agencies all over the world send and receive millions of legal and regulatory documents. Many of their documents require support for regulatory compliance, which puts email into question because it does not provide audit trails. So government departments choose fax for its ease of use, immediacy of delivery and universal accessibility. Some government departments, like the military and intelligence-gathering departments, must ensure that most of their fax communications are secure or at least tamper-resistant. IP fax is a critical tool for cutting back on government spending because it costs less to implement and it saves on transmission costs. National, regional, and municipal government agencies have intensive document delivery requirements designed to help them enforce, monitor, and administer compliance regulations. Many of these agencies must deal with limited budgets, so IP fax is a natural solution. Because so many governmental documents require signatures or secure delivery, government agencies of all types prefer to use reliable and cost-effective fax technology. Email is not as secure as fax and fails to provide send confirmations or audit trails.

Manufacturers worldwide need to streamline connectivity with trading partners, increase their supply chain responsiveness, and control operating expenses. IP fax servers and Internet fax services have helped manufacturers enable and manage trading partners around the globe leading to improved and more efficient communications and business relationships as well as providing substantial cost savings. The single most important manufacturing application is production fax: the automated sending out of batches of transactional documents like purchase orders and invoices. Manufacturers can integrate their accounting systems to their IP fax server so that purchase orders can be sent at the mere push of a button. Typically, an application will send a print job to a fax driver and then the fax device will send out each print job, with the correct name, address and list of items to be ordered. Fax servers can send out hundreds of thousands of purchase orders in a single batch. And the whole process is essentially unattended.

For legal organizations or departments focused on legal affairs, secure document delivery, storage, retrieval and destruction are a critical requirement. IP fax servers can send and receive millions of confidential documents every year. Centralized document delivery hubs can support full regulatory compliance, and also provide tamper-resistant or encrypted document delivery and reception. In law offices, one key requirement is the ability to charge back clients for every fax sent on their behalf. With fax machines, this means printing out reports which have client identification numbers referenced for each fax. Then, someone has to go through all the printouts and manually sort out all the charges to every client. The process is made much simpler with automated logs from a fax server or Internet fax service. Here, the charging process is much simpler because data can be moved from the log to a spreadsheet program where it can be sorted by client. So the logs that fax servers and Internet fax services provide offer a key benefit compared

with fax machines. Also, fax has traditionally been heavily used in law offices to send signed documents to the courts, to other parties in lawsuits, and to lawyers in the firm but out of the office. Here, it is critical that every fax is tracked so the law firm knows whether a fax has been sent or not. So, once again, the automated logs of fax servers and Internet fax services are critical. Also, having mobility options may be crucial so that mobile lawyers can receive faxes wherever they are. Today, many IP fax servers and Internet fax services offer the capability to receive faxes on Blackberry phones or iPods. Still, law firms appear to be a vertical that eventually will diminish as lawyers turn to email and secure email to move documents.

Fax Server Sales by Region

Despite the fact that the worldwide market didn't grow, both the North American and Asia/Pacific Rim markets did grow slightly. It was the European market that shrunk by 11% from \$120 million in 2011 to \$110 million in (see Table 3-3). The European market declined because of economic malaise in the region.

Table 3-3		
2012 Fax Server Sales by Region		
Continent	2012 Sales (\$M)	2011 Sales (\$M)
North America	\$160	\$155
Europe	110	120
Asia and Pacific Rim	70	65
Rest of World (ROW)	45	45
TOTAL	\$385	\$385

Production Fax

Production faxing grew from \$155 million in 2011 to \$160 million in 2012, an 3.2% rate of growth. This is a very disappointing result as production fax had been a very hot area for computer fax servers.

Production fax is the sending out of faxes by applications rather than by human beings. It is the sending of hundreds to tens of thousands of faxes in single batches, with every fax having its own unique content. Production fax also may involve inbound faxes and the immediate processing of those faxes in some semi-automated way such as OCRing documents so the data on them can be processed with minimal human effort (e.g., Teleform).

Production fax does *not* include initiating workflows, although this report considered workflows as part of production fax in the past. Workflow itself does not include T.30 and T.30 is the crux of what fax is.

In 2012, production fax was used in 80% of all fax sites (see Table 3-4) and 44% of all installations used FoIP for production fax.

Table 3-4		
2012 Production Fax Usage		
	2012	2011
Using it	80.1 %	77.9%
Not using it	19.9%	22.1%
Source: Davidson Consulting, Sturgis, MI, 2013		

In Table 3-5, we show the break out between production fax sales and sales of desktop fax systems. Desktop fax servers are used for ad hoc faxing from workstations and are driven by human operation. Production fax is application-driven and generally involves no human intervention once the production fax application is set up. Here, again, production fax grew slightly to 40.4% in 2012. Desktop sales, which accounted for as much as 80% of the 2008 market was down to less than 60% in 2012. Davidson Consulting believes that production fax was used to send more 60% of faxes in 2012.

Table 3-5		
Production Fax vs. Desktop Fax		
	2012	2011
Production fax	40.4%	39.9%
Desktop fax	59.6%	60.1%
Source: Davidson Consulting; Sturgis MI; 2013		

Hybrid Services

Hybrid fax services are systems where fax vendors offer both fax servers and fax services that can be used in unison. An increasing number of fax vendors offer this kind of service and interest in hybrid fax services is on a rapid upswing as enterprises move much of their computing to the cloud.

Hybrid fax services have several applications that save enterprises money and provide utility. These include:

- **Overflow traffic:** The ability to handle fax server overflow traffic with fax services. Using fax services for overflow traffic saves enterprises the cost of supporting additional premises-based phone lines that will get only occasional use. This way enterprises only have to pay for phone calls for overflow traffic and can ensure that traffic get to its destination on time.
- **Disaster recovery:** The ability to use fax services to support disaster recovery when required rather than having to install extra phone lines that are very expensive and may never be used. Fax services provide additional capacity that can be used in a split second once a fault occurs in a fax server system. And, generally, enterprises only pay for each fax transmission that takes place. Fax services can be relied upon so long as the fax service is set

up with multiple switches so it has disaster recovery on its own.

- **Fax server/fax service usage:** The ability to prove out a fax service’s capabilities by initially leaving most of an enterprise’s fax traffic on fax servers. Alternatively, this is the ability to use a fax service to test applications that will eventually run on fax servers. This really only works assuming that the functionality on the fax servers is identical to the functionality available from the fax service, so there is no end user retraining whether using the fax service or the fax server.

- **Simultaneous operation:** This is where an enterprise chooses to use the fax server for certain applications (e.g., production fax) and the fax services for other applications (e.g., desktop faxing). Essentially, a fax phone call made over an enterprise’s internal phone lines is *always* less expensive than paying for a fax service phone call. So, many corporations choose to have their traffic-intensive applications continue to use fax servers whereas they may choose to have personnel who only use fax occasionally use fax services.

Davidson Consulting finds that enterprises are rapidly picking up on hybrid services in large part because it saves them money. Many enterprises are using hybrid services for disaster recovery so they don’t need to pay for all the extra lines. Table 3-6 shows that more than 30% of enterprises are using hybrid services with their computer-based fax servers in 2012, up from about 20% in 2011.

Table 3-6		
2012 Enterprise Use of Hybrid Fax Services		
	2012	2011
Using Hybrids	31.4%	20.5%
Not using them	68.6%	79.5%

Davidson Consulting; Sturgis MI; 2013

Inbound Routing

Businesses want to receive faxes confidentially, then either access the faxes directly or apply workflow so that the documents can be processed semi-automatically by the

appropriate agents, then archived in document management systems. As shown in Table 3-7, inbound routing increased in 2012 and the fact remains that more businesses are not only capturing faxes automatically and confidentially, but then are applying workflow, OCR and other processes so that the documents can be processed semi-automatically. This is greatly speeding up business activity, saving corporations millions of dollars, and making up for corporations losing employees due to the economy.

Table 3-7		
2012 Inbound Routing Usage		
	2012	2011
Using It	96.2%	95.9%
Not Using it	3.8%	4.1%
Total	100.0%	100.0%
Source: Davidson Consulting, Sturgis, MI, 2013.		

In terms of the types of inbound routing used (see Table 3-8), Davidson Consulting has found that direct-inward-dial (DID) and dialed number identification service (DNIS; used with toll-free 800 numbers) and ISDN-capable boards represent the majority of use with a total of 80.4% of all sites using inbound routing. DID/DNIS led with 46.1%, virtually unchanged, while ISDN (integrated service digital network) was second, also virtually unchanged. Bar-code routing was the only form of inbound routing that increased in 2012, going to 6.3% from 6.0% in 2011.

Table 3-8		
Types of Inbound Routing Used in 2012		
Method	2012 Share	2011 Share
DID/DNIS	46.1%	46.0%
ISDN	34.3%	34.2%
OCR (bar code)	6.3%	6.0%
DTMF	5.7%	5.8%
Line routing	5.7%	5.8%
Manual routing	1.8%	2.1%
Subaddressing	0.1%	0.1%
Total	100.0%	100.0%
Source: Davidson Consulting, Sturgis, MI, 2013.		

Web and Email Integration

Email integration has been the leading reality in desktop-based fax servers, but it is slipping as Web integration again increased in the last year. In 2012, 45.9% of all fax servers were integrated with email, the same as last year (see Table 3-9). The percentage integrated with the web was up 1.0% in 2012. Still, many fax servers are used primarily for production fax, and relatively few of those are integrated with email or the Web.

Table 3-9		
2012 Market for Web and Email Integrated with Fax		
	2012	2011
Integrated with Email	45.9%	45.9%
Integrate with the Web	45.1%	44.1%
Not integrated	9.0%	10.0%
Davidson Consulting; Sturgis, MI; 2013.		

As shown in Table 3-10, Microsoft Exchange increased its domination of fax/email integration activity, accounting for 75% of all installations, as its share increased by 2% points. Email systems based on Simple Mail Transfer Protocol (SMTP) held onto second place as its share held steady. Lotus Notes fell to third with an 6% share that declined 2% from 2010. Novell GroupWise held a 1% share.

Table 3-10		
2012 Market Share for Email Integrations		
	2012	2011
Microsoft Exchange	75%	71%
Other STMP links	18%	18%
Lotus Notes	6%	10%
Novell GroupWise	1%	1%
TOTAL	100%	100%
Davidson Consulting; Sturgis, MI; 2013.		

Unified Communications

Unified communications (UC) enables users to handle all the communications they use in the office through a single or integrated solution. This includes such methods as telephony, voicemail, e-mail, SMS, fax, instant messaging, presence information, video conferencing, call control and speech recognition. UC offers a single user interface and stores all messages in a single storage area. It may be a single offering from a single vendor or it may be multiple offerings all integrated together. Davidson Consulting has not seen significant growth in the number of companies using unified communications.

Unified communications lets workers send messages in one format and receive them in another. For instance, users can receive a fax and choose to have it changed from an image to readable text through optical character recognition (OCR) and then to either hear it as a voice mail or read it as an email. This means that faxes can be accessed on a simple cell phone.

Although the terms unified communications and unified messaging are both vague, generally, what unified communications refers to is the integration of the entire span of

communications, whereas unified messaging refers to the ability to send and receive email, voice mail and fax. Some people say that unified messaging only covers store-and-forward communications while unified communications covers real-time communications too, but one area that unified communications covers is mobile communications which is largely outside the fax experience since reading faxes on a mobile device screen is difficult. Since unified communications is driven to a great extent by mobile communications, then much of the UC market is outside of fax.

In this section we are discussing unified communications as a system that includes a desktop faxing application. The question is, does unified communications drive a large chunk of the fax server business? Unified communications enables a broad swath of communication channels to be coordinated. In some cases, the UC capability is offered by a single vendor but in many other, separate servers may be consolidated, including fax servers.

Although businesses are showing significant interest in unified communications, it remains a daunting and confusing offering. No single vendor adequately addresses all of an enterprise's unified communications needs. As a result, businesses should not expect their unified communications requirements to be met by one vendor's products. In fact, fax, which is a much more difficult technology than many would assume by reading how fax is not as high-tech as other communication modes, is a prime example of why businesses decide to add products from reputable fax server vendors to their unified communications systems.

In previous years, the unified communications market was taken over by iPBX vendors like Cisco, Avaya and Alcatel. Now, Microsoft is in the market pushing its unified communications offerings on top of its Exchange and Lync Servers. Fax server vendors must realize that unified communications is here to stay. It's still unified communications, a great big ball of functionality that many businesses have a great deal of trouble getting their arms around – and even trouble naming it. Nonetheless, Microsoft's unified messaging strategy has many companies that are considering VoIP also considering unified communications. This remains an opportunity – to offer FoIP fax servers for use with third-party unified messaging systems that don't contain a fax element. And Microsoft is also pushing this concept by not providing a fax reception capability on Exchange 2010. Virtually every fax server vendor now offers a fax receive capability for Exchange.

As show in Table 3-11, Davidson Consulting saw 2010 as a year when unified communications and messaging systems basically played the same role in fax server sales going from driving 25% of sales in 2011 after having driven 24.9% in 2010.

Table 3-11	
Fax Server Sales Driven by Unified Communications	
2012	2011
25.4%	25.0%
74.6%	75.0%
Source: Davidson Consulting; Sturgis MI; 2013	

Table 3-12 shows UC-based fax server sales versus desktop fax server sales. The table shows that UC-based fax server sales were essentially flat, merely increasing two-tenths of percentage point.

Table 3-12		
Unified Communications Fax Server Sales as a Percentage of Desktop Fax Server Sales		
	2012	2011
UC Fax Server Sales	33.1%	32.7%
Desktop Fax Server Sales	66.9%	67.3%
Source: Davidson Consulting; Sturgis MI; 2013		

One area where unified communications comes up short against fax is that it is subject to security breaches as in unified communications ecosystem attacks, endpoints that are not secure, eavesdropping attacks, fuzzing, denial of service attacks, toll fraud, identity, spoofing and vishing (the VoIP version of phishing), and attacks against distributed systems. Clearly, unified communications systems have some issues to deal with. And many UC products do not offer fax capabilities at all.

Portable Faxing

Many fax server vendors are fielding connectors for their fax servers so that end users can fax directly from their portable devices, including iPads, iPhones, Android and BlackBerry smartphones. Most fax vendors are utilizing integrations from third-party vendors to offer such capabilities.

As shown in Table 3-13, the use of portable devices increased by nearly 9% in 2012 to 23.7%. This is indicative of the spread of handheld devices, their growing use of faxing, and the importance that handhelds bring to faxing. Davidson Consulting also believes that many bids now require a handheld fax capability.

Table 3-13		
Handheld Device Usage as a Percentage of Desktop Faxing Seats		
	2012	2011
Using Handhelds	23.7%	14.4%
Not Using Handhelds	76.3%	85.6%
Davidson Consulting; Sturgis MI; 2013		

Fax Laws

In the fax patent arena, where j2 has ruled the roost for years, the company has now entered into a settlement and patent license agreement with fax server industry-leader OpenText to resolve patent litigation asserted by j2. Open Text will pay j2 Global \$27 million in exchange for a fully paid up license to the licensed j2 patents for fax software and services sales to enterprise and corporate customers. Open Text has also agreed pay j2 Global a running royalty for a license to the licensed j2 patents for sales of fax software and services to individual and small office/home office customers, provided that such royalty exceeds a stipulated minimum amount. The Licensed j2 Patents include United States Patent Nos. 6,208,638; 6,597,688; 7,020,132; 6,350,066; and 6,020,980; together with all continuations, counterparts and reissues.

As far as Davidson Consulting is concerned, this agreement continues a longstanding trend wherein j2 and its forbears have been able to sue companies that would prefer to settle than to fight. This started when AudioFax, which later became CatchCurve (now a wholly-owned subsidiary of j2) sued Delrina for patent infringement. Delrina was the leading provider of fax software at the time and was in talks with Symantec to be acquired. Delrina preferred to pay AudioFax for its patents so it could be acquired. AudioFax, CatchCurve and j2 have followed this same strategy countless times since then. With OpenText, that firm wanted the EasyLink line so it could not only fax-enable its RightFax fax server line, but also its much broader (and bigger) OpenText enterprise information management lines. It did not care about the fax implications of losing a patent case to j2, only that it was free to continue to cloud-enable all its billions of dollars worth of EIM installed base. So it settled with j2.

This is the last huge fax company that j2 has to license and it is the last big settlement that j2 will bring in for its fax patents. That is not to say that j2 will no longer pursue patent initiatives as it is still going after RingCentral, and other minor players. But this deal completes j2's long-term strategy to sew up patent licensing deals with major players participating in fax software and services in North America. And j2 will continue to take in patent-related revenues to the tune of \$20 million plus, annually.

This is also not say that some fax company will not defeat j2 in patent court. OpenText had alleged that one of j2's founders had misled the patent courts years ago and potentially could have used that allegation to deny the validity of the patents. But, OpenText settled with j2, so now we'll never know.

This matters to the computer-based fax industry because it increases the cost of hybrid services that companies besides j2 must pay.

Section 4

Fax Board Market Characteristics

This report covers intelligent fax boards, not fax modems. Intelligent fax boards have their own processors that enable them to handle faxes in stable and efficient ways, using the latest protocols. Elements of a fax call are ultra-sensitive to time delays, and making sure they are handled correctly by dedicated hardware has been important to completing fax calls. Intelligent fax boards are more expensive than the single port fax modem alternatives, but are well worth the extra money when compared with the savings on support, uptime and user phone bills.

However, in recent years, manufacturers have begun selling software that enables fax board-like functionality by tapping hardware that already exists in microprocessors in IP network gateways and routers. Whether these “software subassemblies” qualify as fax boards is a matter of opinion. In Davidson Consulting’s estimation, software subassemblies *do not count* as fax boards for this report and are counted only in fax server software revenues. Of course, software subassemblies act as fax boards, and are discussed in the text below.

In 2011, approximately \$25 million worth of fax boards were sold for IP fax (see table 4-1). Add that to \$52 million in fax boards that were sold for conventional fax servers, which declined by -5.4%, and the maintenance revenues, which includes revenues for software-only solutions and which rose by 16.7% in 2012. The total of \$98 million in fax board sales represents a slight increase from 2011.

Table 4-1		
Total Fax Board Sales for Fax Servers for 2011 and 2012 (\$ Millions)		
Category	2012	2011
Conventional Fax Boards	\$52	55
Maintenance for Fax Boards	21	18
IP Fax Boards	25	23
Total	\$98	\$96
Davidson Consulting; Sturgis MI; 2013		

Dialogic dominates the market for conventional fax boards and for software

subassemblies and it has also come to dominate the market for software subassemblies. Dialogic does face more meaningful competition in software subassemblies as companies such as Sagemcom, AudioCodes, Kofax and FaxBack all offer their own versions of software subassemblies. The only other suppliers of intelligent fax boards are Commetrex, a small supplier that emphasizes T.38 fax boards, Pika Technologies, a company that was going mostly after the service provider market, and AcuLab, which has found success primarily in Europe.

Fax Board Market Size

The fax board market for fax servers increased by 2.1% in 2012, from \$96 million in 2011 to \$98 million in 2012. Also, as shown in Table 4-2, when the fax board market for fax services is added in, then the market grew from \$140 million in 2011 to \$145 million in 2012, which equals growth of 3.6%. The fax services market grew from \$44 million to \$47 million which is growth of 6.8%.

Table 4-2		
2012 Fax Board Market Size (\$M)		
	2012	2011
Fax Server-driven sales	\$98	\$96
Fax Service-driven sales	47	44
Total Fax Board Sales	\$145	\$140
Davidson Consulting; Sturgis, MI; 2013.		

Fax Board Sales by Region

Fax boards were sold mostly in the North America, which accounted for 45% of all sales in 2011 (Table 4-3). Europe was the second-leading region with one-third of all sales. Asia came in third, with 15.7% of the all the fax boards sold.

Table 4-3		
2012 Fax Board Sales By Region (\$M)		
	2012 Revenues	2012 Share
North America	\$67	46.2%

Europe	44	30.3%
Asia	24	16.6%
Other/ROW	10	6.9%
TOTAL	\$145	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

Fax Board Sales by Distribution

As shown in Table 4-4, fax server-driven fax board sales were mostly through channel resellers as they took more than 80% of the market. Direct sales to ISVs was second with just 10.3%. The third most popular method was OEMs (original equipment manufacturers), which made up just 7.7% of the 2012 market.

Table 4-4		
2012 Fax Boards (for Fax Servers) Sales by Distribution		
Channel	2012 Share	2011 Share
Direct	0.4%	0.4%
Direct to ISVs	10.3%	10.2%
Channel resellers	81.6%	81.4%
OEMs	7.7%	8.0%
TOTAL	100.0%	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

Section 5

Fax Server Suppliers

As shown in Table 5-1, Open Text was the overall fax server leader in 2011, despite not flat revenues. It had a 28.6% share, which was slightly improved because the rest of the field had lower revenues. Sagemcom remained in second place with a 18.2% share despite losing \$1 million in revenues in 2012. Biscom took over third place from Kofax, as Biscom had an excellent year and Kofax saw its business transition to its fax services.

Table 5-1		
Overall 2012 Fax Server Supplier Structure (\$M)		
Vendor	Revenues	Share
Open Text	\$110	28.6%
Sagemcom	70	18.2%
Biscom	30	7.8%
Kofax	25	6.5%
Microsoft	23	6.0%
Esker	19	4.9%
GFI	14	3.6%
iFAX	10	3.0%
Quadrant	9	2.6%
Fenestrae	8	2.3%
FaxCore	8	2.1%
Equisys	7	1.8%
Solgenia	6	1.5%
Imecom	6	1.5%
Multi-Tech	6	1.5%
International Presence	5	1.2%
Other	29	7.0%
TOTAL	\$385	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

In the FoIP server market (see Table 5-2), Open Text was also the leader with a 32.9% share, nearly 9 points higher than the second-place vendor, Sagemcom. Biscom held third in the supplier structure with a 10.1% share, followed by Microsoft, which had a 4.8% share.

Table 5-2		
2012 Market for FoIP Server Vendors (\$M)		
Vendor	Revenues	Share
Open Text	\$78.9	32.9%
Sagemcom	57.5	24.0%
Biscom	24.2	10.1%
Microsoft	11.5	4.8%
International Presence	6.4	2.7%
Kofax	6.0	2.5%
FaxCore	6.0	2.5%
GFI	5.4	2.2%
Fenestrae	4.2	1.8%
Equisys	3.2	1.3%
Solgenia	3.0	1.2%
Esker	2.5	1.0%
Other	31.2	13.0%
TOTAL	\$240.0	100.0%
Davidson Consulting; Sturgis, MI; 2013		

In the conventional fax server supplier shares for 2012 as shown in Table 5-3, Open Text was once again the leader, with \$31.1 million and a 21.4% share. Kofax, riding a

European trend of using conventional fax servers for production fax, was in second place with \$19 million. Esker took over third place with \$16.5 million. Sagemcom was fourth and Microsoft was fifth.

Table 5-3		
2012 Conventional Fax Server Supplier Structure (\$M)		
Vendor	Revenues	Share
Open Text	\$31.1	21.4%
Kofax	19.0	13.1%
Esker	16.5	11.4%
Sagemcom	12.5	8.6%
Microsoft	11.5	7.9%
GFI	8.6	5.9%
iFAX	8.0	5.5%
Quadrant	6.5	4.5%
Biscom	5.8	4.0%
Multi-Tech	4.0	2.8%
Imecom	4.0	2.8%
Equisys	3.8	2.7%
Fenestrae	3.7	2.5%
Solgenia	3.0	2.1%
FaxCore	2.0	1.4%
Other	5.0	3.4%
TOTAL	\$145.0	100.0%

Fax Server Supplier Shares by Region

Open Text was the leading supplier in North America with a 37% share, followed by Biscom with a clear cut second place finish with a 14.1% share. They were the only suppliers with double-digit shares. Esker and Sagemcom shared third place with 8.8% shares.

In Europe, Sagemcom led with a 31.1% share, followed by Kofax with a 17.7% share. In third was Open Text and fourth was GFI with a 6.7% share.

In the Asian/Pacific market, Open Text was the clear leader, and the only supplier having a double-digit share, having acquired MESSAGEManager.

Fax Server Supplier Shares by Business Size

In terms of fax server supplier shares by business size, Open Text was the leader in the large enterprise segment, defined as businesses with more than 5,000 fax seats, by a wide margin over companies including Biscom, Kofax, and Esker. In the mid-sized enterprise segment, defined as businesses with from 100 to 4,999 seats, Open Text was again the leader over Kofax, Esker and Biscom. In the small business market segment, defined as businesses with up to 100 fax seats, Sagemcom held a substantial lead over Open Text, and then Microsoft and GFI.

Production Fax Market Shares

Open Text also led in production fax server sales having acquired MESSAGEManager the previous year. Kofax and Biscom maintained their revenues.

Table 5-4		
2012 Production Fax Supplier Shares (\$M)		
Vendor	Revenues	Share
Open Text	\$39.0	23.7%
Biscom	28.0	15.8%
Kofax	25.0	17.8%

Esker	15.5	11.8%
iFax	8.0	5.3%
Quadrant	7.0	4.6%
FaxCore	6.0	3.9%
International Presence	4.5	3.3%
Imecom	4.5	3.3%
Solgenia	4.5	3.3%
Other	13.0	7.2%
TOTAL	\$155.0	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

Fax Server Supplier Profiles

ActFax

ActFax Communication develops and supports ActFax, a network fax solution. The high demand for fax solutions for heterogeneous environments initiated the company to develop a fax server system that easily integrates with different environments, like Windows, DOS (Disk Operating System), Unix, Linux or mainframes.

ActFax has been designed for network-wide transmission and receipt of fax messages, as well as sending and forwarding fax messages by email. The software runs on any Windows version from Windows 95 or higher and also supports terminal servers. Due to the client/server architecture of ActFax, all data is stored centralized on the fax server. With the integrated fax client and the ActFax printer driver, faxing from any standard application is as easy as printing. For the integration of the fax service into own applications, ActFax offers various standardized interfaces. The company now offers users FoIP when using Eicon Diva Server SoftIP software.

Through an integrated programming interface, ActFax easily integrates with other applications to send fully automated faxes and emails. The integration into applications, for example to automatically fax purchase orders or order confirmations, can be done with very little effort. By using so-called data fields, all kinds of information (e.g., the fax number, subject, priority, etc.) can be specified directly in the document. Because of the underlying concept of data fields, the programming language used for an application

becomes unimportant. Data fields can thus be easily integrated with virtually every type of application, regardless of the programming language or operating system used.

In 2013, the company released an automatic check for updates done by the fax server, as well as the automatic distribution of updates for the fax clients. ActFax also began supporting TLS/SSL encryption for the communication with mail servers and Web fax services.

Also in 2013, ActFax and Concord Technologies, who formed a partnership a year ago, claimed they are seeing an acceleration of adoption of their combined hybrid offering and already have more than 20 companies using an integrated solution. The integration between the ActFax server and Concord Fax Online, enables the on-premise ActFax server to send and receive faxes over the internet using Concord's network, eliminating the need for phone lines and fax modem hardware typically required when utilizing fax servers. The integration enables system administrators to easily deploy high-availability architectures using virtualization and removes the risk of local telephone outages.

ActFax Communication-Software GmbH; Donau, Austria; +43 664 20 50 285; fax: +43 2752 51 684 25; www.actfax.com...

Alt-N Technologies

Alt-N's main business is selling email servers. The company also markets RelayFax, an email-to-fax and fax-to-email fax server. RelayFax Server 6.7.6 automates the process of sending, receiving and managing your network fax traffic. By integrating into existing email systems, RelayFax Server 6.7.6 provides full faxing capabilities from your desktop.

RelayFax network fax server management software automates sending, receiving, and managing network faxes from the desktop, while integrating full faxing functionality with an existing email system – all while providing unlimited fax sends and receives with no monthly fees or per-transmission charges.

RelayFax Network Fax Manager connects to any number of POP mailboxes at scheduled intervals and collects waiting fax messages, which the software then emails, faxes, or prints as defined in its configurable fax rules. POP3 and SMTP communications with RelayFax can optionally be encrypted using the SSL and TLS protocols, to ensure that all transmitted data is secure. For easy navigation, the RelayFax GUI has been redesigned to be consistent with the MDAemon interface.

RelayFax Network Fax Manager supports FOIP with support for up to 30 virtual fax devices that can logon to a SIP-based software PBX. This technology allows sending and receiving faxes directly via VOIP and does not require a fax modem or other fax hardware.

With RelayFax Network Fax Manager, users can send outgoing faxes and receive incoming faxes without leaving their workstation. Incoming faxes can be converted to various image formats such as TIFF, JPEG, and BMP. An available Optical Character Recognition (OCR) plug-in for RelayFax can be used to convert faxed images into editable document formats (DOC, PDF, etc.). A single fax can also be sent to multiple destinations and automatically assigned a specific cover page or template based on specific users and groups. The fax server supports fax modems including Mainpine, Dialogic, Commetrex, Control and NMS boards.

Alt-N Technologies, Ltd.; Grapevine, TX; 817-601-3222; fax: 817-601-3223;
www.altn.com...

Axacore

Axacore, a provider of fax and imaging solutions, offers a fax server, FaxAgent, to maximize fax service provider optimization. The Axacore certified fax appliance

accelerates service provider functionality with new features and enhanced controls. FaxAgent is an all inclusive internet fax solution by operation and design.

FaxAgent offers your customers or employees the ability to:

- Fax from a computer or tablet
- Send and receive faxes from anywhere
- Receive faxes electronically so users never lose another fax
- Integrate old school fax machines with the latest technology

FaxAgent is an embedded appliance so it's ready to use out of the box. There's no operating system or applications system. Axacore designed and tested FaxAgent for carrier-level environments, so it's capable of handling large amounts of fax traffic.

FaxAgent is VMware-certified, offers the latest state of the art technology, offers fax-only SIP trunks, has a carrier-certified chassis design and is completely manufactured by Axacore.

Although FaxAgent is not an open-source product, it is designed to work with customer's open-source applications just as seamlessly as with commercial applications and email systems.

Axacore, Inc.; San Diego, CA; 858-427-8600; www.axacore.com...

Biscom

Biscom, a leading provider of enterprise document delivery solutions, began delivering an IP version of its FAXCOM Server software in 2004. FAXCOM Server solutions support document delivery via fax, email and Internet, and managing document workflow to process documents as they move into and out of the enterprise. Biscom says that its conventional fax servers continue to sell well, especially in the health care arena.

In late 2012, Biscom released Version 10.1 of its FAXCOM Suite software that manages its on-premises, hosted cloud, and hybrid fax platforms. Enhancements to FAXCOM Suite include:

- Biscom Secure Fax, and a new “fax encryption at rest” capability, which are

designed for environments where document and data security are paramount considerations. Biscom Secure Fax integrates Biscom's enterprise fax and secure file transfer applications, enabling fax client users to receive faxes securely via secure file transfer, and to send faxes via secure file transfer.

- Biscom Mobile Fax app for Apple iPad/iPhone, Google Android, and Amazon Kindle Fire mobile devices, which is available from the Apple, Android, and Amazon marketplaces. Biscom Mobile Fax extends fax functionality to mobile devices, enabling users to receive, view, and send faxes, including the ability to sign documents, anytime and anywhere.
- Support for Microsoft Office 2013, including Outlook 2013.
- Image previewing within the Web-based client.
- Private-label branding of the Web-based client.

Biscom Mobile Fax extends the functionality of Biscom's enterprise fax solutions to mobile devices, enabling enterprise users to receive, view, and send faxes – such as signature authorizations – anytime and anywhere. With Biscom Mobile Fax, users download the app on their mobile devices, but enterprise IT administrators can manage access control and permissions. In the event a mobile device is lost or stolen, an administrator can immediately disable fax privileges on the device or change the login credentials on the account.

In late 2012, Biscom also announced that it completed the rigorous FIPS 140-2 testing and received certification from the National Institute of Standards and Technology (NIST). FIPS 140-2 is a US government security standard that accredits cryptographic modules. Working in conjunction with the Communications Security Establishment (CSE), the FIPS 140-2 validation program is also recognized in Canada. FIPS 140-2 certification is part of the Biscom Secure File Transfer solution that enterprises use to share confidential and sensitive files and documents.

While the US government requires applications that use cryptography to be FIPS 140-2 certified, many other industries such as healthcare, financial services, and legal also consider FIPS 140-2 certification a requirement before they deploy an application that uses encryption. Also, support for sending and receiving faxes via HL7 (Health Level Seven) standard messaging provides more functionality to Biscom large healthcare customer base. Deployment of new applications is expedited by accepting and delivering an industry standard HL7 message.

The FAXCOM solution is tightly integrated with Microsoft Windows, Exchange, Office and Outlook, and can be administered via an MMC (Microsoft Management Console). FAXCOM users can be managed through Active Directory and Group Policy, providing a shared fax solution that can scale from a small office to a multinational enterprise. The release of FAXCOM Client 2012 merges the functionality in Biscom's Workflow client with the easy to use Desktop client. Client software is delivered with equal functionality as a web client or desktop client. Client 2012 web version includes an integrated viewer that allows viewing the inbound faxes without launching a viewer external to the browser thereby enhancing productivity. The 2012 client also adds archiving, fax search capabilities, advanced broadcast fax management.

FAXCOM Server and FAXCOM Suite for Windows application can be implemented in a virtualization environment that enables customers to lower capital and operational costs. Virtual fax servers are quickly becoming the standard platform of choice as corporations are making the shift from physical servers and locally-installed client applications to such virtualization technologies as VMware, Microsoft Hyper-V, XEN, and Citrix. Biscom reports that 90% of its FoIP shipments involved virtualization. Biscom offers VMware server consolidation and by leveraging VMware's virtualization technology, Biscom's fax server and FAXCOM Suite for Windows enable customers to lower capital and operational costs while providing an efficient and flexible faxing solution.

Biscom also achieved a Gold Application Development Competency in the Microsoft Partner Network for 2013-2014. In order to earn Microsoft Gold Application Development Competency, organizations must complete a rigorous set of tests to prove their level of software development expertise including certifying a product, submit customer references and demonstrate their commitment to customer satisfaction.

FAXCOM for SharePoint extends MS SharePoint document management and collaboration capabilities by receiving faxes to, and sending faxes from, SharePoint document libraries. FAXCOM for SharePoint intelligently and automatically delivers incoming faxes without the need to email-enable the SharePoint site. Key features of FAXCOM for SharePoint are:

- Auto-populating of document library column heading values
- Receiving faxes as searchable PDF (portable document format) files
- Sending outbound faxes from document libraries and automated workflows

FAXCOM Suite for Windows includes multiple user and Application Programming Interfaces (APIs). User interfaces include Outlook and other SMTP mail clients, the FAXCOM Web Client, and Biscom's desktop fax application, the FAXCOM Client. Applications send and receive faxes programmatically through such interfaces as .NET, Web Services, COM, and SMTP (simple mail transport protocol).

Biscom offers MFP connectors for Xerox, Sharp, HP, Canon, Fujitsu, HP, Océ, Ricoh, and Toshiba devices.

In a separate product line, Biscom supports the High Definition Internet Protocol Fax (HD-IPFax), a secure point-to-point software application for sending and receiving high resolution images such as medical/dental x-rays and full color documents via computer-based fax. This application extends the capabilities of FAXCOM Suite for Windows to reduce costly visual interpretation errors by providing higher quality images to users and enables compliance with HIPAA privacy laws. Taking fax to the next level, HD-IPFax enables users to send and receive high-resolution and color images such as photographs, legal documents, insurance forms, schematics, diagrams, radiographs and other medical images. As a real-time, highly secure communications method, HD-IPFax represents the best of both the email and fax worlds:

- Like email, it avoids the costs of phone lines
- Like fax, it transmits an unalterable image
- Unlike email and like fax, it offers audit trails
- Unlike email, it is encrypted and direct
- Unlike standard fax, the image can be full color and not limited to any dots-per-inch (DPI) or size

In the last year, HD-IP Fax has been enhanced with Biscom's new color patent to differentiate between the color and monochrome portions of documents scanned in color, reducing the monochrome portions from 24-bits per pixel to 1-bit per pixel (black or white). This greatly reduces the size of scanned documents and can enhance the image quality of the monochrome portions, reducing graininess for less file storage and faster transmissions.

Although HD-IPFax has the word fax in its name, it is a proprietary method of transmitting information over the Internet that does not use the T.38 standard and is not

compatible with the broad range of fax systems installed. But HD-IPFax can deliver documents direct to a user's desktop, to color printers, and even to applications such as Biscom's Image Indexing and Advanced Fax Routing solutions. HD-IPFax is available as a client application for Windows desktops, and as a kiosk station as a substitute for conventional fax machines. The desktop-to-desktop delivery is unique in that it is a secure, real-time, confirmed delivery. Using HD-IPFax to push documents to the desktop of your recipients provides the high quality, secure, and a very fast means of electronic delivery.

Biscom also offers fax services in hosted mode. The Biscom fax service has the same exact capabilities as the premises-based solutions so it complements them and helps sell servers. Biscom is unique in its ability to sell fax servers and services that are equivalent to each other and are enterprise-level, and support all hybrid fax applications.

Biscom, Inc.; Chelmsford, MA; 978-250-1800; fax: 978-250-4449; www.biscom.com...

bitbone

bitbone is a German provider of open-source email, email archiving, CRM (Customer Relationship Management) and fax servers. The company's fax server, bitkit, can send faxes from their email and receive them as PDFs. Bitkit can be interfaced to ERP (Enterprise Resource Processing), CRM and other mission-critical systems.

The fax server can convert incoming faxes to PDF, TIFF, PostScript, or GIF. It is possible to reroute faxes in conjunction with bitkitMAIL. bitbone supports ISDN, which is often used in Germany. The company also supports SMTP and LDAP (lightweight directory access protocol).

bitbone AG; Würzburg, Germany; +49 931/250993-10; fax: +49 931/250993-199; www.bitbone.de...

Cleo

Globe Equity Partners, an investment firm focused on mid-market software companies serving growth industry segments acquired CLEO in April of 2012. All aspects of operations, including the senior management team and CLEO's product and service lines have remained intact. Global Equity is making additional investments to enhance the CLEO platforms and expand the company's support services to meet the growing needs of its customers and partners.

Founded in 1976, CLEO is a leading provider of best-in-class enterprise software. Demand for CLEO VLTrader, its flagship enterprise managed file transfer (MFT) software being used by Fortune 1000 companies worldwide, fueled record sales over the last year.

Strem Fax allows users to securely and easily send, receive, print, archive, and track incoming and outgoing fax documents. Strem Fax integrates with existing email systems as well as other back-office systems such as ERPs and document management systems in order to secure and streamline your workflows involving fax communications.

With Strem Fax, companies can eliminate analog phone lines, help desk calls, device maintenance contracts, toner cartridges, and paper and free up IT device troubleshooting resources. They can also track and monitor users, senders, and recipients of private information and adhere to compliance regulations such as HIPAA, FERPA, SOX, and White House Executive Order 3587. Strem Fax enables the routing of faxes to a secure network folder, web page, or document repository with immediate notification of delivery and easy retrieval.

CLEO also markets Strem Notify, which can interact with thousands of contacts through voice messaging, text messaging (SMS text), email, and fax to provide notifications and alerts via Strem Alert, and other critical information while recording, reporting, and acting on each recipient's response.

Cleo Communications; Loves Park, IL; 815.639.1100; fax: 888.435.2348;
www.cleo.com.

Copia International

Copia International, an innovator in fax-server and mission-critical fax-broadcast software markets, delivers FaxFacts, to address the fax market. FaxFacts can generate high volumes of personalized faxes at a rate of 600 pages per minute. Copia does not offer fax services, but sells the fax servers that service providers use to offer fax services.

Copia now supports RFC 6913, released by the IETF in March, 2013, that facilitates intelligent FoIP routing in SIP networks. Less-than-optimum routing of FoIP calls by carriers has been the primary reason for poor FoIP success rates in international FoIP calls.

In February of 2013, Copia partnered with babyTEL to provide Fax over IP service. The company announced the successful completion of interoperability testing of CopiaFacts with babyTEL Fax over IP (FoIP) services. With the combination of a Secure Cloud fax

server and reliable T.38 fax lines, babyTEL and Copia can provide a secure and full-featured fax server for in-house and/or cloud virtual systems without any customer premise hardware. Copia has developed a comprehensive range of fax, voice and e-mail solutions to suit the requirements of small companies and large government agencies.

Also, in 2013, Copia improved its fax viewer so that users can now sort entries on individual columns, and filter contents to find items faster. The preview window has also been enhanced to allow viewing of any page of the document.

Copia also enhanced the FFBC Broadcast Manager so it is easier to select individual files for broadcasting. It is also easier to pick a non-TIFF document to be broadcast and have it pre-converted to fax format. For PDF documents, this is done directly in FFBC: other document types are passed to Document Converter for pre-conversion. Users can also convert high-resolution TIFF files to standard resolution from the same document selection dialog, and view both original and converted documents.

Copia International, Ltd; Naperville, IL; 800-689-8898; www.copia.com...

Data Techniques

Data Techniques markets the FaxMan product family, which includes the FaxMan SDK (software development kit), FaxMan Jr., and the FaxMan PDF Import Addon. The Waxman SDK is a server-based faxing engine that automatically works with almost all Class 1, 2, 2.0 or 2.1 fax modems. Designed for multi-modem/workstation faxing, FaxMan SDK is a complete infrastructure for demanding custom and commercial software applications. FaxMan's fax printer driver adds faxing capability and is designed to work with virtually all Windows development environments and faxing formats.

FaxMan Jr offers send and receive faxing capabilities to applications so users can send a fax by defining the recipient's telephone number, clicking the file to fax and pushing send. Users can receive a fax by just calling the receive method and waiting for a fax call.

The FaxMan PDF Import Addon creates fixable TIFF files directly from PDF files and works seamlessly with the FaxMan family of .NET, ActiveX and DLL (Dynamic Link Library) controls. The add-on requires either the FaxMan SDK 3.80+ or FaxMan Jr 1.71 products.

Data Techniques Inc.; Burnsville, NC; 828-628-4111; fax: 828-628-0025; www.data-tech.com...

DPD International

DPD markets GoldFax, a solution for fax delivery that supports FoIP. GoldFax, a high-performance enterprise fax server software, gives users enterprise fax server functionality at a small business price. GoldFax is fully scalable (supporting 120+ fax lines per server), and can be used to automate fax communications by any organization: small business, department workgroups, and enterprise corporations.

DPD International released Version 8 of its network fax enterprise software, GoldFax. GoldFax 8 delivers enhanced functionality, extended support for MFP integration, archiving options with GoldFax Insight and new GoldFax Cloud offerings. GoldFax is an enterprise level fax server solution offered at a small business price that enables users to successfully and securely deliver critical fax documents from any desktop, email, mobile device or MFP. GoldFax 8.0 extends the options and flexibility of the GoldFax solution to meet corporate and regulatory compliance.

GoldFax 8.0 includes several new features including:

- GoldFax Cloud – send/receive faxes via GoldFax Cloud Fax Telephone Service, which replaces your enterprise's existing fax telephone service.
- SIP Trunk Provider Support - fax via virtual lines with an Internet connection using SIP Trunk Providers including babyTEL.
- FoIP support with XCAPI
- Disaster Recovery Capability using GoldFax Cloud or SIP Trunk Providers

The new GoldFax Cloud offerings allow the company to implement GoldFax faster and easier without the need or cost to integrate with a customer's telephone system. GoldFax Cloud leverages the access to cloud based services while maintaining control and security of confidential fax documents. GoldFax Insight provides a robust fax archiving solution with advanced searching to meet compliance regulations. GoldFax will utilize etherFAX to cloud-enable the company's GoldFax for Windows software. With etherFAX, GoldFax customers can securely send and receive business-critical fax communications via the Internet, significantly reducing costs and eliminating costly and complex telephony infrastructure.

etherFAX uses an API to cloud-enable fax servers which means that users still enjoy the GoldFax interface even after they switch to cloud services.

DPD International; Irvine, CA; 714-695-1000; www.goldfax.com...

Equisys

Zetafax, the network fax software from Equisys, is simple to install, easy to manage, highly reliable, and the choice for over 60,000 customers worldwide. Zetafax integrates tightly with both Microsoft Office and Lotus Notes. Users can manage fax creation, delivery and receipt directly from their email client or favorite office application, saving time spent printing and manually faxing documents. The familiar interfaces make the faxing process simple and easy to learn while improving worker efficiency.

Equisys introduced Zetafax 2012 which provides a range of new and improved features, including:

- **Auto Cleanup:** Removes the need for manual maintenance of user Inbox and Outbox folders. The administrator sets allowed quotas for messages in each users Inbox and Outbox folders. These are then implemented by the Zetafax Server, according to a user defined schedule, which will abort or delete messages as required. System default and user override settings allow administrators to create system wide rules and then fine tune them using user specific settings.
- **Delete After Sending:** The Zetafax Client can now be configured so that messages are removed from the Outbox automatically once they have been sent successfully. This feature is a user setting, and is configured by the user in the Zetafax Client options screen.
- **Add signatures and other annotations before sending:** Faxes which have been printed to the Zetafax Printer can be annotated before sending, using the rich set of annotation tools available in the Zetafax Viewer. These tools enable users to add a standard image (e.g., a signature) to the fax page, or to blank out sensitive information before sending.
- **Client Tidy-Up feature extended to include Sent Items folder:** The Zetafax Client includes a Tidy-Up action. This enables users to abort or delete messages which are older than a specified limit. This has now been extended to include the Sent Items folder. The folders are individually

selectable, so users can apply a different age limit when tidying up the Sent Items folder if required.

- Include transmission details on manually printed faxes: The Zetafax Client can now add a transmission report to the top of the fax page when printing sent or received faxes, as a user selectable option. The transmission report is printed as a single line at the top of the page, matching the format used by the Zetafax Server for automated printing. It includes a page number and total page count, to help with collating printed output.
- Multiple message print: The Zetafax Client now enables a user to print multiple messages in a single operation, either by selecting a range of messages or by selecting a number of individual messages before selecting print.
- Management of previous recipients list: Users can delete entries from their previous recipients list from within the New Fax wizard. This enables users to remove old or incorrect entries, making it easier to find correct entries and reducing the risk of selecting an incorrect entry.
- Remember previously opened window on startup: The Zetafax Client now displays the previously selected window on startup, rather than always starting with the Outbox window displayed.
- Zetafax API 64-bit support: Zetafax 2012 now includes a 64-bit native version of the Zetafax API libraries. These are fully source code compatible with the 32-bit version of the API, meaning that 32-bit applications can be rebuilt as 64-bit applications without any changes in the integration work being required.
- Administrator option to delete messages sent using the API: The Zetafax API includes a message option to specify whether the fax should be deleted automatically after sending. This may be set to leave completed messages in the Outbox, delete the message if successful, or delete the messages on completion whatever the outcome. With Zetafax 2012, the default behavior is determined by the setting for the submitting user, enabling a user to change behavior of a third party application.
- Update to version 6.5 of Brooktrout drivers: Zetafax 2012 includes an updated version of the Brooktrout drivers, version 6.5. These drivers are used with Brooktrout fax boards and with the Zetafax FoIP Connector

(SR140 Edition), and include the following enhancements compared to the version included with Zetafax 2011.

- Support for new low-profile TR1034 fax boards. These are half-length, half-height PCI Express boards available in a range of channel densities.
- Adaptive Fax Timer Support: The T.30 fax timers self-adjust according to the fax transport method being used and any delays experienced during the fax call.
- Interoperability improvements: The SR140 software has been fine-tuned to work with T.38 phone systems and other devices.

Zetafax server is compatible with many well-known virtualization platforms such as VMware ESXi 4.0 as well as major IP phone systems such as Cisco, Avaya, Microsoft Lync and Mitel.

Zetafax is used by over 60 National Health Service organizations, increasing the security of fax communications, saving costs and providing a centralized fax storage that's easier to manage, audit and track.

Equisys Ltd: London, UK; +44 207 203 4000; fax: +44 207 203 4005;
www.equisys.com...

Esker Software

Esker Software, a leader in fax and business document delivery solutions, offers both pure fax servers and also fax services. The company offers a Fax Forward program that provides a consultative process for organizations looking to replace inadequate or unsupported fax server software products. Esker released Esker DeliveryWare 6.0 and Esker Fax 6.0 in October 2012.

Esker DeliveryWare 6.0 is an on-premise software solution that automates the exchange of critical business documents between customers, business partners and suppliers, regardless of source, format or destination. The new version delivers higher performance and additional features for order-to-cash and procure-to-pay document process automation. Capable of supporting more connected users at the same time on the same web server, Esker DeliveryWare 6.0 boasts increased stability, scalability and power over previous versions. With more people able to connect simultaneously and fewer resources (hardware) required, the customer's total cost of ownership is lowered. The significant increase in processing speed (50% to 100% gain over previous versions) allows users to

handle documents, particularly orders, faster and more efficiently, accelerating day to day business activity.

Annual sales revenue for 2011 reached 36.3 million euros (about \$47 million in US\$), which was a 13% increase over 32.7 million euros for 2010. During the year, its hosted services grew by 30% to bring in 48% of overall corporate revenues. Esker also announced a 21% increase in 2011 sales growth of its sales order processing solutions. This upsurge, particularly significant in the United States, confirms the increasing importance of customer orders in business document process automation. The company sells more than two-thirds of its fax servers into production fax applications.

Automated processing, which is a major driver of Esker sales, is typically associated with customer and vendor invoices; the management of customer orders represents a valuable opportunity for businesses today. Faced with a multitude of reception modes (e.g., fax, email, postal mail, Web, EDI, etc.), order processing has become more and more complex, despite being a critical process for customer satisfaction, commitment, revenue and competitive advantage. Esker has had win after win in accounts payables departments.

Esker's flagship product is DeliveryWare, a strategic document and information exchange solution that revolutionizes document-based process automation and multiple types of business communications. DeliveryWare automates the exchange of critical business documents between customers, business partners, and suppliers regardless of source, format, or destination. More capable and easier to manage than a single point solution such as fax software, a fax server, workflow, imaging, archiving, document formatting, DeliveryWare combines all these processes in a single platform. Also offering SAP integration, the service provides email, postal mail, fax and dynamic document capture via a business rules engine and OCR.

Esker fax server software provides organizations with a single enterprise-wide fax solution, working off TDM or IP facilities, offering flexibility and productivity. Esker Fax allows businesses to send and receive fax from any front- and back-office applications. Esker Fax comes in modules that support SAP, ERP (Enterprise Resource Planning), Notes and Exchange.

Esker ships its Esker Multi-Channel Document Delivery for Oracle Business Solution. The offering is designed to simplify document delivery from Oracle applications, offering a focused solution for faxing and emailing directly from Oracle applications. The Esker solution includes all the elements necessary to implement and configure a fax server, including software and license, knowledge transfer, support and maintenance during the first year, as well as consultation.

Esker FoIP server solutions can be seamlessly implemented in a virtual machine environment without hardware by integrating fax with Voice over IP Networks. FoIP, when used with the boardless Dialogic Brooktrout SR140 platform, leverages VoIP architecture to fax-enable users and applications without requiring any fax boards.

Esker also offers hosted fax services, which can be made available as hybrid solutions with any Esker fax servers. Esker provides the Esker Cloud Fax Services Connector, which can be used either with Esker Fax, Esker DeliveryWare or VSI-Fax. The connector enhances the fax server by offering a convenient and economical solution for business continuity. Esker Cloud Fax Services can handle peak and overflow fax situations, allowing businesses to buy smaller fax boards that accommodate routine fax traffic. Faxing directly from business applications is as simple for users as printing a document or sending an email. Esker Cloud Fax Services offers the security and efficiency of an external fax infrastructure, providing access to a worldwide network of Esker-hosted fax server facilities. Esker Cloud Fax Services is part of the Esker on Demand delivery services that also include Esker Mail Services, SMS Services and Email Services.

Esker Inc., Lyon, France; Madison, WI; 608.828.6000; fax: 608.828.6001;
www.esker.com; Le
Nouveau Marche: 3581...

Extracomm

Extracomm, a world class Lotus faxing and security technologies company, supports both TDM and IP faxing on its ExtraFax fax server for Lotus Notes/Domino. ExtraFax allows its customers with Lotus Notes/Domino to integrate fax communication seamlessly and cost-effectively on desktops and with custom business applications.

In mid-2012, Extracomm shipped ExtraFax 8.5. This release contains many new features, including:

- Remote Port – allows ExtraFax Server to communicate with ExtraFax Remote Port Server via TCP/IP for sending and receiving fax/SMS/MMS through remote ports,
- Can run multiple instances of ExtraFax Server on a single computer,
- Allows multiple codes to be specified in an Inbound Routing scheme,
- Supports the Brooktrout 6.5.0 drivers,

- Provides the ability to specify IP Gateway Address in the Port Control document for a Brooktrout FoIP port,
- For the ExtraFax Console, the enhanced user interface can now display statistical charts.
- iNotes Integration: support for Domino 8.5.2 & 8.5.3 (full or lite mode).

Extracomm Inc.; Richmond Hill, Ontario, Canada; 905-709-8602; fax:905-709-8604;
www.extracomm.com...

FaxBack

FaxBack, a leading provider of reliable VoIP fax server solutions for business, enterprise and carrier applications, offers an HTTPS (Hypertext Transfer Protocol Secure) Fax Platform. This technology enables fax machines and fax servers to achieve the same cost savings as voice calls, while maintaining the same reliability over internet-based VoIP, WiFi, cellular, or satellite connections. FaxBack's Fax Platform also enables fax machines, desktop fax applications and fax servers to stream fax data over the internet with TDM level reliability, while running on relatively low quality networks.

The FaxBack Small Business Edition is a 2 to 4-port fax server that supports print-to-fax and is easy to install and set up. It connects to any type of telephony and can leverage the benefits of a VoIP Fax Server, even if the customer doesn't have VoIP installed.

For larger organizations, FaxBack markets the Enterprise Edition which supports between 4 and 120-ports and offers complete application integration.

Enterprises, multi-site locations, and large organizations. Enterprise edition can support multiple office locations. This version of NET SatisFAXtion integrates and supports workflow and options.

For carriers, providers, CLECs, ISPs, and ITSPs, FaxBack offers a Carrier edition of NET SatisFAXtion. This version supports T1s, DS3s and OC3s so it is high-density and very scalable.

It supports fax SIP trunking and highly reliable and very secure. The Carrier Edition enables service providers of any size to offer any type of fax service to their customers.

FaxBack, Inc.; Tigard, OR; 800-329-2225 or 503-614-5350; fax: 503-614-5399;
www.faxback.com...

FaxCore

FaxCore offers 21st century network fax software: a high-performance engine designed to deliver fax traffic over enterprise networks of any size. The only fax solution built on the Microsoft .NET platform, FaxCore lets users fax-enable the entire organization. FaxCore lets businesses bring faxing into the electronic messaging realm, integrate faxing with VoIP and eliminate fax machines by leveraging FaxCore's integration with leading MFPs from Xerox, Fuji-Xerox, Sharp, Hewlett-Packard and more.

The FaxCore fax server leverages web and internet based technology to deliver cost effective and simple implementations. Built with a web services architecture, fault tolerance and scalability is easily achieved. Standard features include:

- a pure web browser interface that supports Internet Explorer, FireFox and Safari, an SMTP connector for email integration (no need to install software on one's email server)
- LDAP (Lightweight Directory Access Protocol) compliance allows administrators to quickly and easily add and maintain FaxCore users and permissions via their existing directories and databases via standard LDAP queries
- an SQL (Structured Query Language) database
- native integration with SharePoint
- converged IP and support for Cisco's Call Manager, Avaya and other leading VoIP products.

FaxCore offers a way to automatically route faxes to the proper recipient through the use of bar code recognition. Implementing Bar Code Routing is far less costly than the monthly cost of providing every person their own unique fax number. For example, it can cost \$5,000/year for 200 DID fax numbers on four DID lines. The FaxCore barcode module is half that cost and it's a one-time cost.

The company now markets FaxCore Evolution eV5. FaxCore developed this product so it integrates with products from companies like Microsoft, Cisco, ShoreTel, Sharp, Xerox and other key players. Among the features it supports are:

- the driver supported is etherFax only. This appears as a virtual FaxAgent residing on a physical FaxAgent service;
- enhanced security for communication between the FaxAgent and FaxCore server.
Fax images and transmission info will be encrypted, and transfer through secured via WCF (Windows Communications Foundation) service. WCF provides secure message transport between client and server, and it will support HTTPS on top of existing communication channel;
- The existing web service SDK has been preserved to support FaxCore 2007 users. However, existing SDK subscribers will have to recompile their code when they migrate to FaxCore eV5. The SDK will be available in WCF flavor, providing a better integration option for .NET users. SDK functions will be expanded to cover all message and user management functions:
- the FaxCore User Interface has been expanded from basic fax and email, to support print, HTTP/FTP post, and file drop. This allows users to utilize FaxCore to distribute information on a wider transport protocol. This allows file transferred in its original format. (workflow in progress to prevent spam and unauthorized distribution of suspicious files such as *.ZIP);
- Supports character encoding when parsing a sender and recipient email address from the mail server. This allows SMTP parser to convert double-byte characters from base64 string to original character encoding.
- a new Rendering Engine eliminates the requirement of having native applications including Microsoft Office and Adobe Reader installed on the FaxCore Server.

FaxCore fax applications are compliant with key collaboration solutions from Avaya, a global provider of business collaboration and communication solutions.

FaxCore ships the FoIPBOX, which includes a compact 1U server, FaxCore 2007 SP1 and the latest Dialogic products supporting the robust V.34 fax standard. The server is a 1U Rackmount chassis with dual drives, RAID 1, 4 gigabytes of memory and it can handle the Dialogic Media Gateway Series (DMGs) from 2 to 60 fax channels. FoIPBOX II is a bundled package consisting of the server, Dialogic gateways or fax boards, the

FaxCore application, Microsoft O/S and SQL or SQL Express, remote installation and the first year of support and maintenance.

FaxCore does not assess extra costs for these components, whereas Open Text does. FaxCore's Web Services/Service-Oriented Architecture (SOA) SDK offers a straight forward and simple interface, reducing application integration to a matter of hours instead of days. The SDK can be used to integrate on any system with network access to the FaxCore environment. FaxCore provides web service APIs to send, receive, route, and administer fax services.

FaxCore's N-Tier Architecture is a true third-generation fax server solution. The low level design of FaxCore allows for scalability and fault tolerance with distributed processing. Legacy computer fax products such as WinFax and Microsoft Fax are client-dependant first-generation, while client/server products like RightFax are second-generation. FaxCore is a third-generation solution and the only one that conforms to the N-Tier and web service paradigm.

FaxCore offers a Barcode Module that complements workflow processes involving "boomerang documents" (one sends it and then gets it back). The FaxCore fax server can be configured to scan every page of a received fax for a barcode (when the Barcode Module is purchased). If a barcode is detected, the data within the barcode is stored with the fax record. The detection and decoding of barcodes on faxes can be applied to processes such as workflow applications and speed the indexing of faxes in document management solutions. The FaxCore barcode solution costs half of what a DID solution costs, but it one-time as compared with DID's ongoing fees.

FaxCore also integrates with Sharp's Open Systems Architecture (OSA) platform to enable MFPs to be networked with data, workflow and related applications – including FaxCore's line of fax servers. By turning the MFP into a multifunctional portal, resellers can provide their customers with more tailored solutions to better fit their requirements. FaxCore offers its OSA solution using the company's Mini-Bundle – an appliance-type system that ties together the FaxCore software application, Dialogic/Brooktrout products (for both conventional fax and fax over IP) and a server.

FaxCore Corporation; Centennial, CO; 720-870-2900; fax: 720-870-414;
www.faxcore.com...

Fenestrae

Fenestrae markets the Fenestrae Communication Server (FCS) 2010 and the Fenestrae Faxination Server (FFS) 2010. These solutions offer true integration into MS Microsoft

Exchange 2010 and Windows Active Directory. FCS 2010 is the messaging solution for extending unified communications and allows users to send and receive faxes, sms and mms from any desktop, mailbox, multifunction device or business application (i.e. SAP, SharePoint).

Fenestrae's fax software solutions help organizations to:

- Optimize their communications
- Consolidate their fax systems
- Enable fax over IP
- Centralize and virtualize fax servers
- Remove fax machines and fax lines
- Reduce carbon footprint
- Increase business efficiency.

Fenestrae's software solutions stand out due to their client-less, robust and scalable architecture that make this the fax server and unified communications solution for many Fortune 1000 companies.

Fenestrae is Microsoft Partner and Gold Independent Software Vendor (ISV).

Fenestrae Communication Server 2010 and Fenestrae Faxination Server 2010 offers the following capabilities:

- Certified for Microsoft Exchange 2010
- Virtualize FCS/FFS with Microsoft Virtual Server or VMware
- FSC/FFS are Microsoft Windows Hyper-V certified
- Users can also send SMS (short message system) from MS Outlook, the Office Communicator client (OCS) or any other client.
- Fenestrae's MFP connector has out-of-the-box support for any MFP device.

- Extended OCR module allows users to treat incoming faxes like extended PDF's and integrate them directly into workflow
- Preview your fax before sending.
- The Fenestrae Monitoring Service detects possible network issues to assure faultless connections

Both FCS 2010 and FFS 2010 support more than 500 file format types for document conversion including mainstream business formats, such as PDF, HTML (HyperText Markup Language), JPEG, plain text, and PostScript. The Fenestrae Monitoring Service detects possible network issues to assure faultless connections.

Fenestrae also offers hosted fax services.

Fenestrae BV; Leidschendam, The Netherlands ; 31-70-3015-100; fax: 31-70-3015-151;
www.fenestrae.com...

GFI

GFI Software, an international developer of network security, content security and messaging software, offers its leading fax server solution GFI FAXmaker. The company offers GFI FAXmaker 2011, the latest version of its network fax server software that allows users to send and receive faxes directly from their email client. With full support for FoIP, this release features several enhancements to maximize efficiency and better serve the growing fax server market.

GFI FAXmaker 2011 allows for paperless faxing and adds additional features to streamline the process of faxing materials, for an increasing number of users who need faxes to run their businesses, while observing compliance regulations like HIPAA.

In 2013, GFI Software announced the availability of GFI FaxMaker Online, a streamlined cloud-based fax solution designed to meet the needs of small and mid-sized businesses (SMBs). GFI FaxMaker Online provides ubiquitous faxing from any Internet-connected device, with no hardware, software or dedicated phone lines required. GFI Software is one of the market's leading providers of fax solutions for SMBs, with thousands of customers worldwide. FaxMaker Online is based on a monthly subscription model (\$12.95 per month) that enables both fax-to-email and email-to-fax communications. Benefits of FaxMaker Online include:

- Email-to-fax and fax-to-email capabilities: Send and receive faxes from any email client or email server, whether in the cloud or on premise.
- Print-to-fax functionality: Allows for printing to fax from any application that can print.
- Multiple email-to-fax formats: Document formats doc and docx, xls andxlsx, pdf, html, txt, rtf, ppt and .pptx formats are supported when sending a fax via email.
- Easy-to-use administration portal: The online dashboard provides a clear view of usage and offers account management capabilities across departments and users.

According to GFI, sending and receiving documents by fax is of paramount importance to businesses in several key industries, including healthcare organizations, law firms and financial services companies, which continue to rely on fax communications to meet security and compliance regulations, along with retaining the legal admissibility of documents sent electronically from point to point. In an independent blind survey of 1,008 office workers conducted by Opinion Matters on behalf of GFI Software in October 2012, 85% of respondents said their businesses continue to make use of faxing in some capacity.

GFI partners with a number of companies who provide direct features for products such as GFI FAXmaker, and fully supports integration with third-party products or compatible hardware solutions. By partnering with these organizations, GFI is able to offer more comprehensive products and recommend solutions for customers.

GFI Software Ltd.; Malta; +356 382418; London, UK; +44 (0)20 8546 0640;
www.gfi.com...

IBM

IBM markets Integrated Domino Fax for the iSeries, Version 4 Release 4. Domino Fax V4R4 offers the following capabilities:

- Send and receive faxes from Lotus Notes Desktop as easily as e-mail,
- Fax rich text, graphics, and attached files,
- Automatically delay fax transmission for reduced telephone rates,

- Select cover page and cost codes,
- Supports iSeries or AS/400 fax hardware,
- Supports Web browsers, POP3 clients, and OfficeVision users,
- Incorporates support for ISDN devices and Direct Inward Dial routing,
- Improved queue management. Users and administrators can manage faxes in the outbound queue,
- Fax receipt customization. Users can select how they view received faxes,
- Improved international support. End user interfaces are now available in many local languages.

IBM Corp.; Armonk, NY; 914-499-1900; www.ibm.com...

iFAX Solutions

iFAX Solutions is a worldwide leader in providing enterprise fax solutions. IFAX started its HylaFAX project in 1991 to create a world-class Open development model that the HylaFAX project employs is one based on peer review; allowing anyone to see how the software runs helps to ensure that only the highest quality software is produced. It is upon this foundation that iFAX Solutions has created our flagship product, HylaFAX Enterprise Edition, which is an enhanced version of HylaFAX for our most demanding enterprise customers.

HylaFAX Enterprise is a key offering providing foIP via the T.38 protocol, clustering and high availability, virtualization, desktop, email, and web faxing, and support for Brooktrout fax boards. The fax server also offers a SAP connector, APIs, barcode and advanced routing, an SQL back-end, and streamlined installation.

The company also offers a HylaFSP version which has both Windows and OS X connectors so users can fax from any application. Another offering is the HylaSAP version which includes a SAP to HylaFAX connector for seamless integration with Red Hat Enterprise Linux and the Community ENTERprise Operating System. iFAX also offers AvantFAX which uses the web for faxing.

iFAX Solutions; Philadelphia, PA; 215.825.8700; fax: 215.243.8335; www.ifax.com...

Imagicle (formerly Stonevoice)

Imagicle (formerly Stonevoice) is an Italian provider IP fax servers. The company offers native integration with any Cisco Unified Communication Platform. It offers UC platforms that are multivendor -ready, scalable, based on open-standard SIP-H.323 protocol and can be customized upon request.

Stonefax is a fully software-based IP fax server that offers convergence with communication systems and maximizes the investment return on IP PBXs. Users can send and receive faxes in electronic format, as simple as using e-mail or printing a document and keeping the confidentiality of a personal communication.

StoneFax speeds up the procedures for sending and receiving faxes. Because it requires no dedicated PSTN lines or PBX voice boards, fax machines are not required, thus completely preventing hardware faults.

Stonefax reduces costs, enhances efficiency and preserves user privacy; integrates with all applications; allows users to send faxes by any email client/server based on Secure IMAP/POP/SMTP protocols; allows users to receive faxes directly in email clients and have the received fax automatically printed out on a network printer or access received faxes directly through the web interface or in your mobile app. Incoming faxes can also be copied on an external file system for integration in ERP/CRM/document management workflows.

Stonefax works in Windows server environments and is compatible with any email server supporting standard protocols such as Secure IMAP, POP3 and SMTP, including Microsoft Exchange and IBM Lotus Domino without the need to install specific components and connectors on the server. Users can send multiple attachments to a single destination or to a group of recipients and all your office documents can be converted into a fax: doc, docx, xls, xlsx, pdf, rtf, txt, jpg, tif, tiff are natively supported.

StoneFax can easily scale from 2 channels up to hundreds in a cluster of servers with load balancing and high availability. Stonefax uses the T.38 standard for fax transmission over IP but also supports fallback to G.711 pass-through should T.38 be unavailable during negotiation.

Imagicle Fax is the mobile client solution designed for Android devices and iPad/iPhone, making sending and receiving faxes easier anywhere, anytime from a tablet. With Imagicle Fax, StoneFax extends its wide toolset for sending and receiving faxes in the new workspaces with an easier to use, dedicated app for CIUS or for iPad/iPhone.

Imagicle spa; Massarosa, Italy; +39.0584.943232; www.imagicle.com...

Imecom

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 installations in more than 62 countries.

Imecom Group's main products and solutions 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 printer and provides fast, high-quality image rendering.

In the second half of 2012, Imecom announced support for the XCAPi T.38 Fax/Softfax virtual fax board middleware software used in its virtual fax server and fax over IP solutions. With XCAPi, the Imecom Fax Server can be used in almost any VoIP environment. XCAPi supports fax transmission via T.38 both in H.323 and in the SIP environments. If a VoIP infrastructure does not support T.38, the XCAPi middleware can modulate the audio fax tones over conventional G.711 voice channels.

Earlier, the company announced a cloud-based enterprise fax solution based on the EtherFAX architecture. Because the EtherFAX solution uses an API to connect to fax servers, Imecom users can avail themselves of a cloud solution without losing their familiar user interface.

Imecom Group, Inc.; Wolfeboro, NH; 800.329.9099; fax: 603.569.0609;
www.imecominc.com...

JoyHong Software

JoyHong Software markets the Joy fax Server, a client/server-based application that offers organizations the convenience of reducing costs, saving time, and improving productivity by enabling users to send, receive, and manage faxes directly from desktop and other business applications (OA [Office Automation], CRM [Customer Resource Management], and ERP). Features include:

- Supports IP faxing via T.38

- Supports sending and receiving faxes on multiple modems. The theoretical limit is 16 modems.
- Supports acquiring images from a scanner for faxing
- Automatically routes incoming faxes directly to clients
- Its possible to fax in Adobe PDF without Adobe Reader
- Built-in database engine
- Fax broadcasting

Joyhong's main activity is the development and support of Joyfax Server. The company uses fax modems including Digi Acceleport Ras 4/8 Port Modem cards, Dialogic Diva Media Boards 2/4/8 Ports, Mainpine IQ Express 2/4/8 Port Modems, Multi-Tech MultiModem ISI Multiport Analog Modems and Comtrol RocketModem IVs. Its customers range from smaller business to large multinational organizations.

Joyhong Software; San Diego, CA; 866-312-7733; fax: 858-777-555; <http://joyfax.com...>

Kofax

Kofax markets the Kofax Communications Server, offers the Kofax Communication Server, a communication solution that can be integrated with business processes, regardless of location, device or media type. The server supports the automation of business processes and helps to accelerate business processes. This server is capable of interconnecting to all common media types (fax, SMS, MMS, voice, telex) but completely abstracts the individual complexity or behavior of the different media types to a single interface. The Kofax Communication Server supports 64-bit environments like Windows 2008 64 bit, Microsoft Windows NLB (Network Load Balancing), the latest versions of Microsoft SQL 2008, Lotus Notes 8.5 and IBM Websphere MQ 7. The server has a system limit of 1,000 fax channels per server and supports iPBX environments like those from Cisco, Siemens OpenScape and Avaya. Furthermore, KCS is certified by SAP.

The Kofax Communication Server offers easy installation and configuration, improved high availability for enterprise deployments, improved network diagnostics for Line Server (LS1), support for Microsoft Business Productivity Online Services (BPOS) and Microsoft Office 365, and backup and recovery improvements.

Kofax was issued patent number 8,451,475 by the United States Patent and Trademark Office. The patent covers technology that sends a receipt confirmation for a fax not only to the origin of the fax, but potentially to other recipients based on the content of the fax. The technology was invented to improve the efficiency of fax communications, enabling organizations to improve the speed, accuracy and reliability of information and communications. This technology adds intelligence to fax transmissions and confirmations, making the first mile of business smarter. For example, if the keyword 'claim' appears on the fax and some supporting evidence indicates that the fax is indeed a claim document, then a confirmation could be sent to both the sender of the fax and the claims department.

In 2013, Hewlett-Packard announced support for the Kofax Communications server, a centralized communications platform designed to ensure reliable exchange of business-critical messages among applications, devices and people. Additionally, customers can identify, track and log senders and recipients of incoming and outgoing email, SMS, MMS, voice and fax.

Any application can be integrated with the Kofax Communication Server to accelerate mainstream business processes. Production faxing accounts for the great majority of its business. Kofax has an expanded relationship with strategic alliance partner IKON Office Solutions, a Ricoh company, in which IKON will offer Kofax Front Office Server to empower its multi-function peripheral (MFP) devices with robust, industry-leading office automation capabilities. The recently released 3.0 version of Kofax Front Office Server allows users to capture forms and documents at their points of origin through MFPs, desktop scanners and other devices for accelerated processing through Kofax Capture and Kofax Transformation Modules software, and to access scan-to-email and scan-to-fax capabilities. Kofax Front Office Server is a distributed solution that supports Ricoh's full line of MFP offerings.

The Kofax Communication Server provides a server-independent, plug-and-play gateway that plugs into the LAN and to the telephone line. Instead of having to do complex cabling between the fax server and the PBX, the Line Server can simply be placed next to the PBX and connected to the LAN. To enhance reliability, multiple line servers can be used. In the event of a hardware failure, the line server can be replaced, without the need to open or shut down PCs and replace PCI cards.

With FoIP, enterprises can make use of the existing infrastructure (e.g. gateways) and have all the advantages of conventional fax (transactional safe – still real-time connection based, secure and format insensitive). Proprietary hardware is not needed and individual telephone lines for fax become obsolete.

Kofax, Inc.; Irvine, CA; 949-727-1733; fax: +1 949 727 3144; www.kofax.com...

Lane Telecommunications

Lane markets the Passport 4000 Enterprise, the Passport 4000 Small Business Edition, and the Passport 4000 Clinical Document Service, a messaging system that delivers secure and trackable messages adhering to the UK National Health Service governance policies.

The Passport 4000 Enterprise provides secure, trackable messaging solutions for enterprise-level organizations operating across multiple sites or across borders. The system enables entire operations to share data across multiple servers on a corporate network, providing a scalable central network resource for users, workgroups and applications. Messaging solutions can be sent, received and tracked via email and web interfaces from MFP devices and from within applications. Network administrators benefit from consolidated messaging and are provided with a means of tracking information coming into and going out of the organization.

Passport 4000 Enterprise allows distributed operation over lower speed WAN connections across geographically dispersed systems and tolerates intermittent network connectivity issues. The system provides both resilience and automated disaster recovery. Its choice of configuration options will enable you to meet most business continuity policies without the need for any special hardware or third-party software. Passport 4000 offers least cost routing, which can be used not only to route messages to different carriers but also between Passport 4000 systems, bringing even greater cost savings and maximizing investments. Managed centrally, LCR can control Passport 4000 infrastructure's global and local routes.

Passport 4000 Small Business Edition (SBE) is a messaging system that also delivers secure and trackable messages. The system is presented in 2 and 4 line configurations aimed at the needs of smaller businesses or departments within larger organizations. The server is a cost-effective, easy to use, simple to manage and centralized messaging solution.

The Passport 4000 Clinical Document Service supports the UK Department of Health's, Interoperability Toolkit (ITK) Standards. The server enables the secure transfer of confidential patient information between hospitals and other medical facilities while supporting the UK NHS information governance policies. E-documents transported across different environments are handled with safety, confidentiality and 100% track-ability.

LANE Telecommunications Ltd.; Hampshire, UK; Parsippany, NJ; 973 526 2979; fax: 973 526 2988; www.lanetelecom.com...

Microsoft

Microsoft offers fax capabilities with several of its offerings, including Exchange and Small Business Server. The company offers FoIP in all its fax offerings.

The company offers a Windows fax service that provides fax functionality for clients on a local area network. The fax service, a Telephony Application Programming Interface (TAPI)-compliant system, allows users to send and receive faxes from their desktop applications using either a local fax device or a shared network fax device. The service also offers server and device configuration management and archiving of sent faxes. The Fax Service Extended Component Object Model (COM) API is intended for use by developers and fax service administrators who are familiar with Microsoft Visual Basic, C++, or scripting languages such as Microsoft Visual Basic Scripting Edition (VBScript) or Microsoft Jscript. The Fax Service Provider API, the Fax Routing Extension API, and the Fax Extension Configuration API are C/C++ application programming interfaces, and are intended for third-party vendors who are familiar with C++.

Microsoft offers the Small Business Server, with the option to send and receive faxes. The software supports manual routing of inbound faxes or enables the faxes to come to a universal mailbox that everyone on the SBS network can access. SBS Fax Service offers flexibility in delivery as well as flexibility in sending:

- Incoming faxes can to be routed to email, any printer on the network, a SharePoint document library, a network shared folder or mobile devices using the Email features of Small Business Server.
- Outgoing faxes can be sent from any computer on the network by using built in Windows functionality.
- Sending large complex faxes (documents, pdfs, spreadsheets, etc.) is made more versatile because of a computers ability to combine file sources.

Exchange Server 2010 does not support inbound fax. However, users can outsource their FoIP capabilities to a fax server vendor or compatible fax service provider. Fax server vendors are designing add-ons that receive faxes under Exchange 2010. Exchange 2010 will honor any existing Exchange 2007 UM fax configuration properties, and it will continue to recognize fax calling tones. However, instead of answering the call itself, Microsoft UM looks at a new configuration property defined on UM mailbox policy

objects: FaxServerURI. If this property exists, UM tries to hand off the call to the specified fax server or fax service. The external fax solution establishes a fax media session with the sender, creates a fax message, and sends it to the UM-enabled user's mailbox.

MobileFax is another Windows app that enables users to send fax pages from mobile phones anytime, anywhere. Users simply take a photo of their documents to fax them. The software enhances the documents so they provide high fax quality. There is no monthly subscription, users only need to buy a fax package, which start as low as \$3 for 30 pages. MobileFax allows users to send Office and PDF files from SkyDrive.

An estimated 65 percent of workers worldwide use Exchange Server as part of their daily work lives, according to Ferris Research.

Microsoft, Inc.; Redmond, WA; 800-642-7676; fax: 425-936-7329; www.microsoft.com; Nasdaq: MSFT...

Multi-Tech Systems

In late 2012, Multi-Tech Systems, a manufacturer of unified communications devices and cellular modems for M2M (machine-to-machine) communications, began offering the FaxFinder FFX40 models, the latest extension to its fax server line. The new FaxFinder FFX40 fax server combines a more robust hardware design and Multi-Tech fax software, allowing organizations to easily centralize their fax operations, reduce operational cost, integrate with business applications and PBX systems, and easily integrate with any business operation.

The FaxFinder fax server is an all-in-one appliance that allows users to send and receive faxes electronically, eliminating the need for legacy, paper-based fax machines and expensive subscription-based fax services. Incoming faxes are delivered to a recipient's email in-box or network folder so they can be accessed via personal computer, laptop or mobile device. Incoming faxes can also be routed to a network printer. Outbound faxes can be sent using the FaxFinder fax client, a Web interface, or using the T.37 email-to-fax protocol. The FaxFinder fax client also allows faxes to be sent through Microsoft Office applications.

Whether transmitting legal documents or electronic health records that contain medical charts and large media files, like CT scans and MRIs, the new FFX40 models meet the critical faxing needs of today by increasing three-fold the maximum file size capacity. The expansion of internal memory from 256K to 1GB enables these larger files to be sent

faster and to larger groups of recipients. Each of the new FFX40 models is also rack-mountable for easy installation and management by a company's IT department.

Multi-Tech Systems, Inc.; Mounds View, MN; 763-785-3500; fax: 763-785-9874;
www.multitech.com...

OceanFax

OceanX is a fax server provider that offers the OceanFax Fax Server, OceanFlow Approval & Workflow System and OceanForm E-Form System.

OceanFax Fax Server is designed to support the high-volume document delivery in an efficient and reliable way. Built on .NET technology, OceanFax supports Unicode, multiple languages, fax data mining, black & white list, Windows on the Web, fax report generator and approval & stamp. OceanFax also achieves a high quality of fax conversion with its original Image Plus Patent Technology, supports least cost routing, self-defined Chinese, Image Header & Footer and Quick Search. OceanFax can also seamlessly integrate into email (Exchange, Lotus Notes, SMTP Mail), ERP (Oracle, SAP, IBM), FoIP for the gateways (Cisco, Avaya, AudioCodes, Alcatel) and MFP (HP, Ricoh, Canon, Fuji Xerox). With the innovative features and rich applications, OceanFax enables organizations to streamline workflow, improve efficiency and achieve total fax automation. In 2013, OceanX announced that its flagship OceanFax Fax Server solution is compliant with key Avaya collaboration solutions. The application has been compliance-tested by Avaya for compatibility with Avaya Aura Session Manager 6.2.

OceanFax FoIP is one of Asia's first boardless (software-only) FoIP solutions. OceanFax FoIP supports real time fax transmission over the internet on a VoIP network. OceanFax FoIP software is typically deployed and administered in a virtual machine (VM) environment using VMware, Hyper-V and Virtual PC, instead of a physical server, with no need for additional hardware for faxing. By applying it, organizations drastically reduce telecom costs, protect document privacy more effectively and facilitate compliance with regulations, as well as seamlessly integrate fax into email, ERP and MFP.

OceanX Technology Limited; Hong Kong; 852-3977 0088; www.oceanfax.com.

Omtool

Omtool is a document capture and routing solution vendor that also still sells fax servers. Its Genifax server provides usability and reliability and is suited for environments where fax is an element of enterprise content management initiatives and where secure, high-volume, unattended faxing is required. Genifax operates within an existing IT infrastructure, offering centralized administration, Web accessibility and integration with leading document repositories.

Omtool offers Genifax with the T.38 real-time fax-over-IP protocol. This allows for lower telecom charges, enhanced disaster preparedness, and improved document management and regulatory compliance. Omtool sells its products through its direct sales organization and also offers them through resellers, systems integrators and strategic partners. Internationally, Omtool uses independent distributors to sell its products.

Omtool; Salem, NH; 603-898-8900 or 800-886-7845; www.omtool.com; Nasdaq: OMTL...

Open Text

Open Text, an enterprise software company and leader in enterprise content management, brings two decades of expertise supporting more than 50 million users in 114 countries. For 2012, the company reported \$1.2 billion in revenue, up 17% from \$1.03 billion in 2011. Open Text acquired Captaris in 2008, which gave it the rights to RightFax, the leading fax server software brand in the world. Now, having acquired EasyLink in 2012, it is also the leader in enterprise hosted fax services. Davidson Consulting believes that Open Text's focus on EasyLink is to cloud-enable all its ECM offerings.

In 2013, OpenText entered into a settlement and patent license agreement with j2 to resolve patent litigation initiated by j2. Open Text will pay j2 Global \$27 million in exchange for a fully paid up license to the licensed j2 patents for fax software and services sales to enterprise and corporate customers. Open Text has also agreed pay j2 Global a running royalty for a license to the licensed j2 patents for sales of fax software and services to individual and small office/home office customers, provided that such royalty exceeds a stipulated minimum amount. The Licensed j2 Patents include United States Patent Nos. 6,208,638; 6,597,688; 7,020,132; 6,350,066; and 6,020,980; together with all continuations, counterparts and reissues. Davidson Consulting believes that OpenText made this agreement so it could continue to offer EasyLink services for all its EIM offerings, which was easier than fighting a longstanding court battle. OpenText did not care about the fax implications of losing a patent case to j2, only that it was free to continue to cloud-enable all its billions of dollars worth of EIM installed base. So it settled with j2.

Nonetheless, OpenText says it expects that EasyLink-related revenues will be flat for the year, which is ahead of EasyLink's history as its revenues declined last year.

For the company's full financial year, Open Text reported a profit of \$125.2 million net earnings on \$1.2 billion in revenue. That compares with a profit of \$123.2 million on \$1.03 billion in revenue in 2011.

OpenText's portfolio of fax server and document distribution solutions includes:

- RightFax: The world's leading enterprise fax solution,
- RightFax OnDemand: A hosted fax solution which is operated by OpenText,
- MESSAGEmanager Solutions: The leading provider of IP fax solutions in the Asia Pacific market segment,

- A fax appliance family of products (including Castelle FaxPress): A plug-and-play hardware solution,
- Alchemy: A simple-to-use document management solution, with integrated fax capabilities,
- SecureDocs: A certified document delivery add-on that complements RightFax.
- EasyLink: the company offers cloud services which can enable any of its many EIM offerings, including its many fax capabilities.

RightFax 10.5, released in July 2012, continues to build on proven technology and bring new features to market. RightFax 10.5 new features include:

- RightFax Internet Connector is a new way to fax by providing a connection between two RightFax fax servers that bypasses the telephony network via an internet connection so that there is no cost for the fax transmission. Because the Rightfax Internet Connector uses the Internet to transmit faxes, transmission speed is significantly increased.
- Hierarchical image file storage, or stacked storage structure, in which each fax is contained in its own unique subfolder. As a result, fax scans and searches take less time than ever before, file input/output times are faster, and fax images open more quickly.
- Outbound faxes are now queued for delivery in MSMQ (Microsoft Message Queuing) rather than via SQL (Structured Query Language) query. MSMQ reduces overhead on the SQL server and improves licensed channel utilization.
- A Web Services API is now available for custom web applications independent of vendor, platform, and language. This Web Services API includes functions for sending, receiving and checking status of faxes and uses XML and HTTP as a common platform.
- Image enhancements - faxes often arrive skewed, with image defects or other transmission failures, affecting readability. RightFax 10.5 includes

improvements that remove imperfections on the incoming image while maintaining the integrity of the original fax.

- RightFax 10.5 provides the most contemporary and intuitive interfaces in the long history of the RightFax product line. The user interface, FaxUtil, the administrator interface, Enterprise Fax Manager (EFM), and RightFax Web Client have been refreshed and redesigned with new intuitive user icons while maintaining all of the same functionality.
- Users can now access RightFax via Web Client through several web browsers from either Microsoft Windows or Apple Mac OS platforms. Supported browsers include Internet Explorer, Firefox, Safari and Chrome. These improvements increase productivity for all users and keep RightFax mobile users connected in more ways than ever.
- RightFax 10.5 makes it easy for administrators to manage all RightFax cover sheets from a central location within Enterprise Fax Manager (EFM).
- A newly built administrator’s dashboard provides administrators an at-a-glance view of the health and statistics of their RightFax server environment.
- A newly built connector for SAP was written using SAP NetWeaver SDK. This new connector includes Unicode support and System Landscape Directory (SLD) registration.
- New connectors include integrations with Lotus Notes 8.5.2 and 8.5.3.
- A new connector has been built for seamless integration with OpenText eDOCS 5.3.
- A new personalized, interactive connector is available for Hewlett Packard OXP/d MFPs.

In November 2010, OpenText introduced a new hosted fax service which enables organizations to simplify and meet business objectives with a scalable and fully integrated hosted RightFax system managed by the fax server personnel at OpenText. RightFax OnDemand extends the scope of RightFax, enabling organizations to receive the same benefits of an on-premise RightFax system in a hosted environment. With RightFax OnDemand, customers can reduce the total cost of ownership and capital expenditures through savings on the upfront and ongoing costs of infrastructure, staff, training, and compliance. This hosted fax service is different than

many other hosted fax services, as Open Text often sells the customer a fax server and then hosts the server for the company.

Now the company offers the OpenText Cloud which it is making immediately available to over 25,000 customers and 2 million end users for Infrastructure Services, Social Enterprise Services, Process and Data Services and SAAS-based Information Exchange. The OpenText Cloud is based on combined capabilities from OpenText and EasyLink.

In 2011, OpenText continued to expand the Fax Appliance A102 and A104 low-density product line by releasing three Feature Packs, adding new features like cloud-based email and Office 365 support. The Fax Appliance product line incorporates all the features and capabilities customers need in a simple and affordable turnkey fax solution. These new fax appliances come with all the necessary hardware and software to allow network users to easily send and receive faxes from the desktop, email and MFPs.

Open Text Corporation; Waterloo, Ontario, Canada; 519-888-7111; fax: 519-888-0677; www.opentext.com; Nasdaq: OTEX...

Quadrant

In late 2010, Quadrant Software, a leading provider of Electronic Document Distribution (EDD) solutions for the IBM System i (iSeries) and Microsoft Windows enterprise platforms, was acquired by Candescant Partners . Candescant Partners invests in the buyout, growth, and recapitalization of companies with annual revenue of \$10 to \$50 million dollars. In 2012, Quadrant Software launched QuadraDocV, the industry's only virtual Fax over IP (FoIP) product native to the IBM i (AS400/System i). QuadraDocV, powered by FastFax, runs on the industry standard VMware platform, enabling organizations to take full advantage of virtualized environments, simplifying infrastructure and continuing to minimize carbon footprint.

Quadrant Software also offers a connector that facilitates bidirectional fax communication between SAP ERP systems and QuadraDocV, the new fax-over-IP (FoIP) document distribution solution the company launched earlier in 2012. The company also announced its second release of QuadraDocV, which has become its flagship product and is clearly not just for FoIP anymore. QuadraDocV 5 adds two key attributes: support for Microsoft's HyperV hypervisor, and a new Web interface.

Quadrant offers its customers an alternative to conventional fax while leveraging their existing IT investment. QuadraDocV incorporates SR140 software technology from Dialogic to integrate with customers' current telephony systems, eliminating the need for a physical fax card, and is easily deployed in the VMware environment. Key benefits of QuadraDocV include:

- Cost Savings: eliminates the need for costly servers to be operated within the data center.

- Unified Communications: integrates tightly with existing VoIP infrastructure, unlike conventional fax models. According to a recent survey, approximately 40% of Quadrant Software customers currently have VoIP implementations with 14 percent planning implementations within the next 3 years.
- Scalability: easily scales from one to hundreds of fax ports as requirements increase.
- Disaster Recovery: the deployment of assets for disaster recovery becomes simpler and more economical, as the elimination of dedicated hardware reduces the time required to bring the DR site online.

Quadrant Software also is part of the VMware Partner Network to integrate Quadrant products with VMware virtualization platforms and deliver timely, high-value solutions.

Quadrant Software also still markets its FastFax fax server, which delivers the ability to send, receive, route, and manage mission-critical documents from within familiar business applications and/or email clients. Both user-friendly and secure, it provides centralized systems management to maximize IT support time while improving user productivity.

System i shops can take advantage of SNDFAX API enhancements in FastFax. The SNDFAX API allows users to embed FastFax commands directly into IBM i OS spool files, thereby automating the delivery of certain documents. Quadrant has enhanced the SNDFAX API by adding support for nicknames. The company says support for nicknames will help customers by allowing them to enter shorter recipient names when setting up automated fax distribution using the SNDFAX API.

Quadrant Software; Taunton, MA; 508-828-6222; fax: 508-828-6242;
www.quadrantsoftware.com; Candescend Partners, LLC; Boston, MA;
www.candescendpartners.com...

RTE

RTE Software is a French company that develops business message system communication software and security solutions and sells them primarily in France. RTE Software's applications are communication tools that help businesses better manage their fax, e-mail, and SMS information flows. RTE Software sells several flavors of its RTE FAX platform, including an electronic document management system and an Internet fax service.

RTE FAX 2009 is a fax network software package which has been designed for messaging services and now supports T.37 and T.38 FoIP usage. It is administered in a tool which makes direct use of network accounts. It can also be used to declare and administer purely SMTP accounts. These tools can be started up remotely. The setting and management of RTE FAX user rights is carried out in an administration tool which directly uses the Windows accounts. With RTE FAX, you can also directly allocate or restrict the rights of a Windows user or a user group.

It can also be used to declare and administer purely SMTP accounts. These tools can be started up remotely and are covered by secure access management. The administrator manages users and allocates them their various rights (default cover page, right to change it, unauthorized fax numbers, billing account, transmission receipt printing, etc.).

RTE FAX for MFP represents a solution for enterprises who wish to connect their MFPs to a fax server. With RTE FAX for MFP, users have a solution integrated with their MFP to support an automated archival system. The capability allows users to send faxes from an attached MFP or from their PCs. The solution supports inbound routing by DID. RTE has an alliance with Xerox whereby the Xerox WorkCentre Pro 55 is linked up with RTE FAX.

RTE Software; Sophia Antipolis, France; + 33 4 97 23 44 00; fax : + 33 4 97 23 44 01;
www.rtefax.com...

SagemCom

SagemCom, formerly called Sagem-Interstar, developed XMediusFAX, its first-of-a-kind patented software-based FoIP server, that led the FoIP market every year by wide margins – until last year when Open Text, which has long led the entire fax server supplier structure, took the lead in FoIP servers too. Sagemcom has been acquired by the Carlyle Group, a global alternative asset manager with more than \$159 billion in assets under management across 94 funds and 63 fund vehicles.

During 2012, Sagemcom, launched its new partner program for their XMediusFAX solution. Designed to accelerate its channel partner's sales revenue and profits, this redesigned program is based around the company's long history of focus on the channel, with a clear commitment to developing business jointly with our partners. In 2013, the company began bolstering its sales staff, adding people to both the European and North American staffs.

Sagemcom introduced a new cloud-based host fax service in 2012. Based on XMediusFAX, the offering addresses a wide spectrum of differentiated public and private cloud fax applications. Sagemcom also offers a wide spectrum of complementary professional services ranging from training, installation and planning as well as basic and customized application integrations. In 2011, Sagemcom showed the ability to offer SIP trunking for multisite enterprises. Sagemcom introduced SIP trunking and virtualization capabilities in its latest XMediusFAX T.38 Fax over IP (FoIP) server software. Sagemcom's latest XMediusFAX T.38 FoIP offerings seamlessly integrate with virtualized environments from vendors such as VMware, Microsoft, and Citrix, which will help customers save money on infrastructure and management costs, to respond to greener IT requirements, or to create new revenue streams. XMediusFAX FoIP software v 6.5.5 has successfully completed interoperability testing with the Cisco Unified Computing System Express (Cisco 2900 Series Routers) within the Integrated Services Router technology category. In multisite enterprises, XMediusFAX can also integrate with Cisco's Service-Ready Engine Virtualization (SRE-V) platform, which is part of Cisco's Unified Computing System (UCS) Express, a converged networking, computing and virtualization platform for hosting essential services and applications in the lean branch office. UCS Express enables multiple virtual

instances of Microsoft Windows Server to run on dedicated x86 blades in a Cisco Integrated Services Router Generation 2 (ISR G2) chassis. So Sagemcom's IP fax server solutions are virtualizable at both the enterprise and service provider levels. And because of Sagemcom's involvement with the SIP Forum, and certified interoperability with leading SIP trunking providers such as Global Crossing, the company is supporting SIP trunking.

Sagemcom also launched its comprehensive XMediusDOC Content Express software. Equipped with an intelligent filing system and search engine, users can instantly access all of their digital documents. By connecting XMediusDOC to a multifunction printer and standard desktop applications, you can easily digitize, manage and store all your content, whether paper or electronic. Sagemcom's new XMediusDOC Content Express solution helps save time and increases productivity. XMediusDOC Content Express is compatible with all multifunction printers and scanners on the market. Combined with one or several multifunction printers, it's a tool that personal businesses, SMEs and small work groups can use to archive and perform searches in their documents.

In 2013, Sagemcom also announced that XMediusFAX 7.0 has successfully completed interoperability verification testing with Cisco's Unified Communication Manager 9.1 and Cisco's Unity Connection 9.0. And Sagemcom is compliant with key collaboration solutions from Avaya, a global provider of business collaboration and communication solutions. The XMediusFAX FoIP solution is now compliance-tested by Avaya for compatibility with Avaya IP Office 8.0.

Sagemcom's XMediusFAX and OpenLine PR Server fax server technology integrates with the imageFORMULA network scanners provided by Canon U.S.A. Combining Canon's imageFORMULA ScanFront 300P Network Scanner with one of Sagemcom's IP fax server solutions offers companies reduced operating costs and an increase in employee productivity. Sagemcom also markets analog terminal adapters which enable the company to link analog fax machines to its fax servers.

Sagemcom also sells a version of its older fax server that does not support FoIP.

SagemCom Group; Montreal, Québec, Canada; 514-787-2100; fax: 514-787-2111; Paris, FRANCE; +33 (0)1 58 11 77 00; fax: +33 (0)1 58 11 77 77; www.sagem-communications.com; www.sagem-interstar.com, www.faxserver.com...

Sepe Fax*Star

Sepe designed and patented their first fax server solution, Fax*Star. After 20 years and thousands of installations, Fax*Star is a proven solution worldwide and has integration with Peoplesoft, Mapics, SAP, Microsoft, IBM, OS/400, Lotus, and Unix. With the Fax*Star Advanced Server, users get a communications server. Installed on a dedicated Windows XP workstation, Fax*Star Advanced Server offers all the features users wanted to have in a modern server:

- Send and receive faxes
- Send mail in PDF, Tiff, and Text formats

- Traffic management sent to your email client
- Interface with IBM Notes, Microsoft Exchange, and SMTP mail Servers
- Fax and email from host using standard print file formats (ASCII and Epson text)
- Send and receive faxes from any PC on the Network
- Prints fax copy on any printer on the network
- Routes incoming faxes directly to the user

FAX*STAR also markets a self-contained hardware/software fax server, called the Twinax, for the IBM iSeries and System 36

FAX*STAR Division of SEPE INC.; Costa Mesa, CA; 714-241-7373; fax: 714-241-7799;
www.faxstar.com...

serVonic

serVonic, a German software developer, is specialized in the development of its own software products in the field of communication. serVonic is focusing on unified communications and also provides fax servers. serVonic sales are done throughout Europe via Certified Distribution Partners and Certified Sales Partners.

In 2013, serVonic released version 6.0 of its IXI-UMS Unified Messaging Server solution which is seamlessly integrated into the Microsoft Exchange 2013 Connector. serVonic's solution can be deployed according to the requirements, either as full UM-solution with Fax, Voice, SMS and Mobile or as add-on to Microsoft's unified messaging: IXI-UMS adds the lacking UM-features of fax and SMS. The administrator administers the IXI-UMS users directly in the environments provided by Microsoft – Active Directory and Exchange Administrator Center.

With IXI-UMS 6.0, serVonic supports the IPv6 Standard defined by the IETF, which is going to replace the common IPv4 Standard in the next few years. A company that deploys serVonic's UM-solution can make use of the UM-features with IPv6, too. IXI-UMS now supports the encryption program TLS – Transport Layer Security: As a result, the unified messaging solution cannot only be integrated into the security concept of the company as usual, but also support the mechanisms that are based on TLS.

serVonic GmbH; Olching, Germany; +49 8142 47990; fax: +49 8142 479940;
www.servonic.com...

Softlinx

Softlinx provides IP-based, network fax server and software solutions to major global corporations, non-profit organizations and government agencies. The company's ReplixFax product line has been deployed by the world's leading companies to reduce costs, improve productivity and enhance communications and document delivery of business-critical information.

ReplixFax is a scalable IP fax server platform that supports software-only out-of-the-box Fax Server Clustering and Fax Server Virtualization to deliver a highly reliable enterprise fax

solution. The ReplixFax system is suited for a large scale deployment of Fax over IP (FoIP), Email-to-Fax, Production Fax and mission-critical back-office fax server applications. Softlinx' ReplixFax fax server provides comprehensive features, support of multiple platforms – Windows, Linux and Solaris, and fax API toolkits.

Softlinx' ReplixFax T.37/T.38 Fax Gateway is specifically designed to add IP fax messaging capabilities to leading communications vendor's IP-based Unified Messaging Systems. It enables centralized management of all fax messaging services to integrate into an enterprise wide unified communications infrastructure. The ReplixFax T.37/T.38 Fax Gateway is a scalable and high performance IP fax messaging gateway and runs on both Sun Solaris and Linux OS environments, ensuring maximum reliability and efficiency.

Softlinx offers hosted fax services to organizations that prefer to outsource fax messaging in lieu of on-premise deployment. Companies gain from all the productivity benefits of fax automation without upfront capital expenditure and recurring expenses as well as IT staff overhead. Softlinx' Fax-to-Data service enables customers to automatically extract business-critical information from received fax or image documents, and feed it into their business applications to automate document workflow and streamline business processes. By outsourcing, companies are able to reap all the productivity benefits without incurring upfront capital investment or training expenses.

SoftLinx, Inc.; Westford, MA; 508-392-0001; www.softlinx.com...

Soft Solutions

Soft Solutions is a company that produces business-to-business software products and services for the Apple Macintosh market. Signature products include 4-Sight Fax and PowerTrax Pro for sales agents for the manufacturing industry.

Soft Solutions released a 4-Sight FAX Server 7.5.5 upgrade that increases product reliability, stability and error recovery handling – specifically to the modem communications area of the 4-Sight FAX Server internal fax engine.

Included in the 7.5.5 Server update are numerous fax transmission enhancements and error fixes to the T.30 fax modem communications. The T.30 improvements provide reduced time between sending faxes and reduced time sending faxes. Users will also experience faster modem reset and faster recovery from dropped fax line communications.

4-Sight FAX Server 7.5.5 improves modem error handling and recovery for remote modem-fax machine time-outs while improving the resiliency and recovery for dropped lines, lost dial-tone and delayed responses. This update also expands logic for improved handling of corrupted, compromised and large multi-page incoming faxes. Lastly, this update addresses certain underlying Macintosh OS X port related anomalies known to cause Class 1 communication errors with Apple USB ports and devices.

4-Sight FAX Server 7.5.5 is a free update for all currently licensed version 7.5 customers, including companies currently subscribed to the 4-Sight FAX Annual Update and Support Plan. In late 2012, Soft Solutions provided Mountain Lion compatibility to the 4-Sight FAX software. 4-Sight FAX is now available directly from the company, with prices ranging from \$500 to \$14,225 depending on the number of fax lines and user licenses.

Soft Solutions, Inc.; Atlanta, GA; 770.454.9400; fax: 770.454.9800; www.4sightfax.com...

Solgenia (Emfast)

Solgenia S.p.A., a European provider of technology solutions and services for ERP-type solutions, acquired emFAST, in a friendly acquisition, as Solgenia had for years resold emFAST fax servers and FoIP (fax over IP) servers. Solgenia markets its Web and Cloud 2.0 computing solutions to companies of 50 to 500 employees who take advantage of the integrated set of business applications including Enterprise Resource Planning (ERP) and Supply Chain Management, Customer Relationship Management (CRM), Content and Workflow Management, and Business Analytics.

In late 2011, Solgenia released Freedoc for Facsys, which provides numerous enhanced faxing capabilities, including the ability to route faxes automatically to specific departments or business teams working on projects, thereby making it simple to implement information rights management to ensure that only specific users have access to particular documents and/or faxes. The offering also enables enhanced team collaboration, work flow and productivity by making it easy to create a central project/activity document repository to enable groups to view, share, check-in or check-out documents. Freedoc for Facsys also makes it easy to track who has access to what documentation and when documents were accessed, viewed and modified – ensuring organizations can comply with the increasing number of worldwide security legislations, such as the Sarbanes-Oxley Act (SOX).

Freedoc for Facsys enhanced faxing capability, increased ROI and ease of regulatory compliance is particularly important to such sectors as financial and banking, insurance, healthcare and medical, education and government which rely heavily on fax technology for everyday workflow activities and transaction completions.

Solgenia integrated FOIP and fax server technology into a document management solution. Faxes account for a significant percentage of the unstructured data that enters any organization, and Solgenia's research showed that conventional fax transmissions can cause major productivity headaches as employees find it far more time consuming to review, share and manage paper documents than digital documents. To eliminate this issue, Solgenia has launched a DMS solution with fully-integrated faxing capabilities to make it easy for users to receive faxes directly on their computers to significantly increase productivity and, ultimately, shorten time to market for products and services.

Concord Technologies and Solgenia have a successful partnership in which Concord Technologies provides cloud-based online fax capabilities that work with FACSys. Concord's

Web Services and associated tools and resources are used extensively by companies looking to offer a rebranded fax service to their users and by enterprise customers who are looking to integrate third-party applications to automate inbound or outbound fax-centric business processes. Solgenia has enhanced fax messaging from simple document transport into fully integrated solutions including unified communications, business process workflows, multi-function peripheral devices and major Enterprise Content Management and Resource Planning systems. The integration between the Facsys server and Concord Fax Online enables the on-premise Facsys server to send and receive faxes over the internet using Concord's network, eliminating the need for phone lines and fax modem hardware typically required when utilizing fax servers. The integration enables system administrators to easily deploy high-availability architectures using virtualization and removes the risk of local telephone outages. The combined hybrid solution is easy to configure and no special equipment is required so it is up and running in minutes. There are no changes to the user experience and they are no longer susceptible to local outages or phone issues. Other benefits include having all faxes processed by a single, centralized Facsys server and the ability for users to pay only for what they use.

In 2012, Solgenia SpA completed the acquisition of 100% of capital share of Akhela Srl which will be an integral part of Solgenia's growth and consolidation, which capitalizes on significant synergies both in product offering and in the market coverage. Akhela, which retained its corporate identity and positioning in the enterprise and large account market segment, brings with it a valued portfolio great significance: a portfolio of consolidated long-term contracts of around 90 million euros (including a long-term contract for Saras ICT services), a center of competency for the development of embedded software and software for mobile devices, and a data center of capacity. Through this acquisition, this newly formed group will soon offer an innovative cloud management platform that includes fax services.

Solgenia USA, Inc.; Bridgewater, NJ; 866-436-3278; fax: 416-208-6770; www.solgenia.com...

STR Software

STR Software is an enterprise software company that develops, markets and supports automated document delivery solutions offering email, fax and Internet fax integration to host ERP applications. Celebrating its 25th anniversary in 2011, STR Software notes it has steadily grown from its core philosophy of self funding without debt, creating superior products, and providing human-friendly customer support. Its worldwide customer base of more than 1,000 companies includes small, medium and large organizations in nearly all 50 states and two dozen countries. Its very first customer, HMSHost Corporation, continues to depend upon the daily use of POS/3000, its first product, to collect data from their airport gift shops and highway travel centers. The company is a leading Biscom reseller.

STR Software's initial success came with products for the MPE operating system on the HPe3000. The company quickly became the market leader with its FAX/3000 product with over 600 licenses. In 1994, STR delivered its first version of FaxCommander for UNIX platforms such as DEC, HP, IBM, and Sun. In 1999, the company delivered its first solution for Windows.

Now all product lines are marketed under the trade name AventX, derived from the Spanish word aventajar, meaning to exceed or surpass.

The company attributes its success and longevity to understanding customer needs and market trends and developing reliable products and services that enable businesses to save measurable administrative costs. Reliability requires timely upgrades that include beneficial enhancements and effective bug fixes.

STR Software has nearly 20 companies who utilize the worldwide fax delivery service from EasyLink Services. Companies such as MeadWestvaco are sending over 10,000 pages per day using AventX and Easylink.

AventX Mail SC allows UNIX/Win-based ERP users to email any document securely and receive confirmation that it was delivered to the intended recipient. Users can proactively monitor common issues and eliminate costly payment and processing delays related to unopened or misfiled email messages. AventX Mail SC offers the efficiency of email delivery with the transmission confirmation of fax.

STR Software; Richmond, VA; 804.897.1600; fax: 804.897.1638; www.strsoftware.com...

TE-Systems

TE-Systems is a German Software vendor that sells XCAPi unified communications solutions that are used by companies including GFI, Solgenia, Avaya, and Siemens for FoIP. Essentially, TE-Systems XCAPi solution competes with the Brooktrout SR-140 boardless FoIP solution. Since TE-Systems was established in 1990, the company has been specializing in the development and sale of software for ISDN and VoIP in the audiotex and telecommunications sector. One of its focal points is speech dialogue systems for call centers and service platforms as well as the migration of CAPI (Common Application Programmer's Interface)-compatible applications to various VoIP environments (CAPI is a communications application programming interface that is popular in Germany and Europe and can be used anywhere). The company is a leader in computer-telephony in Europe, largely due to partnerships with Alcatel-Lucent, AVAYA, innovaphone, Panasonic/Allnet, Patton, SIEMENS, ShoreTel, Tobit and Swyx. TE-Systems' sales partners can be found throughout Europe: in Germany, Belgium, France, The Netherlands, Austria and Switzerland.

TE-Systems has CAPI-based voice and fax capabilities. XCAPi offers T.38 fax and also what it calls soft fax, which means the fax capability will work the G.711 voice protocol. XCAPi also supports voice and fax communications with Transport Layer Security (TLS) and Secure Real-time Transport Protocol (SRTP), making it secure against eavesdropping and tampering. Fax can be virtualized so cluster scenarios can be implemented and operation and maintenance cost are reduced. The solution is compatible with the H.323 and SIP terminals and gateways of all manufacturers. In addition, XCAPi handles proprietary features of the leading SIP and H.323 suppliers. Between two and 500 channels can be used simultaneously. Different codecs or features can be licenced as options. CAPI 2.0 is an open interface and freely available to all. The

ETSI adopted CAPI 2.0 as standard ETC 300 325.

The TE-Systems solution is ultimately a unified communications offering that supports landline and mobile phone calls, voicemail and instant messaging, e-mail, faxing, conference calls and process applications, all via the same user interface. On one side, this makes it possible to consistently manage all documents relating to a particular matter, and on the other side, to use the same database for all applications.

Changing to IP technology normally requires extensive and therefore cost-intensive modification of existing applications. Not with XCAPI: The software offers a new possibility to change your previous system in a smooth process known as soft migration. In order to use the functions of conventional ISDN adapters, many applications use CAPI 2.0 for professional telecommunications. Therefore, CAPI 2.0 represents a standard for the interfacing between applications and hardware, but has been limited to ISDN in the past. XCAPI also makes a CAPI interface available without requiring ISDN hardware. Instead, it implements a Voice over IP protocol stack compatible with H.323 and SIP. So, XCAPI enables fast and simple migration from ISDN to VoIP, ensuring excellent quality without requiring any modification to the existing application base.

XCAPI allows you to use your existing CAPI 2.0-compatible application for Unified Messaging (UMS), Automatic Call Distribution (ACD) or Interactive Voice Response (IVR) via Voice over IP. This will enable you to use your telephone and fax functions without conventional hardware such as modems or ISDN cards.

In 2013, TE-Systems allied with Solgenia to sell X-CAPI-based fax solutions.

TE-Systems GmbH; Wolfboro, Germany; 49-5363 8195-0; fax: 49-5363 8195-999;
www.te-systems.de...

Tobit

Since 1986, Tobit Software AG has developed and marketed products for the exchange of information. With just about 200 employees, Tobit Software is a German manufacturer of standard software for offices, middle-sized companies and for private users that used to offer its web page for German and English-language speaking users. Now it is only available in German.

David.zehn! is Tobit's flagship product: David.zehn! manages the exchange and administration of emails, faxes, voice and SMS messages, photos, pictures as well as music and videos. David.zehn! turns the PC into the center for the user's digital world.

Tobit also markets a standalone fax server called FaxWare.zehn! (formerly FaxWare). FaxWare.zehn! lets users quickly send faxes directly from a PC. The Scan to Fax function enables users to read and send your documents from any source without detours. Sending faxes is faster with FaxWare.zehn! than with a fax machine as users simply push a button to combine several documents into one fax document, add a cover and a personal signature and individually

address business partners by name with the help of a few simple commands.

FaxWare.zehn! brings messages directly to the PC screen. Thanks to a preview covering several pages, users already know what the message is about and where to find the most important information without opening it. Once opened, FaxWare provides new possibilities for a received fax: comfortably answering of fax messages from a PC, commenting and stamping them or forwarding them with the push of a button.

FaxWare.zehn! is based on the approved Tobit Archive System, which stores and manages fax messages. With the practical Quickfinder, users can jump to a needed fax message in the blink of an eye and to edit it with the push of a button.

Tobit Software sells its products worldwide via a reseller network of more than 10,000 partners. The company's 450,000 customers are spread over all sizes and branches.

Tobit Software AG; Ahaus, Germany; +49 2561 913 102; fax: +49 2561 913 44 102;
www.tobit.com..

2Ring

2Ring is a flexible producer of software for IP telephony and Contact Centers that enhances the potential of business communication. Its products include IPPS (delivers advanced features to your IP Phones), NetFAX (introduces simple and efficient faxing), and Wrap-Up Forms (provides for collecting reliable information about every call).

2Ring has been active in the field of services for Contact Centers and IP telephony since 2001. Through merger, acquisition and organic growth, 2Ring now works with hundreds of reputable partners and certified professionals in Europe and North America.

\
2Ring offers NetFAX 3.1 which supports:

- Receiving faxes as email;
- Sending as email;
- Fax from CRM, Word, or Excel;
- Sign and stamp faxes without printing;
- Store up to 5,000 faxes;
- Keep faxes secure;
- Scale NetFAX up to 250,000 users;

- NetFAX has a redundancy option
- NetFAX supports a freely available operating systems, including Linux, Debian and CentOS.

2Ring LLC; Red Bank, NJ; 732-784-2382; fax: 732-784-2850; www.2ring.com...

Section 6

Fax Board Suppliers

The fax board supplier structure is dominated by Dialogic, which holds an 77.2% share of the 2012 intelligent fax board market (Table 6-1). AudioCodes, posted just an 8.7% share, which was up about a percent. Table 6-1 shows market share for the both the fax server and fax service intelligent fax board market.

Table 6-1		
2012 Intelligent Fax Board Supplier Structure		
Vendor	Revenues (\$M)	Share
Dialogic	\$112.0	77.2%
AudioCodes	12.6	8.7%
Commetrex	10.4	7.2%
Other	10.0	6.9%
TOTAL	\$145.0	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

US Fax Board Supplier Structure in the United States

The US market grew by 7.4% in 2012. Dialogic held a commanding share at 87.3% (see Table 6-2). Audiocodes came in second with an 8.2% share, up one half of a percent.

Table 6-2		
2012 Intelligent Fax Board Supplier Structure in the United States		
Vendor	Revenues (\$M)	Share
Dialogic	\$58.5	87.3%
AudioCodes	5.5	8.2%
Other	3.0	4.5%
TOTAL	67.0	100.0%
Davidson Consulting; Sturgis, MI; 2013.		

European Fax Board Supplier Structure

The European market declined by 4.5% in 2012, largely due to economic malaise (see Table 6-3). Dialogic garnered an 79.5% share as it maintained its leadership position in revenues in Europe. AudioCodes was second with a 9.1% share.

Table 6-3		
2012 Intelligent Fax Board Supplier Structure in Europe		
Vendor	Revenues (\$M)	Share
Dialogic	\$35.0	79.5%
Audiocodes	4	9.1%
Other	5	11.4%
TOTAL	\$44.0	100.0%

Davidson Consulting; Sturgis, MI; 2013.

Supplier Profiles

AcuLab

AcuLab offers IP telephony and communications solution developers and service providers a wide range of hardware and software building blocks for integration into high performance, wired and wireless communications solutions – from contact centers and IVR to prepaid services. Products for use in telco or enterprise platforms include media processing resources, speech processing, fax, conferencing, transcoding and echo cancellation – in both PSTN and IP environments, and digital network access including VoIP and SS7 (signaling system number 7). AcuLab offers Prosody S which runs on a Windows or Linux host to provide telephony resources for platforms such as contact centers, IP-PBXs, media servers, fax servers and conferencing products. Prosody S is a low-level and high-level telephony resource with extensive fax features, conferencing and transcoding. A customer application using Prosody S makes, receives and interacts with calls using the Aculab Call API, enabling the integration of telephony with business processes. Licensing on a per channel basis and a distributed architecture enables Prosody S to be cost-effective for systems of any size. AcuLab says it is seeing renewed interest in fax communications across many sectors, particularly in areas such as financial services and health care. Its support of T.38 fax eliminates the need for analog fax machines and their associated ports on the PBX, thus providing a fax service to all employees regardless of location, as well as supporting modern IP fax servers.

Aculab also offers a portfolio of media processing products that provide a comprehensive set of functionality used to create a range of enterprise and telco level service applications, including fax service bureaus, unified messaging, voicemail, interactive voice response (IVR), conferencing, prepaid platforms, voice portals, VoIP gateways and media servers.

AudioCodes

AudioCodes offers customer premises equipment and access devices including analog, BRI, digital and modular VoIP media gateways for enterprise, contact center, IP, Centrex and broadband access applications. This includes options for T.38 fax, which has been optimized by AudioCodes so fax can operate in IP networks that have variable delays up to 8 seconds long. AudioCodes also has partaken in interoperability lab tests that proves that its gateways support faxing to 100 of the most popular fax machine models. The company offers its FoIP fax capabilities with many of its voice gateways.

Revenues were \$155.8 million in 2013, up 14.4% from \$127.5 million in 2012. Growth in its networking business was driven primarily by higher product sales and services in the areas of unified communications and enterprise session border controllers.

In 2013, AudioCodes released the Mediant 2600, an addition to its Session Border Controller (SBC) family, enabling interoperability and secured connectivity between enterprises and service provider VoIP networks. The Mediant 2600 SBC offers a cost-effective connectivity solution for Unified communications and contact center deployments of up to 600 concurrent sessions. The Mediant 2600 SBC expands the AudioCodes SBC portfolio, comprising the Mediant 4000, Mediant 3000, Mediant 1000, Mediant 800 and Mediant Software SBC, a highly scalable range of products that all deliver the same core functionality.

Enterprises deploying AudioCodes SBC benefit from seamless connectivity to SIP Trunking services, high VoIP quality and security of their network against malicious or fraudulent threats. With the growing demand for interconnecting enterprises and carriers based on pure IP, transcoding becomes a key enabler for smooth voice integration. AudioCodes SBCs enable transcoding between a broad range of wideband and narrowband vocoders, meeting the growing demands of enterprises to connect their UC solutions with SIP Trunking networks.

AudioCodes also offers MediaPack 11x media gateways, by which enterprises can connect existing, business critical analog fax machines to their growing VoIP network, controlled by industry leading IP PBX platforms that utilize industry standard control protocols including H.323, MGCP and SIP. The interconnection can include thousands of faxes deployed in enterprise branches, connected to the enterprise IP network and to the PSTN.

By deploying AudioCodes' MediaPack media gateways, the enterprise enables toll free, reliable and transparent fax transmissions over its growing VoIP network, connecting to the IP-PBXs distributed across customer premises, providing a seamless transition from the existing TDM network. Leveraging T.38 fax over IP protocol and AudioCodes' TP-260/SIP media gateway blades, advanced fax applications can be developed and deployed in cases connecting to existing PSTN circuits or PBX equipment.

AudioCodes' T.38 fax over IP provides the following features for enterprises:

- Multiple media control protocols support (H.323, SIP and MGCP)
- Interoperability with many iPBXes
- VoIPerfect quality
- Standard T.38 fax support
- Fax interoperability tested with over 100 different fax models
- Scalability from two-port MP-112 up to the 24-port MP-124
- Group 4 fax support
- Automatic fax detection and routing

AudioCodes formed a strategic relationship with Sagemcom, a market leader in IP fax server solutions. AudioCodes supplies its media gateway products to Sagemcom to deliver economical and reliable VoIP media gateway solutions to Sagemcom's XMediusFAX T.38 FoIP fax server customers.

In conclusion, AudioCodes media servers running fax offer a broad range of interfaces and protocols, a full range of scalability from two ports to thousands of ports, manageability through a central, standard-based, management system for large installations, and high availability for enterprises and large installations where the availability of the system is critical.

AudioCodes, Inc.; San Jose, CA; 408-441-1175; fax: 408-451-9520; www.audiocodes.com...

Commetrex

Commetrex develops and markets enabling technologies designed to shorten the time to market and reduce the development cost of integrated-media telecommunications equipment. Long known for its fax and other licensed technologies, Commetrex is bringing to the equipment developer the high-value software frameworks and packet-voice needed in all high-capacity integrated-media telephony systems.

Commetrex offers BladeWare which adds Smart FoIP to the platform. Smart FoIP is the company's patent-pending technology that makes FoIP in T.38-capable SIP carrier networks nearly as reliable as PSTN fax boards. Smart FoIP makes acceptance of a media change from G.711 to T.38 conditional on how far into T.30 negotiations the two endpoint terminals have progressed. BladeWare now has support for V.34 G.711 pass-through in its BladeWare HMP telephony platform. This means that BladeWare users can elect to complete IP fax calls using V.34, rather than forcing a fallback to V.17 speeds, which take twice as long to transmit a page. This is important since there are few T.38 Version 3 V.34-capable gateways on the market, and few deployed in carrier networks. Indeed, many VoIP service providers have yet to support T.38 in any version. In these situations, BladeWare delivers faxes with one-half the connection time of any server on the market.

In 2013, Commetrex announced support for the fax media-feature tag specified in RFC 6913, released by the Internet Engineering Task Force (IETF) in March of the same year. The company planned to add support to its BladeWare fax platform to support intelligent FoIP routing in SIP networks. For the last three years, there has been unprecedented cooperation between the international carriers of the i3 Forum and the SIP Forum FoIP Task Group to perform the testing needed to get to the bottom of the poor success rate of international FoIP calls. As reported on the SIP Forum website, these organizations know that the global network can't complete the move to IP until fax over IP becomes reliable. Fortunately, the testing uncovered systemic problems that can be solved by making small but significant changes to how FoIP calls are routed by the carriers. The SIP Forum recommended a change to industry standards, resulting in RFC 6913, and the i3 Forum is publishing a best-practices document.

Commetrex dropped development of fax boards a few years ago in favor of Sangoma Technologies integration. Now, Commetrex offers every single interface to OEMs to address the entire market – supporting the claim that they have the broadest selection in the market for FoIP solutions.

Commetrex Corporation; Roswell, GA; 770- 449-7775; fax: 770-242-7353;
www.commetrex.com...

Dialogic Corporation

Dialogic, which owns the Brooktrout line of fax boards, the Eicon line and the traditional Dialogic line, in 2010 merged with Veraz Networks, a provider of bandwidth optimization and next-generation switching products. The merged company, named Dialogic, Inc., provides application, control and bandwidth optimization products that enable the evolution to the Multimedia Generation Network (MGN). The Veraz MGN separates the control, media, and application layers while unifying management of the network, thereby increasing service provider operating efficiency.

In the calendar first-quarter of 2013, Dialogic failed to report earnings. NASDAQ announced that it delisted Dialogic's common stock. Dialogic's stock was suspended on April 17, 2013 and has not traded on NASDAQ since that time.

Dialogic Corporation is a leading provider of world-class, innovative technologies based on open standards that enable innovative mobile, video, IP, and TDM solutions for service providers and enterprise communication networks. Dialogic's customers and partners rely on its leading-edge, flexible components to rapidly deploy value-added solutions.

Dialogic is maintaining its leadership role in the fax and fax-over-IP market segments by offering the broadest fax solution portfolio on the market. The company's T.30 stack has been in operation for more than 20 years. Since 2009, Dialogic has offered V.34 T.38 support on all of its Brooktrout FoIP products, including the Dialogic Brooktrout SR140 Fax Software and Dialogic 3000 & 4000 Media Gateway Series (DMG3000 & DMG4000) that enable enterprises to deploy fax server solutions into existing Voice over IP installations. Dialogic sells both hardware and software-based FoIP subsystems as follows:

- The Dialogic Brooktrout TR1034 Fax Board sends and receives TDM or IP faxes at up to 33.6 kbs, based on the V.34 fax standard (the DID/Combo model receives faxes at up to V.17 and sends at up to 33.6 kbs). Not only can the TR1034 process fax at twice the speed of 14.4 kbps fax boards, it also supports V.8 fast handshaking and advanced compression, which can cut call setup and session-management time by one third. A document that can be faxed in one minute with a 14.4 kbps intelligent fax board can be sent in less than 30 seconds with the Brooktrout TR1034. This can translate into significant savings on long distance toll charges. Available in both PCI and PCI Express (PCIe) formats, the TR1034 delivers unmatched call completion at the fastest possible connection rates across a wide variety of fax machines and line conditions.

- Dialogic Brooktrout SR140 Fax Software provides options for application developers because Brooktrout SR140 supports the Dialogic Brooktrout Bfv API, the same API used throughout Dialogic's line of fax products. Developers can choose to write one application to the Bfv API and deploy it on both TDM and IP equipment. This dual-network support also allows developers who wish to sell into both TDM and IP accounts to use either Dialogic Brooktrout TR1034 Fax Boards or the Brooktrout SR140. The SR140 is available in densities ranging from 2 to 60 channels and can support up to 120 ports in a single server. To add more channels as customer needs grow, users may simply purchase and install a new software license key to instantly upgrade the system.

Dialogic announced that Dialogic Brooktrout SR140 Fax software can send industry-standard V.34 – Super G3 Fax – traffic using ITU-T recommendation T.38 via the Cisco 2821 Integrated Services Router. With V.34 standard, users can send and receive faxes at twice the speed of other devices that only support V.17. Company officials said that Brooktrout SR140 provides fax over Internet protocol (FoIP) capabilities for integrating fax servers and fax document management solutions with VoIP networks. SR140 can be deployed in SIP, H.323, and MGCP environments. SR140 is ideal for a variety of network-based fax applications, enabling integration with document management and business process automation systems to support compliance with regulations such as Sarbanes-Oxley, HIPAA, and Basel II.

Dialogic offers next-generation fax engine support for Microsoft Fax Service, a basic fax server application that is offered as a standard feature of Windows operating systems. While Dialogic Brooktrout fax boards have powered Microsoft Fax Service for close to a decade, Dialogic Brooktrout SR140 Fax Software is now available for use with this Microsoft application. Along with this SR140-based solution comes the ability to provide integrated support for Exchange Server Unified Messaging. As Microsoft continues to build a leadership position in unified communications, unified messaging has become a popular component of Exchange Server 2007 and Exchange Server 2010, displacing traditional voice mail systems by adding voice messaging to the market leading e-mail server. Exchange Server 2010 also supports fax messaging, but it requires a separate fax server application and fax engine to handle the creation of the fax. The combined SR140 and Microsoft fax solution provides a simple and cost effective means for unified communications resellers and system integrators to fulfill a need for unified messaging with fax.

Dialogic also offers G711 fax termination on its board-based TR1034 FoIP-Enabled Product. This is particularly significant for its carrier clients. G711 Pass-Through offers some level of reliability for moving facsimile traffic through carriers' VoIP networks, until such time as they have ubiquitous deployment of T.38 in their networks.

Dialogic Corporation; San Jose, CA; 408-750-9400; fax: 408-546-0081; www.dialogic.com...

Lancom Systems

LANCOM Systems offers a fax gateway option for selected routers with ISDN interfaces. The option enables up to eight faxes to be sent and received simultaneously. Working in combination with the LANCAPI driver, the option supports PCs and server systems running 32-bit and x64-bit versions of current Microsoft Windows operating systems (XP, Vista, and Windows 7). With the LANCOM Fax Gateway, employees receive faxes directly in their e-mail inbox, and documents can be sent by fax immediately after writing. Fax messages can be received at mobile devices and at the home office. Incoming faxes are automatically forwarded to the relevant contact person.

The LANCOM Fax Gateway Option enables up to eight faxes to be sent and received simultaneously via the LANCOM router. No ISDN boards and no fax modems are needed. The LANCOM Fax Gateway makes it convenient, efficient and reliable to send and receive fax from anywhere on the enterprise network.

LANCOM Systems, GMBH; Wuerselen, Germany; +49 2405 49 93 6-0;
www.lancom-systems.de...

Mainpine

Founded in 1997, Mainpine provides fax hardware, software and online service options using the latest technology and manufacturing techniques in the fax communications market. Its hardware is manufactured in the United Kingdom and all corporate operations and technical support are headquartered in the Pacific Northwest region of the United States. Mainpine was the first European company to produce a PCI multi-port modem and obtain approval to carry the PCI logo. Mainpine products are easy to use and enhance the use of Microsoft Fax Service, from its fax boards to its fax server software and its new online fax service. The IQ Express boards, IQFSP faxing software and online service option provide a cost-effective tool that is trusted by numerous professional segments to safely and securely deliver documents. The IQ Express fax board is the smallest fax board of its kind.

Mainpine products are HIPAA compliant. They ensure client confidentiality by providing secure information sharing and document transmission for numerous business sectors, including the medical and legal fields.

The latest addition to Mainpine's product lineup is the Mainpine Online Fax Service. The Mainpine Online Fax Service utilizes a fax engine developed by Mainpine specifically for faxing over the internet. The Mainpine Online Fax Service offers users the opportunity to configure their internet faxing solution to meet the unique needs of their business. Whether users need inbound

or outbound faxing, or both, Mainpine can help them get set up quickly and seamlessly. We also offer an inbound toll-free option. The monthly service fee is \$40.00 and inbound fax service costs \$0.01/minute (direct) or \$0.16/minute (toll free) while outbound fax service costs \$0.10/minute.

Mainpine, Inc.; Wilsonville, OR; 360 462 6292; fax: 360 462 8160; www.mainpine.com...

PIKA Technologies

PIKA Technologies' fax bundle is based on Commetrex's TDM fax solution. It consists of three modules: a T.30 protocol engine, an image conversion library, and a fax modem application. In 2009, PIKA Technologies enhanced its T.30 fax solution for its HMP platform by adding high-speed V.34 fax modem technology. Pika's T.30 protocol engine is used to establish and manage communications between two fax modems. It can be described by five separate and consecutive phases: call establishment, pre-message procedure, message transmission, post-message procedure and call release. The image conversion library is used to support real-time conversions required by T.30 and a limited set of off-line conversions.

The fax modem application provides ITU-T V.17, V.34 (HMP only), V.27ter, V.29, V.21 fax modems and the modem controller. V.21 is a robust low-speed modem and is used during the pre- and post-message procedures. The message, or image data, is transmitted using the higher speed modems: V.27ter, V.29, V.17 and V.34. The modem controller configures the modems and controls the modem operation. It processes modem events and data and forwards these results to the T.30 protocol engine. It also handles commands and data from the T.30 protocol engine.

PIKA says that it has expanded its product range to support fax applications built on the open-source platform Asterisk. PIKA Fax software is now extended to Asterisk, allowing developers on the platform to build fax capabilities into their applications. The company called the addition of fax support the logical evolution of its product suite.

Pika Technologies, Inc.; Kanata, Ontario, Canada; 613-591-1555; fax: 613-591-9295;
www.pikatech.com...

VOCAL Technologies

VOCAL Technologies, a provider of voice, data, and facsimile solutions released their scalable modular software stack with core support for ECM, high-resolution fax document capability, and high-density V.34 fax protocol capability. VOCAL also offers T.38 protocol extensions so their fax modems support FoIP.

VOCAL aims its solutions at enterprises and ISP (Internet Service Provider) customers, who want V.34 fax throughput (33.6kbps versus 14.4kbps for V.17) to efficiently handle large volumes of faxes transmitted each day.

Unfortunately, customers may have installed a new IP phone system only to find V.34 fax works poorly or is completely unavailable. They are accustomed to the increased speed and ECM capabilities that V.34 fax provides. Axacore products take advantage of VOCAL's hardware and software optimized algorithms to deliver cutting edge performance and reliability.

VOCAL's expertise with V.34 fax technology and all major platforms enables their designs to scale readily to meet growing demands for both large and small customers. The portability and field proven features of its software helps Axacore quickly develop reliable products to satisfy its customer requirements.

VOCAL Technologies, Ltd.; Amherst, New York; 716-688-4675; fax: 716-639-0713;
www.vocal.com...

Section 7

Five-Year Market Forecasts

Five-Year Market Forecast for Fax Servers

The market for fax servers will fail to grow as quickly as we projected a year ago. The reality is that the market for conventional fax servers will diminish every year at a double-digit rate and the market for FoIP servers will only grow at about a 10% rate. The result is an overall fax server market that grows at a 3.4% CAGR during the forecast period. This is down from a 12.1% CAGR projected last year.

Table 7-1							
5-Year Market Forecast for Fax Server Sales							
	2012	2013	2014	2015	2016	2017	CAGR
Fax Server Revenues (\$M)	\$385	\$400	\$410	\$420	\$440	\$455	3.4%
Growth	—	3.9%	2.5%	2.4%	4.8%	3.4%	—

Davidson Consulting; Sturgis, MI; 2013.

Five-Year Market Forecast For Fax Servers by Region

The Asian market will grow faster than the rest of the world during the forecast period covered by this report. The Asian market will grow at a 7.9% CAGR from \$65 million in 2012 to \$95 million in 2017 (see Table 7-2), but the era of fast growth for the sector will come to an end. Europe will be slowest-growing with an 0.8% CAGR, while North America, the largest market, will be the second slowest-growing at 4.2% CAGR.

Table 7-2							
5-Year Market Forecast for Fax Servers by Region							
	2012	2013	2014	2015	2016	2017	CAGR
N.America	\$155	\$160	\$165	\$170	\$175	\$180	4.2%
Growth	—	3.2%	3.1%	3.0%	2.9%	2.9%	—
Europe	120	120	115	115	120	125	0.8%
Growth	—	0.0%	-4.2%	0.0%	4.3%	4.2%	—
Asia	65	75	80	85	90	95	7.9%
Growth	—	15.4%	6.7%	6.3%	5.9%	5.6%	—
ROW	45	45	50	50	55	55	4.1%
Growth	—	0.0%	11.1%	0.0%	10.0%	0.0%	—
TOTAL	\$385	\$400	\$410	\$420	\$440	\$455	12.1%
Growth	—	3.9%	2.5%	2.4%	4.8%	3.4%	—
Davidson Consulting; Sturgis, MI; 2013.							

Five-Year Forecast for Conventional Versus FoIP Servers

As shown in Table 7-3, the market for FoIP fax servers gained primacy in 2011. Overall, FoIP servers will have a CAGR of 10.2% as sales grow from \$240 million in 2012 to \$390 million in 2017. FoIP servers will carry the day for the fax server market, as conventional fax servers decline at a -14.2% rate throughout the period. Virtualization and fax-enabling Sharepoint will be major factors driving the FoIP market.

Table 7-3							
Five-Year Forecast for Conventional Versus FoIP Servers							
	2012	2013	2014	2015	2016	2017	CAGR
Conventional Fax Servers	\$145	\$130	\$110	\$90	\$80	\$65	-14.8%
Growth	—	-10.3%	-15.4%	-18.2%	-11.1%	-18.8%	—
FoIP TOTAL	240	270	300	330	360	\$390	10.2%
Growth	—	12.5%	11.1%	10.0%	9.1%	8.3%	—
TOTAL Fax Servers	\$385	\$400	\$410	\$420	\$440	\$455	3.4%
Growth	—	3.9%	2.5%	2.4%	4.8%	3.4%	—
Davidson Consulting; Sturgis, MI; 2013.							

Five-Year Forecast for Fax Server Sales Related to MFPs

Sales for fax servers linked to MFPs will also see slowing growth throughout the forecast period. This declining growth will occur due to the saturation of the market for linking MFPs to fax servers, plus the declining sales of MFPs. The \$140 million 2012 market will grow at an 11.4% CAGR, about half of what was projected last year (22.4%) to \$240 million in 2017 (see Table 7-4). The MFP market will grow from being 36% of the 2012 market to being nearly 53% of the 2017 market.

Table 7-4							
Five-Year Forecast for Fax Server Sales Related to MFPs							
	2012	2013	2014	2015	2016	2017	CAGR
MFP-related fax server sales	\$140	\$160	\$180	\$200	\$220	\$240	11.4%
Growth	—	14.3%	12.5%	11.1%	10.0%	9.1%	—
TOTAL fax server sales	\$385	\$400	\$410	\$420	\$440	\$455	3.4%
Growth	—	3.9%	2.5%	2.4%	4.8%	3.4%	—
Davidson Consulting; Sturgis, MI; 2013.							

Five-Year Market Forecast for Production Fax

As shown in Table 7-5, the market for production fax achieved parity between FoIP servers used for production fax and conventional fax servers used for production fax. Both categories registered \$80 million in 2012. But the FoIP server category will achieve 15.4% CAGR growth during the forecast period, while the conventional fax server category will experience a -5.6% downturn in CAGR. Overall, the production fax market will grow by a 7% CAGR from \$160 million in 2012 to \$224 million in 2017.

Table 7-5							
5-Year Fax Server Market Forecast by Production Fax							
	2012	2013	2014	2015	2016	2017	CAGR
FoIP Server Sales for Production Fax	\$80	\$96	\$112	\$130	\$148	\$164	15.4%
Growth	—	20.0%	16.7%	16.1%	13.8%	10.8%	—
Conventional Fax Server Sales for Production Fax	80	80	80	70	70	60	-5.6%
Growth	—	0.0%	0.0%	-12.5	0.0%	-14.3%	—
Total Production Fax Revenues	\$160	\$176	\$192	\$200	\$218	\$224	7.0%
Growth	—	5.3%	6.3%	4.2%	9.0%	2.8%	—
Davidson Consulting; Sturgis, MI; 2013.							

Five-Year Market Forecast for Fax Server Sales Through Unified Messaging

Unified messaging will take a slightly larger portion of sales as we move through the forecast period, but will still only take just over one-third of the market in 2017. As shown in Table 7-6, fax server sales were involved in unified messaging sales 33% of the time in 2012. This will increase gradually throughout the forecast period so unified communications will take 35.9% of the fax server business in 2017.

Table 7-6						
5-Year Market Forecast for Fax Server Sales Through Unified Messaging (UM as % of Desktop Fax Sales)						
	2012	2013	2014	2015	2016	2017
Sold with it	33.0%	33.4%	33.8%	34.3%	35.5%	35.9%
Sold without it	67.0%	66.6%	66.2%	65.7%	65.5%	64.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Davidson Consulting; Sturgis, MI; 2013.						

Five-Year Market Forecast for Portable Faxing

In Table 7-7, we provide a forecast for the number of fax servers that support portable faxing. Portables are becoming a key strategic reality for fax servers vendors as companies are starting to rely on them so their mobile workers can send and receive signed documents. In Table 7-7, portable faxing is shown to go from being supported by 16.4% of fax servers in 2012 to nearly half of all fax servers in 2017, a whopping 48.5%. Fax server vendors should realize that it isn't the revenues they can drive through sales of portable fax that will count, but the enterprise bids they could lose for failing to have a portable capability, that could hurt them.

Table 7-7						
Five-Year Forecast for Portable Faxing (Percentage of fax servers supporting portable faxing)						
	2012	2013	2014	2015	2016	2017
Supports it	16.4%	21.8%	26.6%	33.2%	39.7%	48.5%
Doesn't support it	83.6%	78.2%	73.4%	66.8%	61.3%	51.5%
Davidson Consulting; Sturgis MI; 2013.						

Five-Year Market Forecast for Inbound Routing

The market for inbound routing will remain fairly steady throughout the forecast period. Changes will be minor as most users take advantage of inbound routing (see Table 7-8).

Table 7-8							
5-Year Market Forecast for Inbound Routing							
	2012	2013	2014	2015	2016	2017	CAGR
Using it	95.8%	96.0%	95.9%	96.2%	95.9%	96.0%	—
Not using it	4.2%	4.0%	4.1%	3.8%	4.1%	4.0%	—

Davidson Consulting; Sturgis, MI; 2013.

Five-Year Market Forecast for Hybrid Fax Services

Davidson Consulting believes that hybrid fax services will grow smartly during the forecast period. As shown in Table 7-9, we see the hybrid market moving from 31.4% of all fax servers being used in hybrid configurations in 2012 to a market where 73.5% of all enterprises use hybrid services in 2017. The fact that hybrid configurations will save enterprises the cost of maintaining thousands of additional phone lines will cause most enterprises to use hybrid configurations for disaster recovery by 2017. While many will use hybrid services for overflow traffic and for simultaneous operations will also matter, but the big savings will be in disaster recovery.

Table 7-9							
Five-Year Forecast for Hybrid Fax Services							
	2012	2013	2014	2015	2016	2017	
Using hybrid	31.4%	40.5%	55.3%	67.3%	70.3%	73.5%	
Not using it	68.6%	49.5%	44.7%	32.7%	29.7%	26.5%	

Davidson Consulting; Sturgis MI; 2013.

Five-Year Market Forecast for Conventional and IP Fax Boards

This five-year forecast covers intelligent fax boards, not fax modems and not software subassemblies. Intelligent fax boards have their own processors that enable them to handle faxes in stable and efficient ways, using the latest protocols. In recent years, manufacturers have begun selling software that enable fax board-like functionality by tapping hardware that already exists in microprocessors in gateways and routers in IP networks. Whether these “software subassemblies” qualify as fax boards is a matter of opinion. In Davidson Consulting’s opinion, *software subassemblies do not count as fax boards and are counted as software instead.*

The market for all fax boards will grow from \$104 million in 2012 to \$144 million in

2017, a 6.7% CAGR, down from the 7.1 CAGR in last year's forecast (see Table 7-10). Fax board revenues will be led by the maintenance category where IP-enabled fax software subassemblies gain maintenance revenues whereas hardware-based fax boards do not. The maintenance category will grow from \$24 million in 2012 to \$61 million in 2017, a 20.5% CAGR, down slightly from a 21.7% CAGR in last year's projection.

Table 7-10							
5-Year Market Forecast for Conventional and IP Fax Boards (\$M)							
	2012	2013	2014	2015	2016	2017	CAGR
Conventional fax boards	\$52	\$48	\$44	\$40	\$36	\$31	-9.8%
Growth	—	-7.7%	-8.3%	-9.1%	-10.0%	-13.9%	—
IP fax boards	28	32	36	41	47	52	13.2%
Growth	—	14.3%	12.5%	13.9%	14.6%	10.6%	—
Maintenance for fax boards	24	30	38	44	52	61	20.5%
Growth	—	25.0%	26.7%	15.8%	18.2%	17.3%	—
TOTAL	\$104	\$110	\$118	\$125	\$135	\$144	6.7%
Growth	—	5.8%	7.3%	5.9%	8.0%	6.7%	—
Davidson Consulting; Sturgis, MI; 2013.							

Fax Board Forecast by Servers and Services

As shown in Table 7-11, the market for fax boards by servers and services will grow faster in the near term and fall off later in the forecast period. The overall market will grow from \$160 million in 2012 to \$265 million in 2017, a 10.6% CAGR. The main reasons for the continued growth is that the fax service segment will grow faster than the fax server market and fax service providers will continue to use TDM fax boards because they are convinced that TDM faxing will remain more efficient than FoIP.

Table 7-11**5-Year Market Forecast for Fax Boards by Servers and Services (\$M)**

	2012	2013	2014	2015	2016	2017	CAGR
With Fax servers	\$104	\$110	\$118	\$125	\$135	\$144	6.7%
Growth	—	5.8%	7.3%	5.9%	8.0%	6.7%	—
With Fax Services	56	65	77	92	107	121	16.7%
Growth	—	16.1%	18.5%	19.5%	16.3%	13.1%	—
TOTAL	\$160	\$175	\$195	\$217	\$242	\$265	10.6%
Growth	—	9.4%	11.4%	11.3%	11.5%	9.5%	—

Davidson Consulting; Sturgis, MI; 2013.

Section 8

Conclusions

Every supplier should offer hybrid solutions because the enterprises are increasingly using them so they can offer disaster recovery through services rather than buying large numbers of phone lines.

Every supplier should offer portable faxing as it will increasingly be a critical requirement in many enterprise fax bids.

Every supplier should offer solutions that effectively work across multiple service supplier's SIP trunking lines.

Every supplier should focus on solutions for MFPs as this will continue to be a growth area throughout the decade.

Every supplier should continue to zero in on compliance issues, offering systems that support production fax, inbound routing, handle the necessary workflow, and archive documents. The emphasis should be on solutions that do all this, not solely on fax.