AVT

Fax and E-Mail Integration for Microsoft® Exchange and Lotus Notes®

white paper

• •

Streamlining Today's Business Communications

How Businesses Can Leverage Combined Technologies
for Speed and Efficiency
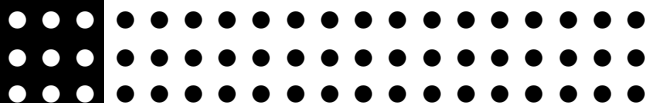
RightFAX

Table of Contents

Introduction

Fax technology is now a standard method of business communication. Companies have come to rely on this technology for the immediate, reliable and simple exchange of documents. According to a recent Gallup estimate, the average Fortune 500 company spends 40% of its long-distance telephone bill, or $15 million annually per company, on faxing. After the telephone itself, fax is the lowest common denominator in business communications, because it's relatively inexpensive and widely available.
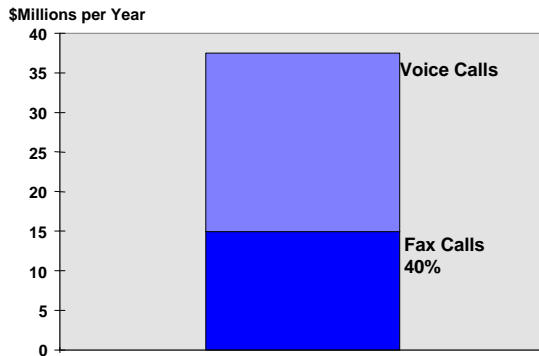
$Millions per Year

Figure 1. Average telephone costs for Fortune 500 companies

Source: Gallup Poll

In addition to simplicity, the maturity of today's fax technology offers many distinct advantages. The business world is still very document-centric, relying on printers, paper, scanners and copiers for formal communications. At the same time, companies are realizing that these traditional mechanisms can account for some of the highest IT costs in equipment, maintenance and training. Until recently, fax and e-mail technologies were thought of independently, evaluated on individual merits and implemented separately.

Businesses now know that developing a successful and economical document delivery strategy depends on finding a solution that not only leverages the capabilities of individual messaging systems, such as e-mail, voice mail and fax, but also integrates them in a way that saves both time and money. The RightFAX® electronic document delivery strategy takes into account the needs of users, IT administrators and management. RightFAX lets businesses choose the way they process, transfer and view information.

Building an Integrated Electronic Document Delivery System

RightFAX integrates with Microsoft Exchange and Lotus Notes e-mail systems via optional gateways. The gateways, which act as liaisons between the fax server and the e-mail server, let users send, receive and manage faxes through their e-mail mailboxes.

RightFAX gateways can be used in addition to traditional RightFAX clients, so that administrators can offer each user a choice of modes in which to send and receive faxes. Fax messages and most fax objects (such as cover sheets, forms, library documents and billing codes) can be accessed via the e-mail client, providing universal inbox functionality. There is no need to install and maintain a separate fax mailbox, because users have all the fax functionality they need at their fingertips.

Benefits of Fax and E-mail Integration

The RightFAX Gateways for Microsoft® Exchange and Lotus Notes® rely on the principles of e-mail messaging, technology with which most users are familiar.

A RightFAX e-mail gateway provides seamless communications through one interface, connecting everyone in the organization, regardless of workstation type or location. Integrating fax and e-mail provides many benefits, including the following:

For Administrators:
- Choice of fax administration—at fax server or at e-mail server
- Reduced transmission costs
- Lower system maintenance costs
- Less user training and lower support costs
- Improved cost control and accountability
- Rollout/deployment gains
- Enduser productivity gains.

For Users:
- The ability to send, receive and track the status of faxes through an e-mail mailbox
- Global, remote access, whether on the LAN, WAN or Internet
- Choice of fax access
- Seamless communications through one interface, connecting everyone in an organization, regardless of workstation type
- The convenience of attaching documents, such as those in Microsoft Word and Excel, JPEG, GIF and HTML, in their native formats
- Message confidentiality
- Mixed addressing (fax and e-mail recipients) in the same message.

Architectural Advantages

RightFAX servers and e-mail gateways offer a distinct design advantage over less robust fax servers: Users do not have to rely solely on the operation of a mail system to send and receive faxes. Even if the mail system is down, faxes can still be received and transmitted with RightFAX.

Other fax servers may depend on a mail system for operation. In such cases, any down-time on the Exchange or Notes server means that not only will outgoing faxes have to wait until the server is operational again, but faxes cannot be received. This raises the fear of not knowing what *did not* arrive. This limitation is unacceptable in mission-critical business operations.

In addition, mail-dependent fax servers cannot connect to other vital applications without integrating through the mail system. Most mail systems do not provide advanced fax functionality through features such as least-cost routing, Enterprise Resource Planning (ERP) integration, or work-flow processing, so this integration may be difficult, if not impossible to accomplish.

The Right Way
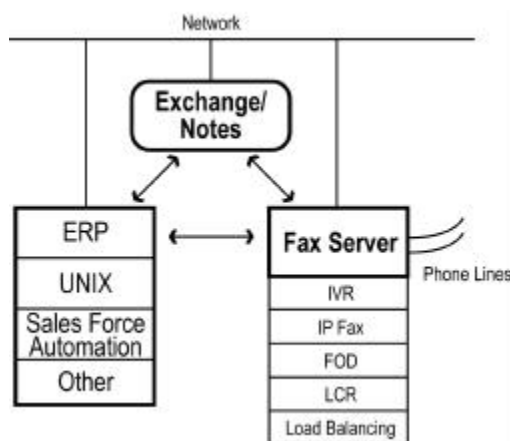
RightFAX can still send and receive faxes, even if the mail system is down.

The Other Way
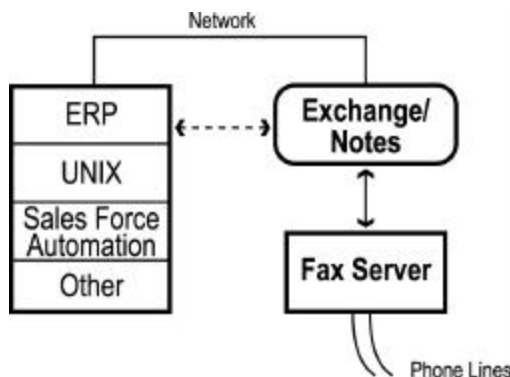
Figure 2. Other fax servers are disabled if the mail system is not operating.

RightFAX server architecture maximizes faxing benefits, not just for clients using an e-mail gateway, but also for clients connected via LAN, Intranet, telephone or FOD systems. All faxes sent and received through RightFAX benefit from:

- Fax-server-level intelligent least-cost routing™ (LCR)
- Fax-server-level load balancing
- Fax integration with other applications such as ERP, work-flow processing, sales force automation and imaging systems
- Expansion to FOD, IVR and IP fax connectivity.

Features

RightFAX offers the most sophisticated fax and e-mail integration, providing administrators with a comprehensive feature set that lets users perform virtually every fax function from a familiar e-mail interface. With the introduction of a RightFAX e-mail gateway, users who wish to consolidate their messages through e-mail, can send and receive faxes and notification messages from their existing e-mail clients. Because the gateway installs at the server and uses e-mail client software, there is no need to install additional software on each desktop and no need for additional training.

- **Inbound Fax Routing**: Automatically routes faxes directly to inboxes. Faxes are received as DCX, PCX, TIF (Group 3 and 4), or GIF attachments, according to predetermined specifications.

- **OCR Attachments**: Received faxes can be automatically converted to editable text files with the optional RightFAX OCR Converter™ module. OCR output files are then attached to inbound e-mail messages with the fax images.

- **Outbound Faxing**: Sending documents and messages to the fax server is as easy as constructing an e-mail message.

- **Phonebooks/Fax Contact List Integration**: No need to maintain separate address books; simply select an address from existing e-mail address books (i.e., Outlook Contacts, ODBC address books or Notes Address Book) and RightFAX automatically resolves the appropriate fax address information, such as a home or business fax number.

- **Notification and Real Time Status Information:** Users can choose to be alerted to a variety of notification messages about sent and received faxes in an Outlook or Notes inbox. In addition, using Outlook, the click of a button brings users real-time status updates on the progress of all their faxes.

- **Attachments/Native Document Rendering:** E-mail messages containing a variety of file attachments are automatically converted to fax format at the server. RightFAX also preserves rich-text formatting (RTF) message bodies created in e-mail forms or messages, so users know their faxes will look right every time.

- **Hold for Preview**: Faxes created in Outlook can be converted by the fax server and then returned to Outlook for viewing and approval before transmission.

- **Scheduling Options:** Users can choose the time of day or day of the week they want to send faxes to ensure optimal transmission times or to take advantage of off-peak rates.

- **Least-cost Routing Options:** Sophisticated RightFAX dialing rules ensure that a fax is sent successfully by the best method, using many different levels of dial-string matching, including: fax number pattern, priority, time and day restrictions, initiating user/group, and server availability. The system is so flexible that administrators can construct rules to send the fax correctly every time, regardless of the format in which the user enters the fax number.

- **Reporting/Billing Analysis**: RightFAX can track two billing codes and one unique document ID per fax and validate the codes for accuracy before sending. In addition, a wide selection of built-in models can be used to generate usage and billing reports with the RightFAX Reporter.

- **User Account Synchronization**: Administrators can automatically synchronize user accounts in Microsoft Exchange or Lotus Notes with RightFAX user accounts.

- **Unified Administration via E-mail**: Mail and fax user properties can all be maintained within the mail system.

- **Auto-Enrollment:** Users don't even need a RightFAX account to be able to send faxes. RightFAX gateways can be configured to let any e-mail message with the correct fax format be sent via RightFAX. In addition, the RightFAX Gateway for Lotus Notes features Auto-Enrollment, which allows user accounts to be created if they don't already exist on the RightFAX system, the first time a fax is sent.

- **Seamless, Easy-to-Use Interface:** Because users are familiar with their e-mail systems, no additional training or ramp-up time is required. They can begin faxing minutes after installation.

- **No Installation or Quiet Installation**: RightFAX gateways offer several options to meet administrators' installation requirements. Whether they wish to install desktop software themselves, automatically "push" it from the server, or install no software at all, RightFAX has an option for everyone.

RightFAX Gateway for Microsoft® Exchange

The key to creating a universal inbox is allowing users and administrators to perform all necessary fax and other messaging functions from a single interface. RightFAX gives users the power to specify extended fax functions from Outlook, while providing administrators the flexibility to manage fax users from within Exchange. RightFAX eliminates duplicated maintenance efforts in two separate interfaces, saving both time and resources.
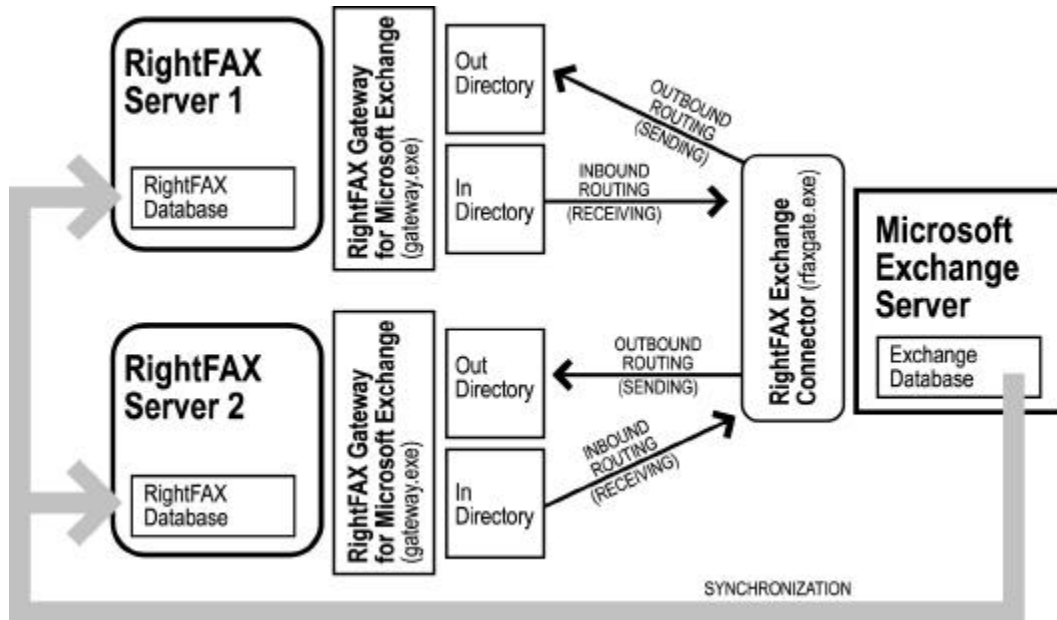

Figure 3. Configuration of the RightFAX Gateway for Microsoft® Exchange allows synchronization of user account information between the fax server and the e-mail server.

The Gateway for Microsoft® Exchange consists of four components that work in conjunction to allow inbound and outbound faxing via e-mail, user database synchronization and unified administration:

RightFAX Gateway	This component is responsible for converting e-mail messages to fax format and delivering them to the RightFAX server for processing. The gateway also directs incoming faxes to the RightFAX connector for processing by Exchange.
RightFAX Connector	This service, which runs on the Exchange server, handles all communication between the Exchange and RightFAX servers and synchronizes user databases. The connector can be configured through the Exchange Admin program.
The Outlook Fax Extension	This component lets users easily generate and send new faxes to one or more contact addresses in an Outlook Contacts folder. The optional Outlook Fax Extension must be installed separately to be available to Outlook clients.

Outlook Forms	RightFAX Outlook forms let clients create and send faxes from an integrated fax form installed into Outlook. RightFAX Outlook forms also let clients receive new faxes into a form that includes a built-in fax viewer. Advanced forms can be installed on each client workstation separately, or a simplified form can be made available to Outlook clients. The simplified form does not require separate installation on each workstation.

Redundancy and Load Balancing

While only one RightFAX connector may be installed on each Exchange server, each connector communicates with multiple RightFAX gateways. In addition, each connector/gateway directory connection can be assigned a priority setting to permit load balancing and redundancy among servers, as illustrated by the diagram below:
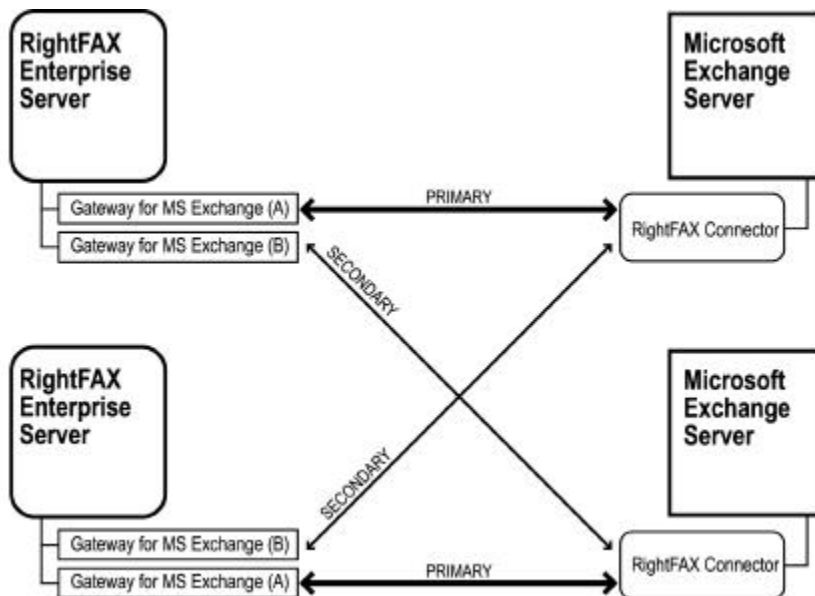
Figure 4. Multiple RightFAX Gateways for Microsoft Exchange can be configured to optimize load balancing among servers and provide redundancy for fax operations. (Each gateway is licensed separately.)

Exchange Admin Extension

The RightFAX connector is configured with the Exchange Administrator program. It lets administrators:

- Globally enable or disable inbound faxing
- Globally enable or disable outbound faxing
- Specify the fax address type (FAX, RFAX, or both)
- Enable user synchronization and select the containers from which to synchronize.

Figure 5. RightFAX connector properties are configured with Exchange Admin.

Exchange User Extensions

The RightFAX Gateway for Microsoft® Exchange includes administrative extensions that provide a single interface from which administrators can set global permissions for all fax users. They can also edit specific user profiles individually. Extensions are accessed by a "RightFAX" tab added to each user record.
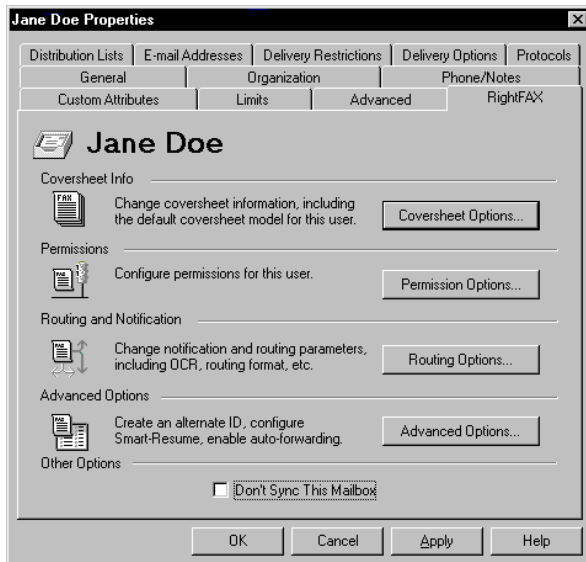

Figure 6. Exchange user properties are extended to include RightFAX configuration options.

Using the Exchange Administrator program, administrators can change a user's fax properties directly. Each Exchange user property corresponds to a particular user property within the RightFAX system. However, if administrators wish to customize property associations, they may do so with the MAPI-to-RightFAX Property Mapper utility.

Administrators can configure the following in Exchange:

- Cover sheet options
- User permissions
- Routing/notification options
- Automatic send/receive fax rules for printing, deleting and optical character recognition (OCR).

Synchronizing User Accounts

RightFAX can automatically synchronize Microsoft Exchange user accounts with RightFAX user accounts. Modifications to any Exchange user automatically apply to the same user in RightFAX. This means that adding, removing or modifying users need be performed only once in Microsoft Exchange, but applies to *both* applications, ensuring accuracy and saving time.
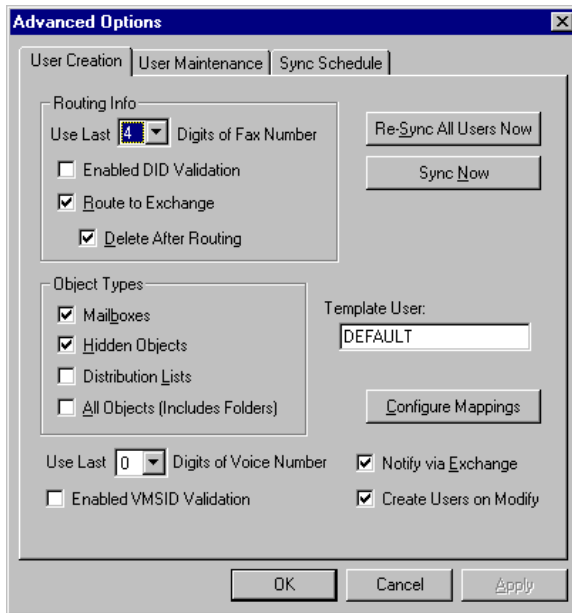

Figure 7. RightFAX provides administrators several options when configuring synchronization between RightFAX and Exchange.

Administrators can specify which Exchange accounts should be synchronized, the interval between synchronization, and other conditions. In addition, a default user account can be designated as the template on which all new users will be based.

By choosing from the available containers, administrators can also configure RightFAX to synchronize users across as many as 150 containers on multiple Exchange servers.

Using Outlook Fax Forms

RightFAX administrators can install customized fax forms on client desktops to expand and simplify the process of sending and receiving faxes via Outlook. RightFAX includes two types of Outlook forms: an advanced (full-featured) form, and a standard form, which includes fewer features but is easier to install across a large user base. The advanced form must be installed and configured on each client workstation, although "quiet" installation and SMS options are available. The standard form can be published on the Exchange server and made available to all clients simultaneously.

Sending Faxes via Outlook

Sending a fax message from e-mail is similar to sending a standard mail message. When users send e-mail messages, they tell the mail system where to send them by specifying an address. Most e-mail addresses include a user ID, the user's post office, and other

downstream information. RightFAX follows the same principle, except that instead of sending a message directly to another user, it sends the message through the RightFAX gateway.

The RightFAX e-mail gateway is tightly integrated with the mail system. Messages sent through the gateway are transported to the RightFAX fax server, which converts them into faxes and transmits them over the phone lines, the intranet or the Internet.

Storing Fax Addresses in Outlook Address Lists

Users can store frequently faxed names and fax numbers in their Outlook Address Lists in the appropriate RightFAX address format, rather than manually entering fax destination information every time.

Sending Faxes to Outlook Contacts

The RightFAX Fax Extension lets users easily generate and send new faxes to names in their Outlook Contacts list. When the Outlook Fax Extension is installed, Outlook automatically scans selected Contacts for fax numbers and other addressing information to automatically resolve the appropriate fax address format for the gateway. The fax number is taken from the Contacts' Business Fax field. If the Business Fax field is empty, the Home Fax field is used. When available, a contact's company, city/state, billing information, and voice number are included in the fax address for display on the fax cover sheet.
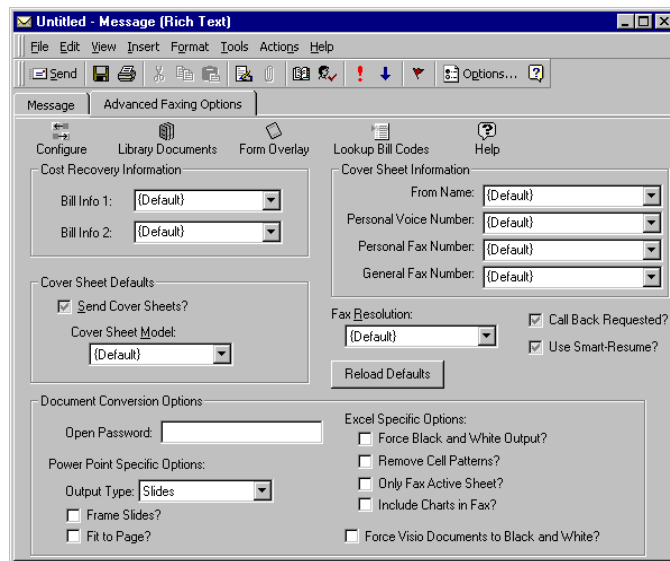

Figure 8. Faxes sent from Outlook also rely on fax forms that let users include billing code information, library documents, specific cover sheet information and much more.

Receiving Faxes via Outlook

Routing received faxes into e-mail accounts is the same process as sending faxes, only in reverse. When a fax comes in on a phone line, the fax board receives it, and RightFAX determines to whom the fax belongs, based on various, predetermined routing options.

Once the fax arrives in a user's RightFAX account, RightFAX checks to see if the fax should be routed to an e-mail account. For RightFAX to access the user's e-mail account, the proper

user e-mail address must be specified. RightFAX delivers the fax to the e-mail gateway, which then sends the fax to the appropriate e-mail account. The fax can be automatically deleted from the user's RightFAX account or remain there so the user can access it from other RightFAX interfaces.
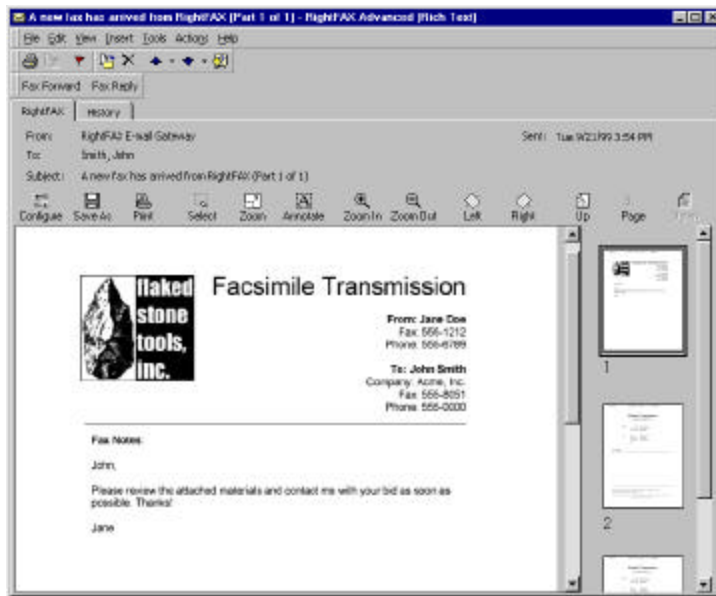

Figure 9. Using a special embedded fax viewer, messages can be seen in either full-scale or thumbnail size.

Faxes arrive in the Outlook inbox with the sender's CSID in the subject line (if available). The message may read, "A new fax has arrived from 520-555-1212." By double-clicking on the message, users can view the fax's e-mail body and corresponding history information. The fax arrives as a GIF or TIFF (Group 3 or 4) attachment.

Notification and Status

All RightFAX e-mail gateways can be used for notification, even if a fax is not sent or received through the gateway. For example, a user can specify that all incoming faxes go to his/her RightFAX mailbox but have the notification message "A new fax has arrived from XYZ" appear in his e-mail mailbox.

Figure 10. A variety of conditions will generate notification messages.

Message Tracking

If enabled, the connector will track each RightFAX message (inbound faxes, outbound faxes and notifications) in the Exchange Message Tracking Log. This lets administrators determine if a particular fax is still being processed within the Exchange system or has been transferred to RightFAX.

RightFAX Gateway for Lotus Notes®

The RightFAX Gateway for Lotus Notes® allows inbound and outbound faxing via RightFAX directly from the Notes client application. The gateway also permits database synchronization between Notes and RightFAX, as well as unified administration of both servers.

Both the RightFAX Gateway for Lotus Notes® and the Notes client are installed on the RightFAX server. Using this Notes client, the gateway logs on to the Notes server and routes incoming faxes as mail messages to Notes client mailboxes, and picks up mail messages with outgoing faxes and delivers them to the RightFAX server for transmission.

A custom RightFAX address template allows clients to easily design and address mail messages and attachments as outbound faxes. RightFAX properly renders to fax any Notes message, be it a simple mail message or a complex form.

The RightFAX Gateway for Lotus Notes® also installs several RightFAX-specific databases on the Notes server. One of these databases (RF70SYNC.NSF) is a mirror of the RightFAX database. Because the RightFAX database is stored on both servers, RightFAX configuration and administration can be performed on either server and then automatically updated on the other.
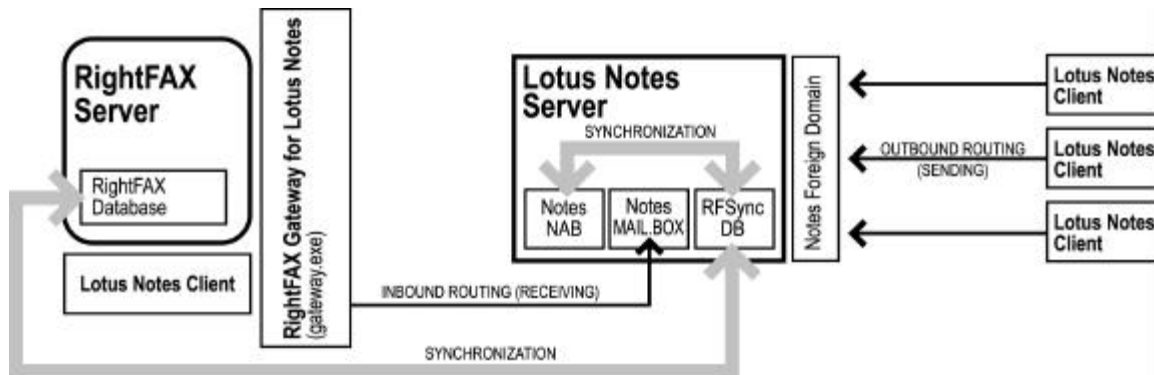

Figure 11.

Fax Object Administration

All fax server objects (including user accounts, groups, cover sheets, billing codes, library documents, forms and more) are synchronized and can be managed at the Notes server.
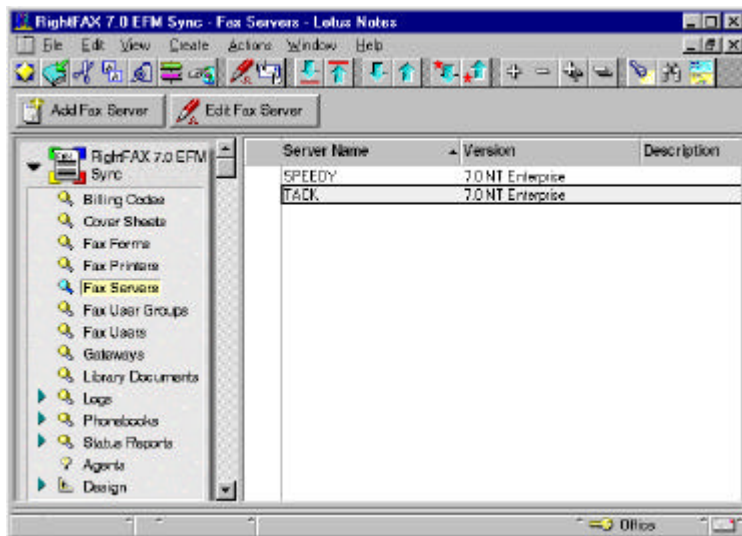

Figure 12. All RightFAX server objects can reside on the Notes server.

Synchronizing Fax Objects

After installing the RightFAX Gateway for Lotus Notes®, fax objects in the RightFAX database are replicated to the Notes server. This mirrored "RightFAX sync database" lets Notes administrators access and modify RightFAX settings and configuration options from directly within Notes. Because no modifications to the Notes Name and Address Book (NAB) are necessary, the integrity of the Notes server is preserved, simplifying upgrades.

To synchronize users between the NAB and the RightFAX sync database, RightFAX provides an agent. This agent can be scheduled to run periodically and can be used to customize field mappings between RightFAX and Notes.
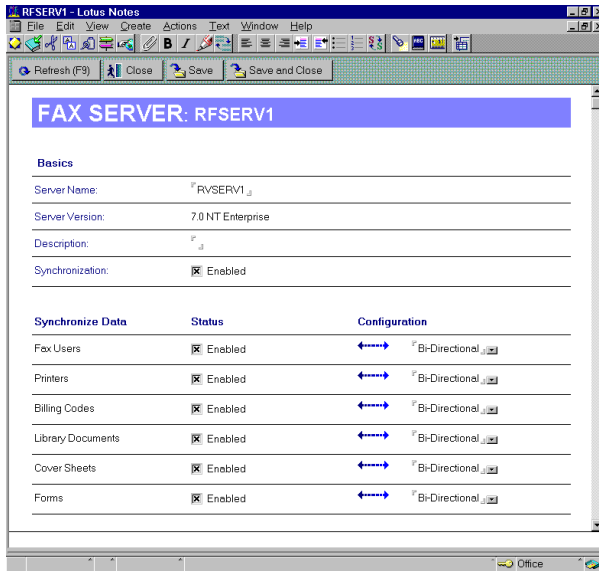
Figure 13. Synchronization can be uni-directional (RightFAX-to-Notes or Notes-to-RightFAX) or bi-directional (RightFAX and Notes servers periodically updating each other with new records).

Using Notes Fax Forms

RightFAX administrators can install a customized fax form on desktops to expand and simplify the process of sending faxes via Notes. The Notes fax form can be installed on each client workstation with standard Notes "push" technology to ease deployment.

Sending Faxes via Lotus Notes

Sending a Notes mail message to a fax number is similar to sending e-mail, except that the message must be specially addressed. Text entered in the Subject field in Notes will appear in the "Notes" section of the fax cover sheet. Text entered in the body of e-mail will appear as the body of the fax. Attached files in more than 200 supported native formats are converted to fax images and appended to the fax.

Messages sent through the gateway are transported to the RightFAX fax server, which converts them into faxes and transmits them over the phone lines, an intranet or the Internet.

The gateway installation automatically extends each user's mail database to support the RightFAX addressing format. Whenever users create a new RightFAX fax, Notes automatically opens a RightFAX address dialog. This dialog lets users select one or more fax addresses from their RightFAX or Notes personal address books, or manually enter new fax address information. Users can also specify cover sheet options, add library document attachments, and customize other sending preferences. In addition, special options are available for converting Microsoft Excel and PowerPoint, and Visio® files.
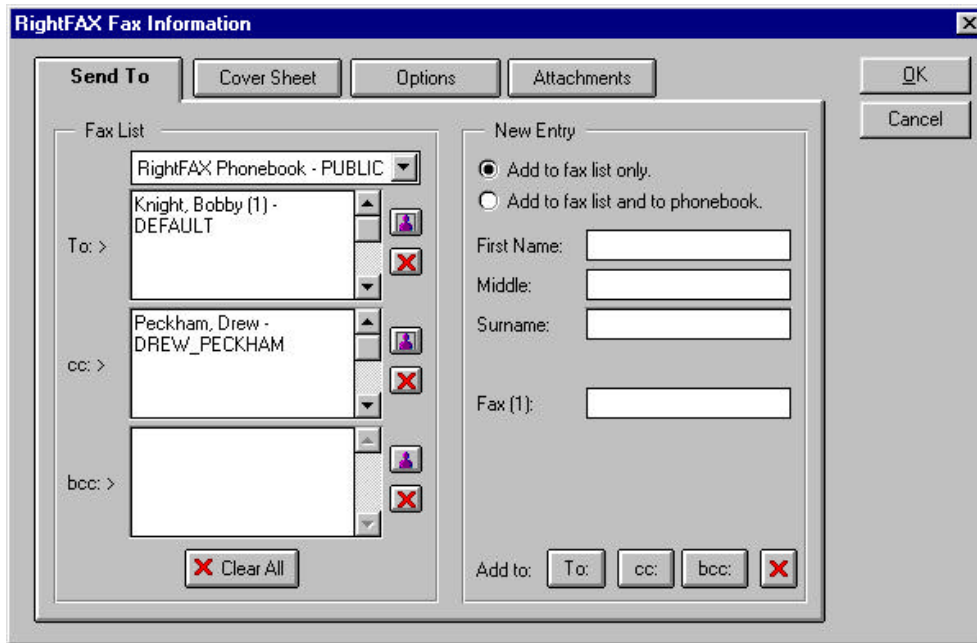
Figure 14. Notes Fax Information dialog lets users quickly specify a variety of outbound fax options, including selection from drop-down lists of synchronized fax objects.

Receiving Faxes via Lotus Notes

The RightFAX Gateway for Lotus Notes® lets users receive faxes as Notes e-mail message attachments instead of or in addition to receiving them in their RightFAX mailbox. To view faxes, Notes users need only open the file attachments.

Once the fax arrives in a user's RightFAX account, RightFAX checks to see if the fax should be routed to an e-mail account. For RightFAX to access the user's e-mail account, the proper e-mail address must be specified. RightFAX delivers the fax to the RightFAX gateway, which then sends it to the appropriate e-mail account. The fax can then be automatically deleted from the user's RightFAX account or it can remain there so the user can access it from other RightFAX interfaces.

Notification and Status

The gateway can be used for notification of received faxes whether or not a user sends from or receives the fax in Notes. For example, a user can specify that all incoming faxes be sent to his/her RightFAX mailbox and have the notification message, "A new fax has arrived from XYZ," appear in his e-mail mailbox.

Figure 15. A variety of conditions will generate notification messages.

In addition to receiving individual fax updates, Lotus Notes can also generate separate RightFAX event logs and two types of RightFAX status reports to be stored in the RightFAX sync database.

Making It Work for You

The flexible architecture of RightFAX lets decision makers determine how best to leverage the power and functionality of corporate e-mail systems. By adhering to open e-mail standards, a RightFAX installation makes it easy for users to choose the method of communication they prefer.

RightFAX is at the forefront of today's fax market. The company is the leading provider of the most complete, seamlessly integrated, scalable solution for a business' entire e-document delivery needs. The company continues to deliver innovative fax solutions that drive the industry forward. RightFAX customers enjoy the advantages of working with a single vendor for the full spectrum of business fax capabilities. With RightFAX solutions, businesses can leverage the latest fax trends and technologies to streamline e-document delivery and reduce the cost of doing business.

AVT Corporation is a world leader in Managed Communications™ solutions that help organizations control and meet the high demands of their communication workflow. The company specializes in developing and marketing its CallXpress® unified messaging solution, RightFAX and CommercePath fax and communications servers, and MediaLinq electronic document delivery services. More than 50,000 AVT systems are installed worldwide, with more than 80 percent of the Fortune 100 already using the company's award-winning products and services.

Headquartered in Kirkland, Washington, AVT maintains offices in Tucson, AZ, Portland, OR, and San Francisco, CA. In addition, AVT has sales and support offices in the United Kingdom, Germany, Hong Kong, Dubai, and Tokyo. Founded in 1982, AVT is publicly traded under the symbol "AVTC" on the NASDAQ National Market. AVT maintains a site on the World Wide Web at www.avtc.com.

Phone: 520.320.7000 • Fax: 520-321-7456
www.rightfax.com

• • • • • • 19 • • • • • •