



FAXING THE ENTERPRISE

A sponsored
White Paper from

Windows NT & 2000

explorer

The magazine for enterprise systems managers

introduction



Welcome to **Faxing the Enterprise**, a White Paper from **Windows NT & 2000 explorer** magazine. The aim of this White Paper is to act as a guide to anyone who is currently looking to implement the latest faxing technology in their company.

We are constantly being told that the fax has outlived its usefulness with the rapid growth in email. However, this myth is immediately dispelled by the significant increase in the number of documents transmitted each year. As we move towards more visual modes of communication and attempt to create the paperless office, Internet faxing is gaining rapid acceptance as an affordable way for organisations to send faxes at low costs.

This White Paper begins with an overview from Walter Arnold, Web master of the leading independent resource for fax server information, www.ntfax-faq.com. In his overview he explains the demand for Windows NT-based fax solutions and the benefits of computer-based faxing.

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We welcome article submissions on topics crucial to Windows NT, Windows 2000 and BackOffice components. All articles are edited to ensure that they conform to our editorial standards of quality and objectivity. If you'd like to write for **Windows NT & 2000 explorer** magazine, contact Fiona Newbery, Editor, fiona@ntexplorer.com, 0161 929 2822.

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Within the following pages we present our sponsoring vendors' guides to Faxing the Enterprise. We have gathered the product information from the vendors themselves and have not tested or reviewed the products. As with any important purchasing decision, we recommend that you perform a thorough course of research to determine the solution that's best for your environment. We hope that the information presented here serves as a useful starting point.

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value added fax

As an introduction to this White Paper, **Walter Arnold**, Web master of the leading independent resource for fax server information on the Internet, explains the ins and outs of fax and faxing.

Despite the incredible growth of email, the fax remains ubiquitous. The demand for fax solutions is growing rapidly and this growth is especially strong for Windows NT-based fax solutions. Businesses rely on their fax capabilities since fax remains the most universal and standardised method of rapid document communication.

Many people are surprised at the popularity and the strength of faxing in this age of the Internet. While an estimated 100 million people worldwide have Internet access, the vast majority of those are in Western Europe and the United States (less than 1% of the Chinese population uses the net). Due to time zone differences, ground transportation problems and the nature of their written language (which doesn't lend itself to typewritten letters), fax will, for many years, remain the best method for their business communications. Fax will remain the primary means of international business correspondence for a long time. The technology is growing and adjusting: Internet-based faxing (fax over IP), for example, is one of the waves of the fax future, adding flexibility and reducing the cost of faxing.

short cut

Computer-based faxing is much more efficient than using fax machines. With a fax machine, you need to print the document, walk over to the fax machine, insert the document, dial and wait for it to connect before even sending. With

computer-based faxing, you just hit the 'send' or 'print' button and go on to doing other things while the software attends to the fax duties. Computer faxing can either be real-time (the fax is sent as soon as the user hits the send button) or 'Store and forward' where the fax goes to the server, which then sends it during off-peak hours, or at other specified times.

Hand-in-hand with increased efficiency comes the ability to broadcast to a large number of recipients, the use of a central

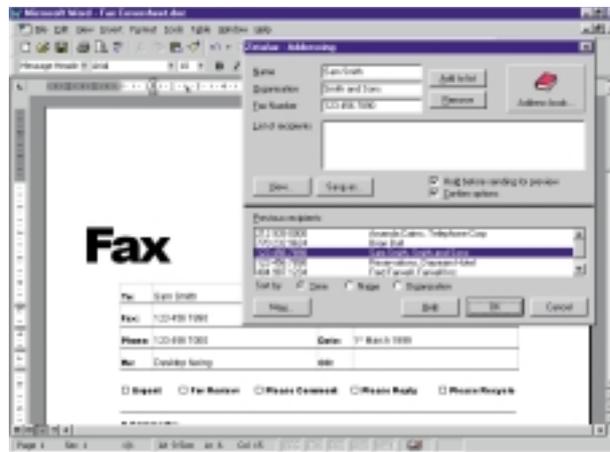
What You Get) nature. They know what a printed document will look like, and therefore they know what the fax will look like. Others prefer email integration, since it can be very simple to use.

The term fax server refers to a shared fax resource on a network. It can be anything from a fax software program with couple of users sharing a single fax modem, to a dedicated server with a bank of fax boards. When selecting and implementing a fax system you need to understand the various feature choices, and match them to the size of your network and your particular fax usage.

room to manoeuvre

For a workgroup or small network you need a flexible system, with easy management tools and room to add lines and grow. A minimum of one line per ten users is recommended. Larger networks should have one or more dedicated fax servers. Each one generally has multiple fax

boards and lines and they may be individually or centrally managed. Production Fax is high-volume delivery from mainframe and mid-range system applications, with batch-oriented and automated repetitive faxing, as well as fax-on-demand and fax broadcasting. If you want an integrated messaging system, make sure you select a fax server that is designed specifically for your particular mail system. There are many different options and features to choose from. As is the case with any software selection, first define your needs and then find a package



Fax directly from applications such as Microsoft Word by simply hitting the Print button.

address book, activity tracking and call accounting and higher image quality. Stability, multi tasking and multi threading and easy management tools make NT an ideal platform for fax servers.

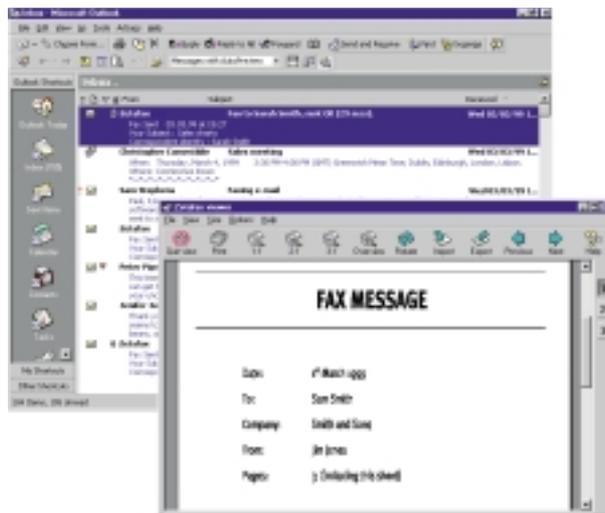
Enterprise faxing has two key components: the client and the server. On the client side there are two primary models for computer-based faxing, 'print-to-fax' or through integration with a unified messaging system such as Exchange or Notes. Some users prefer 'print to fax' because of its WYSIWYG (What You See Is

that will fulfil those needs. Here are some of the most common features:

- Fax broadcast is used to automate the sending of a single document or the mail merging of personalised documents to a large group of recipients. Fax broadcasting can mail merge a fax with a custom address list, and can be configured to send the faxes during low traffic or low phone rate periods.
- Internet routing of documents over TCP/IP networks, such as the Internet or an intranet, and least-cost routing can greatly reduce your phone bills. With Internet routing, the fax server sends the fax over the Internet to another server in the recipient's local calling area, greatly reducing telco charges. I've seen figures showing that 45% of all trans-Atlantic phone calls are faxes, so this can result in significant savings. Least cost routing sends the fax to another server on your network, with similar results.
- Fax-on-demand (FOD), also called Fax-back, was an important feature five years ago, but with Web distribution of documents the need for this feature has faded.

Inbound Routing via email and/or automatic printing of received faxes simplifies the distribution of the faxes to the users on your network, reducing administrative efforts. There are many different ways that a fax server can route a fax. It can be sent to any printer on the network, or an operator can manually forward it to a client. It can also be automatically routed through email or to a fax client via a number of methods.

Some are more reliable and easier to configure than others. One of the most popular is Direct Inward Dialing (DID). This method requires an inbound trunk line from your phone company, something that is not available in all countries. Multiple numbers are mapped to this trunk, and your server and fax board, or ISDN card, sort those faxes and route them properly. These phone lines are inbound only. Other methods of automatic inbound routing include DTMF (Dual Tone Modulated Frequency) and T.30 sub-addressing. These require the sender to enter extra digits, and therefore are not user friendly. DNIS (Dialed Number Identification Service) requires a digital T1 line, and gives inbound and outbound lines. OCR (Optical Character Recognition)



Direct Inward Dial routing can be used to receive faxes directly to your email client.

and ICR (Intelligent Character Recognition) attempt to convert the cover sheet into text, and then scan that text for a recipient name or keyword. ICR is slower, but more accurate, than OCR. Another method of routing is CSID (sender ID). This routes according to the Fax ID of the sending machine, which can be mapped to a specified recipient.

each to his own

Every network is different. Consider what systems and abilities your users have, and make sure they will be able to use the

fax software easily. While those on a certain network may use NT, other networks might have to support Win95, Win 3.x, Dos, Mac, OS/2 or Unix clients. HTML or Java-based clients have become common; they are easy to use and let both local and remote users access your server via their Web browsers. The drawback to Web clients is that they don't have the full capabilities of faxing from within any application. The Outlook Web interface currently appears to be the way to go; the users like it and administration is simple and straightforward.

GroupWare integration lets your fax and other messaging systems (Exchange, Notes, etc.) work together as a single comprehensive messaging solution. This can simplify both management and training requirements, and the use of a universal inbox helps users keep their communications organised.

Some fax programs use proprietary address books; others use group messaging system address books, and some fax software lets you import address information from databases or other applications.

In addition to considering all these software features, you need to consider your fax hardware. The three main types of fax hardware are modems, fax boards, and ISDN cards. Fax modems are inexpensive and ubiquitous so they are easy to install and support. Intelligent fax boards can run an average of £312 per line.

fax works

Fax/modems are essentially data modems with fax capabilities added as a sales feature. Intelligent Fax Boards are designed just for faxing, and are much

more reliable. They use better compression methods, speeding transmission and reducing phone bills. Fax boards also handle all fax processing on the board itself, freeing up the CPU. ISDN cards are much more advanced than fax boards, since they can handle two lines by default including digital DID inbound routing. They are also less expensive than fax boards. ISDN cards are not common in the United States, but are widespread in Europe. Therefore, if you choose an American fax server product, make sure it supports your ISDN cards.

Most fax/modems support only one line per board. Intelligent fax boards can support up to 30 lines per board although four line boards are most common. Getting more than four fax lines in a single server using fax/modems is difficult, but it is possible to get 120 fax lines or more in a single server with the right intelligent fax boards.

There are other considerations in selecting fax server software. For some companies these won't matter at all, but for others they could be very significant. Faxes can consume considerable disk space. You may need searchable archives to store and retrieve faxes, so look at how the application handles archiving. If you need to allocate billing to clients, jobs or departments, make sure the activity logs can easily maintain that information.

A Windows NT Server fax server may either run as a service or an application. There are pros and cons to each. Services can load automatically on boot-up and can have their own user accounts with security configured differently from the logged-in user. An application will not start up until the user logs in and launches it.

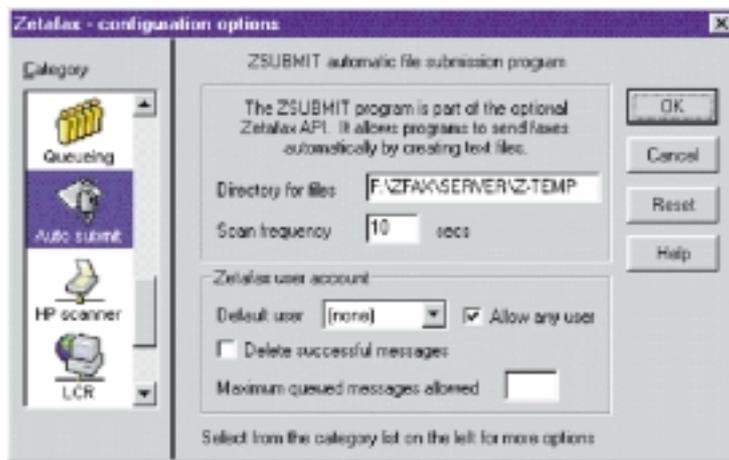
Some products include cover sheet editors and allow you to create a library of user-selectable coversheets. Others let you design your cover sheet in any application and import it. Some also allow you to create letterheads, and merge the faxes to that stationery.

DIY

Many products have a Software Development Kit, or SDK, available to develop custom applications, others use APIs. You might have an accounting system that needs to periodically generate and send faxes, or you may need to 'Fax Enable' other existing programs. Some fax products will also periodically poll a specified

license additional fax lines and/or users in various increments depending on the vendor. Fax server software ranges from approximately *£90 on the low end to well over *£62,000 on the extremely high end. An approximate price range for a four line, 25-user fax server is between *£470 and *£3,125 depending on the feature set, fax boards supported, etc. It is best to first ask for a free two to five user evaluation copy to test before committing to a product. Installation of fax software can also be tricky, so the evaluation gives you a chance to test it out on your particular network.

During installation it is necessary to make a number of configuration decisions. These include setting up users, configuring fax devices and printers, determining which lines can dial out and which can also receive, choosing redialling settings and deciding which users get priority. You also may have to indicate when to schedule fax transmissions and what type of alert notices should be logged or sent to administrators. You may have to reboot the server during installation.



Configure your fax server to automate the sending of faxes from other applications.

directory, grabbing any new documents they find, merging them to forms or coversheets, and sending them to recipient addresses that are encoded in the first line of those documents.

Select a fax server that can grow as your organisation grows, and that is adaptable to changing needs. As is the case with any network software, you need to consider licensing costs and user learning curves. Fax servers are typically licensed both by number of fax lines and number of users. Most fax servers have some type of starter pack (i.e. 1 fax line and 5 or 10 users) and then you can

While Internet access is available to almost every company in the UK, Northern Europe and the US, the rest of the world relies on fax for business communications. Faxing can also constitute a huge portion of your corporate phone bill. The right fax product can quickly pay for itself in saved user and telephone costs, so it is worth the time and attention needed to select the appropriate NT Fax solution.

* Please note: The prices quoted are conversions from the current prices in the USA.

Walter Arnold runs www.ntfax-faq.com, the leading independent resource for fax server information on the Internet.

The Fax Opportunity

A myth exists that all fax boards and fax modems are essentially the same. But fax technology can be extremely surprising. For example, even sending at 14.4 Kb/s, Class 1 and 2 fax modems typically triple page transmission time compared to intelligent fax board throughput.

The reasons why intelligent fax boards provide superior performance may be obscure - including MMR (Modified Modified Read) compression, signal-to-noise ratios, bit-stuffing, critical timing issues and call progress capabilities - but they are no less real for being esoteric.

Types of fax board

There are three types of fax board: Class 1 modems, Class 2 modems and intelligent fax boards, each providing substantially different levels of performance. Brooktrout Technology supplies intelligent fax boards with on-board microprocessors. In addition to sending faxes at 14.4 Kb/s speed, these microprocessors also support advanced fax compression methods, convert documents to fax format and bit-stuff on-the-fly on the board (rather than the PC), and can also manage fax phone calls via on-board processing power.

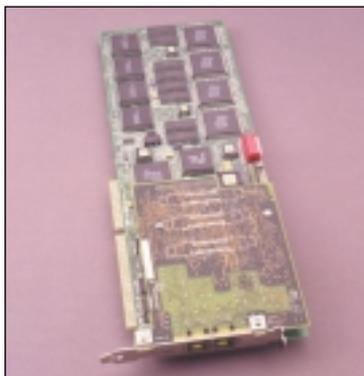
Although intelligent fax boards carry the highest price tags, encouraging users to use the lower-cost "class" modems, they save far more than the difference in cost by more reliably completing calls, sending faxes in less time to reduce fax phone bills and by minimising maintenance issues. They also provide a strong enough performance that people actually use the computer fax systems based on them, and cost-effectively exploit server resources.

Intelligent fax boards enable the development of flexible and powerful fax applications and, once implemented, support the fax calling process cost-effectively, reliably, and transparently. Intelligent fax boards are a superior choice for virtually all but the very lowest-volume computer fax applications.

Enabling Technologies

Brooktrout Technology works with major telecommunications companies, data communications solutions providers and leaders in LAN Fax and distributors.

It provides each channel with enabling, standards-based technologies such as voice, fax, remote access and WAN access cards, application development tools, and voice systems that enable the development of open, Electronic Communications solutions. It offers a broad line of supporting technologies for IP telephony, enterprise voice applications, enhanced and network fax, WAN access and open system remote access.



Brooktrout Technology offers three major benefits to its ISV/OEM and VAR customer channels:

- Technology base on open standards
- Reduced time to market
- Reduced R&D expenses

Within the fax market, Brooktrout Technology offers the TR114 Series of intelligent fax cards which offer full fax and voice processing on a single multi-channel board, eliminating the need for separate fax and voice hardware platforms. Software-controlled digital signal processors provide independent fax and voice processing on each channel. The TR114 is ideal for mission critical messaging applications and supports advanced fax features such as higher compression, which reduces transmission times, therefore reducing telephone line charges. The boards also

provide superior 'interoperability' (T.30), enabling the boards to connect with every fax device around the world.

Brooktrout Technology's TR114 boards also offer an onboard processor, freeing up the host processor for other tasks and allowing tasks relating to fax processing (such as call control) to be handled much more efficiently. In addition, the cards have a proven track record in reliability and robustness, making them ideal for heavy-duty fax applications such as fax broadcasting and inbound fax routing to desktop PCs.

To support its hardware, Brooktrout Technology has developed an underlying architecture, BOSTON (Brooktrout Open System Telephony). BOSTON architecture provides the framework for Brooktrout to deliver electronic communications products that enable developers to deliver universal port systems more quickly and at lower costs. BOSTON is a software architecture that forms the framework for delivery of development tools and messaging platform components for electronic communications applications. It is a full-featured, universal port architecture for multiple messaging media types which offers a high degree of scalability, extensibility, portability and configurability through the development tools and platforms which have been created from the architecture.

Brooktrout Technology's TR114 Series intelligent fax boards are supported by every major LAN fax application, and are at the heart of software and services for unified messaging, fax-on-demand, inbound fax routing to desktop PCs and fax broadcast. Our line of intelligent fax boards is one of the broadest in the industry and is approved worldwide.



For further information contact Brooktrout Technology Europe Ltd. Tel: 01344 380280

Fax and figures

Organisations around the world are raising standards and expecting greater profitability, efficiency and systems integration when doing business than ever before. In today's business environment it is no longer good enough to achieve price advantage or price reduction. Enterprise accountability is becoming increasingly important. Before investing in software, IT professionals are being asked to analyse entire systems and see how they can help organisations adhere to best practice. Faxing costs are one of the many business functions that have come under the microscope.

The fax bill

A recent report by IDC found that 300 billion minutes of faxing takes place annually, with a worldwide fax phone bill in excess of \$90 billion (approx. £56.25 billion). According to the report fax traffic will continue to grow at a 13.1% compound annual growth rate (CAGR), reaching nearly 650 billion minutes in 2002, and when you consider that fax now accounts for up to 40% of corporate telecom bills (Gallup/Pitney Bowes) it is understandable that organisations are looking at ways to reduce fax costs.

Fax usage

One way to achieve this is to take control of fax usage. Fax software allows you to keep track of your operation costs and accurately bill your customers for communication costs.

Audit logs enable network administrators to keep track of faxes sent and received. Network administrators are able to specify permissions for users, allowing them to control who sends faxes where and

when. Users, for example, can be restricted to send faxes during off peak times, or can be barred from sending international faxes.

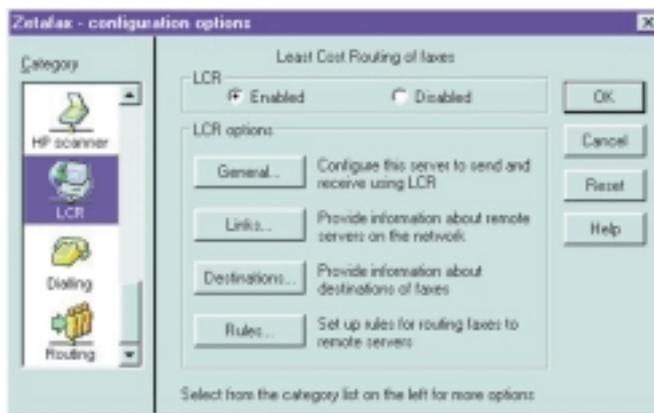
Save time and money

How many times have you had to stand by a fax machine waiting for a fax to come through to no avail? It's frustrating getting up from your desk every five minutes to check if your fax has arrived. Sending faxes can be equally problematic. As you stand at the fax machine waiting for the line to become free, frustration can grow.

Intelligent fax boards, fax software can significantly reduce the transmission time for faxes. This all adds up to improved staff productivity which can lead to increased profitability.

A global solution

As companies grow they encounter new communication challenges. Having offices in more than one location can increase the cost of internal communications. A specific function of fax software can have a direct impact on long distance fax costs. Faxing via the Internet can mean paying local call rates for international calls.



Communications costs are reduced with the Zetafax Least Cost Routing (LCR) module which allows you to use the Internet or your corporate data network to reduce international traffic costs.

Fax software eliminates these problems. It allows you to send and receive faxes directly from your PC without leaving your desk, saving enormous amounts of time and effort. You receive automatic confirmation that your fax has been sent successfully and if the transmission was not successful the software will re-try the number until the fax has gone through. You can fax from within most software applications and you can set up fax software to automate faxing of purchase orders to suppliers and invoices to customers. When used in conjunction with

How does it work?

Least Cost Routing technology within fax servers is designed to route faxes over internal wide area network links or the Internet to save the cost of sending faxes long distance over the public telephone network. A fax can be sent in the normal way and the process is invisible to the user.

When a fax is submitted to the server it has rules configured to show that if the fax is international, it should be sent to the fax server nearest to its destination. This means you may only have to pay for the cost of the local call.

Zetafax fax server software provides solutions for everyday business problems. For more information on Zetafax fax software visit our Web site www.equisys.com.

equisys
ZETAfax

For further information contact our sales team. Tel: 020 7203 4000

Enterprise Fax Comes of Age

With all the high-tech means of conveying information that exist today, it seems just a little remarkable that facsimile is still around. In fact, fax is not only alive and well, it's growing.

Fax still remains for many reasons. It is ubiquitous and content neutral. With the advent of computer-based fax servers, fax gained new favour as a means of distributing computer-generated output of the applications in use within enterprises. Most of the time, the documents generated by these applications are destined for distribution to someone, and fax is often the fastest and least expensive method of distribution. Fax has evolved from being just a hardware device to being a means of information exchange. Thus, while the device 'footprint' has changed drastically (or even disappeared), the information footprint has remained much the same.

A new understanding

As the fax technology market evolved, three distinct market segments emerged: the individual, LAN and production segments. However, as corporate WANs mature, organisations look for ways to leverage their backbone networks. Interconnecting their LAN-based fax servers turned out to be a good one. As a result, the traditional segmentation in the fax market is giving way to a new understanding of Enterprise Fax – everyone and everything is (or will be) connected within the organisation.

Any fax server architecture must support format conversion, telecommunications and data network connectivity and client and viewing capability. However, today's computing environment demands far more than these three basic functions. The right Enterprise Fax solution will provide:

Application Program Interfaces (APIs)

Enterprise Fax offers integration with business applications such as sales

proposals, invoices, quotes, purchase orders, etc. These critical documents often come from multi-user transaction oriented systems running on mainframe, mid-range or shared LAN based platforms. Automating the transmission of these documents using APIs saves substantial time and costs, and often provides a competitive advantage.

Integration with GroupWare & Messaging

An enterprise fax server should send and receive fax documents from the major GroupWare products, including Microsoft Exchange and Lotus Notes. This integration should employ the standard



techniques endorsed by the vendors and seamlessly integrate into the directory and management structure.

Notification & Advanced Inbound Routing

Notification ensures the sender receives status information. Notification should be available through email, the client, and the server's administrative interface. Advanced inbound routing refers to the ability to make routing decisions on sophisticated criteria such as a combination of the dialled number and the day of the week, the time of day, the size of the file, the date, or any other attribute of the fax.

Scheduling & Least Cost Routing/Load Balancing

Scheduling, or queue management, must take into account the priority of any

particular job waiting for processing. The system should offer the ability to schedule a job for later sending to take advantage of lower rates (e.g. night or weekend). Least cost routing permits the administrator to assign a cost that the servers use to determine which server should launch the telephone call. The basis for the cost is the tariff or rate charged by the telephone company. Load balancing only differs from least cost routing in the basis for assigning cost. Load balancing provides the ability to determine the size of the work queues in a collection of servers and assign the work to the server that can send the fax the soonest.

Administration, Security & Accounting

Enterprise capable fax servers should offer convenience and control in the administrative and management interfaces. This interface must provide real time status, the ability to manipulate servers anywhere in the network from a central location, and historical reporting. It should take advantage of widely adopted or standard interfaces and techniques and minimise the use of proprietary methods. Accounting functions should allow the administrator to report by individual, department or division (according to an accounting code) the resources used. Activity logging should capture number of pages (per fax and total), total transmission time and number of attempts.

Enterprise class fax servers must support many sources of documents, provide reliable operation at high volumes, integrate with messaging solutions and applications, allow cost optimised deployment, and provide a convenient way to manage and account for the operation of the system. While the device footprint has evolved significantly and continues to evolve, the value of fax comes from its ability to automate and streamline business processes.



For further information contact Esker UK Ltd. Tel: 01332 799622

Technology that makes life easier

With an established reputation for high quality communications products, Imecom offers a full range of fax solutions for email, LAN and Groupware tools. With a multi-line capability, Integral Fax can serve big companies with very heavy fax needs, and is compatible with all types of PC Windows environments, as well as with all types of networks. The Integral Fax product range can support from five to several thousand users with full scalability. With multi-line fax board technology and multi-machine architecture, an unlimited number of fax lines can be handled.

Desktop Faxing

The Fax server allows the sending of faxes from any desktop environment. Users can send faxes from their Windows application (3.11, 95, 98, NT) using a flexible and intuitive interface. It is possible to select a default or specific cover page, integrate signatures, and select all types of addresses from global or personal fax address books. In addition, users can check the status of outgoing faxes, and re-send if necessary.

Fax from an email Client

An email connection allows users to send faxes directly from any electronic mailbox without change to the email environment or appearance. No user training is needed. Integral Fax supports connection with Microsoft Mail, Microsoft Exchange, Lotus cc:Mail, Lotus Notes/Domino, Novell GroupWise, and SMTP. The fax server is also capable of handling file attachments such as RTF, Microsoft Office, Lotus Smartsuite, Adobe Acrobat, Corel Draw, etc.

Fax from a Web Browser

A Web connection allows users fax access from their Web browser. It provides users with simple and immediate access to all Fax functionality: e.g. sending of faxes, viewing of faxes received, access to personal logs of faxes sent and received.

Fax Mainframe Produced Data

The Integral Fax server allows the sending of faxes (such as orders, transaction confirmations) automatically from mainframe applications, with confirmations sent back to the originator's email address.

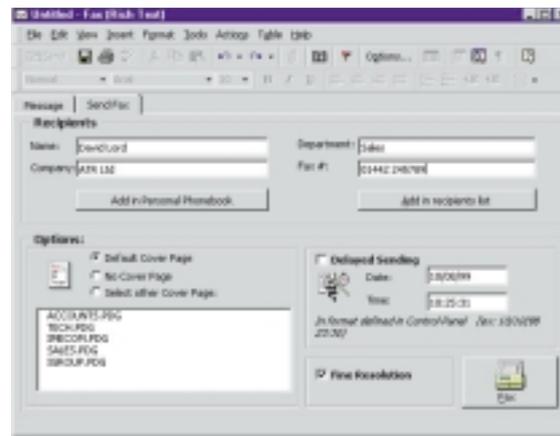
Fax Scanned Paper Documents

All paper documents can be converted into fax format using a Twain compatible desktop scanner or Imecom's ScanFax module which provides an interface with the HP ScanJet5/HP 9100C network scanners. The Fax Server also allows integration of scanned documents as email attachments.

Management and Administration

Least Cost Routing of faxes allows a drastic reduction in communication costs by using your private WAN to send long distance faxes as local calls. Fax statistics allow analysis of fax traffic by duration and cost of transmission, line occupancy rate, etc., and therefore provide the opportunity for significant savings and user charge-back. Faxes can be automatically re-scheduled according to destinations and priorities set by the administrator, and dynamic line-group management avoids saturation of fax lines.

Using Windows NT counters, a service monitoring module notifies the administrator of any problems on the fax server, then automatically restarts the failed services or starts them on a secondary fax server. This redundancy is managed at all levels of the fax server: lines, boards and servers, and guarantees continued operation. The fax server also provides automatic and centralised archiving of incoming and outgoing faxes with multiple search criteria to provide efficient retrieval. The fax server can be managed and configured locally, or from any remote work station, and can be fully synchronised with company address books using LDAP.



Fax sending from a Microsoft Outlook client

Address Books

Fax users can select all types of addresses directly from their global fax address book, from their personal address book, or from their email address books. Users can use a standard company cover page or any number of personal cover pages.

Inbound Faxes

Received faxes can be automatically or manually routed to a department, a workgroup, a printer or to the recipient's workstation using DDI fax numbers. With ISDN Direct Inward Dialing each user has his/her own personal fax number. This automatic forwarding avoids delayed or wrong fax distribution, and ensures confidentiality of fax content.

Reduce Costs

The Integral Fax server has been designed specifically to increase personal productivity and reduce communication costs. The user or the system can invoke delayed sending and therefore reduce long distance and international calls by 20 to 30%. The increase in quality of faxes gives you the option to send in standard mode resulting in communication savings of around 50%.



For further information contact Imecom Group. Tel: 01442 244272

Get the message

Kommunicate is one of the fastest growing communication solution providers in the UK. Since 1992, the Company has been the UK reseller of RightFAX, acclaimed as one of the best network fax solutions for the enterprise.

Case study

British Sky Broadcasting is the world's most successful satellite pay television operator. It now boasts the largest subscriber base across all distribution platforms. The launch of Sky Digital last year led to a huge growth in channels to over 150. Paul Kane, Information System Analyst at BSKyB's Isleworth location, was given the task of recommending a new network fax solution to replace an existing system. A fast and reliable system was required that would offer accurate reporting features and integrate easily with Windows NT. Other key requirements included a system that would permit fax prioritising and allow bulk faxing to be done without slowing down other applications and users on the network. Paul had already experienced RightFAX, and following a full evaluation of the product the decision was made for BSKyB to purchase RightFAX with email gateway and Web client and a 4 channel Brooktrout BRI card.

User friendly

RightFAX is now proving extremely beneficial to the users. One of the heaviest departmental users of RightFAX at BSKyB is the Press and Publicity Department. They have to ensure that all programme listings and any last minute changes for both analogue and digital channels are sent out daily to newspapers and publications. Speed and accuracy are of paramount importance as missing a print deadline means the wrong information could be published. Using RightFAX, the Listings Co-ordinator, Laura Hartley, has set up pre-

defined lists of contacts in order for her to dispatch the relevant information to the correct publication very quickly and efficiently. Laura says: "The great thing about RightFAX is that it is brilliant for last minute changes. Speed is also a main advantage, it's user friendly and it's great to know what the fax status is."

RightFAX has also proved valuable in the Cable Marketing Department where staff can quickly fax information to cable companies. RightFAX has been successfully integrated with the Cable



Marketing database. Now faxes can be sent to select contacts or job titles and RightFAX allows different fax headers to be used according to which groups are selected. Raj Khanna is the Developer who has been involved with this integration. Using Powerbuilder, the Windows-based software, he was able to integrate the RightFAX software easily with the Cable Marketing Database. Raj comments, "RightFAX with Powerbuilder provided good integration and with RightFAX's embedded codes it was very simple."

British Sky Broadcasting holds a support contract with Kommunicate's

UK-based Client Services Department. Paul Kane remarks that, "On the odd occasion when we have had to call the Kommunicate Help Desk it was resolved quickly over the phone, the knowledge and service was very, very, good."

Kommunicate provided on site training to key personnel after the installation of RightFAX at BSKyB. Kommunicate can tailor training courses according to a client's needs. BSKyB is planning to increase RightFAX functionality by integrating RightFAX with Microsoft Exchange. It is also looking to install a further RightFAX server in its busy Victoria Sales Office; this will aid sales staff to quickly fax advertising rate cards to customers. In the media industry, fast and accurate communication is critical. The RightFAX solution ensures BSKyB can get the right message to the right people, on time, every time.

In September 1996, Kommunicate began supplying and supporting CallXpress, the messaging solution and the sister product to RightFAX. Both products are extremely powerful in their own right but combined provide a complete corporate communication system that integrates fax, telephone, email and the Web to give users the flexibility to access and action information however they choose. With the addition of CallXpress, which seamlessly integrates with RightFAX, Kommunicate can offer a complete unified messaging solution. This added benefit gives RightFAX a unique and future proof advantage over any competitive product and leverages companies' existing fax and email investments.



For further information contact Kommunicate Ltd. Tel: 01962 835046

Enterprise-wide Fax Management and Cost Reduction with IP Fax

Today's reliance on immediate turnaround in business correspondence has caused an explosive growth in the number of faxes and email messages companies must handle. This presents significant challenges for organisations that must manage both these communications, and control business costs in order to remain competitive.

Fax Server Technology: The First Alternative to Traditional Faxing

Fax servers provide a proven solution for companies to minimise telephone charges, increase fax capacity, and maximise employee productivity. Just as importantly, fax servers provide centralised management and logging and archiving of a company's fax communications, enabling both commercial and legal requirements for document audit trails to be met.

Fax Machines: The missing link

However, current fax server technology is only a partial solution. A person can easily send a fax message from their email system, then walk to a fax machine and manually fax a paper document.

One of these faxes will get logged, archived, and routed by the fax server, the other will have no audit trail other than a paper transmission report from the fax machine.

The next major step forward for computer fax technology is systems which encompass all an organisation's faxing – from desktop systems and business applications to manual fax machines. The technology which makes this possible is IP (Internet Protocol) Faxing.

The Next Step: IP-Faxing

IP Faxing involves transmitting a fax over a data network (either a private intranet or the Internet) for at least part of its journey. For organisations with multiple locations this means that intra-company faxes can be wholly routed over their data network.

IP Fax components;

IP Fax Server

The IP Fax Server software keeps track of fax machines, desktop fax users, and business applications and manages fax traffic in one central location. Faxes are routed to and from network-enabled fax machines, desktop fax users and business applications. Faxes that cannot be routed over the IP network are sent through intelligent fax boards or fax modems.

IP Fax Satellite

An IP Fax Satellite connects a manual fax machine to the data network, allowing all faxes to be routed through the IP Fax server. For remote sites, fax satellites can

by deploying a remotely managed IP fax satellite.

Internet fax services

Many Internet Service Providers now offer fax delivery services. These can be integrated with network fax servers to provide additional capacity and worldwide routing.

Fax-to-email

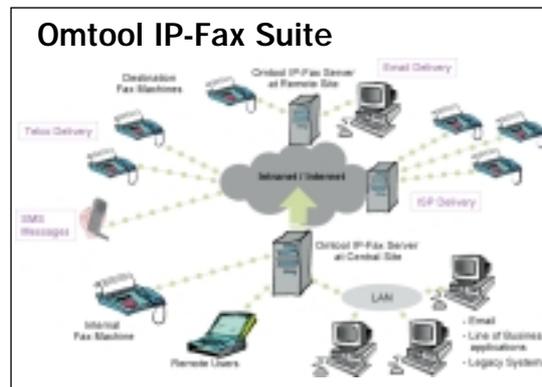
Using IP routing tables, the IP fax server can route faxes to a recipient by email.

Summary

IP fax technology builds on the benefits of network fax servers to deliver an enterprise-wide solution to meet an organisation's entire faxing requirements.

Requirements from logging and archiving every fax, tracking and charging for usage, or simply maintaining high service levels for users can be met through enterprise-wide fax management.

Delivering intra-company faxes for free and intelligent routing of long distance calls can achieve reduction of fax costs by 50% or more.



eliminate the need for dedicated servers and external fax modems.

IP fax machines

Most major fax machine manufacturers are beginning to offer fax machines with a data network connection. By linking these to an IP fax server, they can be integrated into a company-wide IP fax system.

IP Fax Routing options Least Cost or Global Routing

For organisations with offices in different locations, server-to-server routing of faxes over an IP network can reduce long distance call charges and maximise the system capacity and reliability.

Routing to IP fax Satellites

For smaller remote offices, the cost and complexity of a fax server can be avoided

While stand-alone faxing may never completely disappear, IP Fax technology offers companies a faster, cheaper, more efficient way to transfer documents by capitalising on their existing IP infrastructure.

Omtool's fax messaging solutions include:

- **Fax Sr. Express** - Straightforward network faxing for up to 50 users.
- **Fax Sr. Enterprise** - Unparalleled performance and features for 25 – 250,000 users!
- **Fax/400** - Fax-enable your AS/400 applications without programming.
- **Omtool IP-Fax Suite** - Company-wide fax management and cost reduction.



For further information contact Omtool Europe. Tel: 0181 541 1444

The fax is back

The fax server software market is enjoying explosive growth, and this is set to continue with computer-based fax becoming more intelligent in its approach, taking full advantage of the burgeoning email market. It is now more important than ever to select a software solution that is well supported, can grow with your requirements and is simple enough to roll out with the minimum of hassle.

Software is only as good as it is easy to use, and FaxNow! PC and Network fax software from RedRock Technologies enjoys the distinction of a long pedigree and award winning success.

FaxNow! allows you to fax quickly from any Windows application. Sending a fax is extremely user friendly and allows you to change cover-pages, schedule a transmission time, include attachments or merge multiple documents into the same fax. The preview button allows you to check your entire fax before you send it.

Least cost routing

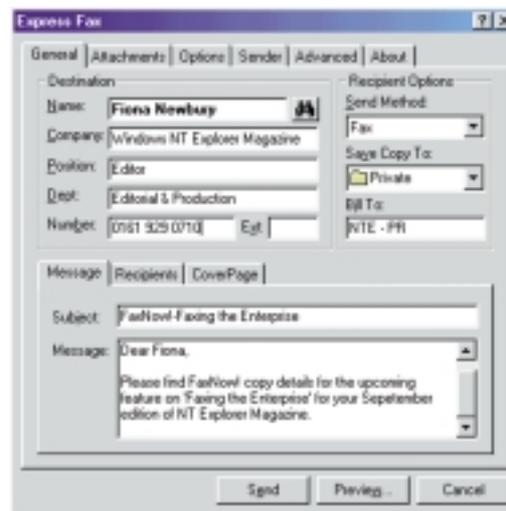
FaxNow! includes Least Cost Routing to save you money. It can be configured to automatically send your faxes via any third party carrier, or the Internet, based upon destination area code or time of transmission. This means that you can take advantage of cheaper transmission rates or Internet faxing seamlessly.

Sending a fax as an email is simple with FaxNow!. Users can select this method when faxing, or allow FaxNow! to select the preferred method from a recipient's phonebook record. An outgoing fax is automatically converted into a portable self-viewing image. The intended recipient(s) can view the fax without any additional application installed. ViewNow! creates self-viewing files and is supplied as standard with FaxNow!

Whether you need to print on receipt or route directly to users (or through your network email system), FaxNow! will handle it. Manual or fully automatic

fax routing via direct dial telephone numbers means faxes are routed instantly and confidential faxes are kept from prying eyes and won't get lost.

The FaxNow! PhoneBook is an independent but fully integrated application. All PhoneBook details and groups are instantly accessible when sending a fax. Users can create and access unlimited PhoneBooks for global, group or private use. 'Live Links' to other address books allow users to access fax addresses from external sources including Microsoft Outlook, MAPI or WinFax PRO. In addition,



FaxNow! PhoneBook also supports full import and export facilities so you can use contact information in other databases too.

Behind the scenes

FaxNow! Server handles all outbound and inbound faxes, printing, routing and email routing 24 hours a day, 7 days a week. Expandable up to a thousand users and to 32 lines, it includes blacklisting to stop unwanted junk faxes, least cost routing via third party carriers and the Internet to reduce call costs, audit logging to monitor fax usage, off-peak faxing, network scanner integration and Fax to Email connectivity.

FaxNow! supports virtually all popular

Class 1, Class 2/2.0 modems, intelligent fax boards and many multi-function devices. FaxNow! User Admin is more than just a program to create and amend FaxNow! users. It provides an easy, complete solution for managing users and user/group privileges. User groups can be created at the click of a button and used to allow users to work together or to restrict access to folders or other users.

FaxNow! includes support for network and desktop scanners. The latest Digital Sender from Hewlett Packard enables users to scan and fax with FaxNow! or submit faxes directly from the HP Digital Sender control panel in to the FaxNow! queue.

FaxNow! makes it easy for network managers to keep control of their software installation and client installation is kept to a minimum. It is also easy to create and fax attachments from a global or private library. Product information, price lists or location maps can be created and stored ready to fax any time, even paper-based materials can be scanned and saved as fax attachments.

Seamless integration

FaxNow! integrates seamlessly with your network email system to provide complete inbound and outbound full faxing from most popular email systems including Microsoft Exchange, Microsoft Mail, Lotus Notes, Lotus cc:Mail, Novell GroupWise and any MAPI compliant system. Email can be addressed to any fax address. File attachments such as Word, Excel etc. can be attached and automatically converted to fax format by FaxNow! Server.

FaxNow! can be integrated seamlessly within applications such as contact managers, accounts packages or other desktop applications.

A full working copy is available as a 30 day evaluation from



www.redrock.co.uk.

Frolic in the ocean

You're missing the big picture if you still think that fax is just about sending and receiving paper messages and your corporate messaging strategy still excludes a network fax gateway.

Few network professionals really understand how the broader integration of fax messaging into the enterprise can provide cost savings and deliver serious competitive business advantages. As a result, many companies are missing out on lucrative opportunities to streamline operations and increase revenue.

Choose wisely

Whilst many fax server purchasing decisions are driven by a single business application requirement, the criteria for product selection should extend well beyond that to ensure the best return on investment.

Therefore, a correct Y2K-ready corporate messaging strategy is vital. This strategy must focus on the dual elements of future-proofing and leveraging maximum benefit from existing IT/IS investments.

In layman's terms, in order to get the most cost effective return from current and future information and messaging investments, an organisation must firstly embrace an network fax gateway that stays at the forefront of technology, and secondly a fax gateway product with the broadest range of complementary business partners. This is imperative for maximising performance from a broad selection of business applications using current and future technology. (E.g. email and Internet fax).

FACSys Enabled

Today's computer network fax server is a vital component in the corporate messaging and workflow strategy. Although the FACSys network fax gateway from Techland provides state-of-the-art functionality, the critical issue is the long-term exploitation of the fax server.

The FACSys vision suggests that fax enables more applications through its fax server and as a result users get an increasingly better return on their original investment. The best fax server is therefore that which can be used with as many business applications and technologies as possible.

FACSys has a formalised program, 'FACSys Enabled' which allows software vendors to test, qualify and publish the fact that their applications will work seamlessly first time 'out of the box' with FACSys. Often such straightforward co-operative testing programs develop into more strategic relationships.

An outstanding example of this is the relationship between Microsoft and FACSys. Microsoft has now deployed

Wireless, Concord, GTE, Netcentric, Open Port, Premier/Xpedite, Qwest and UUNET have all forged partnerships with FACSys.

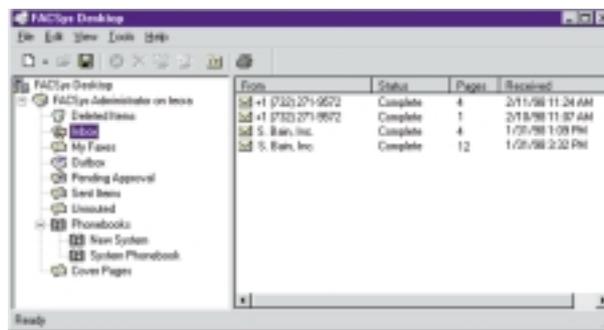
A flexible friend

Flexibility must also extend to operating in mixed environments. FACSys supports mixed email environments, for example, Groupwise, Exchange, Notes, and SMTP-based systems can all operate together in a single installation. Organisations can also migrate from one to the other. This is extremely important in a business environment of corporate acquisitions.

Finally, all those custom developed applications and legacy systems need to be 'fax-enabled'. FACSys provides a wide range of interfaces and tools to achieve

this, from simply embedding the fax number for a document in a print stream, to using DDE or the FACSys API toolkit – AFM/SDK (Active Fax Messaging/Software Developers Toolkit).

Integrate a future-proofed fax gateway and move your corporate messaging strategy from playing in the mud, to frolicking in the ocean.



some 24,000 FACSys seats internally and has also signed a five-year joint development agreement – this ensures that Microsoft products and FACSys all work seamlessly together.

Other key partners in the FACSys-Enabled programme include voicemail and unified messaging vendors, Lucent Technologies/Octel Messaging Division, Filenet in the workflow arena, SAP and Siebel in Enterprise Planning and Customer Management.

One new area that everyone is aware of is the Internet. FACSys is already browser-enabled with its WebAgent module, but of equal importance are the cost benefits of routing fax traffic over the Internet. Internet and telephone service providers are already preparing the marketplace for these new IP fax services. FACSys-enabled ISP and telco partners including AT&T, Cable &

"The decision to use FACSys internally is based on the strong position in the marketplace that Optus enjoys, and the work they are doing with our engineering groups to tightly integrate their product with future iterations of Microsoft Windows NT and BackOffice. Our continued relationship will help our mutual customers by providing a solid base of enterprise communication services, including fax."

*David Gasiewicz, General Manager,
World-wide Infrastructure Operations, Microsoft*



For further information contact Nigel Brown, Techland Group. Tel: 01628 810022

Managing the messaging changes

Determining which Fax Server is right for your organisation can be a daunting task with so many to choose from. However, by identifying a few key criteria the choice can be narrowed down considerably. Here are TOPCALL's top tips:

Position Your Supplier

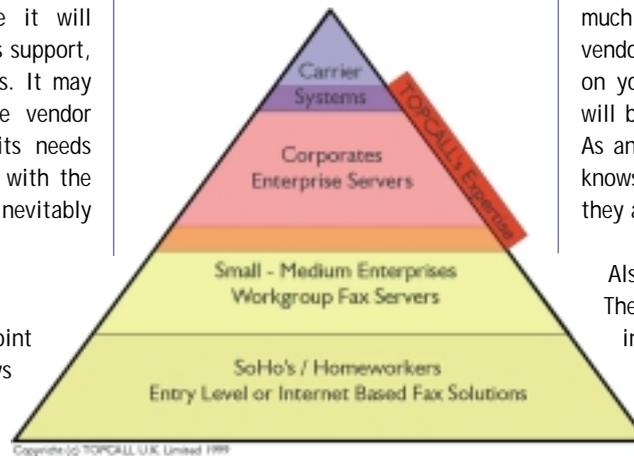
The Fax Server market place is broken into clear market segments. Each vendor will target one main market segment and from there will push both upwards and downwards into other market areas. As part of your buying decision this is an important factor, because it will generally determine a supplier's support, pricing and distribution models. It may also factor in how much the vendor knows about your business, its needs and their ability to keep pace with the changes your users will inevitably demand.

Technical Outlook

From a technical viewpoint there are really only two ways to consider a product. It either does the job or it doesn't, right? Not necessarily. If you are just looking for a commodity product to last a year or two, then ignore the rest of this paragraph. On the other hand if you would like something to last a little longer, it is impossible to ignore the imminent trend in Unified Messaging. The convergence between voice and data technologies is poised to bring the biggest upheaval the fax server market has ever seen, and may well be responsible for some casualties. So choose wisely. Even if you're not thinking about bringing voice into your IT infrastructure just yet, it's worth considering how this market change will affect a suppliers ability to function smoothly over the coming years.

A New Unified Theory

Straightforward fax-from-the-desktop is a TOPCALL Server's speciality, but having been designed from the ground up to treat fax as simply another 'Message Type' it gives leave to great possibilities for the integration of new media such as SMS and Voice. Ultimately, our architecture gives the user complete freedom to communicate via a variety of devices such as the telephone, mobile, Internet and the desktop PC which can all be used as the user interface. One server, one set of



management tools and simple client interfaces to make sure the end user can quickly take advantage of its new-found power. Just add the modules as needed.

Fax and Features

Apart from the run-of-the-mill features you would expect to see, look for the more unique offerings in a product. A few things you might want to consider include: Good archiving and retrieval facilities, directory synchronisation and an Open Applications Interface. Out-of-hours support and fault tolerance can only bolster your offering to your user base. It's also worthwhile asking if there are any specific features a product has for your industry. A few examples could be test-

key and telex support for banking, workflow capabilities for call centres and billing mechanisms for service oriented organisations, to name but a few.

Other People's Opinions

Last, but by no means least, every fax server implementation is different. No two companies are the same neither are their requirements or their applications. Don't be afraid to ask for reference sites and ask awkward questions. Stories of perfect installations and smooth implementations will only tell you so much. They won't tell you how hard a vendor will work to overcome obstacles on your behalf or how committed they will be if the going gets a little tough. As anyone who's been in IT for a while knows, things are rarely as simple as they appear to be at first glance.

Also look to leading analysts such as The Gartner Group. They can offer invaluable insight and have recently published a report entitled "*Fax In The Electronic Workplace*", which makes very interesting reading for anyone considering the purchase of a Fax Server. If you are interested we have 500 copies to give away FREE to *explorer* readers. Just email us with your name and address and we'll send you one by return.

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