

Lotus

Notes, Domino and Domino Designer

Release Notes

5
RELEASE

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About Release Notes



April 1999

The Release Notes on-line database and the printed Release Notes book contain information about Release 5 of the Lotus Notes® and Lotus Domino™ software products. Release Notes documentation contains the following chapters:

What's New introduces you to Notes and Domino, tells you about the new features and enhancements in this release, and points you to further information.

Things You Need to Know describes supported platforms and environments and other information that you need to know before installing this release.

Troubleshooting describes limitations and issues associated with this release of Notes and Domino.

Documentation Updates describes last-minute information and corrections that are not included in the Notes, Domino Designer, and Domino server Help databases and printed documentation.

Interoperability describes known restrictions or potential incompatibilities between different versions of Notes.

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Chapter 1 - What's new?

Welcome

Client, Designer, Server

Welcome to Lotus Notes, Domino, Domino Designer R5

Welcome to Release 5 (R5) of Lotus Notes, Domino Server Family and Domino Designer. R5 is the latest version of the world's leading products for information management, messaging, collaboration and Web application development. The R5 product line, conceived with the qualities and capabilities of the Internet, delivers on the promise of enabling users to find, act upon and share information, further improving communication among groups, organizations and people everywhere.

These Release Notes contain information on the many new features and enhancements included in all R5 products.

Before installing R5, please be sure to read the **Things You Need To Know** and **Troubleshooting** sections of the Release Notes.

For an overview of the features in this Release, see the **What's New?** section.

For exhaustive online searches without a full-text index, use the **Search** view.

Administrator Client, Client, Designer

Guided tours

R5 includes guided tours of the Notes client, Domino Designer, and Domino Administrator. You can view each of the guided tours directly from your installation CD-ROM, or, if they are installed on your PC, by choosing Help - Guided Tour or by clicking the link on the Notes, Designer, and Administrator Welcome pages.

Administrator Client, Client, Designer, Server

Help databases

R5 includes Help databases for Notes, Domino, Domino Designer, and Domino Administrator. If you install any of these products with the installation CD-ROM, by default the Help databases are installed in the HELP directory of your Notes or Domino data directory.

Title	Database file name	Description
Notes 5 Help	HELP5_CLIENT.NSF	Notes client Help
Domino 5 Designer Help	HELP5_DESIGNER.NSF	Domino Designer and programming language Help
Domino 5 Administration Help	HELP5_ADMIN.NSF	Domino server and Domino Administrator Help

You can access Help in the following ways:

- Click the link to Help on the Notes, Domino Designer, or Domino Administrator Welcome pages
- Choose Help - Help topics
- Press F1
- Click the ? in the top right corner of most dialog boxes
- Choose File - Database - Open and browse your local directory or a Domino server
- Visit the Domino and Notes User Assistance Web site at <http://www.notes.net/doc>

Administrator Client, Client, Designer, Server

Lotus Web sites

The following Lotus Web sites are designed to help you locate the latest information on Domino and Notes and other Lotus products:

Lotus Development Corporation (<http://www.lotus.com>) is the main Lotus Web site and contains general information on all Lotus products and services, including press releases, downloadable software, support, and purchasing information.

R5 Home (<http://www.lotus.com/r5>) is the Notes, Domino, and Domino Designer product home page on lotus.com. Use it to access product information, downloads, Domino "zones," and links to Notes and Domino sites both inside and outside Lotus.

Notes.net (<http://www.notes.net>) is the site brought to you by Iris Associates, the group that develops Notes and Domino. This site contains various Notes-related software downloads (including trial versions of Notes/Domino), a technical Webzine with articles for end-users, application developers and systems administrators; and an active discussion cafe with several discussion forums for exchanging ideas about Notes/Domino and sharing your thoughts with Iris.

Business Partners (<http://www.lotus.com/partners>) is the central site for Lotus Business Partners, including development tips and techniques, innovative applications, developer discussions, and updates on the latest product releases. You can also use this Web site to find out information and request an application for the Lotus Business Partner program.

The Documentation Library -- Domino & Notes User Assistance (<http://www.notes.net/doc>) provides Domino and Notes documentation databases and Adobe Acrobat PDF files that you can download, information on ordering additional documentation, product tips, and documentation feedback forms.

eSuite (<http://www.lotus.com/esuite>) and **eSuite DevSite** (<http://esuite.lotus.com>) contain information on eSuite DevPack, a set of Java-based applets that can be used to quickly and easily create more interactive and dynamic Domino applications. The DevPack includes the following applets: spreadsheet, word processor, presentation graphics, project scheduler, chart, SQL/JDBC, and CGI gateway; plus sample applications, utilities, and developer documentation.

Lotus Developer Central (<http://www.lotus.com/developers>) is the site for all the latest tools for and information on developing Domino applications for Notes and the Web and integrating them with back-end systems, such as DBMS. Use this Web site to download the latest version of the Notes APIs, participate in software discussions, learn the latest tips and tricks, and review white papers and Redbook information.

Lotus Education (<http://www.lotus.com/education>) provides education and training information on all Lotus products, including course descriptions, schedules, Lotus Authorized Education Center locations, and Lotus certification information. You can also purchase CBTs and documentation from The Education Store.

Lotus Internationalization and Multilingual Technologies (<http://www.lotus.com/international>) is the site for information on Domino Global Workbench, a comprehensive set of advanced tools and software services to easily and interactively create, update, synchronize and manage Domino-based multilingual Web sites.

Lotus Support (<http://www.support.lotus.com>) is the customer support site for all Lotus products, including common questions and solutions, user discussions, downloadable files, and Lotus support phone numbers. You can also use this Web site to search the Knowledge Base for technical information on Lotus products.

Notes MTA (<http://www.lotus.com/notesmta>) provides information on Lotus Notes Messaging Services, which lets Notes administrators set up mail routing from different mail systems. These Messaging Services include message transfer agents (MTAs), such as the SMTP/MIME, cc:Mail, and X.400 MTAs.

Client, Designer, Server

Release Notes

These release notes are available in a variety of formats and locations:

Notes/Domino database format (README.NSF)

README.NSF is available:

- On the root of your Notes/Domino CD-ROM.
- After installation in the HELP subdirectory of your Notes or Domino data directory.
- For download or browsing at the Domino and Notes User Assistance Web site (<http://www.notes.net/doc>). **This is always the most up-to-date version of the release notes.** Lotus recommends you check here to ensure you have the latest version.

Portable Document Format (README.PDF)

You can read PDF files using Adobe Acrobat Reader software. Some free Acrobat Reader software is available on the R5 CD-ROM. See the START.TXT file on the CD-ROM for details. You can download additional readers from Adobe Systems Incorporated (<http://www.adobe.com>).

README.PDF is available:

- On the root of your Notes/Domino CD-ROM.
- For download at the Domino and Notes User Assistance Web site (<http://www.notes.net/doc>).

Printed release notes

You can order printed Release Notes from Lotus Education as part of the Yellowbooks program. For more information visit the Lotus Education Store at <http://www.lotus.com/educationstore>.

New Features

Client

What's new in Notes

Overview

Lotus Notes is an innovative and integrated e-mail and document collaboration client for the Internet. This latest release of Notes has been enhanced in a number of ways. Perhaps most significantly, it has been transformed into an easier-to-use environment that is customizable and easily personalized, so you can work the way you want to while retaining all the power of Notes. You will find that the user experience in Notes R5 is like using a simple Web browser that allows you to group links to Web pages, news group discussions, and Notes documents all in one location.

In R5, the power of Notes is combined with the ease of the Internet, with enhancements built on features from previous releases such as Portfolios in Notes R4.6. Notes R5 combines Internet-standards support with the features of other Lotus products like cc:Mail and Organizer in a single, integrated state-of-the-art e-mail, calendar, group scheduling, and Web information management tool. All of this is offered without the requirement of a Domino-based infrastructure. These enhancements are reflected in our design goals for Notes R5:

- Works with any server
- Easiest Internet client to use
- Industry-leading applications
- Mobile support and ease of deployment
- Innovation in collaboration -- knowledge management

Works with any server

Notes R5 offers full standards support of protocols (Mail: POP3, IMAP4, SMTP; Discussion: NNTP; Directory: LDAP v3) and content (MIME, S/MIME, HTML, Native image formats, Java, JavaScript, X.509 certificates). This means that users with ISP-hosted mail accounts can use Notes R5 to send, receive, and manage their Internet mail. Notes R5 can also access other Web servers, for full-fidelity access to intranet or Web applications.

When you launch Notes R5 for the first time, you are asked whether or not you want to use Notes to access your ISP-hosted mail. Notes acquires as much information as it can from the operating environment to set up your client for access to that mail account. Multiple accounts can be set within one location so that multiple mail accounts can be securely handled without changing Notes locations. With a universal inbox and support for native Web formats, Internet mail content has full fidelity.

Features include:

- **POP3 and IMAP4 support** -- Since R4.6, Notes has been a POP3 client. Notes R5 is also a full-function IMAP4 client. POP3 mail can be pulled directly into the user's mail file. IMAP support is managed through a separate mail template and an IMAP account document in the Personal Address Book.
- **Native MIME support** -- MIME (Multipurpose Internet Mail Extension) is the standard message format for Internet mail. This IETF-standard specification describes the format and rules for constructing messages that contain one or more parts. For example, MIME allows you to send a mail item that could include one or more graphical images. The MIME specifications implemented by R5 include all of the base MIME specs and many of the extensions. R5 supports, for example, an

HTML-based editor for generating rich mail content. HTML pages can have complex content such as interrelated URLs. No conversion is required and users maintain full message fidelity. By implementing this standard, R5 Notes delivers the richest highest fidelity Internet mail content possible.

- **S/MIME support** -- For years, Notes has delivered a superior Public Key Infrastructure (PKI) very much like that provided by S/MIME security. Thus S/MIME extends Notes' native security to include secure messaging to non-Notes mail recipients.
- **Fully-integrated X.509 certificates** -- X.509 is the open-standard certificate format for inter-application authentication. Notes users can now take advantage of either the traditional Notes certificates or X.509 v3 certificates.
- **LDAP support** -- The Notes client has full support for LDAP. Any address lookup can be done using LDAP so a user can address e-mail using any of the external, public LDAP directories. In addition, local address books can be accessed via LDAP queries.
- **Native address support** -- In Notes R5, standards-based Internet addresses are treated as a parallel native address form. This means that Notes R5 users can address mail using either the Internet address format and/or the Notes hierarchical address format, and that both the Internet and Notes hierarchical address of senders and recipients is included in an R5 mail message.

Easiest Internet client to use

Our goal for Notes R5 was to create an environment that increases productivity by providing one consistent environment for access to all of the sources of information you need to do your job. Unlike some competing products, Notes R5 is not a bundle of products; it stands alone as we deliver the tightest-integrated Internet client in the industry, enabling customers to benefit from the combination of the best features in one seamless, easy-to-use mail, calendar, and Web client.

The key new productivity features in R5 include:

- **The Welcome page** -- Notes R5 introduces the concept of a Welcome page -- the first page you see when you start the client. The default welcome page for the client is a basic page that has a simple, easy-to-learn user interface to allow users to access mail, a calendar, and their personal contacts. You can change the Welcome page to one of the styles that is provided by the client, or you can customize your own Welcome page. One type of Welcome page is called a headlines page.
- **The Headlines page** -- This provides a user-customizable environment to navigate, filter, access and act on information, regardless of where that information originates: your inbox, a Web site, or a newsgroup. For example, you may filter all e-mail from your manager, monitor competitors' Web sites, and view a list of important meetings and urgent tasks for the day, all from the Headlines page. In addition, tracking other Web information such as stock prices or competitive sites can easily be set up and monitored right from this personalized page. Starting off your day with the right information in front of you at the right time makes you more productive from the moment you start Notes.
- **Subscriptions** -- The ability to monitor Domino databases for documents that match your specific criteria is a major innovation in R5. You can create any number of subscriptions to Domino databases using a simple profile form for each database. Once you've created these subscriptions, summary results are displayed in the headlines page.
- **The Navigation Bar** -- This contains tools very similar to the "forward" and "back" buttons to which many browser users are accustomed. Now navigating through the barrage of daily incoming information is easy with the intuitive forward and back buttons. In addition, there is a stop and refresh button (which works to refresh all applications including mail), a search button and the ability to enter a URL address to invoke Web browsing in Notes.

- **Bookmark Bar with Bookmark buttons** -- Using these buttons, you can access core Notes applications like mail and calendar that were previously located on the R4 Notes desktop. These new Notes R5 Bookmark buttons and folders allow you to create links to a wide variety of information -- a view of your inbox a calendar entry, a favorite Web site, or other documents -- whether they are part of a Domino application or from some other source. The Bookmark bar is set up to provide instant access to your core applications -- mail, calendar, tasks, and contacts. The folders below are places for you to add your own Bookmark links to your own information. Use the folders to store important links, or drag and drop links to information directly onto the Bookmark bar.
- **Window tabs** -- This way of working adds to the "Web-like" feel of the Notes R5 client and provides a much richer information management tool than simple browsers can provide. The window tabs appear as each new document, Web page, or view is opened for an additional way to navigate through information accessed from the Notes client. These window tabs have replaced the Window menu as a more intuitive way of tracking where you have been. It's easy to see what window you have previously opened and get back to it quickly by clicking on the tab. Because the tabs have text titles to let you know what it is, you can close the windows you don't want open without having them as the active window on the desktop. Just click the small "x" to the right of the tab to close that window, without losing it in your "history". Hit the "Back" button, and that window re-opens as an indicator of where you have been. Create Bookmarks by dragging any open window tab to the Bookmark bar - over a folder, or directly onto the bar itself.
- **HTML editing** -- With support for HTML 4, the Notes editor becomes an excellent Web content creation source. With control over things like images and tables, users can instantly create great-looking pages, in full-fidelity HTML, with support for native formats such as Animated GIFs and JPEGs.
- Enhanced table features -- An enhanced properties box provides access to all these additional controls over tables:
 - Paragraph-like alignment
 - Style templates
 - "Shadow" effect
 - "Stackable" tables
 - Recursive tables (tables within tables)
 - Tabs in tables
 - Multi-column text (text flows from one column to the next)
 - Table cell backgrounds
 - Fixed- and variable-width columns in the same table
- **Print Preview** -- From the print dialog, you now have the option to preview your documents prior to printing.

Industry-leading applications

Since Notes R4, we have incorporated more and more cc:Mail features into Notes. We started with folders and a three-pane interface. In Notes R5, we have greatly enhanced the overall mail experience, adding even more cc:Mail features. Most notably, the new mail application in Notes R5 includes a separate address header in messages, type-down addressing, faster type-ahead addressing, an inbox view that can display new messages at the top, and simple setup of mail rules. Combining these core pieces of functionality with the Notes document editor and standards support, e-mail in Notes R5 is as full-featured as an Internet mail client can be.

We have incorporated many of the enhanced PIM features of Lotus Organizer into the Lotus Notes calendar, scheduling, and task management functions. For example, many people who use an electronic calendar product also like to print their calendars. Comprehensive printing capabilities in Notes R5 supports multiple print styles. The addition of a group calendar view makes it easier than ever for you to stay on top of multiple schedules, and to plan your time and work so that individuals and groups are more productive.

Key new mail features include:

- **Separation of message header** -- Message recipients are now kept in a separate pane from the message body. Now you can scroll through the message while keeping the header information on screen. This is especially helpful when a message has many recipients.
- **Type-ahead addressing** -- Performance increases in Notes R5 make this feature easier to use when selecting recipients to address mail messages or initiate workflow applications.
- **Type-down addressing** -- As type-ahead addressing begins to match names in the address dialog, you can use the up and down arrows on your keyboard to cycle through "like" names. This feature works in conjunction with the new Mobile Directory Catalog (see below for more details).
- **Mail rules** -- English language syntax for developing automated tasks with multiple conditions for filtering mail automatically. Multiple actions may also be selected. These Rules are server-based to provide 24x7 processing.
- **MAPI support** -- Notes now registers itself as the default mail application. This allows Notes R5 messaging to be integrated within products such as MS Office and MS Internet Explorer, so that Notes is launched as the mail client from these types of applications.
- **Notes Minder** -- This utility loads automatically into the Windows 95/98/NT system tray and informs via flashing icon, sound, or dialog of the arrival of new items. Headers of new messages can also be checked, and Notes can be launched if desired.
- **Notification of Sent view behavior** -- Users are notified that messages deleted from the Sent view will be deleted from every folder as well.
- **Mail preferences** -- Mail preferences include: option for automatic spell check on send, delivery priority, automatic message signature and signature files, message content options (HTML only, plain text only, or both), message importance, security options, delegation options, and reply separator definition.
- **Inbox sorting** -- A new preference option has been added to allow users to choose to have new mail arrive at either the top or bottom of the Inbox.

Key new calendar and scheduling features include:

- **Calendar printing** -- You can now print your calendar in hard-copy format, in a selection of styles that resemble those in Lotus Organizer, so that you can take your calendar with you.
- **Group calendar view** -- Create a calendar showing multiple colleagues' free and busy time, with the ability to see more information if you have delegation access to their calendars.
- **Holiday support** -- Ability to add holiday sets (geographic and/or religious) to calendar.
- **Improved invitation form and invitation management** -- Invitees as FYI, optional or required. Invitation delivery options such as prevent delegation, prevent counter proposal. You can receive meeting updates after declining and add comments when canceling or rescheduling
- **Resource management** -- Resources are an important part of how meetings are scheduled. With the ability to schedule resources across domains and greater access control for resources, you can be sure you'll have everything you need for your important meetings.

- **Enhanced alarm support** -- Support sound (such as .WAV files) for alarms. Alarms can now be set for tasks as well as appointments and alarms can be sent to invitees
- **Owner actions and participant actions buttons** -- Notes exposes all the features required when viewing an appointment from the calendar view to be able to: Send a reminder, cancel a meeting, reschedule a meeting, suggest alternate time.
- **Integrated task management** - To do's automatically appear on the calendar and follow you day after day. To do's can also include alarms, be marked as repeating, and marked private. Additionally, there is support for group to do's.

Mobile support and ease of deployment

Notes has always offered superior off-line use. Wherever you are, you still have access to and control over a wide variety of information. With Notes R5, additional off-line capabilities mean you'll have even greater control over the information you're working with and sharing -- whether it's Internet mail or Web pages that can be updated from a site to reflect changes when you reconnect.

In addition, mobile enhancements such as the **Mobile Directory Catalog** -- a single database that contains all of the directories in an enterprise -- were created for the road warrior. It contains partial replica information in a compressed form, with each user entry measuring about 100 bytes in size, instead of the 10 Kb per user in earlier versions of Notes. There is enough data in this compressed "catalog" of directories to yield information about the entire directory object if needed, automatically and invisibly to the user. This new directory occupies minimal disk space, so that mobile users can easily maintain a copy on their local hard disks.

Specific features include:

- **Disconnected use** -- Off-line browsing and management of mail, Web pages, and News. Simplified mobile configuration and setup. Easier replica management with Bookmarks.
- **Remote, connected use** -- This allows you to use Notes with your existing Internet service provider.
- **Mobile Directory Catalog** -- Storing an optimized local copy of your enterprise directory means fast response time as you access critical information about the people in your company; whether you are connected or not, and regardless of how large your organization.
- **Mobile location enhancements** -- Connection documents and Dialup Networking entries are created for new users automatically as they complete the Location document dialog. We now provide end-users with a Connection Configuration Wizard to facilitate setting up Remote Access Connection documents. The Wizard can configure connections to servers on an Intranet over Dial-up Networking, to servers on the Internet, or to remote Domino servers using Notes Direct Dialup over X.PC.
- **Native PDA support** -- Notes R5 fully supports Personal Digital Assistants to replicate mail, contacts and calendar information.
- **User input during async script execution** -- Notes provide a scripting command, Promptuser, which allows Notes to pop up a password dialog box during a connection call, so that users do not have to re-dial when their passwords expire.
- **Passwords hidden in Connection documents and dial dialogs** -- Passwords are now hidden in the Server Connection documents and dial dialog boxes, which provides users with an additional level of security.
- **Network dial-up Connection document enhancements** -- Users can enter area codes, country codes, and calling card numbers in network dial-up connection documents. This leverages the extensive dialing support for network dial-up currently available for X.PC.

Innovations in collaboration -- knowledge management

In Notes R5, enhancements such as the Headlines page, Bookmarks, and enhanced search capabilities are examples of the knowledge management applications that are possible with Notes and Domino. Some of the new R5 features that support analysis and discovery of important information to do your job include:

- **Headlines** -- Headlines does more than just filter out important e-mail. With Headlines, you can personalize the "first look" at your day and be sure you get the information that will keep you most productive throughout the day. The ability to subscribe to Domino databases is a key feature that lets users access important, timely information.
- **Search engine and UI changes** -- The search icon is always present on toolbar in upper right corner of the screen; the engine is the Global Text Retriever from IBM Japan. The search dialog includes many new enhancements, such as Fuzzy search.
- **Full-text index of file system** -- Any file system referenced by the file system configuration form (stored in the domain catalog on Domino server) can be added to the index.
- **Summarization of search results** -- Each document returned can have several sentences displayed describing its contents selected by a special algorithm that finds the most meaningful sentences.
- **Additional file filters** -- R5 indexes the entire document by using Inso filters to translate the attachments into something that can be indexed. Supported formats are Acrobat PDF, Word, WordPerfect, Word Pro, 1-2-3, Excel, Freelance, PowerPoint, and HTML.

Server

What's new in Domino

This release note provides an overview of the new R5 Domino server features.

Internet Messaging

- **Native Internet addressing** -- Domino understands Internet addressing rules and interprets them, along with existing Notes addressing rules.
- **Native MIME content support** -- Message content is now stored as either Notes Rich Text or MIME, and Domino translates between formats as needed. Notes users who choose MIME format require no message translation when sending mail to and from Internet users. In a mixed environment of R5 and pre-R5 Notes users, no translation is required because the R5 Notes client can render MIME or Notes Rich Text.
- **Native SMTP routing** -- The Domino router now implements the SMTP protocol to transport Internet/intranet messages, along with Notes mail routing protocols for compatibility with previous releases. The SMTP MTA, which was included in previous releases, is no longer needed. When deploying R5 Domino with R5 clients, message conversion between MIME and Notes Rich Text is eliminated at the routing layer because the Notes client fully supports MIME.

If configured, both SMTP and Notes mail routing protocols coexist within the same server. The Domino router implements the base SMTP standard plus SMTP service extensions (ESMTP) (such as 8BITMIME and SMTP PIPELINING) to deliver optimal SMTP performance. In addition, other extensions such as the Delivery Status Notifications specifications allow Notes and Domino SMTP to provide message delivery information to the Notes client.

- **Multiple character set support** -- When converting between Notes Rich Text and MIME, the Domino mail router can now support all character sets when sending and receiving messages. Previously, several SMTP MTA's were required to provide support for multiple character sets.

Security

- **Better support for Internet-standard X.509 v3 certificates** -- Domino allows administrators to register new users with traditional Notes certificates and with Internet-compliant X.509 v3 certificates. Notes clients can use these Internet certificates for secure access to Web servers (SSL) and for secure Internet Mail (S/MIME).
- **Stronger cryptography** -- North American editions of Domino create stronger RSA keys (1024 bits) and stronger RC2 keys (128 bits) for users connecting to Domino via SSL. In addition, North American Notes clients use these stronger keys for SSL and S/MIME.
- **S/MIME** -- Notes and Domino support the IETF standard, S/MIME v2, for secure Internet mail encryption and digital signatures.
- **SSL v3 for all Internet protocols** -- Users accessing the Domino server over any supported Internet protocol can now use SSL (Secure Sockets Layer) v3 for certificate-based authentication and encryption. Supported protocols include IIOp, LDAP, HTTP, POP3, IMAP and NNTP.
- **Separate key rings for virtual Web servers** -- Separate key rings for SSL v3 are supported for each Domino Virtual Web Server. This means that each virtual server can have its own certified identity, and can authenticate its users with its own set of certificates.
- **Password recovery for Notes users** -- Recovery agents can log password and ID changes. Administrators and users can recover forgotten passwords, corrupted or lost Notes ID files, and encrypted information.
- **Just-in-time encryption** -- Mobile Notes users who don't keep certificates in their Personal Address Book or don't have certificates in their local Directory Catalog can encrypt e-mail when it is replicated to the server.
- **Authentication via third-party directory** -- Administrators can choose to allow authentication through a trusted third-party directory over LDAP. Domino Directory Assistance enables administrators to specify trusted third-party LDAP directories used to look up users and groups for authentication and access control.
- **Password quality** -- To limit password guessing or dictionary attacks, administrators can control the quality of password used to protect the Notes ID. Administrators have a choice of 16 quality levels; the higher the level, the more complex and difficult-to-guess the password must be.
- **Web server authentication interface** (included in Domino Server API) -- Through DSAPI, you may now create external programs to authenticate Web users (for example, single sign-on utilities) instead of using Domino's authentication mechanism. You can create your own authentication schemes for Domino that leverage external systems or special algorithms.

Domino Directory

- **Domino Directory** -- Previously called the Name & Address Book or Public Address Book, the Domino Directory is the directory service within Domino.
- **Improved performance, scalability and reliability** --The Domino Directory uses Domino database technology, and benefits from the Domino R5 improvements in this core technology. These benefits include transaction logging, online and in-place compaction, and faster online view re-indexing. In addition, specific performance enhancements have been made for the Domino Directory in R5.
- **LDAP v3 support** -- Complete support for the IETF-standard Lightweight Directory Access Protocol (LDAP) version 3, including add, delete, modify, compare and abandon operations. In addition, Domino supports LDAP referrals, the UTF-8 character set (equivalent to Unicode), enhanced search capabilities, language tags, and X.509 v3 certificate-based authentication. Domino supports the IETF-standard LDAP directory schema for compatibility with third-party LDAP directories.

- **Extensible Schema** -- Using Domino Designer, administrators can create custom document extensions and new document types in the Domino Directory. These customizations are preserved across updates to the Domino Directory design template, and can be searched and updated with LDAP v3 and Domino Administrator.
- **Directory Catalog** -- The Directory Catalog aggregates user information from one or more Domino Directories. It is optimized for fast searches, compact storage of user information (approximately 100 bytes per entry with default attributes), and scalability to millions of entries. It is small enough to be replicated to users' desktop or laptop computers so that users can take the entire company directory with them when they are away from the office. Administrators can choose the attributes included in Directory Catalog entries, and can create multiple Directory Catalogs with different content or sort orders. The Directory Catalog is fully LDAP-enabled, and can be searched using standard LDAP clients.
- **Directory Assistance** -- Directory Assistance, known in previous releases as the Master Address Book, allows directory search requests to a Domino server to be redirected to other Domino directories or to a third-party LDAP directory, based on naming rules defined in the Directory Assistance database. In R5, the Domino server can reference group definitions stored in third-party LDAP directories, and use those groups for determining Web user access to Domino applications.
- **LDIF import and export** -- Domino supports import and export of directory entries using the IETF-standard LDIF file format.
- **Alternate name support for international names** -- Domino and Notes now support an alternate name as the secondary name for a Notes user. For example, the alternate name could be in the user's native language and character set, while the primary Notes user name could use the English alphabet. The alternate name is secure and authenticated, and users can send mail to and search on the alternate name.

Message Management

- **Message tracking** -- Domino R5 now allows for detailed message tracking and monitoring. The Simple Message Tracker Collector Protocol (SMTCP) provides a method to record message tracking information and the information is logged into the MailTracker Store Database that is resident on each mail server. The MailTracker Collector formats the data so it can be queried. Query options include: Sender (wildcarding permitted); Recipient (wildcarding permitted); Date Range; Subject Text (wildcarding permitted); Range of Message Sizes
- **Message reporting** -- Domino R5 provides automated mail server reporting. Eleven different reports cover topics such as: Message count by author and size; Most common message routings; and Volume summaries. Data is stored in Notes format so custom views and reports can be generated.
- **Single Copy Message Store management** -- Message Store management (previously know as SCOS) has been improved and now delivers management tools to help administer the message store on a per user basis and archive old messages. In addition to having unlimited message store databases, Domino R5 provides for auto creation of message store databases when the database has surpassed operating system size restrictions on a single database.
- **Routing control management improvements** -- Administrators now have more control over routing options. Some options include: Allow mail only from specific domains; Allow mail from designated organizations; Deny mail from designated organizations; Maximum message size quota; Send messages as low priority if meet specific criteria such as size. Additional Routing controls include:

Native Extended SMTP Routing - Allows pipelining for batch routing; Filters unsolicited junk e-mail (UBE, UCE); Assigns message size quotas for users.

Push Request Routing - The new router also supports "push request" routing such that the source server sends a "push request" to the destination server. The destination server then sends a request for the source to send the message. This facility enables Domino to provide Remote Message Queuing for one or more domains. This feature supports four configurable modes of operation which deliver the same functionality for both NRPC and SMTP connections.

Routing topology - Administrators have more control to optimize routing for their organization.

- **Message quotas** -- Administrators can easily set individual mail file quotas.
- **Built-in migration tools** -- Domino Upgrade Services provide easy-to-use migration wizards for cc:Mail, MS Mail, Windows NT, MS Exchange, LDAP (LDIF), Novell Groupwise 4.x, Novell Groupwise 5.x, and Netscape Mail Server. In addition, there are now open APIs for Lotus Business Partners and third-party developers to create custom Domino Upgrade Services.

Database and architectural improvements

- **Unlimited database storage** -- In R5, Domino databases are designed for unlimited size and certified for 64GB so your applications are limited only by the system platform on which the Domino Server is deployed.
- **Memory and I/O optimization** -- Low-level resource managers include enhancements that dramatically increase performance. Enhancements are in these areas: compression, sequential I/O, paginated large structures, slotted pages, adaptive handling of non-summary data, a single buffer manager, background I/O threads with read-ahead.
- **Transaction logging** -- Transaction logging is an industry-standard technique for reliable data storage. A transaction log is a sequential file to which everybody writes -- sequential writing on disk is much faster than writing in various places on disk. Transaction logging records the operation you performed once it is written to disk (not just memory). Transaction logging replaces Database Fixup, which results in a much faster system restart and recovery.
- **Improved scalability** -- Scalability improvements are twofold: size of databases and number of users supported per server. With the database enhancement mentioned above, databases now scale to the limits of your system platform. Notably, work has been done to the Domino R5 directory to ensure that it scales to support at least one million registered users. The number of Notes, IMAP, POP and browser users supported by a single Domino server is two to four times greater than R4.6.x.

Availability and Reliability

- **Internet Cluster Manager** -- Extends failover and load balancing to Web browser clients (HTTP and HTTPS) using native Domino clustering and the Internet Cluster Manager (ICM).
- **Domino integration with OS clusters** -- Domino can run under Microsoft Cluster Server (MSCS) configuration in either Active/Passive or Active/Active modes. In an Active/Passive configuration MSCS fails over the Domino server to a secondary MSCS cluster server where the Domino server is then started. In an Active/Active configuration, two Domino servers are running on two MSCS cluster servers and if one Domino server goes down it fails over to a second partition running a separate instance of Domino on the other MSCS cluster server.
- **Clustering enhancements** -- In order to provide users with a single system image of a Domino cluster, several enhancements are provided in R5 such as collaborative calendar and scheduling support of fail over, synchronous mail agent support of failover, improved unread mark support of replicas, and better fail back functions in the Notes client.

- **Partitioning enhancements** -- Unlimited partitions per server (previously six) so you can maximize your system investment in larger platforms. In addition, each partitioned server runs as its own, distinguishable service in an NT environment, allowing for the startup and shutdown of each partitioned server through the NT service manager.
- **Online indexing** -- Allows access to database views that are currently being updated and allows users to continue accessing a server when the \$Users view is being updated.
- **Auto restart enhancements** -- Administrators can optionally keep the Domino server down -- after cleaning up all the files -- which is extremely useful in conjunction with hardware clustering/failover. Allows for tighter integration with UNIX hardware clustering such as Sun FullMoon. Administration scripts are configurable to help gather diagnostic information on Domino failures.
- **Online, in-place compaction** -- Allows for database compaction while database is in use. The Administration Process systematically compacts database in intervals, allowing for user traffic to take turns with compaction process.
- **Full and incremental, online backup support** -- Set of published APIs to allow tight integration with third-party incremental backup solutions.

Web Server

- **Enhanced HTTP stack** -- The Domino native HTTP engine has numerous enhancements including enhanced performance and servlet support.
- **Domino for Microsoft IIS** -- You may now choose to use Microsoft IIS as the HTTP engine for Domino. For NT customers that use Microsoft IIS, Domino adds a secure, distributed, and cross-platform Web application server to IIS Web servers.
- **CORBA/IIOP protocol support** -- Support for Common Object Request Broker Architecture & Internet InterORB Protocol (CORBA/IIOP). Permits extension of client/server computing to non-Notes clients. CORBA/IIOP enables applets that communicate with the server more efficiently than HTTP.
- **Access control for HTML and other files** -- When using the Domino native HTTP stack, you are now able to configure access control lists for files (HTML, GIFs, etc.) in the file system.
- **Domino Web server API (DSAPI)** -- Domino now supports a server API that allows you to create your own Web server extensions. A DSAPI extension, or "filter", is a program you create that is notified when certain events occur in the Web server, such as when a URL request is received or when a HTTP client is about to be authenticated.
- **Internet Cluster Manager** -- Domino's clustering, load balancing and failover capabilities have been extended to support Web browsers accessing the Domino Web server. When a Domino Web server is overloaded or unavailable, the Web browser request is rerouted to another server in the cluster.
- **HTTP session authentication** -- Domino R5 allows you to choose authentication using HTTP sessions and encrypted cookies, which provides the ability to "log in" and "log out" of a Web site served by Domino.
- **Determine browser capabilities** -- You can now determine the capabilities of a Web user's browser from the formula language, using @BrowserInfo.
- **Upgraded servlet support** -- The Domino Web server now supports the JSDK 2.0.
- **Last-modified HTTP header** -- Domino R5 now sends a last-modified header with most Domino responses. This often results in a performance enhancement, since it enables many Web browsers or proxy servers to cache Domino pages.
- **Virtual server logging** -- Virtual server information is now included in the common extended log format.

- **Virtual servers SSL and key ring support** -- System administrators can specify a unique key ring for each virtual server. This enables each virtual server to use SSL. Also, port security settings can be specified for each virtual server.
- **Control server log life** -- Administrators can now specify the length of time for which a log file is used: daily, weekly, or monthly.
- **Byte range serving** -- Domino R5 allows a Web client to download a file in sections (a range of bytes) rather than all at once. This can make file downloads more efficient and fault-tolerant. For example, if a Web client is in the middle of downloading a file and the connection is suddenly lost, Domino, with byte range serving support, starts the download again from the point where it was interrupted, rather than from the beginning of the file.
- **Simple URLs** -- Domino R5 supports the ability to give a page in Domino database a name, which results in simple URLs where no unique ID is required. For example: `www.acme.com/News.nsf/Today?OpenPage` where "Today" is the name of the page. If the name is unambiguous, you can further simplify the URL further to: `www.acme.com/News.nsf/Today`
- **Automatic configuration of maximum performance settings** -- In R5, you can have Domino automatically configure various server options to optimize your HTTP performance based on the type of applications you are running, such as Web mail, Web applications, or both mail and applications.
- **Enterprise Integration** -- Domino Enterprise Connection Services (DECS) -- Domino Enterprise Connection Services (DECS) is a visual tool and high performance server environment you can use to create Web applications that provide live, native access to enterprise data and applications. The visual tool includes an application wizard and online Help to assist you to define external data source connections -- for example, DB2, Oracle, Sybase, File directory, EDA/SQL, or ODBC -- and fields within your application that automatically update with external connector data. For more information on connecting to legacy databases, see the Domino Enterprise Connection Services User's Guide. (DECSDOC.NSF) in your Notes or Domino data directory.

Install and Setup

- **InstallShield** -- The Domino R5 and Notes R5 Install programs for Windows platforms are based upon the InstallShield Wizard. The new procedure is significantly simpler than previous versions.
- **Server setup without a client** -- For non-Windows platforms, Domino R5 launches a Web browser after install so administrators can easily set up and configure the server.
- **Automated client setup** -- Using the centralized client configuration tool, administrators can centrally setup clients, choose what server the client connects to during setup and configure the user's desktop.
- **Enhanced server setup profiles** -- Allows administrators to create server setup profiles. Administrators can distribute these to remote sites for controlled server setup and deployment.

Administration Process

- **Programmability** -- The administration process is programmable via published APIs. Administrators and third-party vendors can take advantage of core Administration Process functions in order to integrate Domino administration with other administration products and to develop customized administration functions.
- **Cross-domain functionality** -- Administration Process is extended so administration process services such as change name, add person, delete person, upgrade server, and delete server are available across domains.

Desktop Management

- **Centralized client configuration** -- Domino R5 allows administrators to centrally configure and control desktop setting such as home server, proxy server, UI preferences, and bookmarks. In addition, administrators can "lock down" the desktops so that the settings can't be altered.
- **Centralized upgrades** -- Allows administrators to distribute client software upgrades. This feature supports UNC (Universal Naming Convention) so there is no need for consistent drive mappings across all clients.

Monitoring

- **Enterprise-wide monitoring** -- New features in the Domino Administrator make it easy to find and monitor large number of servers. Monitoring follows a distributed model, showing only those servers that an administrator can and should manage.
- **Expert analysis tools** -- These tools allow administrators to analyze server performance, over time, to help you predict and prevent future issues. These tools include:

Core services analysis -- For what is the server being used?

Service level agreements -- Set and Track SLAs, including server response time and replication schedules.

Correlated services analysis -- If an SLFA is not met, this tools helps administrators determine the reason by correlating statistics such as server response time with associated statistics like concurrent users and indexer, replicator and agent activity.

Database usage analysis -- Helps administrators optimize server tuning by knowing which databases are being used and how often. Also helps load balance applications and recoup disk space by archiving unused databases

Application monitoring and analysis -- Tells administrators how well an application is working. Calculates the time it takes to open the default view and create a document using the default form. Helpful in telling when views may be growing too large.

- **ISpy** -- Gives administrators the ability to get service-level statistics on any TCP/IP service supported by a Domino server, including which services are available and the response time for a particular service. ISpy also includes the ability to ping servers to determine mail routing and response time, alerting administrators to potential mail delivery problems. ISpy is fully integrated with the Domino events and statistics collection, allowing the administrator to set their own response time goals and providing a range of automated actions to occur when a service is not performing to the administrator's expectations.

Administration enhancements

- **Telnet into server console for Domino UNIX servers** -- Domino R5 provides the ability to use any UNIX or NT workstation to Telnet (or remotely log in) to the server console of a Domino UNIX server. This allows you to see the history of what is happening on the server console, and you can type server commands at the console from the remote workstation.
- **Batch console commands** -- This is the ability to give the server many commands from a batch file.
- **Decommission server analysis tool** -- Domino R5 provides analysis tool to help administrators decommission servers. You get detailed information comparing source server and target server. Any inconsistencies between them are flagged.

- **Passthru logging** -- When configured as a passthru server, the Domino server can log sessions established through that server.
- **Ability to stop/start ports** -- The administrator can stop and start individual Domino Server ports with the Start Port and Stop Port console commands.
- **Enhanced trace connection facility** -- Additional controls are available on the amount of information logged for trace connection operations.

Search tools

- **Domain Search** -- In R5, you can search all databases in the domain with multi-database indexing selected, and any file systems referenced. By incorporating ACLs into the search, users only get results from Notes documents to which they have access. Provides dynamic indexing of new databases that are flagged to be included, and a centrally located index of all databases.
- **Content categorization** -- Provides the ability to categorize all documents in the domain regardless of the database where they are located, according to a single hierarchical scheme or taxonomy. Web pages can be categorized as well. The domain catalog contains a view that can be used to browse through this content map.
- **Filters** -- Domino R5 indexes attached documents by using Verity's KeyView filters to translate the attachments into format that can be indexed. Supported formats include Acrobat PDF, Word, WordPerfect, Word Pro, 1-2-3, Excel, Freelance, PowerPoint, HTML, and many others.
- **Double-byte full-text indexing and searching** -- All indexing and searching operations are fully enabled for double-byte character sets.
- **Paged result set** -- Search results are formatted on a page in a format similar to major Internet search engines. A page comes back with 20 hits by default (this is user-configurable) and then you hit the next page button to get the next set of hits. The result form is customizable. You can specify logos, a summary of the document, author, relevance rank type, modified date, etc.
- **Full-text SPI** -- Service Provider Interface provides APIs for other search engines to hook into core Domino databases.
- **Full-text indexing of file system** -- Any file system referenced by the file system configuration form and stored in the domain catalog can be added to the index.
- **Domain Catalog** -- Centrally maintains list of all database attributes such as Location, Indexing configuration, and ACL properties. Also contains Search and Result forms and File system configuration forms.
- **Clustered searching** -- Supports search of clustered Domain Catalog Servers and automatically load-balances requests by redirecting users to the least-loaded server in the cluster. Fault Tolerant Domain Searching can be implementing with clusters. If one of the Domain Catalog Servers crashes, requests are automatically redirected to the remaining Domain Catalog servers in the cluster.
- **Fuzzy search** -- Gives users the ability to locate words even if the document query terms used for the search are misspelled within the documents or vice-versa.

Network Protocol Support

- **HTTP Tunnel Proxy** -- The Domino server and the Notes client can use the industry-standard HTTP Tunnel Proxy to connect through a firewall, to each other and to other Internet standard clients and servers. The POP3, IMAP, SMTP, LDAP, and NNTP protocols are supported via the HTTP Tunnel Proxy, both with and without SSL (Secure Socket Layer). The internal Notes protocol (Notes RPC or NRPC) is also supported via the HTTP Tunnel Proxy, as in previous releases.
- **Flexible Notes TCP/IP connections/server names** -- When connecting to a TCP/IP-based Domino server, users can enter the server's name as a simple host name, even if the server's name is a fully-qualified TCP/IP name. For example, the user can enter "fred" to access a Domino server named Fred/Sales/Acme, or fred.acme.com/Acme.
- **External Domain Network Information document** -- The administrator can import address information into this document from another Domino domain.
- **Improved NetWare Directory Services (NDS) support** -- Domino provides a snap-in DLL for the NetWare NDS administration tool (NWADMIN), which allows an administrator to browse and update Domino server objects in NDS. Domino R5 uses the new 32-bit snap-in interface, allowing use of the 32-bit NWADMIN tool. Domino automatically finds its server object within NDS using the naming context of the current logged-in user.

Designer

What's new in Domino Designer

Welcome to Domino Designer. Designer is an integrated application development environment that lets developers and Web site designers create, manage, and deploy secure, interactive applications for the Domino Application Server.

Domino applications let people share, collect, track, and organize information, using Lotus Notes or the Web. Domino applications can cover a wide range of business solutions, including:

- Workflow -- Route information
- Tracking -- Monitor processes, projects, performance, or tasks
- Collaboration -- Create a forum for discussion and collaboration
- Data Integration -- Integrate with relational databases and transactional systems
- Personalized -- Produce dynamic content based on, for example, user name, user profile, access rights, or time of day
- Globalization -- Use Domino Global Workbench to produce global sites

Domino Designer, with the Domino Application Server, is optimized to enable developers to build applications that facilitate the flow of information between an organization's enterprise systems and front-end business processes.

This release note provides you with an overview of the new features and benefits of Domino Designer R5.

Improvements to Development Environment

- **Comprehensive development environment** -- The environment includes all the design and development tools needed to develop and deploy applications.
- **Intuitive visual environment** -- The new Designer look-and-feel lets developers optimize their work environment by creating project bookmarks. Developers have easy access to all design elements and application metadata. The task-oriented environment better supports developer needs. The result is reduced development time and costs.
- **Improved programming environment** -- The Programmer's pane provides access to all application objects and reference information on the Domino objects and languages. The programming environment is consistent regardless of the programming language or tool used. New and updated tools enable easier access, use, and reuse of code and objects.
- **Multiple-browser preview** -- Preview your work in all of the browsers your end-users demand, including Notes, the Notes browser, Microsoft Internet Explorer, and Netscape Navigator. Automatic browser detection adds preview buttons for browsers installed on the developer's desktop.
- **Context-sensitive Help** -- Pressing F1 while in any of the integrated tools (such as pages, forms, outlines, or framesets) brings up the Help topic for the tool. Pressing F1 when a function is highlighted in the InfoList Reference tab displays the Help topic for the function as in previous releases.

New Site Layout and Presentation Tools

- **Outline Designer** -- The Outline Designer is a visual tool for designing the structure and navigation of an application. You can design and display links to URLs, design elements, and actions in a hierarchical layout. The Outline is fully programmable, enabling a customized navigational structure based on user, time, or other criteria. You can embed the outline in pages or forms and add graphics and mouseover effects.
- **Frameset Designer** -- The Frameset Designer allows developers to create multi-pane interfaces to their applications. It includes a step-by-step process to allow developers to start designing Web sites with frames quickly with no HTML knowledge required.
- **Page Designer** -- Page designer is a WYSIWYG HTML authoring tool allowing designers to add styled text, images, image maps, tables, HTML, Java, ActiveX components, and multimedia objects to applications.
- **Domino Applets** -- You can use these Java-based components to add unique features to your Web site not previously available to browsers. Applets included are View, Action bar, Outline, and Text Editor.
- **HTML 4 support** -- HTML 4 properties are accessible within the visual development environment via menu options and properties boxes.
- **Table enhancements** -- Enhancements include style templates, nested tables, fixed and variable width columns in the same table, and cell background images, among many others. The improvements enable more control over page layout. You no longer have to work with raw HTML code to obtain necessary control over the page layout and table characteristics.
- **Shared resources** -- Images, applets, shared actions and Java libraries are added to existing shared code resources.
- **Image maps** -- You can create image maps by adding in-line hotspots to pictures.
- **Picture properties** -- HTML attributes, such as vertical alignment, text wrap, and float options, are available in the properties box.

Enterprise Integration

- **Domino Enterprise Connection Services (DECS)** -- Domino Enterprise Connection Services (DECS) is a visual tool and high performance server environment you can use to create Web applications that provide live, native access to enterprise data and applications. The visual tool includes an application wizard and online Help to assist you to define external data source connections -- for example, DB2, Oracle, Sybase, File directory, EDA/SQL, or ODBC -- and fields within your application that automatically update with external connector data. For more information on connecting to legacy databases, see the Domino Enterprise Connection Services User's Guide. (DECSDOC.NSF) in your Notes or Domino data directory.
- **Lotus Connector LSX Classes (LC LSX)** -- Lotus Connector LSX Classes (LC LSX) allow for programmatic access via LotusScript to Lotus Domino Connectors' native connectivity to relational databases, transaction processing systems, and enterprise resource planning (ERP) applications. Lotus Domino Connectors supplied with this release include: DB2/UDB, EDA/SQL, ODBC, Oracle, Sybase, and Text and File. Additional Lotus Domino Connectors for ERP and Transaction System Connectors are available separately from Lotus. For product information, please visit the Lotus Domino Enterprise Integration Web page at <http://www.eicentral.lotus.com>. Complete documentation can be found in the LSX for Domino Connectors On-line Manual (LSXLC.NSF) in your Notes or Domino data directory. You may also refer to LotusScript Data Object (LS:DO) documentation for more general guidelines on the use of LSXs.
- **DB2 LSX Classes (LSXDB2.DLL)** -- DB2 LSX Classes (LSXDB2.DLL) are included with the Notes client, Domino server and Domino Designer on Windows 95, 98, and NT platforms. DB2DAHLP.NSF is a documentation database that describes the DB2 specific features of the DB2 LSX. DB2SAMP.NSF contains a series of agents that demonstrates the use of the DB2 specific features in the DB2 LSX. The DB2 LSX is closely related to the LotusScript Data Object (LS:DO). You can also refer to LS:DO documentation for more general guidelines on the use of DB2 LSX. **Note:** DB2 LSX AutoCommit defaults to False. Some of the DB2 ODBC script might not work if the user forgets to set AutoCommit to True.
- **JDBC (Java Database Connectivity)** -- Access from Java agents to relational data via industry standard JDBC. A JDBC-to-ODBC bridge is also part of Domino.

Support for Web-standard languages

- **Support HTML 4** -- Designer supports features defined in the W3C HTML specification. There is no need to write HTML code, unless you want to.
- **Mix-and-Match Coded HTML on Pages and Forms** -- You can mix and match WYSIWYG and native HTML code. Use HTML if you want or need to.
- **Import HTML Pages** -- You can import existing HTML pages that are automatically rendered as pages in Designer.
- **Upgrade existing HTML** -- Import existing HTML files into Designer so you can take advantage of Domino features.
- **Leverage Web Programmability and Scripting Options** -- Web standards (Java, JavaScript, HTML 4.0) are supported in Designer R5 so you can use standard Web design languages and tools in Designer.
- **CORBA/IIOP support** -- The Common Object Request Broker Architecture & Internet InterORB Protocol permits remote access to Domino services. CORBA/IIOP enables creation of applets and applications that communicate with the server more efficiently than HTTP alone.
- **Additional Domino objects** -- Domino objects provide an integrated set of application objects that can be accessed from a number of industry-standard languages. New application objects are added to one of the richest object models for application development.

- **Java enhancements** -- Designer supports Java as an alternative to other programming options. Compile and edit Java code directly in the Agent Builder. There is support for shared Java libraries.
- **JavaScript** -- Direct support in Designer for JavaScript development. JavaScript events, such as onMouseOver and onBlur, are added to the event list for Domino Form and Page elements. Enables client-side scripting for both Notes and browsers. Support for the Document Object Model (DOM) within the R5 Notes client is as defined in the Notes Document Object Model database, which will be available at <http://www.notes.net/doc>.

Localization Features

- **Domino Global WorkBench** -- Create the design of an application in more than one language with the Domino Global WorkBench. Developers can quickly localize applications into multiple languages and keep them up-to-date as the structure and content of the application changes.
- **Multiple language support** -- Generate and maintain different language versions of design elements and documents via database and design properties. Allows the creation of local, global and translatable content in any supported language. Facilitate review and approval of localized documents through workflow process. "Switchbar" lets Web users switch between languages across synchronized pages in a multilingual Web site. Content appears accurately and simultaneously to all users worldwide. Access to appropriate information in appropriate/respective language in a timely fashion. Developers can build the translation process into applications to facilitate the rapid translation of Web content.
- **Multiple currency support** -- Ability to store and use calculations involving multiple currencies within a form or view. The currency indicator is stored with the field so that it remains consistent and doesn't change based on the user's local computer system preferences. Developers can more easily create applications that involve calculation and display of different currencies. Users can immediately understand the currency being used by the symbol and no longer need to do mental calculations to determine whether financial figures are correct or not.
- **Euro support** -- Full Euro support including Euro symbol input and display and rounding. Developers can easily create applications that use the new Euro currency. Users can immediately view financial figures calculated into Euros without doing mental or manual calculations. Combined with the multiple currency support feature listed above, developers have all the tools they need to develop truly global applications.
- **Long dates** -- Ability to specify a long date format in a date field: for example, 01-January-1999. Developers can use long date format to remove the ambiguity between the MM/DD/YY and DD/MM/YY date formats.

What's new in Domino Administrator

Domino Administrator is the new administration client for the Domino server. It is an intuitive, task-oriented interface that utilizes a familiar hierarchical server tree metaphor, making finding and switching to servers very easy. To leverage existing skills and experiences of administrators, the Domino Administrator implements common features such as drag and drop, multiple selections using the Shift and Ctrl keys, and right-click context-sensitive menus.

Domino Administrator provides graphical monitoring of servers, services, replication and routing. It groups features and chains steps to simplify task completion. It has six primary tabs to help organize administration and management functions logically:

People & Groups

Use the People & Groups tab for all user and group management, user registration, certification, migration from foreign mail systems and directories, and external directory management.

Files

The Files tab provides a central interface for all database and template management functions, such as moving and compacting databases, ACL management, configuring file replication settings, indexing, and setting quotas.

Server

The Server tab consolidates all server management functions, such as server analysis, monitoring, console commands, and performance information. Server monitoring features give status reports in real time as to which servers and services are running on individual servers.

Messaging

The Messaging tab allows you access to all messaging management functions, such as shared mail management, assigning mailbox quotas, mail routing topology, and message tracking and reporting.

Replication

Use the Replication tab for all replication management functions, such as replication schedule configuration, topology maps, and troubleshooting.

Configuration

The Configuration Tab provides a central location for configuration settings such as servers, messaging, replication, clusters, Web servers, and statistics and events.

For more details on using Domino Administrator, see Domino 5 Administration Help.

Server

Checkos patch checker utility

For UNIX platforms, Checkos is a patch checker utility that starts up when you install Domino for the first time. If you are missing patches for your OS, Checkos prompts you. If all of the correct patches are installed, you are prompted with the message, "The OS appears to have the correct patches."

Also see the AIX and Solaris patch requirements release notes in the "Things you need to know" section of these release notes.

Date and time validation

Notes and Domino now interprets any input in a date/time field as a date or time, no matter how obscure the format. You receive an "Invalid date format" error only when it is impossible for Notes to interpret a value (such as 99/99/99) as a date or time.

For example, when a date field is formatted to expect month, day, and year, and only one of the three variables is entered, Notes tries to guess what the other two entries are. If there is no month, then the default is the current month according to the operating system settings. If there is no day, the default is "01." If there is no year, the default is the current year. If an alphanumeric entry is made, Notes ignores the alphabetic characters and tries to determine the date based upon the numerals entered.

eSuite DevPack

Lotus eSuite DevPack provides a set of Java-based business applets that allow Domino developers to create interactive applications for Notes clients and Web browsers. For more information about DevPack, please go to the eSuite home page (<http://www.lotus.com/esuite>) or the eSuite DevPack developer's site (<http://esuite.lotus.com>).

With enhanced features in eSuite DevPack 2.0 and Domino R5, developers can choose from a greater range of features, including:

The choice of **importing or linking** to DevPack applets to build interactive applications for Notes clients and Web browsers quickly and easily.

Integrated JavaScript support in Designer that allows developers to deliver the full capabilities of DevPack applets to Notes clients, as well as to Web browsers.

Integrated Java support from Domino, including support of the CORBA/IIOP protocol that allows remote access to the Domino Object Model (also known as the back-end classes or Notes Object Interface) from DevPack applets.

A new **eSuite Servlet Kit** that allows developers to create applications that leverage the servlet capabilities of Domino. This feature is especially useful to developers of enterprise applications who utilize Java for their server-side development and want to incorporate DevPack applets into the applications.

A new data access applet, **Infobus/FX**, that provides features similar to the Notes/FX capabilities used with OLE objects. This applet allows developers to set up data exchanges between embedded DevPack applets and fields in Domino documents.

A new data access applet, **AgentGateway**, that allows a developer to connect to a Domino server and pass values to a Domino agent, which in turn publishes the results to the DevPack InfoBus for use within applets. The applet gives developers a direct and simple way to work with DEC's (Domino Enterprise Connectivity) to provide access to enterprise data.

A new DevPack **install program with Domino integration options** for installing the applets, samples, and documentation on both Notes clients and Domino servers.

Two new **DevPack 2.0/Domino R5 templates**, eSuite Contact Manager and eSuite Project Scheduler, that make extensive use of DevPack applets. The templates are designed for both Notes clients and Web browsers. Developers can use the designs as is, as a starting point for further customization, or as learning tools for their own applications.

Formula language

These are the new and enhanced @Functions and @Commands for R5. For details on each, see Domino 5 Designer Help or the *Domino Designer Programming Guide*.

New @Functions

- @AddToFolder
- @BrowserInfo
- @FontList
- @FormLanguage
- @HardDeleteDocument (not in Help)
- @IsAppInstalled
- @LanguagePreference
- @LaunchApp
- @Locale
- @NameLookup
- @Narrow
- @PasswordQuality (not in Help)
- @SetTargetFrame
- @UndeleteDocument
- @UserNameLanguage
- @UserNamesList
- @V4UserAccess
- @ValidateInternetAddress
- @Wide

New @Commands

- @Command([AddBookmark])
- @Command([CreateCrossCert]) (not in Help)
- @Command([Directories]) (not in Help)
- @Command([OpenFrameset])
- @Command([OpenHelpDocument])
- @Command([OpenPage])
- @Command([RefreshParentNote])
- @Command([ReloadWindow])
- @Command([ViewAddInternetCertificate]) (not in Help)

Enhanced @Functions and @Commands

- @DialogBox - new parameters
- @Name - new actions
- @UserName - new parameter
- @Command([CalendarFormat]) - new value

Also, the View applet is now programmable via the following @Commands:

- @Command([EmptyTrash])
- @Command([ViewCollapse])
- @Command([ViewCollapseAll])
- @Command([ViewExpand])
- @Command([ViewExpandAll])
- @Command([ViewRefreshFields])

Java classes

The lotus.domino package supersedes lotus.notes. The lotus.domino package has the same content as the Release 4.6 lotus.notes package plus new classes, methods, and other enhancements. The Release 4.6 lotus.notes package continues to be supported for backwards compatibility only; it does not contain the new classes, methods, and other enhancements.

Agents can be coded and compiled directly in the Programmer's pane. They can also be imported as before.

Applets and applications on a non-Domino machine can access lotus.domino objects through IIOp calls to a Domino server.

The following are the new and enhanced LotusScript classes, methods, properties, and events for R5. For details on each, see Domino 5 Designer Help or the *Domino Designer Programming Guide*.

New classes

- Outline
- OutlineEntry
- Replication
- RichTextParagraphStyle
- RichTextTab
- ViewEntry
- ViewEntryCollection
- ViewNavigator

ACL class

New methods	New property
getNextEntry (additional method) removeACLEntry	InternetLevel

ACLEntry class new properties

- IsCanCreateLSOrJavaAgent
- IsCanCreateSharedFolder
- IsAdminReaderAuthor
- IsAdminServer
- IsGroup
- IsPerson
- IsServer
- Name
- UserType

Agent class

New method	New properties
runOnServer	IsNotesAgent IsWebAgent ServerName Target Trigger

Database class

New methods	New properties
createOutline enableFolder FTDomainSearch getOutline getProfileDocCollection	FolderReferencesEnabled MaxSize ReplicationInfo

DateRange class new property

Parent

DateTime class

New method	New properties
toJavaDate	LocalTime (additional methods) Parent

DbDirectory class new property

Parent

Document class

New method	New properties
putInFolder (additional method)	FolderReferences IsDeleted IsValid

DocumentCollection class methods

addDocument
deleteDocument
getDocument
getNextDocument (additional method)
getPrevDocument (additional method)
FTSearch (additional method)
putAllInFolder (additional method)

Form class new property

Parent

International class new property

Parent

Log class new property

Parent

Name class new properties

Addr821
Addr822Comment1
Addr822Comment2
Addr822Comment3
Addr822LocalPart
Addr822Phrase
Language
Parent

Newsletter class new property

Parent

RichTextItem class methods

addPageBreak
appendParagraphStyle
appendDocLink (additional methods)

RichTextStyle new properties

Parent
PassThruHTML

Session class

New methods	New properties
getDatabase createRichTextParagraphStyle resolve	ServerName UserNameList

View class

New methods	New properties
createViewNav createViewNavFrom createViewNavFromCategory createViewNavFromChildren createViewNavFromDescendants createViewNavFromMaxLevel getAllEntriesByKey getEntryByKey getColumn	AllEntries BackgroundColor ColumnCount ColumnNames HeaderLines IsCategorized IsConflict IsHierarchical IsModified IsPrivate RowLines Spacing TopLevelEntryCount

ViewColumn class new properties

Alignment
DateFmt
FontColor
FontFace
FontPointSize
FontStyle
HeaderAlignment
IsAccentSensitiveSort
IsCaseSensitiveSort
IsField
IsFormula
IsHideDetail
IsIcon
IsResize
IsResortAscending
IsResortDescending
IsResortToView
IsSecondaryResort
IsSecondaryResortDescending
IsShowTwistie
IsSortDescending
ListSep
NumberAttrib
NumberDigits
NumberFormat
Parent
TimeDateFmt
TimeFmt
TimeZoneFmt
Width

LDAP Schema database

Lotus provides a database called Domino LDAP Schema (SCHEMA50.NSF) that provides information about the attributes, object classes, and syntax supported by the Domino LDAP schema. This database is available on the Web at <http://notes.net/notesua.nsf/find/schema50>.

Note: The PDF version of these release notes (README.PDF) (located on the root of the installation CD-ROM) incorrectly states that this database is installed to the Domino server data directory.

For each attribute in the schema, the database provides the LDAP name, OID, corresponding Domino field, LDAP schema the attribute originated from, and the syntax type. Tip: to determine the form or forms which use an attribute, switch to the "LDAP ObjectClasses" view, do a full-text search on the attribute, then look at the "Notes Name" column in the view.

For each object class in the schema, the database provides the LDAP name, OID, Domino Directory form that corresponds to the object class, LDAP schema the object class originated from. The database also provides the object class type (abstract, structural, auxiliary), the relative superior and auxiliary object classes, and the associated mandatory and optional attributes.

For each syntax, the database provides the LDAP name (and alternate name), OID, the data type mapping in Notes, and the schema the syntax originated from.

LotusScript Data Object enhancements

ODBCConnection object changes

- The AutoCommit and CommitOnDisconnect properties are moved from the ODBCResultSet object to ODBCConnection in order to support Transaction Mode, CommitTransactions, and RollbackTransactions. These take no arguments. AutoCommit defaults to True and can be set False to enter Transaction Mode, if the driver and data source support transactions.
- The methods GetRegistrationInfo and IsTimedOut have been removed.
- The DisconnectTimeout and Exclusive properties have been removed.
- Support for asynchronous execution of queries has been removed. The IsSupported property returns False so that scripts that attempt to use asynchronous mode when available will behave correctly.
- The ConnectTo method does not perform the auto-registration of unregistered data sources.
- The ExecProcedure method has been removed. A new ExecProcedure method is added in ODBCResultSet object to execute a stored procedure.

Also, please be aware of the following issues:

- The ListProcedures method does not work with some drivers.
- In some cases, an ODBC driver indicated that it did not support a certain mode although it actually did. The IsSupported property of the ODBCConnection object may report incorrectly due to bugs in the ODBC driver. On the DB_SUPP_READONLY item, it may report incorrectly due to limitations in ODBC.

ODBCResultSet object changes

- The properties AutoCommit and CommitOnDisconnect have been moved to the ODBCConnection object. The AutoCommit property of the ODBCConnection object can be set False (when supported by the DBMS) to enter Transaction Mode, which applies to all queries and result sets associated with that connection.
- The Transactions method and the Commit and Rollback functions of the Close method have been replaced by the CommitTransactions and RollbackTransactions methods of the ODBCConnection object. These new methods take no arguments and apply to all transactions pending through that connection. You might get error 720, "You cannot have more than one statement active, when SQL_AUTOCOMMIT is false" for INTERSOLV drivers. As a workaround, Lotus suggests to "Call Res.LastRow" after "Res.Execute" and before any "Res.UpdateRow" or "Res.Delete Row."
- The Asynchronous and Override properties have been removed.
- The new ExecProcedure method allows you to execute a stored procedure.
- The RefreshRow method has been removed.

Designer

LotusScript

These are the new and enhanced LotusScript classes, methods, properties, and events for R5. For details on each, see Domino 5 Designer Help or the *Domino Designer Programming Guide*.

New classes

NotesOutline
NotesOutlineEntry
NotesReplication
NotesRichTextParagraphStyle
NotesRichTextTab
NotesViewEntry
NotesViewEntryCollection
NotesViewNavigator

NotesACL class new property

InternetLevel

NotesACLEntry class new properties

CanCreateLSOrJavaAgent
CanCreateSharedFolder
IsAdminReaderAuthor
IsAdminServer
IsGroup
IsPerson
IsServer
UserType

NotesAgent class new properties

HasRunSinceModified
IsNotesAgent
IsWebAgent
Target
Trigger

NotesDatabase class

New methods	Enhanced methods	New properties
CreateOutline EnableFolder FTDomainSearch GetOutline GetProfileDocCollection	CreateCopy CreateFromTemplate	FolderReferencesEnabled IsDirectoryCatalog MaxSize ReplicationInfo

NotesDateTime class

New method	New property
TimeDifferenceDouble	IsValidDate

NotesDocument class new properties

FolderReferences
IsDeleted

NotesDocumentCollection class methods

New methods	Enhanced method
AddDocument DeleteDocument GetDocument	PutAllInFolder

NotesName class new properties

Addr821
Addr822Comment1
Addr822Comment2
Addr822Comment3
Addr822LocalPart
Addr822Phrase
Language

ODBCQuery class new method

UseRowID

ODBCResultSet class new method

ExecProcedure

NotesRegistration class enhanced method

RegisterNewUser

NotesRichTextItem class methods

New methods	Enhanced method
AddPageBreak AppendParagraphStyle	AppendDocLink

NotesRichTextStyle new property

PassThruHTML

NotesSession class

New method	Enhanced method	New properties
GetDatabase	CreateRichTextParagraphStyle	NotesBuildVersion UserNameList

NotesUIDatabase class

New method	Enhanced method	New events
OpenNavigator	OpenView	PostDragDrop QueryDragDrop

NotesUIDocument class

New methods	Enhanced method	New event
FindFreeTimeDialogEx FindString GetSelectedText Import SpellCheck	Refresh	PostSave

NotesUIView class

New method	New properties
Print	CaretCategory ViewName

NotesUIWorkspace class

New methods	Enhanced method	New properties
Folder GetListOfTunes OpenFileDialog OpenFrameset OpenPage PickListCollection PickListStrings PlayTune Prompt RefreshParentNote ReloadWindow SaveFileDialog SetCurrentLocation SetTargetFrame	DialogBox	CurrentDatabase CurrentView

NotesView class

New methods	New properties
CreateViewNav CreateViewNavFrom CreateViewNavFromCategory CreateViewNavFromChildren CreateViewNavFromDescendants GetAllEntriesByKey GetEntryByKey	AllEntries BackgroundColor ColumnCount HeaderLines IsCategorized IsConflict IsHierarchical IsModified IsPrivate RowLines Spacing TopLevelEntryCount

NotesViewColumn class new properties

Alignment
DateFmt
FontColor
FontFace
FontSize
FontStyle
HeaderAlignment
IsAccentSensitiveSort
IsCaseSensitiveSort
IsField
IsFormula
IsHideDetail
IsIcon
IsResize
IsResortAscending
IsResortDescending
IsResortToView
IsSecondaryResort
IsSecondaryResortDescending
IsShowTwistie
IsSortDescending
ListSep
NumberAttrib
NumberDigits
NumberFormat
TimeDateFmt
TimeFmt
TimeZoneFmt
Width

Server

New HTTPD.CNF file

R5 contains a new version of the Domino configuration file HTTPD.CNF. It contains MIME definitions and control directives for the HTTP server task. All of the important configuration settings for the HTTP task are included in the Server document of the Domino Directory, and administrators normally do not need to modify the HTTPD.CNF file.

HTTPD.CNF is installed into the server's data directory. The Domino Server Install program does not overwrite an existing HTTPD.CNF file. Therefore, if you already have Domino installed and you want to get the new version of HTTPD.CNF, you must delete or rename your existing file before running the install program. If you have made changes to your HTTPD.CNF file (such as adding custom MIME types), you should rename your old file before running the install program and then copy the changes from the old file to the new file.

The new version of HTTPD.CNF includes an updated and reorganized list of MIME types. The following MIME extensions have been added:

Common Web MIME types		
.class	application/octet-stream	# Java class file
.cdf	application/x-cdf	# Channel file
.css	text/css	# Cascading Style Sheet
.js	application/x-javascript	# JavaScript
.vcf	text/x-vcard	# VCard
.xml	text/xml	# XML

VRML		
.wrl	x-world/x-vrml	# VRML
.wrz	x-world/x-vrml	# VRML
.xaf	x-world/x-vrml	# VRML
.xof	x-world/x-vrml	# VRML

RealAudio media players and plug-ins		
.rm	application/vnd.rn-realmedia	# RealPlayer
.rpm	audio/x-pn-realaudio-plugin	# RealAudio plug-in
.ra	audio/x-pn-realaudio	# RealPlayer
.ram	audio/x-pn-realaudio	# RealPlayer
.rv	video/vnd.rn-realvideo	# RealPlayer

Macromedia players and plug-ins		
.dcr	application/x-director	# Shockwave for Director
.dir	application/x-director	# Shockwave for Director
.dxr	application/x-director	# Shockwave for Director
.swf	application/x-shockwave-flash	# Shockwave Flash
.spl	application/futuresplash	# Future Splash Animator

Vendor-specific MIME types		
.wks	application/vnd.lotus-1-2-3	# Lotus 1-2-3 97
.sam	application/vnd.lotus-wordpro	# Lotus WordPro 97
.imp	application/vnd.lotus-improv	# Lotus Improv
.dot	application/msword	# Microsoft Word
.pub	application/x-mspublisher	# Microsoft Publisher
.mpp	application/vnd.ms-project	# Microsoft Project
.pot	application/vnd.ms-powerpoint	# Microsoft Powerpoint
.ppt	application/vnd.ms-powerpoint	# Microsoft Powerpoint
.pps	application/vnd.ms-powerpoint	# Microsoft Powerpoint
.scd	application/vnd.ms-schedule	# Microsoft Schedule
.wcm	application/vnd.ms-works	# Microsoft Works
.wdb	application/vnd.ms-works	# Microsoft Works
.wps	application/vnd.ms-works	# Microsoft Works
.wri	application/x-mswrite	# Microsoft Write
.xla	application/vnd.ms-excel	# Microsoft Excel
.xlc	application/vnd.ms-excel	# Microsoft Excel
.xlm	application/vnd.ms-excel	# Microsoft Excel
.xls	application/vnd.ms-excel	# Microsoft Excel
.xlt	application/vnd.ms-excel	# Microsoft Excel
.xlw	application/vnd.ms-excel	# Microsoft Excel
.eml	message/rfc822	# Outlook Mail Message
.mht	message/rfc822	# Mail Message
.mhtml	message/rfc822	# Mail Message
.cmx	image/x-cmx	# Corel CMX format

The following elements have been removed from the MIME list:

- Rarely-used CAE and CAD file extensions.
- Upper-case variants of file extensions (not needed because file extension comparison is case-insensitive).
- Unused "quality" and "encoding" attributes.

The other major change to HTTPD.CNF is the removal of unsupported directives. The HTTP stack code in Domino is derived from code used in several IBM Web server products. The original version of HTTPD.CNF contained several types of directives that did not apply to the Domino implementation of the code. All of these directives have been removed. The net result is that the new HTTPD.CNF is much smaller than the original version.

Domino Web Server API (DSAPI): Overview

The Domino Web server Application Programming Interface (DSAPI) is a C API for writing your own extensions to the Domino Web Server. A DSAPI extension, or "filter", is a program you create that is notified when certain events occur in the Web server, such as when a URL request is received or when a user is about to be authenticated.

For example, you might choose to write a program that performs custom authentication, which is often one part of implementing "single-sign on" within a corporation. In this scenario, the DSAPI program could be notified when Domino is about to authenticate a user. The DSAPI program could then parse the user name, check the user name and password against a legacy mainframe system, and if successful, notify the Domino Web server that it has handled the event (authentication) and pass Domino the distinguished name of the user.

A DSAPI filter is built as a shared library, for example, as a DLL on the Windows platform. DSAPI is supported on all Domino server platforms.

Since the filter is written in C, you can use the Notes C API to access Domino data or other C interfaces to access other systems.

WARNING: Because a DSAPI filter is a server extension, the filter has the privileges of the server ID when accessing Domino databases through the C API.

A DSAPI filter must specify two entry points: initialization and event notification. Domino calls the initialization function when the filter is loaded, and the termination function when the filter is unloaded. The filter is loaded when the Domino HTTP server task is started, and unloaded when the task quits.

The event-notification function does the actual work of the filter. Domino calls the event-notification function whenever a particular event occurs during the processing of a request. Events occur in this order:

1. Domino has just received the request
2. Domino has parsed the request headers and read the request content
3. Domino has just mapped the request URL to a physical location
4. Domino is about to authenticate the user
5. Domino is about to construct a group list for the user
6. Domino has completed processing the request and is about to return a response
7. Domino has sent the response

When Domino calls the filter's event-notification function it passes information about the request and the event being processed. On each call the filter can decide to handle the event, with or without an error return, or decline to handle the event.

The filter may also define a termination entry point. Domino will call this function whenever the filter is about to be unloaded to reinitialized. The filter can use this function to clean up resources used by the filter.

DSAPI also provides server call-back functions that the filter can call to get additional information or to have a service performed:

- Allocate and free memory
- Add a name to a group list
- Get information about a request
- Write a response directly to the client
- Add or change HTTP headers on the request or response

Server

Domino Web Server API (DSAPI): Getting started

This release note tells you how to get started creating your own DSAPI filter.

Writing the filter code

First, copy and paste the two files below to your C source code directory. DSAPIFILTER.H contains definitions for all the DSAPI structures and functions. DSAPIFILTER.C contains shells for all the filter functions and some trivial example code.

Next, determine which events your filter needs to handle. For example, if you are implementing a custom authentication scheme the filter needs to handle the authorization and group events. Keep in mind that every event you handle is another call Domino must make to your filter, so it is best to handle as few events as possible.

Fill out the appropriate filter functions. You may also want to add startup code to the initialization function and cleanup code to the terminate function.

Since filter notification functions may be called simultaneously from different server threads, all code in these functions must be thread-safe. When a Domino server thread receives an HTTP request, it allocates a new instance of the FilterContext structure. As the thread processes the request it passes that instance to all filter functions it calls. FilterContext contains a pointer, privateContext, that you can use to store your own data structure. All thread-specific data that the filter needs to maintain from event to event should be stored in your privateContext structure.

You should use the AllocMem callback function to allocate dynamic memory in your filter. All memory allocated by AllocMem is automatically freed when the server thread finishes processing the request. This simplifies your filter cleanup and ensures that the memory is freed even if the thread terminates abnormally.

Compiling and linking the filter

A filter must be built as a shared library (for example, a Windows DLL). The details of compiling and linking a shared library differ from platform to platform. The source code files below include the necessary preprocessor statements for compiling with Microsoft Visual C++ 6.0.

Installing the filter

Install the filter by specifying the name of the filter in the Server record, in the field **DSAPI filter file name** in the Internet Protocols -> HTTP table. You can specify just the name of the filter file if it is located in the Domino program or data directories; otherwise you must specify the fully-qualified path name.

WARNING: Make sure that all filter files are secured by adequate file permissions and physical security, to prevent unauthorized persons from tampering with the filter.

Now start the Domino server and the HTTP task. The filter will be loaded automatically and its initialization function will be called immediately.

Source code for dsapifilter.h:

```
/*-----
*
*      File:          dsapifilter.h
*
*      Copyright (c)1999 Iris Associates
*
*-----*/

#if !defined(DSAPIFILTER_H)
#define DSAPIFILTER_H

#ifdef __cplusplus
extern "C" {
#endif

/*---
*      Types and Defines
*/

#define kInterfaceVersion  2
#define kMaxFilterDesc    255

typedef unsigned char LMBCS;

typedef enum {
    kFilterNotHandled = 0,
    kFilterHandledRequest = 1,
    kFilterHandledEvent = 2,
    kFilterError = 3
} FilterReturnCode;

/*--
*      Filter interface
*/

/*---
*      events to register for
*/
typedef enum {
    kFilterRawRequest      = 0x01,
    kFilterParsedRequest   = 0x02,
    kFilterAuthUser        = 0x04,
    kFilterUserNameList    = 0x08,
```



```

    kFilterMapURL          = 0x10,
    kFilterResponse       = 0x20,
    kFilterRawWrite       = 0x40,
    kFilterEndRequest     = 0x80,
    kFilterAny            = 0xFF
} EventFlags;

/*---
 *      filter initialization data
 */
typedef struct {
    unsigned int    serverFilterVersion;
    unsigned int    appFilterVersion;
    unsigned int    eventFlags;
    unsigned int    initFlags;
    char            filterDesc[kMaxFilterDesc+1];
} FilterInitData;

/*---
 *      request line structure
 */
typedef struct {
    unsigned int    method;
    char*          URL;
    char*          version;
    char*          userName;
    char*          password;
    unsigned char* clientCert;
    unsigned int    clientCertLen;
    char*          contentRead;
    unsigned int    contentReadLen;
} FilterRequest;

/*---
 *      filter context data included in every call to filter
 */
typedef struct _FilterContext {
    unsigned int    contextSize;
    unsigned int    revision;
    void*          serverContext;
    unsigned int    serverReserved;
    unsigned int    securePort;
    void*          privateContext;

    int (*GetRequest)(struct _FilterContext* context,
                      FilterRequest* request,
                      unsigned int* errID);

    int (*GetRequestContents)(struct _FilterContext* context,
                              char** contents,
                              unsigned int* errID);

    int (*GetServerVariable)(struct _FilterContext* context,
                              char* name,
                              void* buffer,
                              unsigned int bufferSize,
                              unsigned int* errID);

```

```

int (*WriteClient)(struct _FilterContext* context,
                  char* buffer,
                  unsigned int bufferLen,
                  unsigned int reserved,
                  unsigned int* errID);

void* (*AllocMem)(struct _FilterContext* context,
                 unsigned int size,
                 unsigned int reserved,
                 unsigned int* errID);

int (*ServerSupport)(struct _FilterContext* context,
                   unsigned int funcType,
                   void* data1,
                   void* data2,
                   unsigned int other,
                   unsigned int* errID);
} FilterContext;

typedef unsigned int (*FilterInitFuncType)(FilterInitData* initData);
typedef unsigned int (*FilterEventFuncType)(FilterContext* context,
                                           unsigned int eventType,
                                           void* eventData,
                                           unsigned int* errID);
typedef unsigned int (*FilterTermFuncType)(unsigned int);

/*---
*      request methods
*/
typedef enum {
    kRequestNone      = 0,
    kRequestHEAD      = 1,
    kRequestGET        = 2,
    kRequestPOST      = 3,
    kRequestPUT        = 4,
    kRequestDELETE    = 5
} RequestMethod;

/*---
*      server support function types
*/
typedef enum {
    kWriteResponseHeaders = 1
} ServerSupportTypes;

/*---
*      'data1' for server support function 'kWriteResponseHeaders'
*/
typedef struct {
    unsigned int    responseCode;
    char*          reasonText;
    char*          headerText;
} FilterResponseHeaders;

```

```

/*---
*      raw request (headers not processed yet)
*/
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    int (*SetHeader)(FilterContext* context,
                    char* name,
                    char* value,
                    unsigned int* errID);

    int (*AddHeader)(FilterContext* context,
                    char* header,
                    unsigned int* errID);

    unsigned int reserved;
} FilterRawRequest;

```

```

/*---
*      parsed request
*/
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    unsigned int reserved;
} FilterParsedRequest;

```

```

/*---
*      URL map
*/
typedef struct {
    const char* url;
    char* pathBuffer;
    unsigned int bufferSize;
    unsigned int mapType;
} FilterMapURL;

```

```

/*---
*      URL map types
*/
typedef enum {
    kURLMapUnknown    = 0,
    kURLMapPass       = 1,
    kURLMapExec       = 2,
    kURLMapRedirect   = 3,
    kURLMapService    = 4,
    kURLMapDomino     = 5
} FilterULMapTypes;

/*---
*      user authentication
*/
typedef struct {
    LMBCS*      userName;
    LMBCS*      password;
    unsigned char* clientCert;
    unsigned int  clientCertLen;
    unsigned int  authFlags;
    unsigned int  preAuthenticated;
    unsigned int  foundInCache;
    unsigned int  authNameSize;
    LMBCS*      authName;
    unsigned int  authType;

    int (*GetUserNameList)(FilterContext* context,
                          LMBCS* buffer,
                          unsigned int bufferSize,
                          unsigned int* numNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);
} FilterAuthenticate;

/*---
*      user authentication types
*/
typedef enum {
    kNotAuthentic      = 0,
    kAuthenticBasic    = 1,
    kAuthenticClientCert = 2
} FilterAuthenticationTypes;

/*---
*      authentication configuration flags
*/
typedef enum {
    kAuthAllowBasic      = 1,
    kAuthAllowAnonymous  = 2,
    kAuthAllowSSLCert    = 4,
    kAuthAllowSSLBasic   = 8,

```

```

    kAuthAllowSSLAnonymous    = 16,
    kAuthRedirectToSSL        = 32
} FilterAuthConfigFlags;

/*---
 *      user name list
 */
typedef struct {
    const LMBCS*    userName;

    int (*GetUserNameList)(FilterContext* context,
                          LMBCS* buffer,
                          unsigned int bufferSize,
                          unsigned int* numNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*PopulateUserNameList)(FilterContext* context,
                                LMBCS* buffer,
                                unsigned int bufferSize,
                                unsigned int* numNames,
                                unsigned int reserved,
                                unsigned int* errID);

    int (*AddGroupsToList)(FilterContext* context,
                          LMBCS* groupNames,
                          unsigned int numGroupNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*RemoveGroupsFromList)(FilterContext* context,
                                unsigned int reserved,
                                unsigned int* errID);

    unsigned int reserved;
} FilterUserNameList;

/*---
 *      request response
 */
typedef struct {
    unsigned int    responseCode;
    char*          reasonText;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    int (*SetHeader)(FilterContext* context,
                    char* name,
                    char* value,
                    unsigned int* errID);

```

```

    int (*AddHeader)(FilterContext* context,
                    char* header,
                    unsigned int* errID);

    unsigned int reserved;
} FilterResponse;

/*---
*      write content
*/
typedef struct {
    char*          content;
    unsigned int   contentLen;
    unsigned int   reserved;
} FilterRawWrite;

#ifdef __cplusplus
}
#endif

#endif /* DSAPIFILTER_H */

```

Source code for dsapifilter.c:

```

// _____
//
//      File:          dsapifilter.c
//
//      Copyright (c)1999 Iris Associates
// _____

#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include "dsapifilter.h"

#if !defined(DLLEXPORT)
#ifdef WIN32
#define DLLEXPORT __declspec(dllexport)
#else
#define DLLEXPORT
#endif
#endif

/*---
*      local function prototypes
*/
unsigned int RawRequest(FilterContext* context, FilterRawRequest* reqData);
unsigned int ParsedRequest(FilterContext* context, FilterParsedRequest* reqData);
unsigned int MapURL(FilterContext* context, FilterMapURL* map);
unsigned int Authenticate(FilterContext* context, FilterAuthenticate* authData);
unsigned int UserNameList(FilterContext* context, FilterUserNameList* groups);
unsigned int Response(FilterContext* context, FilterResponse* response);
unsigned int EndRequest(FilterContext* context, FilterParsedRequest* reqData);

```

```

/*---
*      filter initialization
*/
DLLEXPORT unsigned int FilterInit(FilterInitData* filterInitData)
{
    filterInitData->appFilterVersion = kInterfaceVersion; // Required

    // Modify the following code to set the flags you want
    filterInitData->eventFlags =
        kFilterRawRequest |
        kFilterParsedRequest |
        kFilterAuthUser |
        kFilterUserNameList |
        kFilterMapURL |

        kFilterResponse |
        kFilterEndRequest;

    // Set a short description for your filter
    strcpy(filterInitData->filterDesc, "Test Filter");

    // insert any global initialization code here...

    // Output sent to stdout and stderr is displayed on the server console,
    // but is not written to the server log file.
    printf("\nDSAPI filter loaded\n");
    return kFilterHandledEvent;
}

/*---
*      filter termination
*/
DLLEXPORT unsigned int TerminateFilter(unsigned int reserved)
{
    // insert any global cleanup code here...

    printf("\nDSAPI filter unloaded\n");
    return kFilterHandledEvent;
}

/*---
*      filter notification handling
*/
DLLEXPORT unsigned int HttpFilterProc(FilterContext* context,
    unsigned int eventType, void* eventData)
{
    // Remove any events you don't want to handle
    switch (eventType) {
    case kFilterRawRequest:
        return RawRequest(context, eventData);
    case kFilterParsedRequest:
        return ParsedRequest(context, eventData);
    case kFilterMapURL:
        return MapURL(context, eventData);
    case kFilterAuthUser:
        return Authenticate(context, eventData);
    case kFilterUserNameList:

```

```

        return UserNameList(context, eventData);
    case kFilterResponse:
        return Response(context, eventData);
    case kFilterEndRequest:
        return EndRequest(context, eventData);
    default:
        break;
    }

    return kFilterNotHandled;
}

/*---
 *      handle raw request
 */
unsigned int RawRequest(FilterContext* context, FilterRawRequest* reqData)
{
    return kFilterNotHandled;
}

/*---
 *      handle parsed request
 */
unsigned int ParsedRequest(FilterContext* context, FilterParsedRequest* reqData)
{
    return kFilterNotHandled;
}

/*---
 *      handle user authentication
 */
unsigned int Authenticate(FilterContext* context, FilterAuthenticate* authData)
{
    // See sample programs for examples of handling authentication

    return kFilterNotHandled;
}

/*---
 *      handle user name list
 */
unsigned int UserNameList(FilterContext* context, FilterUserNameList* groups)
{
    return kFilterNotHandled;
}

/*---
 *      handle URL mapping
 */
unsigned int MapURL(FilterContext* context, FilterMapURL* map)
{
    return kFilterNotHandled;
}

/*---

```



```

*      handle response
*/
unsigned int Response(FilterContext* context, FilterResponse* response)
{
    return kFilterNotHandled;
}

/*---
*      handle end request
*/
unsigned int EndRequest(FilterContext* context, FilterParsedRequest* reqData)
{
    return kFilterNotHandled;
}

// ----- end of dsapifilter.c

```

Server

Domino Web Server API (DSAPI): Reference guide

Filter library entry points

A filter library must define and export the following two entry points:

- **FilterInit:** called when the HTTP task loads the filter, which occurs as part of the HTTP task startup. Also called when the HTTP task is restarted with the console command "tell http restart".

```
typedef unsigned int FilterInit(FilterInitData* initData);
```

- **HttpFilterProc:** called whenever an event occurs for which the filter is registered.

```
typedef unsigned int HttpFilterProc(FilterContext* context,
                                   unsigned int eventType,
                                   void* eventData);
```

A filter library may optionally define one more entry point:

- **TerminateFilter:** called just before the HTTP task unloads the filter when the task or entire Domino server is shut down. Also called when the HTTP task is restarted with the console command "tell http restart". When the HTTP task is restarted, it first calls TerminateFilter and then FilterInit. This allows the filter to clean up its current state and reinitialize itself. The filter library remains loaded in memory during the restart.

```
typedef unsigned int TerminateFilter(unsigned int reserved);
```

The entry points must return one of the following values:

```
typedef enum {
    kFilterNotHandled = 0,
    kFilterHandledRequest = 1,
    kFilterHandledEvent = 2,
    kFilterError = 3
} FilterReturnCode;
```

kFilterNotHandled:

The filter did not handle the event. Domino will handle the event itself.

kFilterHandledRequest:

The filter handled the entire request. Domino will immediately return the result to the user.

kFilterHandledEvent:

The filter handled the event. Domino will continue processing the request.

kFilterError:

The filter encountered an error. Domino will stop processing the request and return an error message to the user.

Filter initialization

Prototype for the FilterInit entry point:

```
typedef unsigned int FilterInit(FilterInitData* initData);
```

FilterInitData is defined as:

```
typedef struct {
    unsigned int    serverFilterVersion;
    unsigned int    appFilterVersion;
    unsigned int    eventFlags;
    unsigned int    reservedFlags;
    char            filterDesc[kMaxFilterDesc+1];
} FilterInitData;
```

serverFilterVersion:

Input parameter. The server's version of the filter software.

appFilterVersion:

Output parameter. The filter's version of the filter software. Set this to kInterfaceVersion, defined in dsapifilter.h.

eventFlags:

Output parameter. Indicates for which events the filter wants to be called. Defined below.

reservedFlags:

Reserved for future use.

filterDesc:

Output parameter. A short description of the filter.

The eventFlags field should be set to one or more of the following flags. The flags can be combined by "or"ing them together.

```
typedef enum {
    kFilterRawRequest      = 0x01,
    kFilterParsedRequest   = 0x02,
    kFilterAuthUser        = 0x04,
    kFilterUserNameList    = 0x08,
    kFilterMapURL           = 0x10,
    kFilterResponse        = 0x20,
    kFilterEndRequest      = 0x80,
    kFilterAny              = 0xFF
} EventFlags;
```

Filter event handling

Prototype for the FilterEvent entry point:

```
typedef unsigned int HttpFilterProc(FilterContext* context,  
                                   unsigned int eventType,  
                                   void* eventData);
```

The FilterContext structure contains information about the request, server call back functions, and a pointer that you can fill with your own data to use in any event during the request. It is defined below.

The eventType flag indicates the event that is occurring. It will be one of the eventFlag values defined above.

There is a different eventData structure for each event. They are defined under each of the event descriptions below.

Here is the FilterContext structure:

```
typedef struct _FilterContext {  
    unsigned int    contextSize;  
    unsigned int    revision;  
    void*          serverContext;  
    unsigned int    serverReserved;  
    unsigned int    securePort;  
    void*          privateContext;  
  
    int (*GetRequest)(struct _FilterContext* context,  
                     FilterRequest* request,  
                     unsigned int* errID);  
  
    int (*GetRequestContents)(struct _FilterContext* context,  
                             char** contents,  
                             unsigned int* errID);  
  
    int (*GetServerVariable)(struct _FilterContext* context,  
                             char* name,  
                             void* buffer,  
                             unsigned int bufferSize,  
                             unsigned int* errID);  
  
    int (*WriteClient)(struct _FilterContext* context,  
                      char* buffer,  
                      unsigned int bufferLen,  
                      unsigned int reserved,  
                      unsigned int* errID);  
  
    void* (*AllocMem)(struct _FilterContext* context,  
                    unsigned int size,  
                    unsigned int reserved,  
                    unsigned int* errID);  
  
    int (*ServerSupport)(struct _FilterContext* context,  
                       unsigned int funcType,  
                       void* data1,  
                       void* data2,  
                       unsigned int other,  
                       unsigned int* errID);  
} FilterContext;
```

contextSize: (Input) The size of the FilterContext structure.
 revision: (Input) Same as FilterInitData->serverFilterVersion.
 serverContext: (Input) Pointer to the server's context. This is for the server's use and should not be accessed by the filter library.
 serverReserved: (Input) Reserved for future use
 securePort: (Input) The number of the server's SSL port.
 privateContext: (Output) Pointer for filter library's own data.

GetRequest: Retrieves request line (first line of request) and reports on other information as request is processed. The first line of an HTTP request has this syntax: <method> <url> <version>. For example, "GET /sales.nsf?OpenDatabase HTTP/1.0".

The parts of the request line are accessed by this structure:

```
typedef struct {
    unsigned int    method;
    char*           URL;
    char*           version;
    char*           userName;
    char*           password;
    unsigned char*  clientCert;
    unsigned int    clientCertLen;
    char*           contentRead;
    unsigned int    contentReadLen;
} FilterRequest;
```

method: Same as FilterRawRequest.requestMethod, defined below
 URL: The <url> part of the line
 version: The <version> part of the line
 userName, password: credentials sent from client (not available for RawRequest)
 clientCert, clientCertLen: client certificate from SSL handshake (not available for RawRequest)
 contentRead, contentReadLen: pointer to the POST content buffer, previously read by a filter or Domino

GetRequestContents: Gets a pointer to the raw request contents, if any (for PUT and POST). (Note that once the contents are read they are not available for other filters, CGI programs, or Domino.)
 contents: (Input/Output) filled with request contents pointer on return
 returns: size of request contents

GetServerVariable: Gets the value of a CGI variable. (Cannot be called during RawRequest event.)
 context: (Input) Set this to the initData parameter of HttpFilterProc
 name: (Input) The name of the CGI variable
 buffer: (Output) A buffer allocated by the filter library where the server can store the value.
 If the CGI variable does not exist, a zero-length value is returned.
 bufferSize: (Input) Size of the buffer
 errID: (Output) Pointer to an integer where the server can store an error code

Returns: always returns TRUE (1).

WriteClient: Writes raw data back to the client that sent the request.

context: (Input) Set this to the initData parameter of HttpFilterProc

buffer: (Input) The data to write to the client

bufferLen: (Input) Length of the data in the buffer

reserved: (Input) Reserved for future use

errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if the data was successfully written, FALSE (0) otherwise.

AllocMem: Allocates memory that will be automatically freed when the thread terminates

context: (Input) Set this to the initData parameter of HttpFilterProc

size: (Input) The amount of memory to allocate

reserved: (Input) Reserved for future use

errID: (Output) Pointer to an integer where the server can store an error code

Returns: A valid pointer if the memory was successfully allocated, NULL otherwise.

ServerSupport: Various services. (List of service types below).

funcType: type of service

data: service specific data pointer

other1, other2: service specific variables

Server support function types:

```
typedef enum {
    kWriteResponseHeaders = 1
} ServerSupportTypes;
```

WriteResponseHeaders: Write default headers for a response, optionally appending your own headers.

Parameter 'data1' is a pointer to FilterResponseHeaders structure. Parameters 'data2' and 'other' are not used.

```
typedef struct {
    unsigned int responseCode;
    char* reasonText;
    char* headerText;
} FilterReponseHeaders;
```

Notes:

'responseCode' is the response reason code, e.g. 200.

'reasonText' points to response reason text, if any, to add to the response line.

'headerText' points to additional headers, if any, you append. These headers must be separated by '\r\n' characters and must end with two '\r\n' sequences.

Raw Request Event

This event occurs when Domino has received an HTTP request but has not parsed and processed the headers, nor read the request content, if any. The filter can view, modify, or add to the request headers, or handle the request instead of Domino.

The eventData parameter of the filter's HttpFilterProc function points to the following structure for this event:

```
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    int (*SetHeader)(FilterContext* context,
                    char* name,
                    char* value,
                    unsigned int* errID);

    int (*AddHeader)(FilterContext* context,
                    char* header,
                    unsigned int* errID);

    unsigned int reserved;
} FilterRawRequest;
```

requestMethod: (Input) The type of the HTTP request:

```
typedef enum {
    kRequestNone      = 0,
    kRequestHEAD     = 1,
    kRequestGET       = 2,
    kRequestPOST      = 3,
    kRequestPUT       = 4,
    kRequestDELETE    = 5
} RequestMethod;
```

GetAllHeaders: Obtains the raw request headers

context: (Input) Set this to the initData parameter of HttpFilterProc

headers: (Output) Pointer to a "char *" variable where the server can store a pointer to the header string. This string contains the headers separated by new line characters. The string should not be freed or modified by the filter.

errID: (Output) Pointer to an integer where the server can store an error code

Returns: Length of the header string.

GetHeader: Gets the value of a single header from the request
context: (Input) Set this to the initData parameter of HttpFilterProc
name: (Input) The name of the header
buffer: (Output) A buffer allocated by the filter library where the server can store the value.
If the header does not exist, a zero-length value is returned.
bufferSize: (Input) Size of the buffer
errID: (Output) Pointer to an integer where the server can store an error code

Returns: Length of the header value. Zero if the header does not exist.

SetHeader: Sets the value of a header in the request. The header must already exist.
context: (Input) Set this to the initData parameter of HttpFilterProc
name: (Input) The name of the header
value: (Input) New value for header. It must be of the form "name: value\n"
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if the header was changed successfully, FALSE (0) otherwise.

AddHeader: Adds a new header to the request
context: (Input) Set this to the initData parameter of HttpFilterProc
header: (Input) Header to add. It must be of the form "name: value\n"
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if the header was added successfully, FALSE (0) otherwise.

reserved: Reserved for future use

Parsed Request Event

This event occurs when Domino has received an HTTP request, parsed and processed the headers, and is able to read the request content, if the filter requests. The filter can view the request headers, read the content, and handle the request instead of Domino.

The eventData parameter of the filter's HttpFilterProc function points to the following structure for this event:

```
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    unsigned int reserved;
} FilterParsedRequest;
```

requestMethod: same as for RawRequest event

GetAllHeaders: same as RawRequest event

GetHeader: same as for RawRequest event

reserved: Reserved for future use

Map URL Event

This event occurs when Domino has just mapped the request URL to a physical location based on the mapping rules configured for the server. The filter can view the mapping, change the physical location, or handle the request.

The eventData parameter of the filter's HttpFilterProc function points to the following structure for this event:

```
typedef struct {
    const char*      url;
    char*            pathBuffer;
    unsigned int     bufferSize;
    unsigned int     mapType;
} FilterMapURL;
```

url: (Input) The original URL specified in the request

pathBuffer: (Input/Output) The physical location to which Domino has mapped the URL. The filter can replace or modify the value in this buffer.

bufferSize: (Input) Size of the buffer

mapType: (Input) Type of mapping. Can be one of the following values:

```
typedef enum {
    kURLMapUnknown = 0,
    kURLMapPass = 1,
    kURLMapExec = 2,
    kURLMapRedirect = 3,
    kURLMapService = 4,
    kURLMapDomino = 5 /* URL refers to a Domino database */
} FilterULMapTypes;
```

Authenticate User Event

This event occurs when Domino is about to authenticate a user. The filter can view the request and user credentials, authenticate the user for Domino, or completely handle the request.

Here is a guide to setting the output variables and return code for common authentication scenarios:

Scenario 1: The filter was able to authenticate the user.

Set eventData->authName to the canonical name, set eventData->authType to kAuthenticBasic or kAuthenticClientCert, and the return code to kFilterHandledEvent.

Scenario 2: The filter was NOT able to authenticate the user, and Domino should go ahead and attempt its own authentication.

Set the return code to `kFilterNotHandled`.

Scenario 3: The filter was NOT able to authenticate the user, and Domino should NOT attempt its own authentication.

Set `eventData->authType` to `kNotAuthentic`, and the return code to `kFilterHandledEvent`.

The `eventData` parameter of the filter's `HttpFilterProc` function points to the following structure for this event:

```
typedef struct {
    LMBCS*      userName;
    LMBCS*      password;
    unsigned char* clientCert;
    unsigned int clientCertLen;
    unsigned int authFlags;
    unsigned int preAuthenticated;
    unsigned int foundInCache;
    unsigned int authNameSize;
    LMBCS*      authName;
    unsigned int authType;

    int (*GetUserNameList)(FilterContext* context,
                          LMBCS* buffer,
                          unsigned int bufferSize,
                          unsigned int* numNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);
} FilterAuthenticate;
```

`password:` (Input) The password from the request (NULL if none)
`userName:` (Input) The username from the request (NULL if none)
`clientCert:` (Input) The SSL client certificate (NULL if none)
`clientCertLen:` (Input) The length of the Client Certificate
`authFlags:` (Input) The authentication options enabled for the server. It can be one or more of the following values, added together:

```
typedef enum {
    kAllowBasic          = 1,
    kAllowAnonymous     = 2,
    kAllowSSLCert       = 4,
    kAllowSSLBasic      = 8,
    kAllowSSLAnonymous = 16,
    kRedirectToSSL      = 32
} ServerAuthFlags;
```

`preAuthenticated:` (Input) TRUE if user has already been pre-authenticated, presumably by a companion HTTP stack (e.g. MS-IIS)

`foundInCache:` (Input) TRUE if user was found in cache and will be authenticated on that basis unless a filter handles the event. In most circumstances if this flag is TRUE the filter should immediately return 'kFilterNotHandled',

authNameSize: (Input) Size of the authName buffer
 authName: (Output) The name that Domino should use for authentication. This points to a buffer allocated by Domino. If the filter handles this event, the filter must copy a fully canonical name into this buffer.
 authType: (Output) The type of authorization. If the filter handles this event, the filter must set authType to one of the following values.

```
typedef enum {
    kNotAuthentic           = 0,
    kAuthenticBasic        = 1,
    kAuthenticClientCert   = 2
} FilterAuthenticationTypes;
```

GetUserNameList: Gets a pointer to the current user name list (user name, groups, etc.)

buffer, bufferSize: (Input) buffer to fill with name list
 numNames: (Input) number of names in name list
 returns: size of name list (-1 if buffer was too small, although buffer will be filled to end)

GetHeader: Gets the value of a single header from the request

context: (Input) Set this to the initData parameter of HttpFilterProc
 name: (Input) The name of the header
 buffer: (Output) A buffer allocated by the filter library where the server can store the value. If the header does not exist, a zero-length value is returned.
 bufferSize: (Input) Size of the buffer
 errID: (Output) Pointer to an integer where the server can store an error code

Returns: Length of the header value. Zero if the header does not exist.

Get Name List Event

This event occurs when Domino is about to create a list of groups of which the user is a member. The filter can have Domino populate the list, add or remove groups to the list, or completely handle the event.

The eventData parameter of the filter's HttpFilterProc function points to the following structure for this event:

```
typedef struct {
    const LMBCS*   userName;

    int (*GetUserNameList)(FilterContext* context,
                          LMBCS* buffer,
                          unsigned int bufferSize,
                          unsigned int* numNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*PopulateUserNameList)(FilterContext* context,
                               LMBCS* buffer,
                               unsigned int bufferSize,
                               unsigned int* numNames,
                               unsigned int reserved,
                               unsigned int* errID);
};
```

```

int (*AddGroupsToList)(FilterContext* context,
                      LMBCS* groupNames,
                      unsigned int numGroupNames,
                      unsigned int reserved,
                      unsigned int* errID);

int (*RemoveGroupsFromList)(FilterContext* context,
                            unsigned int reserved,
                            unsigned int* errID);

    unsigned int reserved;
} FilterUserNameList;

```

userName: (Input) The authenticated user name

GetUserNameList: Gets a pointer to the current user name list (user name, groups, etc.)

buffer, bufferSize: (Input) buffer to fill with name list
numNames: (Input) number of names in name list
returns: size of name list (-1 if buffer was too small, although buffer will be filled to end)

PopulateUserNameList: Causes Domino to construct the normal user name list for the user

context: (Input) Set this to the initData parameter of HttpFilterProc
buffer: (Output) A buffer allocated by the filter library where Domino can store the name list.
The names are separated by null characters:
"group1\0group2\0group3\0..."
bufferSize: (Input) Size of the buffer
reserved: (Input) reserved for future use
errID: (Output) Pointer to an integer where the server can store an error code

Returns: Size of group list in buffer, 0 if no groups, -1 if groups don't fit in buffer

AddGroupToList: Adds a group to the user's group list

context: (Input) Set this to the initData parameter of HttpFilterProc
groupNames: (Input) List of groups to add.
The group names should be separated by null characters:
"group1\0group2\0group3\0..."
numGroupNames: (Input) The number of names in groupNames
reserved: (Input) reserved for future use
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if groups added, FALSE (0) otherwise

RemoveGroupsFromList: Removes all the groups from the user's current group list

context: (Input) Set this to the initData parameter of HttpFilterProc
reserved: (Input) reserved for future use
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if all groups were removed, FALSE (0) otherwise

reserved: Reserved for future use

Response Event

This event occurs when Domino has constructed its response and is about to send it to the client. The filter cannot stop the response at this point, but it can add or change headers.

The eventData parameter of the filter's HttpFilterProc function points to the following structure for this event:

```
typedef struct {
    unsigned int    responseCode;
    char*          reasonText;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    int (*SetHeader)(FilterContext* context,
                    char* name,
                    char* value,
                    unsigned int* errID);

    int (*AddHeader)(FilterContext* context,
                    char* header,
                    unsigned int* errID);
    unsigned int reserved;
} FilterResponse;
```

responseCode: response code server is sending to client, e.g. 200
reasonText: response reason text server is sending to client, e.g. "OK"

GetAllHeaders: Returns all the headers currently defined for the response
context: (Input) Set this to the initData parameter of HttpFilterProc
headers: (Output) Pointer to a "char *" variable where the server can store a pointer to the header string. This string contains the headers separated by new line characters. The string should not be freed or modified by the filter.
errID: (Output) Pointer to an integer where the server can store an error code

Returns: Length of the header string.

GetHeader: Gets the value of a single header from the request
context: (Input) Set this to the initData parameter of HttpFilterProc
name: (Input) The name of the header
buffer: (Output) A buffer allocated by the filter library where the server can store the value. If the header does not exist, a zero-length value is returned.
bufferSize: (Input) Size of the buffer
errID: (Output) Pointer to an integer where the server can store an error code

Returns: Length of the header value. Zero if the header does not exist.

SetHeader: Sets the value of a header in the request. The header must already exist.
context: (Input) Set this to the initData parameter of HttpFilterProc
name: (Input) The name of the header
value: (Input) New value for header. It must be of the form "name: value\n"
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if the header was changed successfully, FALSE (0) otherwise.

AddHeader: Adds a new header to the request
context: (Input) Set this to the initData parameter of HttpFilterProc
header: (Input) Header to add. It must be of the form "name: value\n"
errID: (Output) Pointer to an integer where the server can store an error code

Returns: TRUE (1) if the header was added successfully, FALSE (0) otherwise.

reserved: Reserved for future use

End Request Event

This event occurs after Domino sends the response to the client. The filter can clean up any resources it used during the request.

The eventData parameter of the filter's HttpFilterProc function points to a FilterParsedRequest structure, defined under the Parsed Request event.

Server

Domino Web Server API (DSAPI): Example UNIX filter overview

The purpose of this example is to show how to extend the Domino Web server to enable UNIX password checking. When a Domino database is accessed via a Web browser, Domino can authenticate the user based on UNIX password. For example, a password stored in standard UNIX password registries such as /etc/passwd or NIS.

When a protected Web page is accessed, Domino prompts for a user name and password. This example allows the user to enter a UNIX password and to be authenticated for Web access if the password can be verified. This example works only for the case where a user is known to both Domino and to UNIX. The example assumes that the UNIX user name is the user's Domino "short name". For instance:

Domino user name: Jane Doe
Domino short name: jdoe
UNIX user name: jdoe

Note: UNIX is case sensitive, so the Domino short name should be stored as lower case characters. For best interoperability, this name should be no longer than 8 characters.

This example "DSAPI filter file" is to be built as a UNIX shared library. The library is loaded by Domino HTTP. Library entry points are called whenever HTTP needs to authenticate a user. The format of library entry points are defined by the Domino DSAPI interface.

Each time this filter's Authenticate routine is called, a lookup is done of the user in the Domino name and address book, assuming that the user is not found in the cache from a previous authentication. This lookup attempts to retrieve the user's Domino short name (jdoe) and the user's full Domino name.

If UNIX user names do not correspond to Domino short names, this example would need to be changed to handle the way in which UNIX names should be mapped to Domino names, and vice versa. Given the assumption in this example about name interdependencies, this example requires use of the Notes SDK C language API.

This example is provided for your convenience; it may not be supported at every customer site.

The source files for the example are included in a separate release note. The files should be called "dsapifilter.c" and "dsapifilter.h". Example makefiles are also provided in a separate release note.

To build this example using a "make" utility:

1. Get the appropriate makefile for your platform. For instance, if you are building on Solaris, rename the "Makefile.sol" file to "Makefile".
2. Customize the Makefile for your environment, for example, supply the proper paths to your Notes include files.
3. Invoke the Makefile by entering the command "make". This builds a shared library for your platform.
4. Check the Makefile rules for installing your shared library and customize to the proper path as needed. Invoke the installation by entering the command "make install". This copies your shared library to its destination directory. You must have write permission for the destination directory.

To configure and test this example:

1. Edit the Server document. On the Internet Protocols - HTTP tab, enter the name of the shared library in the "DSAPI filter file name" field. If the shared library is installed to a directory other than the Domino executable directory, provide a full path name to the library.
2. Restart the Domino server HTTP task. The server console should display an initialization message as the shared library is loaded.
3. Register a new Domino user, ensuring that the user's Domino short name corresponds to the desired UNIX login username. Or, find an existing Domino user who is already known to both Domino and UNIX.
4. For the target Domino database, edit the database access control list to grant access to the Domino user.
5. Use a Web browser to access the target database. If the example is working properly, you should be prompted for user name and password. Enter the UNIX password to test the example.

Domino Web Server API (DSAPI): Example UNIX filter source

This release note contains the two source files needed to create the example UNIX filter for the Domino Web Server. The C language source file is called "dsapifilter.c". The header file is called "dsapifilter.h". The source for each of these files is included below.

Source code for dsapifilter.c:

```

/*
_____|
*
*      File:          dsapifilter.c for unix
*
*      Copyright (c)1999 Iris Associates
*
_____|
*/

/*****
* Overview:
*
* The purpose of this example is to show how to extend the Domino web
* server to enable unix password checking.  When a Domino database is
* accessed via a web browser, Domino can authenticate the user based on
* unix password (i.e. password stored in standard unix password registries
* such as /etc/passwd or NIS).
*
* When a protected web page is accessed, Domino will prompt for a user
name
* and password.  This example allows the user to enter a unix password,
and
* to be authenticated for web access if the password can be verified.
This
* example works only for the case where a user is known to both Domino
* and to unix.  The example assumes that the unix user name is the user's
* Domino "short name".  For instance:
* Domino user name      Jane Doe
* Domino short name     jdoe
* unix user name        jdoe
* (note:  unix is case sensitive, so the Domino short name should be
* stored as lower case characters.  For best interoperability,
* this name should be no longer than 8 characters.)
*
* This example "DSAPI filter file" is to be built as a unix shared
library.
* The library is loaded by Domino http.  Library entry points are called
* whenever http needs to authenticate a user.  The format of library
* entry points are defined by the Domino DSAPI interface.
*
* Each time this filter's Authenticate routine is called, a lookup
* will be done of the user in the Domino name and address book (assuming
* that the user is not found in the cache from a previous authentication).
* This lookup will attempt to retrieve the user's Domino short name
* (e.g. jdoe) and the user's full Domino name.
*
* If unix user names do not correspond to Domino short names, this
* example would need to be changed to handle the way in which
* unix names should be mapped to Domino names, and vice versa.
* Given the assumption in this example about name interdependencies,
* this example requires use of the Notes SDK C language api.
*
* This example is provided for your convenience; it may not be
* supported at every customer site.

```

```

*
* To build this example using a "make" utility:
*
* 1. Get the appropriate makefile for your platform. For instance, if
you
* are building on Solaris, rename the "Makefile.sol" file to
"Makefile".
*
* 2. Customize the Makefile for your environment, i.e. supply the
* proper paths to your Notes include files, etc.
*
* 3. Invoke the Makefile by entering the command "make". This will build
* a shared library for your platform.
*
* 4. Check the Makefile rules for installing your shared library
* and customize to the proper path as needed. Invoke the installation
* by entering the command "make install". This will copy your shared
* library to its destination directory. You must have write
permission
* for the destination directory.
*
* To configure and test this example:
*
* 1. Open the Domino Name and Address book. Switch to the server view,
* and open the server document. Edit the server document:
* -- Click the "Internet Protocols" tab,
* -- Click the "HTTP" tab.
* -- Edit the field "DSAPI filter file name" to contain the name of
* the shared library. (If the shared library is installed to a
* directory other than the Domino executable directory, provide a
* full path name to the library.)
* -- Save your changes.
*
* 2. Gain access to the server console. Restart the Domino server
* http task (e.g. issue commands "tell http quit", "load http").
* The server console should display an initialization message as
* the shared library is loaded.
*
* 3. From a Domino admin client, register a new Domino user, ensuring
* that the user's Domino short name corresponds to the desired unix
* login username. Or find an existing Domino user who is already
* known to both Domino and unix.
*
* 4. For the target Domino database that will be accessed from a web
* browser, edit the database access control list to grant access to
* the Domino user.
*
* 5. Use a web browser to access the target database. If the example
* is working properly, you should be prompted for user name and
* password. Enter the unix password to test the example.
*
*****/

/* Input and output include files */
#include <stdlib.h>
#include <stdio.h>
#include <string.h>

/* Special dsapi include file */
#include "dsapifilter.h"

```



```

/* unix authentication includes */
#ifdef SOLARIS
#include <shadow.h>
#endif

#ifdef AIX
#include <sys/types.h>
#include <pwd.h>
#endif

#ifdef HPUX
#include <pwd.h>
#include <crypt.h>
#include <unistd.h>
#endif

/* Notes SDK include files */
#include "global.h"
#include "osmem.h"
#include "lookup.h"

/*---
*           local procedure prototypes
*/

/* Notes SDK unix shared library entrypoint */
STATUS FAR PASCAL MainEntryPoint (void);

/* Routines with syntax dictated by the DSAPI interface */
unsigned int Authenticate(FilterContext* context,
                        FilterAuthenticate* authData);

/* Retrieval of names from Notes name and address book */
int getUserNames (FilterContext* context,
                 char *userName,
                 char **pUserFullName,
                 int *pUserFullNameLen,
                 char **pUserShortName,
                 int *pUserShortNameLen);

int getLookupInfo (FilterContext* context,
                 char *pMatch,
                 int itemNumber,
                 char **pInfo,
                 int *pInfoLen);

/* unix password check routine */
int unixAuthenticate(char *userName, char *password);

/*---
*           local procedures follow
*/

STATUS FAR PASCAL MainEntryPoint (void) {
/*
* Description: Provide a main entry point for the notes api to initialize
*             inside of this shared library. We need this entry
*             point because we want to be able to lookup user information
*             in the name and address book via the Notes SDK api.
*
*/

```

```

* Input:  nothing
* Output: nothing
* Return: NOERROR
*/
    return NOERROR;
}

/*---
*          filter initialization
*/
unsigned int FilterInit(FilterInitData* filterInitData)
{
/*
* Description:  Filter initialization is performed when the filter
*              shared library is dynamically loaded.
*
* Input:  filterInitData    dsapi specification controls the format of data
* Output: filterInitData    several fields are filled in
*
* Return: kFilterHandledEvent
*/
    filterInitData->appFilterVersion = kInterfaceVersion; /*Required*/

    /* Modify the following code to set the flags you want */
    filterInitData->eventFlags =
        kFilterAuthUser;

    /* Set a short description for your filter */
    strcpy(filterInitData->filterDesc, "Unix Authentication Filter");

    /* insert any global initialization code here... */

    /* Output sent to stdout and stderr is displayed on the
     * server console, but is not written to the server log file.
     */
    printf("\nDSAPI Unix Authentication filter initialized\n");
    return kFilterHandledEvent;
}

/*---
*          filter termination
*/
unsigned int TerminateFilter(unsigned int reserved)
{
/*
* Description:  Filter termination is performed when the filter
*              shared library is unloaded.
*
* Input:  reserved    currently unused (dsapi spec control the format of
data)
* Output: none
*
* Return: kFilterHandledEvent
*/
    /* insert any global cleanup code here... */

    printf("\nDSAPI Unix authentication filter unloaded\n");
    return kFilterHandledEvent;
}

```

```

/*---
*           filter notification handling
*/
unsigned int HttpFilterProc(FilterContext* context,
                           unsigned int eventType, void* eventData)
{
/*
* Description:  This routine is called for all dsapi filter events.
*
* Input:  reserved      currently unused (dsapi spec control the format of
data)
* Output: none
*
* Return: kFilterNotHandled for all events that we don't customize, otherwise
*        allow our filter routine to provide a return value.
*/

/* Include only those events we want to handle */
switch (eventType) {
case kFilterAuthUser:
    return Authenticate(context, (FilterAuthenticate *)eventData);
default:
    break;
}

return kFilterNotHandled;
}

/*---
*           handle user authentication
*/
unsigned int Authenticate(FilterContext* context, FilterAuthenticate*
authData)
{
/*
* Description:  This routine is called on a dsapi kFilterAuthUser event.
*
* Input:  context      dsapi specification controls the format of data
*          authData    password field contains the password to use for
authentication
*
*          userName field contains the name to authenticate
*          foundInCache field is TRUE if user has been found in
*          the cache and can be authenticated on that basis.
*
* Output: authData    authName field is filled with user's distinguished name
*          authType filed is filled with
*          kNotAuthentic if we can't authenticate the unix user
*          kAuthenticBasic if we can authenticate the unix user
*
* Return: kFilterNotHandled if we do not understand the input data, or if
*        the user has been found in the cache, or if
*        we find that the user to be authenticated is not
*        known to unix.
*        kFilterHandledEvent if the user is known to unix.
*/

/* If the user is found in the cache, then we don't need to do
* anything further.
*/
if (!authData || authData->foundInCache)
    return kFilterNotHandled;

```

```

/* Attempt to verify the user's password.
*/
if (authData->userName && authData->password) {
    char *fullName = NULL;
    int fullNameLen = 0;
    char *shortName = NULL;
    int shortNameLen = 0;

    /* Lookup the user in the Name and Address book. Get the
     * user's short name (which we expect is the unix user name),
     * and get the user's fullname (which we expect will be in the
     * format to pass back to dsapi).
     */
    if (0 == getUserNames (context,
                          (char *)authData->userName,
                          &fullName,
                          &fullNameLen,
                          &shortName,
                          &shortNameLen) ) {

        int unixauth;
        /* Do the unix authentication. The unixAuthenticate routine
         * returns: -1 on error, 0 on success, 1 if user is not
known to unix.
         */
        unixauth = unixAuthenticate(shortName, (char
*)authData->password);
        /* Return if user is not known to unix */
        if (1 == unixauth) {
            return kFilterNotHandled;
        }
        /* Copy the canonical name for this user that dsapi requires
*/
        strncpy ((char *)authData->authName, fullName,
authData->authNameSize);

        /* Fill in authType return info that dsapi requires. */
        if (unixauth) {
            /* The unixauthenticate routine returned error: we
couldn't
            * authenticate with the input password.
            */
            authData->authType = kNotAuthentic;
        } else {
            /* For debug purposes, write to the Domino console
that
            * authentication with the input password succeeded.
            * You may wish to remove this printf.
            */
            printf("DSAPI Filter authenticated %s as %s (unix user
%s)\n", (char *)authData->userName, authData->authName, shortName);
            authData->authType = kAuthenticBasic;
        }
        return kFilterHandledEvent;
    }
}
return kFilterNotHandled;
}

```

```

int getUserNames (FilterContext* context,
                  char *userName,
                  char **pUserFullName,
                  int *pUserFullNameLen,
                  char **pUserShortName,
                  int *pUserShortNameLen) {
/*
 * Description: Lookup the user and return the user's full name and
 *              short name.
 *
 * Input: context context we'll use for allocating memory
 *        userName the name of the user to lookup
 * Output: pUserFullName location of the user's full name
 *        pUserFullNameLen location to store the length of fullname
 *        pUserShortName location of the user's shortname
 *        pUserShortNameLen location to store the length of shortname
 *
 * Return: -1 on error, 0 on success
 */
    STATUS error = NOERROR;
    HANDLE hLookup = NULLHANDLE;
    WORD Matches = 0;
    char *pLookup;
    char *pName = NULL;
    char *pMatch = NULL;
    int rc = -1;

    if (!userName || !pUserFullName || !pUserFullNameLen ||
        !pUserShortName || !pUserShortNameLen)
        return rc;

    /* Initialize output */
    *pUserFullName = NULL;
    *pUserFullNameLen = 0;
    *pUserShortName = NULL;
    *pUserShortNameLen = 0;

    /* do the name lookup
     */
    error = NAMELookup(NULL, /* NULL means look locally */
                      0, /* flags */
                      1, /* number of namespaces */
                      "$Users", /* namespace list */
                      1, /* number of names to lookup */
                      userName, /* list of names to lookup */
                      2, /* number of items to return */
                      "FullName\0ShortName", /* list of items to return */
                      &hLookup); /* place to receive handle of return buffer
 */

    if (error || (NULLHANDLE == hLookup))
        goto NoUnlockExit;

    pLookup = (char *) OSLockObject(hLookup);

    /* Get a pointer to our entry.
     */
    pName = (char *)NAMELocateNextName(pLookup, /* name lookup buffer */
                                       NULL, /* start at beginning of lookup buffer
 */

```

```

the
                                &Matches); /* Receives number of times we found
                                * entry (should be 1)
                                */

/* If we didn't find the entry, then quit */
if ((pName == NULL) || (Matches <= 0)) {
    goto Exit;
}

pMatch = (char *)NAMELocateNextMatch(pLookup, /* name lookup buffer */
                                     pName, /* entry that we found */
                                     NULL); /* no previous match */

if (NULL == pMatch) {
    goto Exit;
}

/* Get the full name from the info we got back */
if ( getLookupInfo (context,
                   pMatch,
                   0,
                   pUserFullName,
                   pUserFullNameLen) )

    goto Exit;

/* Get the short name from the info we got back */
if ( getLookupInfo (context,
                   pMatch,
                   1,
                   pUserShortName,
                   pUserShortNameLen) )

    goto Exit;

else
    /* Success in all things */
    rc = 0;

Exit:
    if ( pLookup && hLookup )
        OSUnlock(hLookup);
NoUnlockExit:
    if (NULLHANDLE != hLookup)
        OSMemFree(hLookup);
    return rc;
}

int getLookupInfo (FilterContext* context,
                  char *pMatch,
                  int itemNumber,
                  char **pInfo,
                  int *pInfoLen) {

/*
* Description:  Get the info from the lookup buffer
*
* Input:  context          context we'll use for allocating memory
*         pMatch          the name of the lookup buffer
*         itemNumber      where the info is stored in the lookup buffer
* Output: pInfo          location of the info buffer
*         pInfoLen       location to store the info length
*
* Return: -1 on error, 0 on success
*/

```

```

unsigned int reserved = 0;
unsigned int errID;
char *ValuePtr = NULL;
WORD ValueLength, DataType;
STATUS error;
void *newSpace = NULL;

if (!pMatch || !pInfo || !pInfoLen || (itemNumber < 0))
    return -1;

/* Initialize output */
*pInfo = NULL;
*pInfoLen = 0;

/* Check the type and length of the info */
ValuePtr = (char *)NAMELocateItem(pMatch, /* match that we found */
                                itemNumber, /* item # in order of item on lookup
*/
                                &DataType, /* return the datatype of item value
*/
                                &ValueLength); /* size of rtn value */
if (NULL == ValuePtr || ValueLength == 0) {
    /* there is no info */
    return -1;
}
ValueLength -= sizeof(WORD); /* remove datatype word included
                             * in the list length
                             */

/* check the value DataType */
switch (DataType) {
    case TYPE_TEXT_LIST:
        break;

    case TYPE_TEXT:
        break;

    default:
        return -1;
}

/* Allocate space for the info. This memory will be freed
 * automatically when the thread terminates.
 */
newSpace = (context->AllocMem)(context, ValueLength+1, reserved,
&errID);
*pInfo = (char *) newSpace;
if (NULL == *pInfo) {
    printf ("Out of memory\n");
    return -1;
}

/* Get the info */
error = NAMEGetTextItem(pMatch, /* match that we found */
                       itemNumber, /* item # in order of item on lookup */
                       0, /* Member # of item in text lists */
                       *pInfo, /* buffer to copy result into */
                       ValueLength+1); /* Length of buffer */

if (!error) {
    *pInfoLen = ValueLength + 1;
    return 0;
}

```

```

        return -1;
    }

int unixAuthenticate(char *userName, char *password) {
/*
 * Description:  See if the user is known to unix, and if so, check
 *              that the password can be verified.
 *
 * Input:   userName      unix user name
 *          password      unix password
 *
 * Return:  -1 on error, 0 on success, 1 if user is not known to unix
 */
    char buffer[1024];
    int error = -1;
    int success = 0;
    int unknown = 1;

#ifdef SOLARIS
    struct spwd result;
#endif

#ifdef AIX
    struct passwd *result;
#endif

#ifdef HPUX
    struct passwd pwd;
    size_t buflen = sizeof(buffer);
    struct passwd *result;
    int err;
#endif

    if (!userName)
        return error;

    /* Get the unix record for this user */
#ifdef SOLARIS
    if (getspnam_r(userName, &result, buffer, sizeof(buffer))) {
        /* Encrypt the password and see if it matches the encrypted
         * password from the user's record.
         */
        char *thisCrypt = NULL;
        thisCrypt = (char *)crypt(password, result.sp_pwdp);
        if (strcmp (result.sp_pwdp, thisCrypt) == 0) {
            return success;
        } else {
            return error;
        }
    }
#endif

#ifdef AIX
    result = getpwnam(userName);
    if (result && result->pw_passwd) {
        /* Encrypt the password and see if it matches the encrypted
         * password from the user's record.
         */
        char *thisCrypt = NULL;
        thisCrypt = (char *)crypt(password, result->pw_passwd);
        if (strcmp (result->pw_passwd, thisCrypt) == 0) {

```



```

        return success;
    } else {
        return error;
    }
}
#endif

#ifdef HPUX
    err = getpwnam_r(userName, &pwd, buffer, buflen, &result);
    if (0 == err) {
        /* Encrypt the password and see if it matches the encrypted
         * password from the user's record.
         */
        if (strcmp (result->pw_passwd,
                    crypt(password, result->pw_passwd) ) == 0) {
            return success;
        } else {
            return error;
        }
    }
#endif
return unknown;
}

/* ----- end of dsapifilter.c */

```

Source code for dsapifilter.h:

```

/*-----
 *
 *      File:      dsapifilter.h
 *
 *      Copyright (c)1999 Iris Associates
 *
 *-----*/

#ifndef DSAPIFILTER_H
#define DSAPIFILTER_H

#ifdef __cplusplus
extern "C" {
#endif

/*---
 *      Types and Defines
 */

#define kInterfaceVersion    2
#define kMaxFilterDesc      255

typedef unsigned char LMBCS;

typedef enum {
    kFilterNotHandled = 0,
    kFilterHandledRequest = 1,
    kFilterHandledEvent = 2,
    kFilterError = 3
} FilterReturnCode;

```

```

/*--
 *      Filter interface
 */

/*---
 *      events to register for
 */
typedef enum {
    kFilterRawRequest      = 0x01,
    kFilterParsedRequest  = 0x02,
    kFilterAuthUser       = 0x04,
    kFilterUserNameList   = 0x08,
    kFilterMapURL         = 0x10,
    kFilterResponse       = 0x20,
    kFilterRawWrite       = 0x40,
    kFilterEndRequest     = 0x80,
    kFilterAny            = 0xFF
} EventFlags;

/*---
 *      filter initialization data
 */
typedef struct {
    unsigned int    serverFilterVersion;
    unsigned int    appFilterVersion;
    unsigned int    eventFlags;
    unsigned int    initFlags;
    char            filterDesc[kMaxFilterDesc+1];
} FilterInitData;

/*---
 *      request line structure
 */
typedef struct {
    unsigned int    method;
    char*          URL;
    char*          version;
    char*          userName;
    char*          password;
    unsigned char*  clientCert;
    unsigned int    clientCertLen;
    char*          contentRead;
    unsigned int    contentReadLen;
} FilterRequest;

/*---
 *      filter context data included in every call to filter
 */
typedef struct _FilterContext {
    unsigned int    contextSize;
    unsigned int    revision;
    void*          serverContext;
    unsigned int    serverReserved;
    unsigned int    securePort;
    void*          privateContext;
}

```

```

int (*GetRequest)(struct _FilterContext* context,
                  FilterRequest* request,
                  unsigned int* errID);

int (*GetRequestContents)(struct _FilterContext* context,
                           char** contents,
                           unsigned int* errID);

int (*GetServerVariable)(struct _FilterContext* context,
                          char* name,
                          void* buffer,
                          unsigned int bufferSize,
                          unsigned int* errID);

int (*WriteClient)(struct _FilterContext* context,
                   char* buffer,
                   unsigned int bufferLen,
                   unsigned int reserved,
                   unsigned int* errID);

void* (*AllocMem)(struct _FilterContext* context,
                  unsigned int size,
                  unsigned int reserved,
                  unsigned int* errID);

int (*ServerSupport)(struct _FilterContext* context,
                     unsigned int funcType,
                     void* data1,
                     void* data2,
                     unsigned int other,
                     unsigned int* errID);
} FilterContext;

typedef unsigned int (*FilterInitFuncType)(FilterInitData* initData);
typedef unsigned int (*FilterEventFuncType)(FilterContext* context,
                                             unsigned int eventType,
                                             void* eventData,
                                             unsigned int* errID);
typedef unsigned int (*FilterTermFuncType)(unsigned int);

/*---
*      request methods
*/
typedef enum {
    kRequestNone      = 0,
    kRequestHEAD      = 1,
    kRequestGET        = 2,
    kRequestPOST      = 3,
    kRequestPUT        = 4,
    kRequestDELETE    = 5
} RequestMethod;

/*---
*      server support function types
*/
typedef enum {
    kWriteResponseHeaders = 1
} ServerSupportTypes;

```

```

/*---
 *      'data1' for server support function 'kWriteResponseHeaders'
 */
typedef struct {
    unsigned int    responseCode;
    char*          reasonText;
    char*          headerText;
} FilterResponseHeaders;

/*---
 *      raw request (headers not processed yet)
 */
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    int (*SetHeader)(FilterContext* context,
                    char* name,
                    char* value,
                    unsigned int* errID);

    int (*AddHeader)(FilterContext* context,
                    char* header,
                    unsigned int* errID);

    unsigned int reserved;
} FilterRawRequest;

/*---
 *      parsed request
 */
typedef struct {
    unsigned int requestMethod;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                    char* name,
                    char* buffer,
                    unsigned int bufferSize,
                    unsigned int* errID);

    unsigned int reserved;
} FilterParsedRequest;

```

```

/*---
*      URL map
*/
typedef struct {
    const char*   url;
    char*         pathBuffer;
    unsigned int  bufferSize;
    unsigned int  mapType;
} FilterMapURL;

/*---
*      URL map types
*/
typedef enum {
    kURLMapUnknown   = 0,
    kURLMapPass      = 1,
    kURLMapExec      = 2,
    kURLMapRedirect  = 3,
    kURLMapService   = 4,
    kURLMapDomino    = 5
} FilterULMapTypes;

/*---
*      user authentication
*/
typedef struct {
    LMBCS*         userName;
    LMBCS*         password;
    unsigned char* clientCert;
    unsigned int   clientCertLen;
    unsigned int   authFlags;
    unsigned int   preAuthenticated;
    unsigned int   foundInCache;
    unsigned int   authNameSize;
    LMBCS*         authName;
    unsigned int   authType;

    int (*GetUserNameList)(FilterContext* context,
                           LMBCS* buffer,
                           unsigned int bufferSize,
                           unsigned int* numNames,
                           unsigned int reserved,
                           unsigned int* errID);

    int (*GetHeader)(FilterContext* context,
                     char* name,
                     char* buffer,
                     unsigned int bufferSize,
                     unsigned int* errID);
} FilterAuthenticate;

/*---
*      user authentication types
*/
typedef enum {
    kNotAuthentic      = 0,
    kAuthenticBasic    = 1,
    kAuthenticClientCert = 2
}

```

```

} FilterAuthenticationTypes;

/*---
*      authentication configuration flags
*/
typedef enum {
    kAuthAllowBasic           = 1,
    kAuthAllowAnonymous      = 2,
    kAuthAllowSSLCert        = 4,
    kAuthAllowSSLBasic       = 8,
    kAuthAllowSSLAnonymous   = 16,
    kAuthRedirectToSSL       = 32
} FilterAuthConfigFlags;

/*---
*      user name list
*/
typedef struct {
    const LMBCS*   userName;

    int (*GetUserNameList)(FilterContext* context,
                          LMBCS* buffer,
                          unsigned int bufferSize,
                          unsigned int* numNames,
                          unsigned int reserved,
                          unsigned int* errID);

    int (*PopulateUserNameList)(FilterContext* context,
                                LMBCS* buffer,
                                unsigned int bufferSize,
                                unsigned int* numNames,
                                unsigned int reserved,
                                unsigned int* errID);

    int (*AddGroupsToList)(FilterContext* context,
                           LMBCS* groupNames,
                           unsigned int numGroupNames,
                           unsigned int reserved,
                           unsigned int* errID);

    int (*RemoveGroupsFromList)(FilterContext* context,
                                unsigned int reserved,
                                unsigned int* errID);

    unsigned int reserved;
} FilterUserNameList;

/*---
*      request response
*/
typedef struct {
    unsigned int   responseCode;
    char*          reasonText;

    int (*GetAllHeaders)(FilterContext* context,
                        char** headers,
                        unsigned int* errID);

```

```

int (*GetHeader)(FilterContext* context,
                char* name,
                char* buffer,
                unsigned int bufferSize,
                unsigned int* errID);

int (*SetHeader)(FilterContext* context,
                char* name,
                char* value,
                unsigned int* errID);

int (*AddHeader)(FilterContext* context,
                char* header,
                unsigned int* errID);

    unsigned int reserved;
} FilterResponse;

/*---
*   write content
*/
typedef struct {
    char*          content;
    unsigned int   contentLen;
    unsigned int   reserved;
} FilterRawWrite;

#ifdef __cplusplus
}
#endif

#endif /* DSAPIFILTER_H */

```

Server

Domino Web Server API (DSAPI): Example UNIX filter makefiles

This release note contains makefiles and other supporting files needed to build the example UNIX Web server filter. Makefiles are provided below for Solaris, AIX, and HP-UX.

To build the example using a "make" utility:

1. Get the appropriate makefile for your platform. For instance, if you are building on Solaris, copy "Makefile.sol" below to "Makefile".
2. Customize the Makefile for your environment, i.e. supply the proper paths to your Notes include files, etc.
3. Invoke the Makefile by entering the command "make". This will build a shared library for your platform.
4. Check the Makefile rules for installing your shared library and customize to the proper path as needed.
Invoke the installation by entering the command "make install".

This will copy your shared library to its destination directory. You must have write permission for the destination directory.

For Solaris builds, copy Makefile.sol to a file called Makefile.

Source Code for Makefile.sol:

```
# Makefile.sol
#
# makefile for Domino dsapi sample program dsapifilter.c
#           Solaris version
#
#
# set LIBSHARED to the name of the executable to create
LIBSHARED = libunixauth.so
#
# set DESTDIR to the name of the directory to install to
DESTDIR = /opt/lotus/notes/latest/sunspa
#
# set NOTESDIR to specify where to search for the Notes library file
NOTESDIR = /opt/lotus/notes/latest/sunspa
#
# set TOOLSDIR to specify where to find the buildtools
TOOLSDIR=/vobs/sunspa/bin
#
# set LIBDIR to specify where to search for system library files
LIBDIR=/vobs/sunspa/lib
#
# set INCDIR to specify where to search for include files
INCDIR = /opt/lotus/notesapi/include
#
# set SOURCES to the list of C source files in this program
SOURCES = dsapifilter.c
#
# set HEADERS to the list of C include files in this program
HEADERS = dsapifilter.h
#
# set OBJECTS to the list of object files that must be linked
OBJECTS = dsapifilter.o
#
# CC defines the compiler.
CC = cc
#
# Set CCOPTS - the compiler options.
#DEBUGFLGS =
# You may use the following flags for debugging:
DEBUGFLGS = -g
#
# The compiler flags we're using:
# -c           Compile only - produce .o files, suppress linking
# -xcg92       Generate code for SPARC V8 architecture
# -xCC         Accept C++ style comments
# -Xt          Compile assuming K & R conformance, allow ANSI C
# -xchip=<c>   Specify the target processor for use by the optimizer
# (NOTE: you may wish to add optimization.)
CCOPTS = -c -xcg92 -xCC -Xt -xchip=ultra $(DEBUGFLGS)
```



```

# Compiler defines:
# Note which version of UNIX we're running.
# Define requirement to use thread safe libraries.
DEFINES = -DUNIX -DSOLARIS -DW -DW32 -D_REENTRANT -DUSE_THREADSAFE_INTERFACES

# Set LINKOPTS - the linker options passed to CC when linking.
# -Yl,<dir>          Specify <dir> for link location
# -YP,<dir>          Change default directory for finding libraries files
# -i                Passed to linker to ignore any LD_LIBRARY_PATH setting
# -G                Build a dynamic shared library
# -o                Name the output file
LINKOPTS = -Yl,$(TOOLSDIR) -YP,$(LIBDIR) -i -G -o $(LIBSHARED)

# set LIBS to list all the libraries ld should link with.
# *** THE NOTES LIBRARY IS notes ***
LIBS = -lnotes -lC -lthread -lc

# the executable depends on the objects.
$(LIBSHARED): $(OBJECTS)
    $(CC) $(LINKOPTS) $(OBJECTS) -L$(NOTESDIR) $(LIBS)

# the object files depend on the corresponding source files
.c.o:
    $(CC) $(CCOPTS) $(DEFINES) -I$(INCDIR) $(SOURCES)

clean :
    rm -rf $(LIBSHARED) $(OBJECTS)

install:
    cp -p $(LIBSHARED) $(DESTDIR)/$(LIBSHARED)

remove:
    rm -f $(DESTDIR)/$(LIBSHARED)

# end of Makefile.sol

```

For AIX builds, copy Makefile.aix to a file called Makefile. Makefile.aix follows, as well as an export file "exports.aix" which must be copied as well:

Source Code for Makefile.aix:

```

# Makefile.aix
#
# makefile for Notes API sample program dsapifilter.c
#           AIX version
#
# set LIBSHARED to the name of the executable to create
LIBSHARED = libunixauth.a

# set DESTDIR to the name of the directory to install to
DESTDIR = /opt/lotus/notes/latest/ibmpow

# set NOTESDIR to specify where to search for the Notes library file
NOTESDIR = $(DESTDIR)

# set INCDIR to specify where to search for include files
INCDIR = /opt/lotus/notesapi/include

```

```

# set SOURCES to the list of C source files in this program
SOURCES = dsapifilter.c

# set HEADERS to the list of C include files in this program
HEADERS = dsapifilter.h

# set OBJECTS to the list of object files that must be linked
OBJECTS = dsapifilter.o

# CC defines the compiler.
# *** FOR NOTES 5.0 USE xlc_r ***
CC = xlc_r

# Set CCOPTS - the compiler options.
#DEBUGFLGS =
#LINKDEBUG =
# You may use the following flags for debugging:
DEBUGFLGS = -g -qfullpath
LINKDEBUG = -bnoquiet

# -qcpluscmt Permit C++ comments
# (NOTE: you may wish to add optimization.)
CCOPTS = -c -qnorc -qcpluscmt $(DEBUGFLGS)

# Notes API header files require UNIX to be defined.
# Require threadsafe interfaces.
DEFINES = -DUNIX -DAIX -DW -DW32 -D_REENTRANT -DUSE_THREADSafe_INTERFACES

# Set LINKOPTS - the linker options passed to CC when linking.
# -o $(LIBSHARED) causes compiler to create target rather than a.out
# -bE:exports.aix export the symbols in the file "exports.aix"
# -bM:SRE sets the module-type field and shared object flag in
# the object file.
# S prefix says to set the shared flag in the object file.
# RE Reusable. This says the module requires a private
# copy of the data area for each process dependent
# on the module.
# -bnoentry no main program entry point
LINKOPTS = -o $(LIBSHARED) -bE:exports.aix -bM:SRE -bnoentry $(LINKDEBUG)

# set LIBS to list all the libraries ld should link with.
# *** THE NOTES LIBRARY IS libnotes_r.a ***
LIBS = -lnotes_r -lm -lc_r

# the executable depends on the objects.
$(LIBSHARED): $(OBJECTS)
    ld $(LINKOPTS) $(OBJECTS) -L$(NOTESDIR) $(LIBS)

# the object files depend on the corresponding source files
.c.o:
    $(CC) $(CCOPTS) $(DEFINES) -I$(INCDIR) $(SOURCES)

clean :
    rm -rf $(LIBSHARED) $(OBJECTS)

install:
    cp -p $(LIBSHARED) $(DESTDIR)/$(LIBSHARED)

remove:
    rm -f $(DESTDIR)/$(LIBSHARED)
# end of Makefile.aix

```

For AIX builds, create a file exports.aix with the following exported library routines.

Source Code for exports.aix:

```
MainEntryPoint
FilterInit
HttpFilterProc
TerminateFilter
```

For HP-UX builds, copy Makefile.hp to a file called Makefile. Makefile.hp follows, as well as an export file "exports.hp":

Source Code for Makefile.hp:

```
# Makefile.hp
#
# makefile for Domino DSAPI sample program dsapifilter.c
#           HP/UX version
#

# set LIBSHARED to the name of the executable to create
LIBSHARED = libunixauth.sl

# set DESTDIR to the name of the directory to install to
DESTDIR = /opt/lotus/notes/latest/hppa

# set NOTESDIR to specify where to search for the Notes library file
NOTESDIR = /opt/lotus/notes/latest/hppa

# set INCDIR to specify where to search for include files
INCDIR = /opt/lotus/notesapi/include

# set SOURCES to the list of C source files in this program
SOURCES = dsapifilter.c

# set HEADERS to the list of C include files in this program
HEADERS = dsapifilter.h

# set OBJECTS to the list of object files that must be linked
OBJECTS = dsapifilter.o

# CC defines the compiler. Set to "cc" for native HP C compiler.
# Note: the aCC compiler may mangle required exported symbols, therefore
# cc is advised.
CC = cc

# Use "ld" to link
LINK = ld

# You may use the following flags for debugging:
DEBUGFLGS = -g
#DEBUGFLGS =

# Set CCOPTS - the compiler options.
# -c says suppress linking
# -Aa for ANSI compliance
```

```

# +z for position-independent code.
# +DA1.1 generate code for PA-RISC 1.1 architecture.
# (Note: you may wish to add optimization.)
CCOPTS = -c -Aa +z +DA1.1 $(DEBUGFLGS)

# Set LINKOPTS - the linker options.
# -o      name the output LIBSHARED rather than a.out.
# -n      generate an executable output file with file type SHARE_MAGIC
# -b      create a shared library
# -c      export the symbols in file exports.hp
LINKOPTS = -o $(LIBSHARED) -n -b -c exports.hp

# Compiler defines:
# Note which version of UNIX we're running.
# Define requirement to use thread safe libraries.
DEFINES = -DUNIX -DHPUX -D_HPUX_SOURCE -DW -DW32 -D_REENTRANT
-DUSE_THREADSAFE_INTERFACES

# set LIBS to list all the libraries ld should link with.
LIBS = -lnotes -lm -ldld -lnsl_s -lc

# the executable depends on the objects.
$(LIBSHARED): $(OBJECTS)
    $(LINK) $(LINKOPTS) $(OBJECTS) -L$(NOTESDIR) $(LIBS)

# the object files depend on the corresponding source files
.c.o:
    $(CC) $(CCOPTS) $(DEFINES) -I$(INCDIR) $(SOURCES)

clean :
    rm -rf $(LIBSHARED) $(OBJECTS)

install:
    cp -p $(LIBSHARED) $(DESTDIR)/$(LIBSHARED)

remove:
    rm -f $(DESTDIR)/$(LIBSHARED)

# end of Makefile.hp

```

For HP-UX builds, create a file exports.hp with the following exported library routines.

Source Code for exports.hp:

```

+e MainEntryPoint
+e FilterInit
+e HttpFilterProc
+e TerminateFilter

```

Chapter 2 - Things you need to know

Directory Install and CD-ROM Structure

Client, Designer, Server

CD-ROM directory structures

Notes CD-ROM directory structure

AUTORUN.INF
README.NSF
README.PDF
SETUP.BAT
START.TXT
APPS
 ACTIONEER
 ADOBE
 WIN32
 DICTIONARIES
 FONTS
 SMARTSUITE
 VIAVOICE
AUTORUN
CLIENTS
 W32INTEL
TOURS

Notes/Domino/Domino Designer CD-ROM directory structure

AUTORUN.INF
README.NSF
README.PDF
SETUP.BAT
START.TXT
APPS
 ACTIONEER
 ADOBE
 WIN32
 DGW
 DICTIONARIES
 FONTS
 MTA
 SMARTSUITE
 SYSMGMT
 VIAVOICE

AUTORUN
CLIENTS
 W32INTEL
SERVERS
 W32ALPHA
 W32INTEL
TOURS

UNIX CD-ROM directory structure

README.NSF
README.PDF
START.TXT
APPS
 AGENTS
 ADOBE
 HPPA
 IBMPOW
 SUNSPA
 WIN32
 DIAGS
 DICTNRY
IBMPOW
 INSTALL
 LICENSE.TXT
 SCRIPT.DAT
 SETS
 TOOLS
SUNSPA
 INSTALL
 LICENSE.TXT
 SCRIPT.DAT
 SETS
 TOOLS
SUNX86
 INSTALL
 LICENSE.TXT
 SCRIPT.DAT
 SETS
 TOOLS

Information about additional items on Windows CD-ROMs

In addition to the Notes installation files, there are the following items on the Notes/Domino R5 CD-ROM for Windows platforms:

Actioneer!

Actioneer for Lotus Notes is an intelligent, quick-capture tool that lets you quickly and easily save information to your Notes Calendar, To Do list and Journal database. Actioneer is always available in your Windows system tray, regardless of whether you have Lotus Notes open or not.

Actioneer is not automatically installed with Notes R5. You can install it from the Notes R5 CD in the \APPS\ACTIONEER subdirectory, or download it at <http://www.actioneer.com>.

Once it is installed, Actioneer is easy to use:

- Highlight a portion of an e-mail message with your mouse, press the keyboard shortcut Ctrl+Alt+G, and watch the text automatically appear in the Actioneer window, ready to be saved in a Notes application.
- You can also enter text directly into the Actioneer window. To launch Actioneer, double-click the Actioneer icon in your Windows system tray. Type some text into the Actioneer window, such as "Meeting Fri 2 pm." Actioneer interprets the date and time data and automatically distributes it to a suitable destination in your calendar, to-do list, or journal.

A more advanced version of Actioneer, Actioneer Pro, is available direct from Actioneer at <http://www.actioneer.com>.

In the future, there will be an option to speech-enable Actioneer for Lotus Notes with IBM's ViaVoice technology, which is also included on the R5 CD-ROM (see below).

Adobe Acrobat Readers

On the root directory of the Notes and Domino CDs, the release notes are available in Adobe's Portable Document Format (PDF). To view PDF documents such as README.PDF, you can use the Adobe Acrobat Readers contained in the \APPS\ADOBE directory. For platform specific instructions, refer to the START.TXT text file found on the root directory. Additional information can be found on the Adobe Web site at <http://www.adobe.com>.

Domino Global Workbench R5 (Notes/Domino/Domino Designer CD only)

Domino Global WorkBench R5 (DGW) delivers a comprehensive set of advanced tools and software services to easily and interactively create, update, synchronize and manage Domino-based multilingual Web sites, while optimizing development costs. DGW turns Domino R5 servers in an intelligent language server for the Web. It is the key response to localizing Domino-based applications, and it presents new opportunities to an organization working in an international environment. For more information on Domino Global Workbench, you can visit the home page at <http://www.lotus.com/international>.

What's new in DGW R5:

- **User Interface** -- "Click Here" prompts guide you logically through the entire DGW process. View database design element attributes simply by selecting the database. Double-click on any database in the WorkBench to select it in Domino. A simple context sensitive color-coding system allows you to see which elements of a database have changed and need updating.
- **Tagging** -- Unlike Notes Global Designer 4.6, DGW creates a separate tagged database and does not make any changes to the source database. Tagging now handles attributed text (rich text), translatable text in LotusScript, and bitmaps. JavaScript is recognized and not tagged, whether embedded in HTML or not. Specific types of text, words, and phrases can now be excluded from tagging. Wildcarding allows exclusion of text beginning with specific prefixes. When DGW creates a glossary entry from formula text, it includes the whole formula in the "Description" field of the term definition document.
- **Update** -- Support of incremental update of design elements when tagging and building databases.
- **Reporting** -- Multi-tabbed log pane that provides context sensitive information as it is performed in the WorkBench and tracking of localization processes with the new log window and report database.
- **Synchronization** of databases across languages to create and manage documents across multiple languages in Domino applications or multilingual Web sites. DGW can now build synchronized uni- or multilingual databases that reflect changes made in one document across all specified languages. The new Synchronizer Report Database is used to record and store information about the state of synchronization across a Website. It provides reports on databases and documents set up for synchronization using DGW.
- **The Language Switchbar** -- Facilitates navigation across languages from document to document. The language switchbar is added during the creation of synchronized unilingual database forms, and allows the user to choose other language versions in which to view a document. Language switching for multilingual databases is now handled by the Domino core, rather than as an add-in for increased stability. Users accessing multilingual databases via browsers can now change the display language of the database's design.
- **Glossary** -- The user interface has been enhanced to make management, navigation and use easier than ever before. New glossary layout and navigators aid better workflow practices by splitting translation processes more clearly into Translator and Manager tasks.
- **Bi-directional functionality** for the Hebrew and Arabic languages. When building a localized Domino application including one of these languages, the application structure is altered to reflect the new bi-directional enhancements in Domino/Notes R5. DGW recognizes whether segments of translated text are bi-directional or not, and builds them out accordingly, so it is possible to include mixtures of mono and bi-directional text within individual glossary terms.

DGW system requirements:

- Windows 95 or Windows NT 4.0
- Intel Pentium processor
- A minimum of 16 MB of memory
- About 32 MB of hard disk space to install the software (26 MB for a minimum install).

Lotus software requirements:

- Domino R5 server (not needed for accessing local databases)
- Domino Designer R5 to use the WorkBench and the Tagger, and to manage glossaries
- Notes R5 client or Domino Designer R5 to translate Domino Global WorkBench glossaries.
- Notes R5 client, Domino Designer R5, or a Web browser (see below) to use databases built by Domino Global WorkBench.

Browser requirements:

For Web browsers to access databases, you must be running the Domino server. The browser can be any browser capable of supporting HTTP language detection, for example, Netscape Navigator 3.0 or later or Microsoft Internet Explorer 3.0 or later.

Language dictionary files

The language dictionary files are used for spell-checking within Notes. The following language dictionary files are included in the \APPS\DICTIONRY directory:

Language	Dictionary File Name
Afrikaans	AFRIKAAN.DIC
Arabic	ARABIC.DIC
Catalan	CATALA.DIC
Czech	CZECH.DIC
Danish	DANSK.DIC
Dutch Dutch Belgian	NEDERLND.DIC
Dutch Preferred	NEDPLUS.DIC
English (Australia)	AUS.DIC
English (Canada) English (Caribbean) English (Jamaica) English (New Zealand) English (United States)	US.DIC
English (Ireland) English (South Africa) English (United Kingdom)	UK.DIC
Finnish	SUOMI.DIC
French (Belgium) French (Luxembourg) French (Standard) French (Switzerland)	FRANCAIS.DIC
French (Canada)	CANADIEN.DIC

German (Austria) German (Liechtenstein) German (Luxembourg) German (Standard)	DEUTSCH.DIC
German (Switzerland)	DSCHWEIZ.DIC
Greek	HELLAS.DIC
Hebrew	HEBREW.DIC
Hungarian	MAGYAR.DIC
Icelandic	ISLENSK.DIC
Italian (Standard) Italian (Switzerland)	ITALIANO.DIC
Medical (American) Medical (British) Medical (British IZE)	US.MED
Norwegian (Bokmal)	NORBOK.DIC
Norwegian (Nynorsk)	NORNYN.DIC
Polish	POLSKA.DIC
Portuguese (Brazil)	BRASIL.DIC
Portuguese (Standard)	PORTUGAL.DIC
Russian Russian (lo)	RUSSIAN.DIC
Spanish Spanish (Argentina) Spanish (Bolivia) Spanish (Chile) Spanish (Colombia) Spanish (Costa Rica) Spanish (Dominican Republic) Spanish (Equador) Spanish (Guatemala) Spanish (Mexico) Spanish (Modern Sort) Spanish (Panama) Spanish (Paraguay) Spanish (Peru) Spanish (Uruguay) Spanish (Venezuela)	ESPANA.DIC
Swedish	SVENSK.DIC
Thai	SPELLT.GRA
Turkish	TURKIYE.DIC

Notes automatically installs certain dictionary files that correspond to your language version of Notes. If you want to use one of the dictionary files listed above and find that it has not been installed automatically by Notes, copy the appropriate dictionary file (listed above) from the CD-ROM into your Notes data directory.

Monotype WorldType™ fonts

Monotype WorldType fonts support Unicode-based display of multilingual text. Five different fonts are available, each tuned to a different multilingual environment. Subsetting the fonts-based character set usage significantly reduces the size of a font, thus improving performance. Information about Monotype's Unicode fonts can be found at <http://www.monotype.com>.

The following fonts are included:

- **MTSANS_W.TTF** -- Covers the WGL4 character set. This font is suitable for use with most uses of the Latin alphabet (including all diacritical marks), as well as Greek, Cyrillic, Slavic, Turkish, Arabic and Hebrew languages.
- **MTSANS_J.TTF** -- Covers the WGL4 character and the Japanese language with some support for other Asian languages.
- **MTSANS_K.TTF** -- Covers the WGL4 character set and the Korean language with some support for other Asian languages.
- **MTSANS_S.TTF** -- Covers the WGL4 character set and Simplified Chinese with some support for other Asian languages.
- **MTSANS_T.TTF** -- Covers the WGL4 character set and Traditional Chinese with some support for other Asian languages.

These fonts are designed for Windows use only. They can be installed using the normal operating system procedure for installing fonts:

1. Open the Control Panel.
2. Open the Fonts folder.
3. Choose File - Install New Font.
4. Specify the drive and directory containing one the above fonts.
5. Normally only one of the above fonts should then be selected for installation.

Once a font has been installed, you need to enable Unicode fonts in your Notes User Preferences (Basics panel, Additional Settings). You may also want to make a WorldType font your default Multilingual Font in Notes (open the User Preferences Basics panel and set the default Multilingual font in the Default Fonts dialog).

cc:Mail MTA (Notes/Domino/Domino Designer CD only)

The Lotus Domino cc:Mail MTA is an optional integrated Message Transfer Agent (MTA) for use with Lotus Domino Release 4.5x (and later) servers. As a component of the Domino Messaging Services family of products, the MTA fully integrates Lotus cc:Mail and Lotus Notes networks. It delivers high fidelity interoperability between cc:Mail and Notes, transparently exchanging messages, rich text, attachments, and directories.

Configuration and management are easy since the MTA is integrated into a Domino server environment. Release 4.6.4.1 of the cc:Mail MTA offers significant improvements and extended ease of use.

You can find the Lotus Domino cc:Mail MTA in the \APPS\MTA subdirectory on the Notes and Domino CD-ROM. It can also be found on the migration Web site at <http://www.lotus.com/products/migration.nsf>.

SmartSuite patch

There is a known performance issue with applications hanging in SmartSuite 96, SmartSuite 97 and SmartSuite 9 (Millennium Edition) when the Notes R5 client and SmartSuite are running simultaneously. The problem is more evident when many Notes documents are open or when using a Notes Welcome page style other than "Basics." A utility to patch (fix) these problems is included in \APPS\SMARTSUITE on the R5 installation CD. For additional information about the patch, including installation and work arounds, refer to the General Issues section of the Troubleshooting chapter of these release notes.

Domino Management Agents (Notes/Domino/Domino Designer CDs only)

The Domino Management Agents contain the Domino SNMP Agent and Mail Reflector and run on Domino servers. The SNMP agent monitors server events and automatically forwards real-time alerts back to the NotesView management station or any SNMP supported console. With the SNMP agent, you can collect Domino statistics, query the Domino server, and restart the Domino server. The Notes Mail Reflector can be used by itself to help diagnose mail problems, and it supports the mail prober of Lotus NotesView.

This release on the CD-ROM supports Domino 4.5x and higher and Notes R4 servers on the following operating system platforms: IBM AIX, Microsoft Windows NT for Intel and Digital Alpha, and Sun Solaris for SPARC and Intel. The agents can be found in the \APPS\SYSMGMTAGENTS directory on the CD-ROM. The documentation can be found in \APPS\SYSMGMTAGENTS\NVAGENTS.NSF. The latest versions of the agents (and the older version that supports Notes R3 servers) of the Domino Management Agents and documentation can always be found at the Lotus Systems Management Web site at: <http://www.lotus.com/home.nsf/welcome/systems>.

IBM ViaVoice

ViaVoice, IBM's advanced continuous speech technology, enables a computer to respond to the human voice in place of a keyboard or mouse. The IBM ViaVoice runtime will be supported by future versions of Actioneer for Lotus Notes. The runtime software is provided on this CD for your convenience.

Follow these guidelines to install the IBM ViaVoice Runtime from the \APPS\VIAVOICE directory of the installation CD-ROM:

- Follow the IBM ViaVoice standard installation.
- This product does not come with a microphone; please visit <http://www.software.ibm.com/speech> for further details on which microphones are currently being supported by the IBM ViaVoice product line.
- Follow the ViaVoice user voice registration process for the IBM ViaVoice Runtime.

Information about additional items on UNIX CD-ROMs

In addition to the Domino installation files, there are the following items on the Notes/Domino R5 CD-ROM for UNIX platforms:

Adobe Acrobat Readers

On the root directory of the Notes and Domino CDs, the release notes are available in Adobe's Portable Document Format (PDF). To view PDF documents such as README.PDF, you can use the Adobe Acrobat Readers contained in the /APPS/ADOBE directory. For platform specific instructions, refer to the START.TXT text file found on the root directory. Additional information can be found on the Adobe Web site at <http://www.adobe.com>.

Domino Management Agents

The Domino Management Agents contain the Domino SNMP Agent and Mail Reflector and run on Domino servers. The SNMP agent monitors server events and automatically forwards real-time alerts back to the NotesView management station or any SNMP supported console. With the SNMP agent, you can collect Domino statistics, query the Domino server, and restart the Domino server. The Notes Mail Reflector can be used by itself to help diagnose mail problems, and it supports the mail prober of Lotus NotesView.

This release on the CD-ROM supports Domino 4.5x and higher and Notes R4 servers on the following operating system platforms: IBM AIX, Microsoft Windows NT for Intel and Digital Alpha, and Sun Solaris for SPARC and Intel. The agents can be found in the /APPS/AGENTS directory on the CD-ROM. The documentation can be found in /APPS/AGENTS/NVAGENTS.NSF. The latest versions of the agents (and the older version that supports Notes R3 servers) of the Domino Management Agents and documentation can always be found at the Lotus Systems Management Web site at: <http://www.lotus.com/home.nsf/welcome/systems>.

Note: Some of the links in the NVAGENTS.NSF database do not work because they point to the /APPS/SYSMGMT/AGENTS directory on the UNIX CD-ROM, rather than the directory /APPS/AGENTS.

Administrator Client, Client, Designer, Server

New location for NOTES.INI file

In new (clean) installs of R5, the Setup program places the NOTES.INI file in the following locations:

Operating System	NOTES.INI location
Microsoft Windows 95, Windows 98, Windows NT (Intel), Windows NT (Alpha)	Notes program directory (for example, c:\lotus\notes)
UNIX	Domino data directory
Partitioned servers	Domino data directory of each server
Shared installation	Windows system directory (for example, c:\winnt)

This is a change from previous releases, which placed the NOTES.INI file in the system directory by default.

Note: When you upgrade to Release 5, the upgrade program moves the NOTES.INI file to the new locations listed in the table above.

Platforms and Requirements

Administrator Client, Client, Designer, Server

R5 platforms and system requirements

Notes, Domino Designer, and Domino Administrator clients

Platform	Windows 95/Windows 98	Windows NT
Certified operating system versions	Windows 95 (see "Windows Service Packs" release note for Service Pack information) Windows 98	Windows NT Workstation 4.0 (see "Windows Service Packs" release note for Service Pack information)
Processors supported	Intel Pentium	Intel Pentium
RAM	8 MB minimum 32 MB or more recommended	16 MB minimum 32 MB or more recommended
Disk space The minimum amounts are the disk space required for installing default files. More disk space is required and if databases are replicated locally or copied locally.	Notes client: 69 MB minimum 112 MB or more recommended Designer client: 70 MB minimum 236 MB or more recommended Administrator client 78 MB minimum 182 MB recommended	Notes client: 69 MB minimum 112 MB or more recommended Designer client: 70 MB minimum 236 MB or more recommended Administrator client 78 MB minimum 182 MB recommended
Monitors supported	Color monitor required	Color monitor required
Protocols supported		
AppleTalk	No	No
Banyan VINES	Yes	Yes
ISDN*	Yes	Yes
NetBIOS/NetBEUI	Yes	Yes
SNA*	No	No
SPX	Yes	Yes
SPX II	No	Yes
TCP/IP	Yes	Yes
X.25*	No	No
X.PC	Yes	Yes

* Notes WAN Drivers (Connect for X.25, Connect for SNA, and Connect for CAPI ISDN) are available for download from <http://www.lotus.com>.

Domino server

Platform	AIX	Solaris	Windows NT
Certified Operating System Versions	AIX 4.3.1 (see "AIX patch requirements" release note for patch information)	Solaris 2.6 (see "Solaris patch requirements" release note for patch information)	Windows NT Server 4.0, Windows NT Workstation 4.0 (see "Windows Service Packs" release note for Service Pack information)
Processors supported	PowerPC, POWER, and POWER2	Intel, SPARC	Intel Pentium, Alpha
SMP support ¹	Yes	Yes	Yes
RAM	64 MB minimum 128 MB or more recommended	64 MB minimum 128 MB or more recommended	48 MB minimum 96 MB or more recommended
Disk space ²	750 MB minimum 1 GB or more recommended	750 MB minimum 1GB or more recommended	750 MB minimum 1GB or more recommended
Disk swap space	3 times the physical RAM recommended	3 times the physical RAM recommended	64 MB
Monitors supported	Color monitor required	Color monitor required	Color monitor required
Protocols supported			
AppleTalk	No	No	Yes (with Service Pack 3 or higher)
Banyan VINES	No	No	Yes (Intel Pentium) No (Alpha or SMP)
ISDN ³	No	No	Yes
NetBIOS/NetBEUI	No	No	Yes
SNA ³	No	No	Yes
SPX ⁴	Yes	No	Yes
SPX II	Yes	No (Intel) Yes (SPARC)	Yes
TCP/IP	Yes	Yes	Yes
X.25 ³	No	No	Yes
X.PC	Yes	Yes	Yes

¹ SMP (Symmetrical Multiprocessing) support is for SMP-enabled versions of listed operating systems. For details on whether a version of an operating system supports SMP, check with the operating system vendor or with your Lotus representative.

² Disk space requirements include estimated free disk space amounts for a functioning Domino system (that is, one or more mail databases and applications). The actual disk space needed to install the Domino files is lower than the minimum and recommended values.

³ Notes WAN Drivers (Connect for X.25, Connect for SNA, and Connect for CAPI ISDN) are available for download from <http://www.lotus.com>.

⁴ Domino Clusters and Partitioned server configurations do not support the IPX/SPX protocol. At this time, Lotus does not plan to provide IPX/SPX network support for future releases of these features.

Client, Server

HP-UX, Macintosh, and OS/2 platforms delayed

The R5 Domino server for HP-UX, the Notes client for Macintosh PowerPC, and Domino server for OS/2 platforms are delayed and will be made available within the next 4 to 5 months. In the meantime, beta versions of these platforms will be posted for download on the Notes.net Web site at: <http://www.notes.net>.

Domino R4.6 continues to be available for immediate deployment of the HP-UX and OS/2 Domino platforms and Notes R4.5 is available for the Macintosh client.

Server

AIX 4.3.2 supported for Domino

AIX 4.3.2 is supported, but not certified, platform for the R5 Domino server.

Server

AIX patch requirements

Note: This release note differs from and replaces the "AIX patch requirements" release note in the PDF version of these release notes (README.PDF).

AIX 4.3.1 patches

AIX 4.3.1 was certified on Domino R5 with the patches listed below. Although individual operating system patches and service packs are not certified, Lotus realizes that there are later patches that may become publicly available after testing, and acknowledges that these more recent updates may fix additional problems. You may wish to apply these newer patches as they become available. You can obtain and install the following patches from IBM or download them from IBM's Web site: <http://www.ibm.com>

- Fix IX85874
- bos.adt.debug 4.3.1.1
- bos.adt.syscalls 4.3.1.1
- bos.rte.bind_cmds 4.3.1.1
- bos.rte.commands 4.3.1.1
- bos.rte.control 4.3.1.1
- bos.rte.cron 4.3.1.1
- bos.rte.install 4.3.1.1
- bos.rte.shell 4.3.1.1
- bos.sysmgt.smit 4.3.1.1

- devices.graphics.com 4.3.1.1
- X11.base.rte 4.3.1.1
- X11.compat.lib. X11R5 4.3.1.1
- xIC.rte 3.6.4.1

AIX 4.3.2 patches

Although not certified, AIX 4.3.2 is a supported platform for the R5 Domino Server. Individual operating system patches and service packs are not supported; however, Lotus realizes that there are later patches that may become publicly available after testing, and acknowledges that these more recent updates may fix additional problems. You may wish to apply these newer patches as they become available. You can obtain and install the following patches from IBM or download them from IBM's Web site: <http://www.ibm.com>.

- Fix IX85874
- xIC.rte 3.6.4.1

Server

AIX settings

Kernel configurations for IBM AIX servers

Use SMIT to set the following kernel parameters:

- Maximum number of processes allowed per user should be a minimum of [128]
- Minimum paging space should be 2 x real memory for systems with less than 512MB
- Maximum number of Licensed Users should be a minimum of [2]

Generation of a CORE file in the event of a fatal error

If you want the Domino Server to generate a core file in the event of a fatal error, set the following variable in NOTES.INI:

```
DEBUG_ENABLE_CORE=1
```

Note: The default behavior is to **not** generate a core file and have the option of running the nsd utility to generate information about the fatal error.

Default sizes in etc/security/limits

All default sizes specified in /etc/security/limits should be specified as unlimited (set to -1).

Configure file systems for large file support

For Domino servers on AIX, the file systems must be explicitly configured to support large files (greater than 2GB.) If the file system is not configured for large file support, it is possible that a crash could occur on the server if the database grows beyond the 2GB limit. A qualified AIX system administrator should configure or verify that the file system supports large files using smit:

- System Storage Management
- File Systems
- Add/Change/Show Delete File Systems
- Journaled File Systems
- Change/Show Characteristics of a Journaled File System
- Large File Enabled -> true

Client

EasySync

If you install R5 of Lotus Notes with EasySync 2.1 you will not be able to synchronize. You must upgrade to EasySync 3.0.

Client

IMAP mail client certification

The Notes R5 IMAP mail client is certified with the following IMAP4rev1 servers:

- Domino R4.6
- Domino R5
- IBM Research Server 03010711
- Microsoft Exchange 5.5
- Netscape 3.01
- University of Washington 11.241
- Worldmail 2.0

Administrator Client, Client, Designer, Server

Java certification

Notes and Domino R5 includes a Java Virtual Machine based on Sun Microsystem's JDK 1.1.6 on the following platforms:

- AIX
- Solaris SPARC and Intel
- Windows 95, 98, and NT (Intel and Alpha)

The Java Virtual Machine passes Sun's official Java compliancy test.

Java logo testing for Notes and Domino

Sun has created the "Java Compatible™" logo for companies developing products with or based on the Java technology.

The "Java Compatible" logo was designed for Java OEM source licensees who license the Java runtime source code to integrate Java into their commercial products. Products bearing this logo have successfully passed the Java Compatible Test Suites.

The Java certification, as Lotus/IBM has tested for it, is assurance that the Java Virtual Machines (JVM) shipped with Notes and Domino meet the full Sun compliance specs as set out by the Java Compliance Kit. Where Lotus has compiled the JVM from source code (on Win32 Intel, AIX, and Solaris), Lotus is required to run and pass the full Java Compliance Kit suite. For other JVMs shipped with Notes and Domino that are only repackaged (such as Win32 Alpha), such JVMs retain their original compliance status.

For additional information about Java, please see the following Sun Web sites:

<http://java.sun.com/nav/business/licensed-logos.html>

<http://java.sun.com/>

For additional information about Java usage with Notes and Domino, see the online help and any Release Notes that discuss Java implementation.

Client, Designer

Lotus Components

The following are known issues when using the Lotus Components with the Notes Client and Domino Designer:

- Version 1.2 of Lotus Components is not supported in Notes R5. Version 1.3 of Lotus Components will be available a short time after Notes R5 ships and will be officially supported for Notes R5.
- All instances of Version 1.2 Components need to be removed and re-created with the Version 1.3 Component for complete compatibility with R5.
- Be aware that document properties are not supported with multiple controls (components) in a single document.

Designer

LotusScript Data Object platforms

The LotusScript Data Object (LS:DO) provides full read and write access to external ODBC data sources using LotusScript. The LS:DO consists of a set of three classes -- ODBCConnection, ODBCQuery, ODBCResultSet -- that come complete with a powerful set of properties and methods and full SQL capabilities. LS:DO is easy to learn and use because its design is consistent with LotusScript's BASIC syntax and other LotusScript Notes classes.

Notes supports LS:DO on the following platforms: OS/2, Windows 3.1, Windows 95, Windows NT, AIX, Solaris Intel Edition, and SPARC Solaris platforms. LS:DO is also on the AS/400 and OS/390 platforms. On these platforms, LS:DO is implemented using the native operating system enterprise integration not ODBC. Check the documentation on these platforms for detailed installation and implementation.

For information on using LS:DO, see Domino 5 Designer Help or *Domino Designer Programming Guide Volume 2: LotusScript Classes*.

Updates and additional troubleshooting information about LS:DO are available on the Lotus Developer Central Web site at <http://www.lotus.com/devtools>.

Also, please note the following new LS:DO feature:

Collection pooling

Connection Pooling allows a connection to a ODBC data source to be reused. When this feature is enabled, an LS:DO connection first checks to see if any connections with the same username and password are available in the connection pool. The user does not have to wait for a connection to take place if a connection is available on the pool.

A new NOTES.INI variable, ODBCConnectionPooling, has been added that enables LS:DO for use with the ODBC Driver Manager 3.x connection pooling feature. You enable this feature by setting ODBCConnectionPooling=1 on the machine where LS:DO is executed. This feature must also be enabled and configured for the ODBC Driver Manager via the ODBC Administrator. See the ODBC documentation for further details.

Designer

Mail API service providers support

The Domino Mail API (MAPI) service providers work with the following on Windows NT, Windows 95, and Windows 98:

- Exchange version 5.0.1458.47
- Outlook 97 version 8.02.4212
- Microsoft Office 97

Server resource requirements

You should dedicate the server platform for the sole use of the Domino server processes whenever possible. Depending on the system's OS and resources, you may encounter resource constraints when running other application processes concurrently with the Domino server processes. As example, but not limited to, file and print sharing services or other shared resource, tape backup agents, SNA or terminal gateway services, as well as running multiple Domino servers (partitioned servers) which are all heavily accessed concurrently. Ensure the platform's hardware capacity and scalability meet your requirements.

SmartSuite performance issue with Notes R5

There is a known performance issue with applications hanging in SmartSuite 96, SmartSuite 97 and SmartSuite 9 (Millennium Edition) when the Notes R5 client and SmartSuite are running simultaneously. The problem is more noticeable when many Notes documents are open or when using a Notes Welcome page style other than "Basics."

Workaround 1: A utility to fix these problems is included in \APPS\SMARTSUITE\SSN5.EXE on the Notes R5 installation CD-ROM. Installing the update is highly recommended. You can also download the patch from the Lotus Customer Support Web page at <http://www.support.lotus.com/homeframe.nsf/pages/SmartWin>.

To install the SSN5 Application:

1. Close Notes and any SmartSuite applications.
2. Start Windows Explorer or Windows NT Explorer.
3. Go to the \APPS\SMARTSUITE directory on the Notes R5 CD-ROM and double-click SSN5.EXE. If the SSN5 Update encounters a problem, it displays a warning message before ending.

Note: An optional command line parameter is available that limits the search and update to files on a specific drive. For example:

```
SSN5 X
```

Where X is the only drive that you want to search for files to update.

In most cases, you don't need any optional parameters because the SSN5 update automatically searches all non-network, non-removable drives. However, if you are a system administrator with write access to a network drive with a server install, then you must run the SSN5 Update with this parameter. You also need to use this parameter if you want to update a copy of SmartSuite that is installed on a removable drive.

Workaround 2: You can eliminate these problems for all SmartSuite applications (except 1-2-3 97) by turning off Bubble Help in each SmartSuite product. To fix the problem for 1-2-3 97, you must run the update utility mentioned in workaround 1 above, or upgrade to a more current release of 1-2-3.

To turn off Bubble Help in SmartSuite products:

1. From the File menu, choose User Preferences, and then choose SmartIcons Setup.
2. Uncheck the "Show icon descriptions (bubble help)" checkbox.
3. Repeat steps 1 and 2 for each SmartSuite product you have installed.

Server

Solaris patch requirements

Solaris 2.6 was certified on Domino R5. The patches below are required for correct operation of the R5 Domino server on Solaris. Although individual operating system patches and service packs are not certified, Lotus realizes that there are later patches that may become publicly available after testing, and acknowledges that these more recent updates may fix additional problems. You may wish to apply these newer patches as they become available.

Warning! In addition to the kernel update patches below, **it is mandatory** to install the fix for Solaris bug ID 4206401 before installing the R5 Domino server. To receive the fix for bug ID 4206401 contact your local Sun Microsystems support representative, or download a copy from the following URL: <http://sunsolve2.sun.com/sunsolve/4206401/> . This fix requires the kernel update patch (105181-13 or 105182-13) specified below as a prerequisite.

Failure to apply this fix will cause Solaris to crash with possible loss of data.

You can obtain and install the following patches from Sun Microsystems or download them from Sun's Web site: <http://www.sun.com>

Solaris Intel

Intel/X86: 105182-13 Kernel update patch

Intel/X86: 105491-05 linker patch

Solaris SPARC

SPARC: 105181-13 Kernel update patch

SPARC: 105490-05 linker patch

Server

Solaris settings

To use priority paging, you need Solaris 2.6 (Intel or SPARC) with at least kernel patch 105181-09.

To enable priority paging, set the following in `/etc/system`:

```
set priority_paging=1
```

Time zone and DST settings

Client settings

Notes time zone and Daylight Saving Time (DST) settings are now synchronized with those of the operating system. When you start Notes, the operating system (OS) time zone and DST settings are updated to match those of your current Notes location. In previous releases, Notes updated the OS clock, not the time zone/DST settings, causing the OS time and time zone to be different. In R5, if you change to a location with a different time zone, or change time zones in your current location, the operating system time zone and DST settings are updated to match. Because of this, it is important that time zone, DST on/off and Greenwich Mean Time (GMT) are set correctly on your operating system. For example, if your operating system is set to "DST off", and you have manually changed your clock to account for DST, running Notes causes DST to be turned on in the OS, and the OS clock will be off by one hour.

Windows 95/98/NT platforms

When you edit your Location document, the list of time zones to pick from now match those of your operating system. The DST start and end dates also match those of the operating system. If you change to a location with a different time zone, that time zone's DST start and end dates take affect. In addition, if you change the OS time zone or DST setting in the control panel while Notes is running, the current location's time zone and DST are updated to match the OS.

When upgrading to R5, if any of your Location documents contain a time zone that doesn't match that of the operating system, you may be prompted to choose a specific time zone.

Server

On Windows 95/98/NT platforms, Notes time zone and DST settings are retrieved from the operating system. Server settings should match client settings, and servers that replicate should all be set to the same settings. If server settings do not match (for example, one server with DST on and one server with DST off), you could get some strange behavior with agents that run at a specific time. A symptom of this would be the following message:

```
08/10/98 03:59:13 PM AMgr: Time span since last reset of hourly statistics is negative
```

On non-Windows platforms, the list of time zones to pick from is the same list as in previous Notes releases.

On Windows platforms, if the OS time zone/DST setting is changed via the control panel while the server is running, it will have no effect until the server is restarted.

Web browser certifications

The following Web browsers are certified for use with Notes and Domino R5.

Platform	Internet Explorer	Netscape Communicator	Notes Native Browser ⁵
AIX 4.31	N/A	4.5	N/A
Solaris Intel 2.6	N/A	4.5	N/A
Solaris SPARC 2.6	4.01 ^{1,2}	4.5	N/A
Windows 95/98	4.01 SP1	4.5	R5
Windows NT 4.0 (Alpha)	4.01 SP1	N/A	N/A
Windows NT 4.0 (Intel)	4.01 SP1	4.5	R5
Macintosh PowerPC 8.1 ³	4.01 ²	4.5	N/A for 5.0 ⁴
HP-UX 11.0 ³	4.01 ^{1,2}	4.5	N/A
OS/2 Warp Server 4 ³	N/A	4.04	N/A

¹ Due to design limitations in Java implementation, Internet Explorer does not support Java on UNIX platforms. Please note that some Notes Templates and other features that require Java may be affected by this limitation.

² The SSL apps (client certificate request/accept) do not work in IE4 for Macintosh or UNIX because the feature depends on ActiveX controls that are not available.

³ Although Notes and Domino will not be certified until 5.0.1 for these platforms, these browsers are certified for use.

⁴ The Notes Native Browser will be certified on Macintosh in 5.0.1.

⁵ The Notes Native Browser does not support remote (CORBA) operation. It locates the local classes first and runs locally.

Server

Windows 95 and Windows 98 supported for Domino

Windows 95 and Windows 98 are supported, but not certified, platforms for the R5 Domino server.

Server

Windows NT Server Enterprise Edition supported for Domino

Windows NT Server Enterprise Edition (for Intel Pentium and Alpha) are supported, but not certified, platforms for the R5 Domino server.

Windows Service Packs

R5 was certified on Windows 95 and Windows NT 4.0 with the following Service Packs applied. Although individual operating system patches and Service Packs are not certified, Lotus realizes that there are later service packs that may become publicly available after testing, and acknowledges that these more recent updates may fix additional problems. You may wish to apply these newer service packs as they become available.

You can obtain and install the following patches from Microsoft Corporation or download them from Microsoft's Web site: <http://www.microsoft.com/msdownload/>

- Windows 95: Service Pack 1 and Service Pack 1 Updates
- Windows NT 4.0 Workstation and Server: Service Pack 4

Installing and configuring Domino on UNIX platforms

Installing and Setting up the Domino R5 Server for UNIX from a CD-ROM

The Domino Release R5 UNIX installation program is a text-based script that installs the Domino programs and data directories to the locations you define. The script prompts you for the destination directories and the type of server to install. You perform server setup with a web browser such as Netscape Navigator or Microsoft Internet Explorer.

Key Definitions

Use the TAB key to accept entries and move through screens. Use the SPACEBAR to make predefined selections such as the type of server to install. Use the RETURN key to create new entries for entries you set, such as the account name or directory location. Use the ESC key to return to a previous screen. Press e to exit the installation program.

Preparation

Before installing, be sure your system meets the following requirements.

- You must have superuser root access to the system.
- You must have a local account that will be used to run the server. The UNIX install program uses the default account name "notes". You can use the local account called "notes" or specify another name such as the hostname (account acme on server acme). **Note: DO NOT** run the Domino server as root due to security considerations and because that is not a supported configuration.
- The server account must belong to a group. The UNIX install program uses the default group name "notes".
- Determine the destination disk of the Domino binaries (default is /opt/lotus). Make sure you have enough free disk space on the destination disk (minimum 70 MB). The destination disk must be a locally mounted file system (not NFS remote mounted).
- Determine the destination disk of the Domino data directory (default is /local/notedata) and verify that it has enough free disk space (minimum 100 MB, not including any user-defined databases). The destination disk must be a locally mounted file system (not NFS remote mounted). **Note:** Make sure the destination directories for the Domino data directory and Domino program directories are different -- do not install both the program files and the data files in the same directory.

Installation

To run the UNIX install program to install the Domino server, perform the following steps.

1. Become root; for example:
`su <password>`
2. Mount the CDROM.
 - For HP-UX, type: `mount /dev/dsk/<device> /cdrom`
 - For IBM AIX, type: `mount -r -v cdrfs /dev/<device> /cdrom`
 - For Solaris, vold automatically mounts the CD.
3. Change to the /cdrom/notesr5 directory:
 - For IBM AIX and Solaris, type: `cd /cdrom/notesr5/ibmpow`
 - For Solaris SPARC, type: `cd /cdrom/notesr5/sol`
 - For Solaris Intel, type: `cd /cdrom/notesr5/solx86`
 - For HP-UX, type: `cd /cdrom/notesr5/hppa`
4. Run the install program:
 - For IBM AIX and Solaris, type: `./install`
 - For HP-UX, type: `./INSTALL\;1`
5. The installation program initializes with a Welcome screen. Press TAB to begin the installation.
6. The installation program displays the Lotus Domino/Lotus Notes Software Agreement. Press TAB to read the Lotus Domino/Lotus Notes Software Agreement. Press ESC to return to the previous screen, or type e to exit the program.
7. The Install program displays the Lotus Domino/Lotus Notes Software Agreement. Press any key to scroll the pages of the software agreement. Press TAB to continue to the next installation screen.
8. If you agree with the terms of the license agreement, press TAB. If you disagree, press SPACEBAR to select NO and press RETURN.
9. Select the type of setup. Use the SPACEBAR to scroll through the choices and press RETURN to make the selection. The choices are: Domino Mail Server, Domino Server, Domino Directory Server, and Domino Enterprise Server. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.
10. Specify the program directory setting for the destination disk for the Domino binaries. The default is /opt/lotus. Make sure you specify an existing disk that has at least the minimum amount of free disk space necessary. Press RETURN to specify a new location. Press TAB to accept a location. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.
11. Specify if you want to install multiple partitions. If no, press TAB. If yes, press SPACEBAR and then TAB. The program prompts you for additional information. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.
12. Specify the data directory path. The default selection is /local/notesdata. Make sure you specify an existing disk that has at least the minimum amount of free disk space necessary. Press RETURN to specify a new location. Press TAB to accept a location. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.

Note: Make sure the destination directories for the Domino data directory and Domino program directories are different -- do not install both the program files and the data files in the same directory.

13. Specify the Domino UNIX user name. The user name should be an existing operating system account and requires read/write access to the data directory pathname specified in step 12. Press RETURN to specify a new user name. Press TAB to accept a user name. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.
14. Specify the Domino UNIX group name. The user name specified in step 13 must be a member of this group. Press RETURN to specify a new group name. Press TAB to accept it. Press ESC to return to the previous screen, or type e to exit the program. Type h for help.
15. At this point, you have finished specifying installation settings. Press TAB to continue. Press ESC to return to the previous screen, or type e to exit the program.
16. Review the installation selections. Press ESC to change settings or press TAB to install with the given settings.
17. Installation is complete. Exit out of root. **Note:** Running the Domino server as root is not supported.
18. Log into the system as the UNIX user specified in the installation program; for example: acme.
19. Configure the server using the Web Setup database. Change to the data directory specified in the installation; for example: `cd /local1/161.srvdat`
20. Type `/opt/lotus/bin/http httpsetup`
21. The server output should appear similar to the following:

```

/opt/lotus/bin/http httpsetup
08/12/98 12:57:22 PM Created new log file as
/local1/161.srvdat/log.nsf
08/12/98 12:57:22 PM Server setup mode entered. Please continue the setup
process by connecting to server with a browser on port 8081
08/12/98 12:57:24 PM HTTP Web Server started

```

22. Connect to the server via port 8081 with a web browser such as Netscape Navigator or Microsoft Internet Explorer. Specify the URL for the destination server such as:
`http://9.95.65.210:8081` or `http://<server>.company.com:8081`
23. The server displays the Domino web setup database. Follow the instructions in the setup program to specify the server configuration. Upon completion, click the FINISH button. The program sends additional messages to the UNIX shell on the server. For example:

```

Available Ports from INI file: 'TCP/IP'
Enabled Ports for location: "
Disabled Ports for location: 'TCP/IP'
08/12/98 12:59:17 PM Certifying John Doe/NOTES/US
Available Ports from INI file: 'TCP/IP'
Enabled Ports for location: 'TCP/IP'
Disabled Ports for location: "
Certifying <server>.company.com/NOTES/US

```

24. After setting up the server, click the EXIT button and the web server on port 8081 shuts down, displaying an appropriate message on the server. For example:

```

08/12/98 01:00:56 PM HTTP Web Server shutdown

```

25. To start the server, make sure you are in the data directory and type `/opt/lotus/bin/server`

Network Protocols and Methods

Server

DNS naming conventions

Newer DNS (Domain Name System) servers no longer support the "_" underscore character, therefore, Lotus recommends that you do not name your Domino servers or TCP Host Name with names that contain the "_" underscore character.

In R5, as a migration path to move away from underscores, two DNS lookups occur in the following conditions:

- Domino server name contains an underscore
- Target TCP Host Name contains an underscore

For example, given a Domino server name of hr_1/Acme:

1. Do a TCP/DNS lookup using hr1.acme.com
2. Do a TCP/DNS lookup using hr_1.acme.com

Given a Host Name of foo_bar.acme.com:

1. Do a TCP/DNS lookup using foobar.acme.com
2. Do a TCP/DNS lookup using foo_bar.acme.com

Server

SPX connectivity and AIX ipx.base configuration

Connectivity to UNIX AIX Domino servers over the SPX protocol is limited by the default configuration of the ipx.base. The default value results in the failure of Notes clients to connect, with SPX wrapper errors exhibited at the Domino server console.

The default number of connections configured by ipx.base is 100. If your SPX connection requirements are higher, modify the settings using the AIX smit (gui) or smitty interface while logged in as the super-user for that server machine. Choose the following menu choice:

```
Communications Applications and Services->  
  Novell Network Services 4.1->  
    Further Configuration->  
      IPX/SPX->  
        General IPX/SPX Variables
```

Locate the field "Maximum SPX Connections" and increase the value (choose an appropriate value above the default of 100). Apply the changes and exit.

Server

Thread pools

The Domino server is implemented using a technique known as "thread pooling." Thread pools allow the server to decrease the number of running threads allocated for user sessions, thus reducing the memory footprint and increasing scalability.

Administrator Client, Client, Designer, Server

Windows 32-bit TCP/IP stacks

The following Windows TCP/IP 32-bit stacks have been tested:

- On-Net Kernel v4.0 for Windows 95 and Windows 98 from NetManage, Inc
- Windows 95 from Microsoft Corporation
- Windows 98 from Microsoft Corporation
- Windows NT 4.0 from Microsoft Corporation

Client

Windows RAS Dial-back

Dial-back connections will only work reliably when the standard Windows 95/98 DUN services are installed and used. The Windows95 Plus! RAS (remote access server) service must be disabled on a Windows 95/98 machine making a connection to a server using Dial-back.

If a RAS connection is attempted in Notes under Windows 95/98 using Dial-back, after attempting the connection for the first time, Windows may continually tell Notes that the port is still in use during each additional attempt to connect. Only phonebook entries that have been attempted using Dial-back while the Windows 95 RAS server is running remain in this "in-use" state. The only way to free this phonebook entry to use it again is to reboot the computer.

The Windows 95 RAS server is only available in the Windows 95 Plus! software package.

Viewers and Filters

Client

Import and export filters

Notes R5 uses import/export filter technology from Inso Corporation. Below is a list of file formats that are supported with this technology.

Spreadsheet files

File type	Import into rich text field or view	Export from document or view	File extension	Application version
Lotus 1-2-3	Both	View	.WKS .WK1 .WK3 .WK4	Entire worksheet or named range created in Lotus 1-2-3 for DOS 1A or later; 1-2-3 for Windows; or 1-2-3 for Macintosh
Microsoft Excel	Rich text field	Not supported	.XLS	Microsoft Excel 4.0 and 5.0

Graphic files

File type	Import into rich text field or view	Export from document or view	File extension	File description
PCX image	Rich text field	Not supported	.PCX	Raster graphic
Lotus PIC	Rich text field	Not supported	.PIC	Picture created in 1-2-3 or Symphony
CGM image	Rich text field	Document	.CGM .GMF	Picture created in software supporting ANSI Metafile
TIFF 5.0 image	Rich text field	Document	.TIF	Bitmapped image scanned into software supporting TIFF
Bitmap image (not UNIX)	Rich text field	Not supported	.BMP	Bitmapped image
GIF image	Rich text field	Not supported	.GIF	Graphics Interchange Format image
JPEG image	Rich text field	Not supported	.JPG	Joint Photographics Experts Group image

Word processing files

File type	Import into rich text field or view	Export from document or view	File extension	Application version
Lotus AmiPro	Rich text field	Document	.SAM	AmiPro 1.x, 2.x, and 3.x
Microsoft rich text format	Rich text field	Document	.RTF	Applications that support .RTF, such as Microsoft Word
WordPerfect	Rich text field	Document	.DOC .WPD .WPT	WordPerfect 5.1, 6.0, 6.1
Microsoft Word	Rich text field	Document	.DOC	Word for Windows 6.0

Text files

File type	Import into rich text field or view	Export from document or view	File extension	File description
ASCII	Rich text field	Document	Any	Unformatted text
Binary with text	Rich text field	Not supported	Any	Imports text from non-text files
Tabular ASCII text	View	View	Any	ASCII text arranged in rows and columns; limit of 1,536 chars per record, total
Structured ASCII text	View	View	Any (except .TAB, .TXT, .PRN, .RPT)	ASCII text arranged as fields and field values; limit of 256 bytes per simple text field

HTML files

File type	Import into rich text field or view	Export from document or view	File extension	File description
HTML	Rich text field	Not supported	.HTM .HTML	All HTML versions. Images contained in HTML files are not imported if they are local, for example, C:\LOTUS\nOTES\GRAPHIC.GIF. A red box displays as a placeholder.

Note:

- With the exception of WordPro 97 and WordPro R9, Notes R5 does not support the import or export of Lotus SmartSuite 97/R9 file formats.
- Notes R5 does not have import/export technology for MS Office 97 formats.

New viewers

Notes R5 contains KeyView viewer technology from Verity. The new viewers offer the following enhancements:

- Full object support for Lotus Freelance
- Support for .AVI and .MOV files (displays animation)
- Support for .DIB, .EPS files
- Support for SmartSuite R9 file formats
- Support for Microsoft Office 2000 beta file formats

Viewers for Windows 95, Windows 98, and Windows NT are available for the following file formats:

- Ami Pro 3.x (.SAM)
- AmiDraw (.SDW)
- Bitmap (.BMP)
- CCITT Group 3 Fax (.TIF)
- CompuServe (.GIF)
- Computer Graphics Metafile (.CGM)
- Executable file (.EXE)
- HTML (.HTM)
- JPEG file (.JPEG, .JPG)
- Lotus 1-2-3 3.0, 4.0, 5.0, 6.x, R9 (.WK*, .123)
- Lotus 1-2-3 97 and 98, R9 (.123)
- Lotus 1-2-3 for Macintosh
- Lotus 1-2-3 for OS/2 (.WG2)
- Lotus Freelance for OS/2 (.PRS)
- Lotus Freelance (.PRE, .PRZ)
- Lotus PIC (.PIC)
- Lotus WordPro 96/97, R9 (.LWP)
- Microsoft Excel 2.x, 3.0, 4.0, 5.0, 7.0, 97, Office 2000 (.XLS)
- Microsoft PowerPoint 4.x, 7.0, 97 (.PPT)
- Microsoft Word for Macintosh 2.0, 3.0
- Microsoft Word for Windows 6.0, 7.0, 97, Office 2000 (.DOC)
- Paintbrush/DCX (multi-page PCX) (.PCX)
- PICT and PICT2 Graphics (.PCT)
- Revisable Form Text (.RFT)
- Rich Text Format (.RTF)
- Tagged Image File Format (.TIF and .EPS)

- Text file (.TXT)
- Windows Metafile Graphic (.WMF)
- WordPerfect 5.x, 6.x, 7.x
- WordPerfect 8
- WordPerfect for Macintosh 2.0, 3.0
- WordPerfect Graphics (.WPG)
- XyWrite
- ZIP file (.ZIP)

Note: Charts in Lotus Freelance 2.x files cannot be viewed at this time. This issue should be fixed in a future release.

International Language Requirements

Administrator Client, Client, Designer

Bi-directional (BiDi) Language support

In order to use bi-directional languages (for example, Arabic or Hebrew), perform the following steps:

1. Install the R5 client on a BiDi (bi-directional) Windows platform (Arabic or Hebrew, Enabled or Localized)
2. Run the client to finish setup and verify that everything is working.
3. Turn on BiDi support by adding the following line to your NOTES.INI file:

```
EnableBiDiNotes=1
```

4. Hebrew users who want to force all equations to flow from left to right should also add:

```
EnableHebrewEquations=1
```

These settings will be enabled by default in Arabic and Hebrew localized versions of Notes.

Additional BiDi relevant settings may be selected by choosing File - Preferences - User Preferences and then selecting International.

Bi-directional language issues

- Previous releases of Notes did not support BiDi; however, some users may have R4.x databases with documents containing BiDi text. When such documents are edited using Notes R5, the BiDi text is converted to the R5-supported format. Once converted, Notes R4.x cannot read any BiDi text in these documents.

Also, if you use Notes R5 to create or edit a document containing BiDi text then this text is not visible to an R4.x client. Furthermore, if you use a R4.x client to edit such an R5 document, then the BiDi text is lost.

- You can design views with the most significant column on the right. However, quick search always acts on the leftmost column. You may want to create a hidden leftmost column containing appropriate data for quick search.
- Outline flow is from left to right and the bitmap is always to the left of the text.
- We recommend that you use English only in domain names, organization names, ID file names, mail file names and passwords.
- To send faxes containing Arabic or Hebrew text, the server must be running on a BiDi-enabled Windows 95/98/NT platform.
- When running on Arabic or Hebrew Windows, the NOTES.INI setting EnableBiDiNotes=1 is required to correctly display setup dialogs.
- Excel spreadsheet data is imported into Notes with left-to-right reading order and table direction.
- When exporting a Notes document to RTF format, the reading order of the first paragraph is left-to-right. You may want to start such documents with a carriage return.
- Notes tables with right-to-left reading order are exported to RTF format with left-to-right reading order.

- Import and export do not handle the following characters : &rlm, &lrm, &zwj, &zwj.
- The reading order of field help and database synopsis is always left-to-right.
- Alphabetical bullets always use English letters.
- Find/Replace works from left-to-right across BiDi tables.
- When creating hotspots containing bilingual text, you should include all of the minor language string in the hotspot.
- When determining reading order of strings in the search bar editor, any text in the gray highlighted area is treated as part of the whole line.
- In right-to-left tabbed tables, you must enter text into the second tab before you can enter text into the rightmost tab.
- When changing tabs or cell widths in a scrolled right-to-left paragraph, use the Properties box rather than clicking on the ruler.
- The No Wrap alignment does not work with right-to-left reading order.
- Using F11 to change text style does not work for BiDi text.
- The marked area cannot be predicted if you change the reading order of marked mixed text. The same happens with undo.

Hebrew specific issues

When EnableHebrewEquations=1 is set:

- Equations should be written without spaces
- Trailing periods always appear to the left of numbers
- Editing in Native OS controls is not affected (display of equations, currencies, dates is determined by the operating system).

MIME Mail received in visual reading order can be read by selecting the encoding to be Hebrew (8859-8 Visual)

In some cases measurements appear as inches regardless of the setting in the International Settings Dialog. This will work as expected after changing the setting.

Client, Designer

Euro symbol support

In order to display and use the euro symbol, you must download the necessary feature updates from the Microsoft Web site (<http://www.microsoft.com>).

If you are running Windows 95, you need to download and install the feature update for Microsoft euro currency support.

If you are running Windows NT 4.0, you need to download and install the NT 4.0 euro product update or Windows NT Service Pack 4.

If you are running Windows 98, support for euro currency symbol is enabled without any additional updates.

For details on which fonts are updated, please refer to Microsoft Web site.

Internet messaging and character set support

As part of the native MIME support in R5, the Notes client detects the most appropriate character set for sending a message to the Internet. All the regions listed below are supported.

In addition to the character set support on the client, the R5 Domino Router provides conversion between Notes Rich Text and MIME (for backward compatibility). With respect to international, the Router supports all of the regions listed below. Where previously with the SMTP MTA multiple MTAs were required to provide complete character set support to a WW organization, now only a single R5 Domino Server is required. This extensive character set support is enabled by default when a server has been configured to support SMTP.

The language groups and the associated default character sets are:

Language Groups	Character Set
English	US-ASCII
Unicode	UTF-8
Japanese	ISO-2022-JP
Simplified Chinese	GB2312
Korea	ISO2022-KR
Traditional Chinese	BIG5
Thai	Windows-874
Western	ISO-8859-1
Central European	ISO-8859-2
Baltic Rim	Windows-1257
Cyrillic	KOI8-R
Arabic	Windows-1256
Greek	Windows-1253
Hebrew	Windows-1255
Turkish	Windows-1254
Vietnamese	Windows-1258

This support is provided in all language versions of the product including International English.

Where changes are required to the default settings, these can be made on the client in the Personal Address Book in International MIME Settings and on the server in the Domino Directory in Server Configuration - MIME Settings. The settings that can be configured include inbound and outbound options for character set, encodings and font.

Designer

ISO currency symbol for the Euro updated in final R5 build

The ISO currency symbol for the Euro character has been corrected in the final R5 build. In earlier Beta releases of R5 the proposed ISO symbol "XEU" was used. In the final build, this has been corrected to "EUR" which is the approved ISO three-letter currency symbol.

If you created a currency field using a Beta release of R5 that used the three letter ISO currency symbol for the Euro, that field continues to use the old "XEU" symbol instead of the "EUR" symbol until you resave the form containing the field.

Note that you do not have to resave the form if you were using the euro symbol instead of the ISO three letter symbol.

Also note that the three letter "country code" used for the Euro has been changed to EMU (European Monetary Union) instead of the originally proposed XEU. This change is for clarity only; it has no impact on the use of the currency symbol.

Client, Designer

Japanese and Chinese yen symbols appear the same

Due to Microsoft operating system limitations, the Japanese and Chinese yen symbols appear the same. This is true for Windows 98, Windows 95 and Windows NT.

Client

JIS X 0212-1990 support

R5 supports JIS X 0212-1990 Kanji Characters for Japanese with the following requirements and caveats:

- Windows NT 4.0 with Service Pack 4
- You can use JIS X 0212-1990 characters on Windows 98, but you can not input the characters into dialog boxes. That is a limitation of Windows 98, not Notes.
- Windows 95 does not support JIS X 0212-1990
- Some old IME (ATOK11/WXG etc.) do not support JIS X 0212-1990.

Please make sure that Unicode Display is enabled in your user preferences.

Setting collation on the Domino server

By default, the Domino server uses the operating system settings to determine locale information. This locale information is used to determine the collation used by the Indexer for sorting views on the Domino server.

Administrators can change the settings by altering NOTES.INI values. It is possible to run the Domino server on with an operating system set for in one locale (for example, en-US, for US English) and have Domino use a different collation setting for sorting (for example, ru for Russian.)

Specify the following settings in the NOTES.INI on the server, using values from the Collation and Character Set tables below:

COUNTRY_LANGUAGE= xx (or xx-yy)

PLATFORM_CSID= nnnnnnn

Collation table

CollationName	Code
Albanian	sq-al
Arabic	ar
Baltic	lv
Catalan	ca
Croatian	hr
Cyrillic	ru
Czech	cs
Danish/Norwegian	da
Dutch	nl
Estonian	et-ee
Finnish	fi
French	fr
French (Canada)	fr-CA
German	de
Greek	el
Hebrew	he
Hungarian	hu
Icelandic	is-is
Italian	it
Japanese	ja
Korean	ko

Latin1	en
Latin2	pl
Lithuanian	lt
Nordic	no
Polish	pl-pl
Portuguese	pt
Romanian	ro
Simplified Chinese	zh-cn
Slovak	sk
Slovenian	sl-si
Spanish (Modern)	e2-es
Spanish (Traditional)	es
Swedish	sv
Thai	th
Traditional Chinese	zh-tw
Turkish	tr
Vietnamese	vi

Character Set table

Language	Win95/WinNT	UNIX
English	52	20
French Canadian	52	20
German	52	20
French	52	20
Italian	52	20
Spanish	52	20
Brazil. Portuguese	52	20
Dutch	52	20
Norwegian	52	20
Swedish	52	20
Danish	52	20
Finnish	52	20
Czech	50	21

Hungarian	50	21
Polish	50	21
Russian	51	24
Lithuanian	57	23
Turkish	54	22
Japanese	12	12
Simplified Chinese	1B	1B
Korean	18	18
Thai	90	90
Traditional Chinese	1A	1A
Arabic	56	25
Greek	53	26
Hebrew	55	27
Albanian	50	21
Byelorussian	51	24
Bulgarian	51	24
Catalan	52	20
Croatian	50	21
Estonian	57	23
Latvian	57	23
Macedonian	51	24
Romanian	50	21
Serbian (Cyr)	51	24
Serbian (Latin)	50	27
Slovak	50	21
Slovenian	50	21
Ukrainian	51	24
Vietnamese	CEE	D04

Chapter 3 - Troubleshooting

Installation Issues

Administrator Client, Client, Designer, Server

Can't install in NT with drive mapped to 95/98

Due to a third-party software bug, you are unable to run the installation program in Windows NT if the install kit is located on a Windows 95 or Windows 98 file system and the path contains long (greater than 8 character) directory names.

For example, the install does not work with a directory path of:

```
f:\download\Notes\NotesR5_client\
```

To work around this problem, change the pathname to a DOS-compatible form, such as:

```
f:\download\Notes\NotesR~1\
```

Server

Cannot use default install user and group on UNIX

Prior to R5, you could install on UNIX using the default user "notes" and default group "notes". In R5, those defaults do not work and the server will not start up. You must change the install defaults to your user name and group.

Server

Changing the AIX OS locale after installing Domino

If you want to change the locale for Domino after installation, follow these steps:

1. Check your AIX OS locale. Enter the following command at dtterm:

```
locale
```

2. Verify that the locale is correct for your language/country. If the locale is not correct, then refer to your AIX help system for information on how to install and configure your correct language locale.

To change the OS locale after you have installed Domino, you need to complete the following steps. You must be a super user to carry out the following steps:

1. Locate the Domino resource directory [../res/C]:

2. Copy the C res directories to the \$LANG directories as follows:

```
cp -r /opt/lotus/notes/5000/ibmpow/res/C
/opt/lotus/notes/5000/ibmpow/res/$LANG
```

Note: \$LANG can be any international locale, for example, de_DE for German, ru_RU for Russian, or tr_TR for Turkish. You must name the directory in this manner.

3. Verify that the \$LANG dir has been created and the files have been successfully copied as follows:

```
ls -la /opt/lotus/notes/5000/ibmpow/res
```

Administrator Client, Client, Designer, Server

Data Transfer Error during installation

If you receive a Data Transfer Error dialog box during Windows 95/98/NT installation, exit the install and shut down all other applications. In most cases, this is due to a .DLL (Dynamic Link Library) file that is still in use while the install program is trying to update it. It also may help to log off the system and log in again before re-launching the installation.

Example Data Transfer Error dialog box

Data Transfer Error Information

ComponentError returned the following data transfer error.
Setup will now abort.

Media Name: DATA
Component: Domino as an NT Service
File Group:
File:
Error Number: -105

Server

Error setting up additional server

When setting up an additional server on Windows platforms, if you select serial port, then change back to network, and click Finish, the following error appears:

Note error: The server name is different than the one you specified

You must re-install Domino to avoid this error.

Server

Installing Domino as an NT Service

When installing a Domino Server as an NT Service you must set up the server before attempting to start the Service. If an attempt to start the Service is made before setup, you receive an error message similar to the following:

```
Services: Could not start the Lotus Domino Server <Server Name> service on
\\<LocalHost>
Error 2140. An internal Windows NT error occurred.
```

Note: <Server Name> only appears if this is a Partitioned Server installation.

If you attempt to set up the server after receiving this error, you may receive the following message after running the setup client:

```
Lotus Notes: Unable to open desktop file. Notes may have been terminated
abnormally in an earlier session. Please logoff or shut down the operating
system before running Notes again.
```

You need to reboot Windows NT before proceeding.

Server

Master Address Book template deleted upon install

The Master Address Book template (MAB45.NTF) is deleted during server install. If you have customized it and want to save your changes then copy it to a safe location before installing Domino R5.

Administrator Client, Client, Designer

Notes client installation/upgrade

The supported upgrade installation configuration is to upgrade an existing Notes client, NOTES.INI, and databases. If you deviate from this supported configuration, the following situations can occur:

1. If Notes is elsewhere in the user's system path, the installation program renames the existing NOTES.INI to NOTES.00x and creates a new, default NOTES.INI in the program directory. To continue with a supported upgrade, the user must rename NOTES.00x back to NOTES.INI and move it into the program directory, replacing the default NOTES.INI created by the installation program.
2. Before installing R5, a user might uninstall the previous Notes client without deleting files and databases not removed by the uninstall program (such as NAMES.NSF). If this occurs, it is recommended that the user install R5 into a new directory, free of existing databases, and then move the databases into the new Notes data directory after the Notes R5 installation and setup has been completed.

If existing databases are present during an R5 installation and setup, yet NOTES.INI has been reset or deleted, inconsistencies can result in the starting configuration of the Notes client. For example, the starting Location may be different than what was set in previous Notes client.

Uninstalling a previous version and then installing R5 without removing old configuration files is not supported or suggested.

Server

Windows setup - Administrator middle initial not used

If a middle initial is used for the administrator user during setup on Windows platforms, the middle initial is not added to the user record in the Domino Directory. However, the middle initial is added to the administrator group.

The workaround is not to use a middle initial for the administrative user during setup. After setup, the middle initial is handled correctly.

Application Design Issues

Designer

Background graphics on the Web

The "Do not tile" option for background graphics does not work for Web applications, although the option does work for Notes client applications.

Designer

Cannot display euro character on Japanese Windows NT

In the Designer Field Properties box on a Windows NT Japanese operating system, the actual symbol for the euro currency does not display properly. This is a Windows NT system limitation. The symbol should appear correctly in the actual document in the client.

Designer

Categorized embedded views in Notes

If you preview a categorized embedded view in Notes that has "Show Single Category" set to a valid category, the documents in the embedded view will not be visible if the category is collapsed. To view the documents in the view, expand the category.

This also occurs in the Notes client. For example, open a database to the embedded view and collapse the category. Compose a document using the form that contains the embedded view. Note that the embedded view doesn't show the document.

Designer

Copying hotspot from navigator to form

If a form contains an imported navigator with a LotusScript action, you need to edit the hotspot on the form after the navigator has been imported. In the click action, replace "Source As Navigator" with "Source As Button". Resave the form and the LotusScript will work.

Designer

Creating a horizontal outline

To correctly display a horizontal outline, change the width on the Layout tab of the embedded outline from "Fit content" to "Fixed", and specify a width large enough to accommodate the entries.

Designer

Current database link doesn't display in embedded outline

If you place a database link to the current database into an outline, it is not visible when the outline is embedded in a page or form.

Designer

Environment variables in NOTES.INI

It is recommended that the name of Environment variables be limited to less than 62 characters in the NOTES.INI file.

If an Environment variable names are set at 62 characters long, they can cause the NOTES.INI to become very large and slow down performance. It may also cause applications to fail.

If this happens, limit the name of the environment variable to less than 62 characters and clear the environment variable manually.

Designer

Frameset issues

- If the properties of a frameset contain an alias that exceeds 64 characters, the name of the frameset cannot be edited.
- If the Launch option of a database is set to "Open designated Navigator in its own window," Preview in Notes does not work for framesets.
- If the Launch option of a database is set to "Open designated Frameset," the margin width attribute of the frames will be ignored in the Notes client.
- To avoid an error when switching the Kind attribute (form, page, etc.) of a named element that resides in a frame, clear the Value field first.

Designer

Image Resources not displaying in Web browser

An Image Resource containing a plus sign (+) in its name will not display in a Web browser. To correct this problem, remove the plus sign (+) from the name of the Image Resource. For example, my+picture.gif would become mypicture.gif.

Designer

Multi-currency and euro support in views

Using R5, a developer can create applications which manipulate more than one currency, including the euro, and these currency values and symbols are independent of the locale setting or operating system default currency symbol.

When creating a form, a currency field is defined using the Field Definition Infobox. One step in the currency field definition is to choose the currency symbol. Once chosen, the currency symbol and the currency amount always display together in that field.

In R5, displaying a currency field value in a view must be approached differently. For a view column to display a currency field, use a view column formula similar to the following example for displaying Japanese Yen in a view:

```
@If(JapaneseCurrencyValue!="";"¥"+@Text(JapaneseCurrencyValue;"F,2");"")
```

where "JapaneseCurrencyValue" is the name of a form field and "F,2" is a format string that establishes a fixed format with 2 digits of precision.

Right justify the view column and the currency amounts align properly.

Designer

Multi-value separators include comma

When creating a multi-value field of type readers or names, if the developer removes the selection for comma as a separator, saving the form re-adds it. If a Notes client user enters a name, a comma, and a return before the next name, then any names entered after the return are lost.

Designer

Open URL simple action in a Navigator

If you use the Open URL simple action in a Navigator, you must enter a URL. If the URL link is not specified, the Notes client crashes when the link is clicked in an application.

Designer

Outline entry issues

- Outline entries containing hide-when formulas that are based on field values display regardless of the field value. Hide-when formulas attached to the outline itself work.
- Deleting entries from the bottom of an outline that is larger than the workpane, then using Home or Page Up to return to the top of the outline, may cause gaps to appear in the rest of the outline. This can also occur after reducing the outline size by collapsing the outline. To make the entries visible again, use the arrow keys to move up or down the outline over the area where the entries are missing.
- An Outline Entry that points to a database that has never been opened by the current user may not open the first time it is accessed through the Outline Entry.

Designer

Pasting a folder view link into an outline

Copying a folder as a view link, then pasting it into an outline as an entry, automatically categorizes the entry as a view. When the outline is used in the client, folder operations, such as drag and drop, will not work.

To create an outline entry that is a folder

1. Create a new entry in the outline.
2. (Optional) Give the entry a Label and an Alias.
3. Select Named Element from the first Type list.
4. Select Folder from the second Type list.
5. Click the folder icon next to the Value box.
6. Select the name of your folder from the Folder list.

Designer

Private folders appearing in shared or move folder lists

To avoid having nested private folders appearing in the shared folder or move folder location lists, create the first level private folder first, then create the sublevel private folders.

Designer

Private on first view doesn't update in an outline

Placeholders should be included in an outline with an outline entry for a "Shared, private on first" view. If they are omitted, the outline entry will not be updated.

Designer

Replacing or refreshing database design with frameset

If you replace or refresh a database design with a template containing a frameset, you must close and then reopen the database in order to see the new design.

Designer

Showing multiple values as separate entries requires sorting

If a view has the column property "Show multiple values as separate entries" marked, but none of the columns in the view are sorted, then the entries appear only once and only one of the multiple values appear per document. To see the multiple values as separate entries, the column containing the multiple values should be sorted.

Designer

Using animated GIFs as table backgrounds

Animated GIFs are stationary when used as a table background.

Designer

Width attribute for Layout Regions fields dims after editing

If you change the width of a field in a Layout Region, the width attribute in the Field properties shows a value of 100 and is dimmed. Click on the Width box in the Field properties to see and edit the correct value

Attachments

Client

Attachment file names containing exclamation points

If you attach a file to a Notes document and the attachment name contains a double exclamation point (!!), the file name does not appear. The !! is an internal network separator to Notes, therefore, any characters preceding this do not appear.

Calendar and Scheduling Issues

Client

Alarm message text incomplete

Only the first line of text entered in the Description field of the Alarms dialog is displayed in the alarm notification box. Any text after the first carriage return is not displayed in the notification box.

Client

Alarms for R5 beta users

If you set automatic alarms when you were using a beta version of Notes R5, you need to modify your \$Alarms folder in your mail file before you can set automatic alarms in the final version of R5. You can do one of the following two things:

Remove your \$Alarms folder

This means you lose all the alarms you have already set. To remove the @Alarms folder from your mail file:

1. Choose View - Design.
2. In Domino Designer, select Folders from the left pane.
3. Select the \$Alarms folder, and press Delete.
4. Close Designer.
5. Replace the design of your mail file by choosing File - Database - Replace Design.

Remove the unwanted lines from the \$Alarms folder

You can remove only the automatic alarms. All the non-automatic alarms that you have set work correctly in the final version of R5. To remove the automatic alarms:

1. Close your mail file.
2. Press and hold down Ctrl - Shift, then double-click on the mail icon in the Bookmark bar.
3. Open the \$Alarms folder and delete all lines beginning with "ERROR."
4. Close, save, and reopen your mail file.

Client

Avoid using commas in Site Profile names

Do not use commas (,) when naming Site Profiles in the Resource Reservations database. This causes problems when sending a meeting invitation to a room or resource.

Client

Calendar and scheduling with Prefers MIME mail preference

In general, Calendar and Scheduling users should use the mail format preference of "Prefers Notes Rich Text" or "No Preference;" however, if the users have the "Prefers MIME" preference, these are the known issues:

- Meeting invitations contain duplicate meeting information in the Description and comments fields.
- Invitees' names are missing from response documents sent to the meeting chair.
- Invitation responses sent to the meeting chair contain duplicate meeting information in all comments fields.
- Any attachments added to the comments page are lost.
- The chair is not able to "Send Updated Information..." to an invitee's "Request information..."
- If a user reserves a room or resource that has owner restrictions, the document link included in the Resource Reservation Request is converted to text. The resource owner has to open the Resource Reservations database to the "Waiting for Approval" view to process the reservation request.

Client

Calendar printing issues

- Calendar view prints over boundaries of entry in weekly style view.
- Calendar views, especially monthly and weekly, with many to do's and/or appointments on a given day may generate several pages in order to complete the listing for that day. In order to reduce the number of pages generated, there is a setting to print the first line only. This setting can be found by going to the main print dialog box then clicking the customize button and then checking the setting to print first line only.
- Calendar printing on a Hewlett Packard PCL (or compatible) with draft quality button checked in print dialog box causes much larger than normal calendar text.

Client

Canceling and/or adding rooms to existing meeting invitation

If a chair sends a meeting invitation that includes a room or rooms and then either cancels a room or adds additional rooms, no notification of these changes is sent to the invitees. The chair should open the calendar entry and choose Actions - Send Memo to Participants to send the updated information.

Client

Comments and Purpose fields in Reservation document

The Comments and Purpose fields in the Reservation document of the Resource Reservations database serve the same basic purpose. If you manually create a reservation, you may use either field to store additional information about the reservation. If you are reserving a room or resource via a Meeting invitation, the information contained in Subject field of the invitation is stored in the Purpose field of the Reservation document.

Client

Copying and pasting resources

To avoid reservation conflicts, do not copy and paste resources in your Resource Reservations database. Always create new ones using the "New Resource" action.

Client

Double-booking holidays

If you import multiple holiday sets that contain some of the same holidays, they appear doubled-booked in your Calendar. Any of the duplicate entries can be deleted from the Calendar without affecting the others.

Client

Free time scheduling and Daylight Saving Time

Free time scheduler returns incorrect results if the chairperson is in a time zone that does not use Daylight Saving Time and the invitee is in a time zone that uses Daylight Saving Time, but Daylight Saving Time is not in effect. For example, if the chairperson uses Japanese standard time and the invitee uses Eastern Standard Time and Daylight Saving Time is not in effect, the free time scheduler does not correctly reflect the free time for the invitee.

Client

Group calendar and mobile directory catalog

Groups in a Domino Directory do not expand to individual members in the Group Calendar if you are using a Mobile Directory Catalog that does not contain the group members. To use both features, do the following:

1. Ensure your Personal Address Book (NAMES.NSF) is listed before the directory catalog in the Mail and News settings of User Preferences.
2. Select the group name in the Domino Directory.
3. Choose "Copy to Personal Address Book."

Alternatively, you can list each of the group members individually in the group calendar, or obtain a directory catalog from their administrator that contains members of public groups.

Client

Group calendar does not display "pencil-in" calendar entries

Any Calendar entries that were save with "pencil-in" enabled are not displayed in the Group Calendar grid.

Client

Invitations tab in non-meeting entries

In a browser, when a calendar entry type is anything other than meeting or personal to do, selecting the Invitations and Reservations tab displays the Description field only. Use the browser's Back button to return to the Basics tab of the form.

Client

No pending reservation warning when deleting Site Profiles

There is no warning or restrictions when deleting a Site Profile in the Resource Reservations database. Sites should be checked to insure that there are no pending reservations before deleting them.

Client

No room information is included in a delegated invitation

If an invitee of a meeting delegates the invitation to a third party, the delegated person's delegation invitation does not contain information regarding the location of the meeting, even if the chair had included a room in the original invitation.

Client

One entry displayed from group calendar for multiple entries

If a calendar has multiple calendar entries in the exact same date/time slot, only one will be displayed or opened from the group calendar grid.

Client

Processing encrypted invitations in a Web browser

If you expect that any invitees of a meeting or a group "to do" will be processing their invitations via a Web browser, then deselect the option to encrypt sent mail in your user preferences (File - Preferences - User Preferences - Mail and News - Encrypt sent mail). This option is deselected by default.

Client

Refresh browser before rescheduling meeting or group to do

In a browser, if you use the "View Participant Status" action as the chair/owner of a meeting or group to do, you must first refresh the browser before rescheduling. The reschedule notice is not sent, nor is the chair/owner's calendar entry/group to do updated, if you reschedule immediately after viewing participant status.

Client

Removing invitees before they respond

If the chair of a meeting invitation removes an invitee before that invitee responds, the invitee's original invitation is not automatically removed from the mail file.

Repeating meeting/to do issues

- When you want to delete one instance of a repeating meeting by selecting the instance and pressing the Delete key, all the instances of the repeating meeting are marked for deletion. When you press F9 to refresh, and you receive choices as to which instance(s) you want to delete.

Another case of this issue is that when some, but not all, repeating meeting instances are modified and then one of the instances is marked for deletion. After you refresh, you receive a partial list of instances. When you make a choice about which set of instances you want to delete (Just this one, All instances, This and all future, and This and all past), your choice is put to effect for all instances.

- When a chair decides to add an invitee after sending a repeating meeting or group to do, the new invitee does not receive the complete repeat information. The same problem happens when a repeating meeting/group to do is first saved as draft and then sent.
- To avoid errors, respond to an invitation to a repeating meeting or to do before opening any reschedule notices.
- To propose a new time for any or all of the instances of a repeating meeting or repeating group to do, you must first accept the invitation or assignment. After you accept, you can propose a new time or date.
- When you open a repeating group to do assignment, double click the form and click on the Repeats button to see the repeat information.
- When a room or resource is reserved for a repeating meeting or group to do and not all the days are available, the chair receives two notices -- one is a Declined notice and one is an Accepted notice. To find out which instances were accepted or declined, chair should go to the rooms/reservations database and verify dates. If the chair only wants to reserve a room and/or resource for one instance of a repeating meeting, the reservation will be done for all instances of the repeat.
- If you want to use the Delete key to delete single or repeating meetings or group to do entries, use the Calendar view. Using a browser, if you select the Delete button from an instance of a repeating entry, all instances will be removed.
- In the calendar view, overdue repeating to do's are not displayed on today's date.
- "Propose new time" is a response option for an invitee for a repeating meeting that was saved as draft prior to getting sent. Invitee should accept the meeting prior to proposing new time
- If a repeating meeting chair checks the field "Start from the end of the month," that information does not appear in the meeting invitation. Invitees will not know the repeating meeting is scheduled on the specified dates but counting from the end of the month unless they accept the invitation and look at their calendar. As a work around, the chair should write a note in the Description field indicating the repeating meeting will occur on specified dates but counting from the end of the month.
- If you receive an ambiguous dialog box when you are sending an invitation to a user, choose the name that is qualified with the Organization name. This issue occurs if you have a user specified in your Personal Address Book without the organization name and if that user is also specified in the Domino Directory.

Client

Reschedule notice when chair adds additional invitee

If you access your mail file from a browser and edit an existing meeting invitation to include an additional invitee, a reschedule notice is sent to all previously invited users. They should respond to the reschedule even though no changes will be made to their original calendar entry.

Client

Same conflict message for different conflicts

If you enable the "Automatically check for time conflicts when scheduling" setting in Calendar Preferences, when you schedule an appointment the same warning message appears for two different kinds of conflicts:

- Time slots with a previously scheduled appointment
- Days or times that are not included in your free time schedule

Server

Schedule_Check_Entries_When_Validating

Do not enable the setting `Schedule_Check_Entries_When_Validating` in the `NOTES.INI` file on a heavily-loaded server or one that uses a considerable amount of I/O.

`Schedule_Check_Entries_When_Validating` validates the busytime database entry on a user by user basis. Enabling this setting can degrade server performance.

Client

Setting free time schedule to span midnight

In the Calendar Preferences/Free Time schedule, avoid entering values that span midnight. While this is not prohibited, it causes the Free Time dialog to display erroneous information.

Client

Showing to do's on the calendar

For the user preference "Always show current to do's on Calendar" option to take effect, save the preference, and then exit and reopen the database. At the next scheduled time for agents to run, the to do's appear on your calendar and are updated to today's date.

Client

Use calendar view or open invitations to process invitations

Use the Participant Actions button in the calendar view or the Respond and Respond with Comment buttons from the open invitation to process a repeating invitation.

Use the Owner Actions button in the calendar view or in the open invitation form to perform meeting actions by the owner.

Client

Web only - scheduling events that span across a year-end

If a Web browser user creates an All Day Event that spans across years (for example, start date is 12/21/98, end date is 1/2/99), the user receives the following message when switching fields:

The End Date for the meeting must be later than the Start Date of the meeting

In order to work around this, the user should re-enter the End Date of the event and then immediately click the Save and Close button. If they enter information in another field after changing the date, they receive the same message, so the order of execution is extremely important.

DECS Issues

Designer, Server

Oracle Connector passes procedure parameters by name

The Oracle Connector provided with the Domino Enterprise Connection Services and the LSX For Domino Connectors passes parameters for stored procedures by name. Therefore, the Oracle parameter names must now match the field names defined in the RealTime Activity, rather than the position of the fields in the RealTime Activity. Previous versions of the Oracle Connector passed parameters to stored procedures by position.

Directories

Server

Anonymous access allowed refers to non-secure LDAP only

Domino allows the capability of enabling or disabling anonymous access for both non-secure (default port 389) and secure (default port 636) LDAP. The following log message in **bold** may appear in the NOTES.LOG file and refers to the non-secure LDAP port only.

```
02/07/99 02:51:47 PM LDAP Server: Started
02/07/99 02:51:47 PM LDAP Server: Serving Directory c:\notes\data\names.nsf in
the acme.com Internet Domain
02/07/99 02:51:47 PM LDAP Server: Maximum entries returned = Unlimited
02/07/99 02:51:47 PM LDAP Server: Time limit for search = Unlimited seconds
02/07/99 02:51:47 PM LDAP Server: Minimum characters needed for wild card = 1
02/07/99 02:51:47 PM LDAP Server: WARNING: Authenticated Users do not need SSL
02/07/99 02:51:47 PM LDAP Server: Anonymous access allowed
02/07/99 02:51:47 PM LDAP Schema: Started loading...
```

Server

Anonymous LDAP access to the directory catalog

When you use a directory catalog on a server that runs the LDAP service, LDAP clients that connect to the service anonymously can search all fields from Person and Group documents configured in the directory catalog except the HTTPPassword field. This is true regardless of which fields in a Domino Directory you enable for anonymous LDAP access.

Server

Can't use OID in LDAP search filter

You can't use an OID in a search filter when using LDAP to search a Domino Directory.

Server

Create full-text indexes manually directory catalog copies

Full-text indexes are created automatically only on replicas of a directory catalog. A copy of a directory catalog isn't automatically full-text indexed; you must manually create the full-text index on a copy.

Server

Directory assistance does not fail over to next best replica

If you have configured directory assistance to have more than one replica defined for a particular domain, then when the current "best" replica becomes unavailable it should fail over to the next best replica. However, there is a problem that prevents this fail over from occurring on occasion. This will be fixed in a future release.

To work around this problem, edit any field in the Directory Assistance document and save. This forces Directory Assistance to reload its tables and attempt to connect to the previously unavailable server.

Server

Directory assistance replicas used in reverse order

The best directory assistance replica for a particular domain is selected in the reverse order of which they are listed in the Replicas section of the Directory Assistance document.

In the example below, if all three replicas are in the same domain, then the replica on server3.acme.com/tcp would be considered the best. If that replica isn't available then Directory Assistance would failover to server2.acme.com/tcp. Finally, if neither of those are available, then Directory Assistance would failover to server1.acme.com/tcp. This will be fixed in a future release.

```
server1.acme.com/tcp  
server2.acme.com/tcp  
server3.acme.com/tcp
```

Server

Directory catalog and Internet mail routing

If a mail server is set up to use a directory catalog, the router is unable to resolve searches for Shortname and InternetAddress unless the name was derived from a directory that is also configured in directory assistance. If the name was derived from a directory that is not configured in directory assistance, the lookup fails.

Server

Disabling exhaustive name lookups

By default, the mail router configuration option "Exhaustive lookup" -- available on the Router/SMTP - Basics tab of a Configuration Settings document -- is disabled. If you keep this default setting, once the router finds a name it doesn't continue its search to other directories. Disabling exhaustive lookups is used to improve router performance.

By design, disabling "Exhaustive lookup" does not apply to a directory catalog. After searching the primary Domino Directory, the router continues its search to the directory catalog even if "Exhaustive lookup" is disabled because it can find all the names quickly in one database (rather than having to take the performance hit of searching multiple secondary directories).

The router returns a delivery failure when it looks up a name in the directory catalog that corresponds to more than one directory entry and the Mail server, Mail file, and/or Domains are different for each entry. To avoid these delivery failures when the two entries actually represent the same person (for example, when someone's name and directory location within the organization has changed but you want to allow people to address mail using the original name), make the entries in the Mail server, Mail file, and Domain fields identical for each entry.

Note that the "Remove duplicate users" directory catalog configuration option doesn't apply to the situation described above, only to entries with identical names, mail servers, mail files, and domains.

Server

Do not run LDAP on NT Alpha with Directory Catalog

Do not run LDAP on a NT Alpha server that has been configured with a server-based Directory Catalog. An LDAP search may cause the LDAP server to hang. This will be fixed in a future release.

Server

Don't change name of Users view in a directory catalog

When you open a directory catalog, you can select the Users view to see an alphabetical list of the users, groups, and databases included in the directory catalog. Don't change the name of the Users view. If you do, when you open the view incorrect information is displayed. Note that changing the view name has no effect on users' ability to browse the directory catalog using the Select Addresses dialog box.

Server

LDAP over SSL using self-signed Domino server certificate

To use a Web browser such as Netscape or Internet Explorer 4.0 to perform secure LDAP searches (SSL) on a Domino server using a self-signed server certificate, you must first connect to the server via a different protocol (for example, HTTPS or IMAP) and accept the server's certificate in the browser when the dialog box appears.

A self-signed certificate is not issued by a trusted Certificate Authority and therefore, an SSL-capable browser does not recognize the issuer and prompts the user with a warning. In the warning dialog window, the user can then tell the browser to accept the certificate. This must be done before any LDAP searches using SSL can be performed.

Server

LDAP schema publishing

LDAP clients can retrieve the directory schema, for example, by using the search base "cn=schema", search scope "base", and search filter "objectClass=*". The results returned, however, are not entirely accurate.

For the most accurate schema information, refer to the Domino LDAP Schema database (SCHEMA50.NSF), which is available on the Web at <http://notes.net/notesua.nsf/find/schema50>.

Server

LDAP using client certificates for authentication

When client certificates are enabled, and anonymous and name and password authentication are disabled for LDAP, the only current client that sends the client certificate over LDAP, when requested by the Domino LDAP server, is the Notes/Domino LDAP client. Both Microsoft Outlook Express and Netscape Communicator currently do not send a client certificate when requested by the server, when using LDAP, therefore if you are using these LDAP clients and SSL you would need to enable name and password or anonymous authentication in order to communicate.

Server

LDAP: Unable to modify/delete auxiliary objectclasses

You can not modify/delete auxiliary objectclasses. This will be fixed in a future release.

Server

LSEARCH.EXE renamed to LDAPSEARCH.EXE

Domino's command-line search utility that allows you to find entries in the Domino Directory and returns those entries in LDIF format has been renamed from LSEARCH.EXE to LDAPSEARCH.EXE.

For R5, LDAPSEARCH is available only on the Windows NT and Windows 95 platforms. LDAPSEARCH will be available on other platforms in a future release.

Server

Running the Directory Cataloger

Lotus recommends that you build or update a source directory catalog by running the Directory Cataloger on a schedule enabled in the Server document. You can also immediately build or update the source directory catalog using the console command:

```
tell dircat quit
```

and then

```
load dircat filename
```

where "filename" is the name of the source directory catalog. Don't choose Task - Start - Directory Cataloger from the Server Status tab of the Domino Administrator to immediately build or update a source directory catalog because this tool doesn't allow you to specify the file name for the directory catalog.

Server

Signer of a cross-domain "Delete in Address Book" request

If your domain receives "Delete Person in Address Book" or "Delete Server in Address Book" requests and the Administrators in the source domain typically perform immediate deletions, the Administration Server of the Domino Directory of the source domain must be in the "List of approved signers" field of your Inbound Request Configuration document for the source domain.

Client, Server

Using a directory catalog to add names to an ACL

You can add the name of a user to a database ACL by browsing and selecting the name from a directory catalog. If you do this, Notes adds the common name rather than hierarchical name to the ACL. For example, if you select the name Alice Jones/Sales/Acme, the ACL lists the name as Alice Jones so that anyone with the common name Alice Jones has the assigned database access. For tighter database security, manually add the hierarchical component to the name.

Domino Applets

Designer

Action bar applet issues

If you are running a version of Internet Explorer 4.0 prior to Service Pack 1, the action bar applet, outline applet, and view applet may not display the first time a page is loaded. Refreshing the page displays the applet. Installing IE 4.0 with Service Pack 1 resolves this problem.

Designer

Editor applet issues

- It is not recommended to use images in documents that can be edited both from the Web and a Notes client. Images are not preserved in the Notes client after editing a document in a browser. If you will only be editing and/or viewing documents on the Web, you can use image resources to add images to the original document from the Notes client.
- Cut, copy, and paste within the applet is supported via the CTRL-X CTRL-C, and CTRL-V keystrokes respectively. Cut, copy, and paste outside of the applet is not supported in JDK 1.02 and therefore cannot be supported in the applet.
- Microsoft Internet Explorer (IE) 3.0 is not supported by the Editor applet. Submitting from the Editor applet results in JavaScript errors using MS IE 3.0, and the contents of the applet will be lost.
- The Delete, Esc, up and down arrow, and +/- keys do not work in the Editor applet in Netscape 4.04 on OS/2. You need to use the backspace key to remove text. The only feature in the Editor applet that uses the Esc key is abandoning the entry of a URL link or a Unicode character. When these input fields are displayed, you normally have the option of pressing the cancel button on the input field or the Esc key to abandon the input. OS/2 users must use the cancel button.
- The Thai currency symbol, the Baht, does not display in the editor applet when running in Microsoft Internet Explorer 4.0x. This is because the Baht character is not available in the font used by the JVM. The character is correctly understood and preserved by the editor applet, it just does not display within the applet.

Designer

Editor applet sizing issues

There are cases where the Input field for entering Unicode characters does not display properly in the Editor applet. The prompt, input field, and buttons do not all fit within the width of the Editor applet, thus these controls wrap improperly making the input field unusable. This occurs in Netscape 4.5 on HP-UX and could possibly occur on other platforms. There are two workarounds:

1. Change the prompt displayed for this feature. This change must be made on the Domino server and affects all instances of the Editor applet hosted by that server. The English language prompt is defined in the editor.properties file. The prompts for other languages are found in the editor_xx_yy.properties files where xx is the two letter language code and yy is the two letter country code. These files are located in the \DOMINO\JAVA directory in the server's data directory. Open the editor.properties file and change the UNICODE_PROMPT = Enter Unicode Value (decimal or 0xhex) to UNICODE_PROMPT = Enter Unicode Value: (or to your preference). Save the file.
2. Change the size of the Editor applet. This must be done in the database template. For each body field that is set to use the applet, check if the HTMLBodyAttributes contains a height = \"300\" width = \"625\" entry (the values may differ). Change the width to a larger value.

Designer

Outline applet display in Internet Explorer

If you are running a version of Microsoft Internet Explorer (IE) 4.0 prior to Service Pack 1 (SP1), some of the outline applets may not display the first time a page is loaded. Refreshing or resizing the page displays the outline applets. Installing IE 4.0 with SP1 resolves this problem.

Designer

Rich text applet doesn't always work correctly in tables

Problems:

- If a rich text applet is the first item in a table cell, anything following it does not appear.
- If a rich text applet follows a rich text field as HTML in a table cell, part of the applet tool bar is displayed but the applet is not usable.
- If a rich text applet is in a merged cell within a tabbed row, the rich text applet will not show up.

Solutions:

- Explicitly set the width and height values of the rich text applet. The table cell sizes are calculated properly and the applet displays properly.
- Manually specify the width and height of the applet in Domino Designer via the HTML Attributes of the rich text field. Enter: "width=xx height=yy".

Designer

Using the editor applet with non-English languages

There are some issues when using the editor applet in a non-English locale. The editor applet is written in Java Developer's Kit (JDK) 1.0.2, which does not fully support Unicode and non-English languages. Different browsers and Java Virtual Machines (JVMs) handle non-English characters differently as well.

Netscape issues

- In order to properly display and enter non-English characters, you must be running an operating system in the desired language. For example, if you are connecting to and editing documents from a Cyrillic Domino server, you must be doing so using a browser running on a Cyrillic operating system. This is because the JVM gets the fonts from the operating system. If you are running a US English operating system, the Java fonts are Latin 1 and all characters are interpreted as Latin 1.
- Double-byte languages are simplified and traditional Chinese, Japanese, and Korean. The editor applet does not get the proper key codes from Netscape 4.x browsers when running in a double-byte operating system. Characters input into the IME (input mode) do not get entered into the editor applet. To solve this problem, the editor applet displays a text field at the bottom of the data area when running in the ZH, JA, or KO locales. Press F4 to move the cursor into this text field and use the IME to enter characters into the text field. Press Return to move the characters into the applet's data area. Press F4 again to return the cursor to the editor applet's data area. The IME works properly with Internet Explorer 4.01 so this extra text field is not displayed.

Netscape and Internet Explorer issues

Often times international characters are inserted into an editor using an Alt or Esc sequence. This method of inputting characters varies greatly from browser to browser and does not work consistently. To work around this issue, the editor applet allows you to enter Unicode character values. Press the button in the editor applet's UI. A text field is displayed where you can enter a Unicode character value either in decimal or hexadecimal. A hexadecimal value must be preceded with 0x (zero x).

View applet issues

- Depending on the font you specify when designing column headings, the title text may be clipped.
- If you insert an embedded view and text in a document, set the embedded view to display as an applet, and then choose Preview in Web Browser, only the embedded view appears. The workaround is to open the top view in the browser and then open the document.
- When you select a document in a view applet and press Delete, the trash can icon appears in the selection column. Unlike in Notes, pressing the F9 key at this point does not result in a prompt for the documents to be deleted. The @Command([EmptyTrash]) action actually deletes the selected document(s).
- View property - Shrink rows to content is always on for the view applet so changes to the Lines per row: field appear to work incorrectly.
- When a view applet is displayed with the Notes browser, an Execution Security Alert dialog box with a clipboard access warning may appear - depending on the settings in your File - Preferences - User Preferences - Security Options - Java applet security screen.
- In Netscape Navigator 4.5, the View applet doesn't re-size automatically if the browser window re-sizes. This is a known Netscape limitation. Netscape doesn't automatically re-size applets when the browser window or frame is re-sized. However, if you refresh, the applet should re-size.
- All applets except for the view applet are disabled when Internet Explorer 3 or 4 on the Macintosh is detected. That is, the HTML counterparts for these components are used. This is due to design limitations in the Java implementation for these browsers. For the view applet, we issue an error message rather than reverting to the HTML view since templates may have made use of applet-specific features that are not present in the HTML view.
- The Delete key, the arrow keys and the +/- keys don't work with Netscape 4.04 (990212) on the OS/2 platform.

General Issues

Server

Administration Process setup for Cross Domain (Outbound)

Creating an "Outbound Cross Domain Request" configuration document in ADMIN4.NSF returns a "Field Contains Incorrect Value" error.

Workaround

When you create an "Outbound Request Configuration" document for any or all of the supported request you will have to include one for "Create Replica". If you will not be creating database replicas in the destination domain, enter a fictitious server name (one that you know does not exist in the destination domain) to the Server name(s) field of the "Only submit Create Replica requests to the domains listed above if the destination server is one of the following:" section.

For example, if you want to send all "Delete in Address Book" request to another domain called /AcmeSouth you could set up the "Cross Domain Request Configuration" document as follows:

Domains to submit AdminP requests to: /AcmeSouth

Lists of AdminP requests to submit: Create Replica, Delete in Address Book

Only submit Create Replica requests to the domains listed above if the destination server is one of the following: fictitious server/AcmeSouth, /AcmeSouth

List of Approved signers: approved user/domain

Note that the above workaround is not necessary when you create "Cross Domain Request Configuration" documents for Inbound requests.

Client, Designer

Allowing more fields in a database

Databases in R5 format (On Disk Structure, or ODS) can have up to 64,000 fields by enabling the option "Allow more fields in database" on the Advanced tab of the Database Properties box. Databases in R4 format and R5 databases that do not have this option enabled can have up to 3000 fields (where the total length of the concatenated field names is less than 64KB).

Enabling "Allow more fields in database" lets you create more fields in a database but keeps some features, such as full-text indexing, searching by form, and populating the field list in the Design pane of Domino Designer, from working. Also, replication between a database with the "Allow more fields in database" enabled and a replica of that database on an R4 server fails. You cannot create a new replica of a database that has this option enabled on an R4 server.

Lotus recommends that customers not enable the option "Allow more fields in database" for databases with replicas on both R5 and R4 servers.

Server

Anonymous/no access setting may produce ISpy error

While setting up the first server in a domain, you are given the option to add Anonymous with No Access to the Access Control List of all the server's databases. If you choose this option and load the runjava ISpy task on the server, this error may appear on the console:

```
You are not authorized to perform this operation [/homepage.nsf?Open]
```

You can ignore this error. It is not a problem and it will be fixed in a future release. If you would prefer not to see the error, open HOMEPAGE.NSF and change the access level for Anonymous from No Access to Reader.

Client

Bookmarks

Things you should know about bookmarks in R5

In R5, please be aware that there is no synchronization between the bookmarks and the workspace. Also, if you remove a bookmark entry, the corresponding database is not removed from your workspace, so upon a restart of Notes the bookmark re-appears.

Also, if you remove a bookmark that represents several replicas, all references to that replica are removed. If you want to remove a single replica, right mouse click on the bookmark, select Open Replica, then select Manage List.

To force replication after creating a new replica using bookmarks, you must use the "Replicate via background Replicator" option in the replicate dialog, or replicate using the new replica stub on the workspace, or go to the replicator page and replicate from there.

Note: An error will occur if you try to force replication after creating a new replica using bookmarks, if you use the "Replicate with options" in the replicate dialog.

Other issues:

- When reordering databases in the bookmarks list, you are not able to scroll beyond a page.
- Choosing Create - Response in a database's right-click menu causes the error "No document selected".
- After upgrading from 4.x, when you open your 4.x favorites databases, the database name will no longer be listed in the bookmarks list although the icon will appear. You can re-add the database to the bookmark list to correct this.
- If you are using a bookmark file other than the default bookmark.nsf (as specified in your location document), you will need to restart the client in order for that bookmark file to be used.
- If you have more icons on the Bookmark bar than what can be displayed on the screen, you can scroll to the icons that are not currently visible. To scroll the bookmark bar, you must first set the focus. To set focus, right-mouse click on any part of or icon on the Bookmark bar, and then press Esc to dismiss the of the pop-up menu. You can now use the up and down arrows to scroll the Bookmark bar.

- You can expand upon the accessibility feature "Show extended accelerators" by enabling keyboard navigation of the Bookmarks bar. Add the line AllowBookmarkFocus=1 to the NOTES.INI and restart Notes. Press Alt-B and then you can use the up arrow, down arrow, Home, End, Page Up and Page Down keys to navigate the Bookmark bar. Use Enter to select a Bookmark bar icon and Esc to exit. **Note:** This feature is only available when "Show extended accelerators" is enabled in User Preferences.

Client

Calendar not refreshed if left open after midnight

If you leave the Welcome page with a Calendar pane open overnight, the Calendar view does not get updated, even after a refresh. To update the Calendar, restart the Notes.

Administrator Client

Cannot delete folders on AIX and Solaris SPARC servers

The user cannot delete an empty folder on an AIX or Solaris SPARC server using the Delete Folder Tool in the File Panel of the Admin Client. An invalid status message is displayed on the server console after the delete process is attempted:

```
Delete - Successfully processed
```

When the folder is populated with databases and sub folders, the user is not given a warning message indicating that this folder is not empty and the same invalid status message is displayed on the server console after the delete process is attempted. This will be fixed in a future release.

Server

Certifier ID requires password quality 8 characters

If you create a certifier ID during the setup process, you must choose the password quality of "Acceptable," which is at least 8 characters.

Client

Changing Local Address Books in User Preferences

Type-ahead and the LDAP client do not recognize changes made to the Local Address Books settings in User Preferences until after the client is restarted.

Client

Creating Notes database shortcut on the Windows desktop

For most Notes databases, you can drag and drop from the Notes view tab of an open database to the Windows desktop to create a Windows shortcut to the Notes database. Due to a limitation, however, this does not work with all Notes databases.

To workaroud this problem, choose Edit - Copy As Link - Database Link, switch to the Windows desktop, and right-click to choose Paste Shortcut, or you can drag and drop the database from your Bookmarks to the Windows desktop.

Client, Designer

Delay refreshing date/time fields

It may appear to the end user that they need to press F9 twice to refresh a native calendar entry or date/time field. There is a short delay built into the calendaring and scheduling controls before converting the text into a time or date value. Pressing F9 during that delay disrupts the refresh of the field. This will be addressed in a future release.

Designer

Deleting databases with multiple Designer instances open

If you open multiple instances of Domino Designer, you cannot delete a database. You should only have one instance of Designer open when you want to delete a database. If you do delete a database with more than one Designer instance open, the database is not removed from your Most Recently Used list.

To remove the database from the Most Recently Used list, you need to add more databases to the list so that there are more than five databases in the list. When you close the Designer and re-open, only the five most-recently use databases will be in the folder.

Client

Deletion trash icon doesn't appear in the Headlines inbox

If you have a document marked for deletion in your mail file inbox, the trash icon does not appear in your Headlines inbox.

Server

Empty results in REPORTS.NSF

If you receive an "empty" report, for example, where only the original request information is present, after running a message report in REPORTS.NSF, there may be a protection problem with the reports database. If this happens, there are several things you can check:

1. Check the ACL for REPORTS.NSF to ensure the ID trying to run the report has at least Editor access. This level of access is necessary for the actions the agent performs.
2. Check the signature of the agent by looking at the \$UpdatedBy field in Designer. If the signer of the agent doesn't have Editor access, it won't work.
3. Ensure that the signer of the agent is allowed to run unrestricted agents on this server. You can check this in the Security section of the server's Domino Directory.
4. The signer of the agents should be the administrator for the server. If it is not, edit each agent in the Designer and save the agent. This re-signs the agent (see step 3 again.)
5. If the report was created by a scheduled agent, make sure the server has Manager access.
6. If you don't receive any reports at all for a scheduled agent, make sure it is enabled. If you enable the scheduled agent, you re-sign it, so perform step 3 above.
7. Make sure that the database is not full-text indexed.

Note: An "empty" report is not one where the Message Tracking Store (MtStore located in \DATA\MTDATA) is empty or not present. If that is the case, you receive a message in the report indicating a problem with the MtStore.

If you still are having problems getting a report to run, an SPR should be written. To expedite the SPR process, first turn on debugging for the reports agent. This is accomplished by setting the NOTES.INI variable DEBUG_REPORTS=1. The output for scheduled reports appear on the server console. The output for one-time reports appears in the client debug window. Include this output in your SPR.

Client, Designer

Enabling Java, JavaScript, and LiveConnect in Notes client

Although JavaScript and LiveConnect (the ability of JavaScript to drive Java applets) appear to be enabled by default, they may not be set properly. If you want to drive Java applets from JavaScript, do the following:

1. Choose File - Preferences - User Preferences.
2. Ensure that the following options are checked: Enable Java applets, Enable JavaScript, and Enable Java access from JavaScript.
3. Click OK even if you haven't changed any settings. This forces the proper settings to be written to NOTES.INI and ensure the preferences are enabled.

Client

Error when marking a document as Expired

Under certain conditions, you may receive the error "Document has not yet been saved" when trying to mark or unmark a document as expired. If you are within a view and this error occurs, close all other windows that contain new documents and try marking the document again. If you are within a new document in that database, save the document and mark the document again.

This error affects the following templates: Document Library, Discussion, TeamRoom, and MS Office Library.

Administrator Client

Files tab Folder and Database tools disappear during refresh

During a refresh of the Files tab, for example, after pressing F9 or connecting to a new server, the Folder and Database tools disappear and do not reappear until after the refresh is complete. This will be fixed in a future release.

Administrator Client

Files tab shows incorrect logging status of MAIL.BOX

The Files tab does not show the correct transaction logging status of MAIL.BOX. Even when MAIL.BOX is being logged, the "Is Logged" column on the Files tab contains "No." This will be fixed in a future release.

Client, Designer

French franc currency symbol

When Windows 95 has the currency symbol set to the French franc, the symbol imported by the Notes client for currency-format field is F, not the correct symbol of FF. This is a Windows 95 problem.

Administrator Client, Client, Designer

Help appears to freeze when using "Always On Top"

The Help database window may appear to freeze in the following situation similar to the following:

1. In the Help window, choose View - Always On Top.
2. Open a dialog box, for example, File - Database - Open. It opens, but behind the Help window where you cannot see it.
3. The Help window appears to be frozen, because with the dialog box open you cannot perform any navigation in the Help window.

When this problem occurs, press Esc to close the dialog box, which is hidden behind the Help window. You can then continue using the Help window.

Client, Designer

Hotspot/link issues

There are some known issues when using or creating URL links or hotspots with the Notes client and Domino Designer:

- The URL hotspot frame attribute is not saved. This is only a problem with URL string hotspots, that is, the URL hotspots created when the complete URL string typed into a document is converted when the user preference "Make internet URLs into hotspots" is enabled. Frame attributes for URL hotspots are saved correctly.
- Hotspot properties box panels go blank after "Highlight the text" option is selected. Closing and re-opening the hotspot properties box repaints the panels.
- The formula for a mouse-over formula pop-up does work correctly, however, it cannot be edited once the document is saved and closed. Upon re-opening the document, the hotspot properties box incorrectly displays the pop-up text edit control (containing garbage ASCII characters). The pop-up text control should not display at all for a formula pop-up. Formula pop-ups using the "On Click" event work fine.
- Hotspot view links (and database and document links) don't fail over to different replicas when the server of the current replica (on the workspace stack) is down. Notes returns a "server is not responding" error instead of failing over to a different replica.

Designer

Imagemap hotspots are not highlighted on the image

Selecting an imagemap hotspot from the Objects tab in the Programmer's pane does not highlight that hotspot on the picture. To enable this feature, click on the hotspot that you want to edit. This sets the focus on the click event of the selected hotspot.

Client

In browser, rich text fields within tables lose contents

In a browser, for tables with "Show only one row at a time" enabled, a rich text field within any cell loses contents when you switch to another row in the table. All other field types retain contents as expected. As a workaround, add contents to the rich text field as the last act before saving.

Client, Designer

International currency symbols

International currency symbols are not supported on international operating systems. Some currency symbols will be changed to other symbols. If you use R5 in a multilingual environment, don't use international currency symbol settings.

Client

Keywords not updated on Meta tab in Document properties

The Keywords field on the Meta tab in Document properties does not get updated after you categorize the document. This error only occurs when you access Document properties via a view. Switching to another document in the view and then switching back to the document refreshes the Keywords field. This will be fixed in a future release.

Administrator Client

Message tracking fails for messages to Internet domain

When using Domino Administrator to track messages sent from one Internet domain to another, the following error message box appears:

```
Unable to find path to server: <internet domain>
```

End user message tracking for the same message should work correctly.

Administrator Client

Message tracking issues

- Message tracking data is collected at regular intervals. A status of "unknown" is reported if a message is tracked before the routing information for that message can be collected. The default interval for message tracking data collection is 15 minutes. You can configure this value in the server's Server Configuration document.
- The read/unread status of a message is not reported correctly. A message that has been read may appear as unread indefinitely.
- It is not possible to search for messages with the Domino Administrator or Web Administrator Client using alternate names. Only the user name is supported for message tracking at this time.

Client

Microsoft Office library issue

A focus issue may occur while creating a Microsoft document (using Word, Excel, or PowerPoint) then selecting the properties dialog box to enter a subject for the document. Once you click OK to close the properties dialog box, you are left in Excel, Word, or PowerPoint, but the menus may become unavailable. To get the focus back and restore these menus, you need to select another Notes task and then select the Notes task for the document you were just in.

Server

Multiple server access probes generate only one statistic

If you create multiple server access probes to probe the same server, only one statistic is generated. For example:

- Probe #1 - Server1 probes Server2 over any port by just accessing the server
- Probe #2 - Server1 probes Server2 over any port by opening NAMES.NSF
- Probe #3 - Server1 probes Server2 over any port by opening EVENTS4.NSF

There is only one resulting statistic in this format:

```
Server.Server1.Server2=xxx
```

Client

Netscape bookmarks folder not appearing

The Notes client displays a Netscape bookmarks folder on the bookmark bar if Notes detects that Netscape Navigator or Communicator is installed.

For the Netscape icon to appear, Notes must be able to determine the directory where Netscape's bookmark file is installed (typically called BOOKMARK.HTM). On Windows 95/98 and NT, for most versions of Netscape, this is done by consulting the Windows Registry.

For some newer versions of Netscape Communicator, Netscape is using a new mechanism for tracking the location of the bookmark file rather than using the Registry. Notes does not currently support this new format. If you have Netscape Communicator installed and the Netscape icon does not appear, you can specify the location of the Netscape user directory where the BOOKMARK.HTM file resides by setting NetscapeUserDirectory in NOTES.INI. For example:

```
NetscapeUserDirectory=c:\Program Files\Netscape\Users\Default
```

Server

No bar chart present in a messaging report

When running a scheduled report for a server on a UNIX platform, a bar chart is included in the report. However, the charting function requires a windowing system, such as X Windows, be present. If a report is run on a server where the windowing system isn't running, no bar chart is included in the report. When this happens, the following message appears on the server console, although the rest of the report is correct:

```
AMgr: Agent ('Daily Report Agent aaDailyReportAgent' in 'Reports.nsf') error  
message: java.lang.InternalError: Can't connect to X11 window server using  
' :0.0' as the value of the DISPLAY variable.
```

In a future release, a message indicating this situation will be included in the report itself.

Non-Latin1 characters not appearing correctly on UNIX

On the remote and server consoles and the Web Administrator database on UNIX platforms, non-Latin1 characters in file names may not appear correctly. If you create file names using native characters (non-ASCII) these may not be displayed correctly. File names will be written to the log files correctly.

OLE issues

These are some known issues when using OLE (object linking and embedding) in the Notes client and Domino Designer client.

- ActiveX controls are not supported in tabbed tables. The ActiveX control will remain active when switching between tabs that do not contain any ActiveX controls.
- Deactivating an embedded OLE object causes the history currently associated with the Notes back arrow to be erased. Backward navigation will not be possible with the back arrow until a new history has been established.
- Pressing the ESC after entering data in a new OLE object may prevent data from appearing in the OLE object, because some OLE objects, such as 1-2-3, WordPro, Word Pad, and Excel, interpret the ESC keystroke as data.
- Setting the "Size object to window" property of an embedded Lotus 1-2-3 workbook is not supported by 1-2-3 97. Activating the workbook object in edit mode causes the object to zoom in and any column or row headings are not displayed. Upgrade to Lotus 1-2-3 Release 9 (Millennium Edition), which supports this property.
- Two new R5 keyboard shortcut keys could conflict with OLE objects. In R5, you can now use Alt-W to access task buttons and Alt-B to access bookmarks. If you want to use a keyboard shortcut key for a Bitmap Image, then you would need to press Alt-B-B. If you want to use a keyboard short key for a Lotus 1-2-3 Workbook, then press Alt-W-W.
- Saving a document with an embedded Adobe Acrobat 3.01 OLE object in it may cause Notes to crash. You can workaround this issue by disabling NotesFX on your form. Open your form in Designer, choose Design - Form Properties, and then select Disable Field Exchange. Close and save your form.
- The Microsoft Music Control object is not supported by Domino and causes a crash when added to a form or document.

Page Up/Down not correct on Server Monitoring tab

On the Server - Monitoring tab when more than ten servers are listed, as you press Page Up or Page Down you see the agent status scroll but not the server names. The status and server names become unaligned.

Potential Server Monitor paint performance degradation

If the Column scale slider in the By Timeline view of the Server Monitor is not returned to its lowest position prior to switching to the By State view, the screen graphics performance of painting the By State view may noticeably degrade.

Client

Print Preview issues

- Color in bitmaps obscures data in Print Preview, although the actual printing is fine.
- Calendar Printing Print Preview shows undesirable text and numbers at the top of the calendar before zooming in. During printing and zooming in, the same text and numerals are correct and readable.

Client

Printing issues

- Printing a document with search highlights on a Hewlett Packard PCL (or compatible) results in dark black boxes over the search highlights.
- Currently, Notes cannot print to a printer with a space in the printer name.
- Printing of the Welcome page must be printed in landscape mode in order to properly read text. If you print it in portrait mode, text runs off the page.
- Printing an OCX (OLE Control Extension) that spans more than one page currently only prints the first page.
- If you have difficulty printing any text formatted in a Unicode font (for example, Monotype Sans WT J) on a Hewlett Packard PCL (or compatible) printer, try selecting the option in the printer settings that forces characters to be sent to the printer as downloadable soft fonts or bitmaps. The text may appear correctly on screen but may not print correctly.
- In the Personal Address Book, if you print an Account document that spans two pages the print output is misplaced on the second page. This will be fixed in a future release.
- To print Web pages correctly, you must have your browser type set to something other than Notes. Internet Explorer with Notes, Netscape Navigator and Microsoft Internet Explorer are fine and web page information prints correctly.
- The top portion of graphical table background images do not print correctly.

Administrator Client

Random characters in long broadcast messages

If you send a broadcast message that exceeds 64 characters from the Domino Administrator server console, random characters appear in addition to the intended message.

Administrator Client

Save and Close button saves but doesn't close

Please be aware of the following scenario when using the Domino Administrator:

1. Select a server.
2. Click the Configuration tab.
3. In the Servers pane, click Server and select "Current server document."
4. Click "Edit Server" and make a change.
5. Click "Save and Close."

Your changes are saved but the document remains open in edit mode.

Server

Schedule Manager on Solaris may contain garbage error text

Some error messages logged by Schedule Manager on Solaris may appear as garbage or totally unrelated to any error. There is an actual error message that is actually being logged but an optimizer problem results in the error code being incorrectly looked up. This will be fixed in a future release.

The proper error text appears on all other platforms.

Administrator Client

Server Monitor issues

- If a server task has the same name as a database (for example, the server task Billing has the same name as the database BILLING.NTF) on servers on which the task is not configured, the Server Monitor may sporadically report this task as running, then not running.
- The Server Monitor may report that the Indexer on a server is Not Responding when the Indexer is updating the full text index of a large database.
- The Server Monitor automatically sorts troublesome servers to the top of the display. If the currently selected server changes state, the monitor adjusts the display so this server remains visible at its new location in the server list. To keep the Server Monitor display oriented to the top of the list, click on a stable server (at the bottom of the sorted list), then scroll the display to the top. Because the selected server is not visible, the monitor continuously displays the troublesome servers at the top of the list.
- If the Server Monitor is configured to monitor both the Cluster Replicator and the Replicator on a server on which only the Cluster Replicator is running, the Server Monitor monitor may sporadically report the Replicator as running, then not running.

Administrator Client

Server Monitoring not adding servers from new domain

When using Administration Preferences to add a new domain, Server Monitoring does not immediately show the new servers. To correct this, choose Administration - Refresh Server List - All domains.

Administrator Client

Set Quotas tool accepts letters

You are incorrectly allowed to enter letters into the "Set database quota to" and "Set warning threshold to" fields in the Set Quotas dialog box. These fields should only accept numbers. This will be fixed in a future release.

Server

Stats Task may shut down

The Stats task sometimes creates the Mail-In database during the initial run of a new server, then shuts down shortly after that. The message is: Stats Agent Shutdown. This occasionally happens on Windows NT during the initial run of the first server in a new domain or during the initial run of a new additional server. If this occurs, simply restart the task (load stats).

Table issues

There are some refresh problems with table display, including:

- The bottom border sometimes does not display. This is a refresh problem that is corrected when scrolling.
- Adjusting column size or inserting/deleting columns may cause display problems in tabbed tables or if outside borders are selected. This is a refresh problem that is corrected when you scroll or press Enter.
- Column spacing initially throws off drop shadow then corrects when an edit is made.
- Some changes to border sizes may cause text wrapping not to adjust properly. If this happens, save and reopen the document and the wrapping will be adjusted.

Other known issues:

- It is not recommended to merge cells in tabbed tables because there are some display and editing issues. Workaround: In a tabbed table, set borders to zero to achieve the same effect as merged cells.
- If a fixed width table is center or right justified, and a value is expressed in Column Spacing, the table placement shifts to the left. Workaround: Use Table Margin to achieve desired placement.
- Cell image background content does not appear when a new row or column is inserted or appended. Workaround: Place the cursor in cell that contains background image and select Apply To All.
- Cell image background and table color are not recognized as content when special border styles (ridged/grooved) are selected. The cell fills with the border color in read mode. Workaround: Entering a space displays the cell image and table color in read mode.
- Text may be overprinted by large borders if the text is indented then outdented. Workaround: Adjust column spacing.
- When selecting Transitions, you must do so cell by cell. Highlighting a group of cells results in the transition being applied to only the rightmost cell.
- When using "Once when opened" as the cycle option for special table row display, there must be a minimum of two rows. A single row does not display in read mode. Workaround: If you want to display only a single row, you can insert a row above the row to be displayed and set the all the border widths to zero, effectively creating an invisible row.

TeamRoom issues

- When using TeamRoom Setup, you may notice that the cursor appears to be missing from the screen. Actually, the cursor is focused on the Help hotspot on each tab in the table. Pressing the tab key or the down arrow brings the cursor into the first editable field on the screen. This is due to a software limitation.
- New TeamRoom documents created via a web browser erase any unsaved information in the rich text area when the Send Link to Assignees or the "Display combined list" hotspots are clicked. It is recommended that you either use these two hotspots before entering any text in the rich text area, or save and reopen the document before clicking these areas. This problem does not affect text that has already been saved in this area.

Client

Troubleshooting spell check for International

If spell check for International languages does not work, check these possible solutions:

- Ensure you have the appropriate language dictionaries in your data directory. If you do not, you can copy the correct dictionary files (.DIC) from the \APPS\DICTRNY directory on your Notes installation CD-ROM.
- Check your International User Preferences (choose File - Preferences - User Preferences - International) to ensure you are using the correct international spelling dictionary.

Client

Undo function has changed

The undo function has changed for R5.

In previous releases of Notes, undo would only remove text entered since the last save command. For example:

1. If you opened a document,
2. Typed paragraph 1,
3. Saved the document,
4. Typed paragraph 2 and then chose Edit - Undo, only paragraph 1 would be removed. Paragraph 2 would remain.

In R5:

1. If you open a document,
2. Type paragraph 1,
3. Save the document,
4. Type paragraph 2 and then chose Edit - Undo, both paragraphs are removed.

If you accidentally select Edit - Undo, you can always close the document without saving the changes so the document reverts to its original state.

Administrator Client

UNIX Collector server does not work in the Server Monitor

When using the Server Monitor to monitor a domain, selecting a UNIX server as your Collector (proxy) server does not return any status on the servers in the domain being monitored. The error message "Could not get Statistic from server" is returned by every server being monitored.

Use space bar to select in navigation pane after F6

Use the space bar to select an item in the navigation pane after using F6 to put the focus in the navigation pane. This is a change from previous releases, where just moving the cursor up/down or clicking with the mouse causes the item to be selected and appropriate views/forms to be displayed.

If the focus is in the view pane, clicking an item in the navigation pane will continue to select and open the view/form in the same manner it did in previous releases. This applies only to using F6 to put the focus in the navigation pane.

Web Administrator issues

- If you encounter any problems with the Web Administration application it is possible that the database has become damaged. Shutdown HTTP, delete WEBADMIN.NSF, and re-start HTTP. When HTTP starts it checks for the existence of WEBADMIN.NSF, and creates a new one from the template if it doesn't exist.
- If you are having trouble authenticating with the Domino Web Administrator, ensure that you are logging in with one of the aliases specified in the "User Name" field of your Person document, and that you are using the correct password as specified in the "Internet password" field (Note: The shortname is only a valid Notes alias if it is added to the "User Name" field). Your name should also be listed in the Server document "Administer the server from a browser" field, and in the ACL on WEBADMIN.NSF. Also, make sure that the File protection document for the Web Administration executables is configured properly (see the release note on "Controlling Access to the Web Administrator files"). Both the server and administrator should have post and get (read & write) access to the domino/adm-bin directory.
- Some browser configurations may require two authentications due to the way realms are handled. In such cases remote console and some of the other applets do not function correctly until the second authentication has occurred. Selecting "Live" console forces a second authentication if it is required.
- The Domino R5 Web Administration application incorporates a new feature that allows administrators to edit ASCII text files on Domino servers (such as the NOTES.INI file). To enable this feature you will need to open WEBADMIN.NSF with a Notes Client and click on the button to "Sign unrestricted agents for browser access". You will need Manager access in the ACL to do this. You will also need to add the hierarchical name of the UserID to the "Run unrestricted LotusScript/Java agents" field in the Domino Server record.
- If your Domino Server ID is using a password and you want to use the Domino Web Administrator to modify database security (such as database ACLs and roles), you will need to set the server ID to "share password with Notes add-ins." Failure to do so may cause the Domino server to hang if WebAdmin is used to modify database ACLs. To set this use a Notes Client to access the Server ID, select File - Tools - UserID - Basics, and enable the "Share password with Notes add-ins" checkbox.
- Web administrators can not modify Notes database security by default. This is because Notes databases don't generally have the "Maximum Internet name & password access" set above "Editor". If you want to modify Notes database security from a browser you will need to use a Notes client to change this parameter to "Manager". You will also need to ensure that this parameter is set to "Editor" or above if you want to edit Notes documents from a browser.
- Your Web browser cache should be set to check documents every time.
- Internet Explorer 4.x users need to disable HTTP 1.1. This setting is located at the bottom of the Advanced section under "View - Internet Options - Advanced".

- If your Internet browser setting in your Location document is set to "Notes with Internet Explorer" or "Microsoft Internet Explorer", you must make sure the Update cache setting in the Advanced section of the Location document is set to "every time". This setting overrides the setting in Microsoft Internet Explorer as mentioned previously.
- Domino Web Administration is fully-supported with Netscape Navigator 3.01 Gold on the Macintosh. Some later versions of Netscape are only supported in "Dropdown interface" and "Plain interface" due to JavaScript compatibility issues. Similar JavaScript issues and lack of support for HTTP 1.0 prevent all versions of Internet Explorer from working properly on the Macintosh or UNIX platforms.
- Domino Web Administrator 5.0 does not support Message Tracking on UNIX Domino servers. You will need to use the W32 Admin Client if you wish to track messages on UNIX platforms.
- Domino Web Administrator 5.0 Database Tools don't recognize group membership in database Access Control Lists.
- If you have trouble creating databases, or replicas of databases, using Domino Web Administrator 5.0, it is because the "Create new databases" or "Create replica databases" field in the Server document is not set correctly.
- Thai characters are not displayed in the Web Administrator applet on Windows 95 and Windows 98. There is no problem with displaying Thai characters in the applet on Windows NT. Hence, it is recommended that the Web Administrator applet is run on Windows NT for administering servers in a Thai environment.

Internet Issues

Server

Accessing Web mail without Anonymous authentication

When accessing mail from the Web, you may be prompted more than once for your name and password if the Web authentication option "Anonymous" in the Server document is set to "No". Microsoft Internet Explorer may hang.

If Anonymous is set to "No", Anonymous access to any realm on the Web server not allowed. In most default server configurations, mail files are stored in the realm "/mail" and Java applets are stored in the realm "/domjava". These are directories in the Domino server data directory. Note that "/domjava" is a pointer to the directory "domino/data/domino/java".

This is a change in behavior from R4.6, in which the Anonymous setting only applied to Notes database (NSF) files. In R5, this setting applies to all types of files, including the Java applet files.

If Anonymous in the Server document is set to "Yes", the extra authentication does not happen.

Workarounds include:

- In the Server document, set Ports - Internet Ports - Web - Authentication options - Anonymous to "Yes" and explicitly protect every Domino data subdirectory with a file protection document. Setting the "default" entry in the file protection document to "get" allows anonymous access for the corresponding subdirectory.
- Override the Anonymous "No" setting by creating a realm document for the server. Apply the following settings to this realm document:

IP Address set to blank

Path set to the full Domino data path, for example, c:\domino\data)

Realm returned to browser set to ServerRealm, where ServerRealm can be any simple string value.

Server

Certificate Authority database must be in data directory

If the Certificate Authority database (based on CCA50.NTF) is stored in a directory other than the data directory, you may see the following error when requesting client certificates:

```
Error 404 "Lotus Notes Exception: File does not exist"
```

Server

Close and reopen new Certificate Authority database

When an administrator creates the Certificate Authority database (from the CCA50.NTF template), if that person attempts to select any of the options in the main navigator screen, they receive the following error messages:

```
View or navigator 'defView' does not exist
```

Followed by:

```
You have insufficient access to perform this operation
```

These error messages occur if the administrator does not have the role [CAPrivilegedUser] assigned in the database ACL. The administrator who created this database is automatically assigned this role; however, that role is not recognized when the database is first created until you exit from the database and reopen it.

Server

Date/time with multiple values issue

If your Domino HTTP server is running on Windows NT with YY-MM-DD as the default OS date/time format, you cannot input date values, for example, "1999-1-1" to a Notes date/time field with multiple values option from Web browser. You receive the following error:

```
Error 500
```

```
HTTP Web Server: Lotus Notes Exception Unrecognized Notes error
```

To avoid this issue, you can use following workaround:

- Use a date separator other than a dash, for example, "1999/1/1"
- Change your OS date time format to use a date separator other than a dash

Designer, Server

Domino does not preprocess regular text in passthru HTML

In R5, Domino no longer preprocesses regular text within passthru HTML. When using passthru HTML, you must explicitly include any HTML that is necessary.

For example, in R5 Domino does not generate an implicit
 (line break) tag as it would in R4.

In R4.6, for a form with the pass-thru HTML:

```
[<b>Line 1  
Line 2  
Line 3</b>]
```

Domino would generate the following HTML:

```
<b>Line 1<BR>  
Line 2<BR>  
Line 3</b>
```

In R5, Domino does not include the
 tags since the designer did not include them in the passthru HTML, which in this example causes the lines to concatenate in a Web browser.

In another example, in R4.6x, Domino generates an anchor tag when you create a URL hotspot within passthru HTML. In R5, Domino no longer generates the anchor tag.

Server

Domino for IIS adjustment with Domain Search or RepID

In the Domino for Microsoft IIS configuration, all URL requests received by IIS that contain the letters ".nsf" are passed to Domino. However, it is possible to use a Domino replication ID to identify a Domino page, which does not include the letters ".nsf" in the URL syntax, and thus would not be passed to Domino in the default configuration. Note that Domain Search uses replication IDs when returning results as well.

If you are using Domino for IIS and need support for URLs that contain a replication ID, or are using Domino Domain Search across R5 servers, enter the following line in your NOTES.INI:

```
DominoGenR5RepIdSyntax=1
```

With this setting enabled, the Domino server will add the string ".nsf" to all Domino-generated URLs using the following syntax, which enables the IIS filter to pass the request to Domino:

```
http://server/__replication id.nsf/?Command
```

where "replication id" is the 16 digit identity of the database prefixed with 2 underscores. For example:

```
http://www.lotus.com/___852559DF0070D6E7.nsf/?OpenDatabase
```

The URLs that use this syntax includes those produced in a page that is a result of a Domain Search. Domino R5 servers process the page as it would normally. Domino 4.x servers do not recognize these URLs.

If you are upgrading a 4.x Web site that includes explicit URLs that use replication IDs, and want to run it in a Domino for IIS configuration, you need to manually change the URLs to match the syntax above.

This is a temporary solution for an issue that will be addressed in a future release.

Server

File protection documents are not working for servlets

The Domino 5 Designer Help and Domino 5 Administration Help both contain references to using File Protection documents to control Web client access to Java servlets. This is not working properly in R5. Do not create File Protection documents for servlet class files, archive (.JAR and .ZIP) files, or the servlet directory. This will be fixed in a future release.

Designer, Server

Internet Explorer 3.x Issues with JavaScript

Domino R5 provides enhanced support for redirection to framesets, which produces JavaScript that is not supported by Microsoft Internet Explorer (IE) 3.x. Microsoft IE 4.x provides full support for all Domino R5 Web elements.

When dynamically generating pages, Domino can detect the version of the browser making the request. If a IE 3.x user requests a page containing JavaScript design elements not supported by IE 3.x, Domino generate the following error:

```
Error 500 HTTP Web Server: Your browser's JavaScript implementation does not adequately support usage of this feature. Upgrade your browser to be able to use this feature.
```

Domino 5 features not supported by IE 3.x

These types of features results in Domino automatically generating JavaScript that is not supported by IE 3.x:

- The "Web Access: Use Javascript when generating pages" Database Option is enabled
- Options are selected that result in a URL redirection to a frameset, such as the "Auto Frame" option in the Launch properties of design elements
- URL targets are defined by formulas, such as:
 - @SetTargetFrame
 - Tabbed tables
 - Design elements (such as Form, View, Page) that have a "Target Frame" specified

For example, the error message above will be returned for a URL containing the &BaseTarget argument which points to a page in a Domino database where the "Web Access: Use Javascript when generating pages" Database Option is enabled. If the same URL is used for the same database where the JavaScript option is not enabled, the URL will work as expected.

Designer, Server

Internet Explorer 4.x for Macintosh issues with JavaScript

The JavaScript code generated by Domino when the "Web Access: Use JavaScript when generating pages" database option is enabled produces errors on Macintosh versions of Microsoft Internet Explorer 4.x. The mishandled code is a check for the existence of an event handler, in this case:

```
if (form.onsubmit) { ...
```

This should return false if no onsubmit event handler is defined, but it instead produces an error. You can work around this limitation by defining a simple onsubmit that just returns true.

Server

Last-modified HTTP header not generated for JavaScript

Domino does not generate last-modified headers for pages in any database that have the database option "Web access: Use JavaScript in generating pages" selected. This will be addressed in a future release. Last-modified HTTP headers for images and attachments stored in JavaScript-enabled databases are still generated.

Server

Listener errors reported against Internet protocols on AIX

Listener errors may be reported against Internet Protocols. There is a pending third-party problem where listener/binding problems can potentially occur against SSL and non-SSL ports.

Client, Server

NNTP issues

Below are some known issues when using NNTP (Network News Transfer Protocol) service in Notes and Domino:

- If you create an account with a news server that contains more than 32,000 groups, the list of groups available to you is truncated at 32,000. A warning to that effect displays, indicating that the list has been truncated.
- After clicking the Refresh button in the Newsgroups dialog box, you cannot stop or cancel the Refresh using Ctrl - Break. To cancel the Refresh action, use the Cancel button or press the Esc key.
- If you attempt to subscribe to a newsgroup whose name contains the ampersand (&) character, the following message is returned: "Invalid newsgroup name"
- Currently, full text index searches on NNTP replica databases is not fully functional. Searching works fine on the Subject field, however the body field cannot be searched yet.
- The Domino NNTP service does not correctly support any character sets other than ASCII. Only English, Dutch and other ASCII based language discussions can be properly hosted. Please use Domino R4.6x for NNTP Server support of languages that require non ASCII character sets.
- If you want to retrieve deleted articles from an NNTP replica you must disable the "Use Replication history when replicating" option. To do this, edit your NNTP Account document, choose the Advanced tab, and set the value to "No." Save and close the Account document and then replicate.

Client, Server

Notes Web Navigator issues

- The limit of displayable HTML in the Notes Web Navigator is 255 rows and 64 columns. If either of these limits is reached, Notes displays a message and the page is not loaded. An alternate browser is needed for these pages.
- If a Web page has more than 64K of JavaScript, it does not appear in the Notes browser. A message appears that the "Paragraph or field cannot be larger than 64K bytes". After clicking OK the message and page are removed. An alternate browser is needed for these pages.
- The R4.6 Server Web Navigator template is not automatically upgraded when you move to R5. To replace the design of the R4.6 template, open your Server Web Navigator, select File - Database - Replace Design and choose Server Web Navigator (R 5.0).

Note: Some of the sampler section links from R4.6 are no longer in service. The only way to remove them is to delete your WEB.NSF before replacing the design. If you do not want to delete your database, then disregard the pages that do not load from the sampler.

- If you try to forward a copy of a framed Web page (Actions - Forward - Forward copy of page) using the Notes native browser, only the first frame is included in the e-mail.
- The Notes browser does not support Visual Basic on Web pages. Visual Basic is used to manipulate ActiveX controls.
- In Actions - Internet Options, the Presentation tab setting HTML Save Options should be set to "Save as MIME only" to get the true look of the HTML. If you have a Notes R4.6 database, you may need to set it to "Save as Rich Text only".

Server

Requesting a client certificate using a Netscape browser

When requesting a client certificate from a Domino CA using a Netscape browser, you must be sure to complete the name and organizational information fields. These fields are required for client certificate requests. If you do not, after you submit the request you will receive the message "Invalid or non-existent distinguished name component."

Client

Requesting Internet certificates from Verisign

You can request Internet certificates from the Verisign Internet certificate authority at <http://www.verisign.com/client/index.html>. On the page labeled "Choose Your Browser," you may see icons for Microsoft and Netscape, but not for Notes or Domino. In that case, click on the Netscape icon.

After filling in your personal information and submitting the form, you may see a page labeled "Error Online Enrollment Status: 3041". If that happens, you need to add the following line to your NOTES.INI file:

```
WebUserAgent=Mozilla/4.0 (Windows-NT)
```

Restart Notes and resubmit your client certificate request to Verisign.

These steps are required until Verisign makes the necessary changes to their Web site to recognize the Notes browser. Verisign has committed to make those changes in the near future.

Client

Selecting documents for deletion in the Document Library

In a Web browser, if you select a document in a view in the Document Library template, the document opens with a single-click.

If you wish to delete the document, click in the selection bar (the vertical bar to the left of the document list). A check mark appears next to the document. Then click "Move To Trash" or press Delete. A trash can appears next to the document. Then click "Empty Trash" to delete the document permanently.

Server

Server-wide custom error message issues

With DOMCFG.NSF configured for server-wide custom errors:

- Users should receive the "General" custom error message when Error 500 occurs; however, when users access non-database files (such as .HTM or .GIF files) via a Web browser and Error 500 occurs, the regular system error is incorrectly displayed rather than the "General" custom error message.
- If the server-wide custom error form contains an embedded view, the custom error is not displayed when users access non-database files (such as .HTM or .GIF files) via a Web browser. Instead, users receive the generic system error message.

Server

Servlet manager class path length

The class path for the servlet manager is set in the "Class path" field on the Internet Protocols - Domino Web Engine - Java Servlets tab of the Server document. If the total length of this field is greater than approximately 150 characters, servlets may not be loaded. You may also see the error message "Repository doesn't exist" when the HTTP task is started. This message normally indicates that a path or file specified in the class path cannot be found.

Server

Servlet URL path must contain lowercase characters

The value of the "Servlet URL path" field in the Server document must contain lowercase characters. If it contains any uppercase characters, any URL request that contains that path will fail with the error:

```
Error 500: No servlet maps to URL
```

Server

Unable to add X.509 certificate

If a user who exists in a secondary (trusted) directory requests an X.509 client certificate, the Certificate Authority application cannot add the client certificate to that user's Person document if there is another person in the primary directory with the same name.

Server

URLs should not contain .nsf except in database name

The Domino HTTP task assumes that the part of a URL that contains the file extension ".nsf" or ".ns4" indicates a Domino database. Therefore, in your Web applications you should not use these extensions anywhere other than with a database name. Do not use them in directory names or the names of database design elements. For example, you should avoid URLs such as:

```
www.acme.com/directory.nsf/sales.nsf/view.nsf?OpenView
```

LDAP Client

Client

Notes LDAP client chases referrals

Notes clients use Account documents to set up connections to LDAP servers. If an LDAP server does not find any matches and instead returns LDAP referrals, the Notes client can only chase LDAP v.3 servers to find the matches. To find a match from LDAP v.2 servers, users should add Account documents to directly connect to these servers. Also, if the Notes client receives multiple referrals of LDAP v.2 servers, it crashes.

Client

Update full-text index for LDAP client searches

When using the LDAP client to search local address books, you must update the full-text index of local address books after adding or editing entries.

Client

User authentication via Internet certificate with LDAP client

When an LDAP Account document is configured with the Advanced fields "SSL" and "Send SSL certificates when asked" enabled, also enabling "Attempt authentication using SSL certs first" allows the client to authenticate with the LDAP server using the credentials supplied by the Internet certificate passed during SSL negotiations.

Client

Using the LDAP client to search Local Address Books

- If the search query is not well defined and generates excessive entries, then it is possible that the LDAP client will not display all entries.
- Since phone numbers can have different separators, it is best to search for a set of contiguous digits. For example, if you are looking for a phone number such as (123) 456-7890 search for the area code 123 or the exchange 456.

Mail Issues

Server

Additional .PCX attachments in converted messages

When a HTML message with an inline image goes through MIME-to-CD conversion, Domino correctly converts the inline image to an attachment, but places an "IMAGE" tag in the CD run to show where the image was supposed to be. The tag itself is an image. When this message goes through CD-to-MIME conversion, Domino converts the "IMAGE" into a .PCX attachment, so it appears the message now has two attachments.

Client

Addressing mail to Internet contacts

When you address e-mail to an Internet contact listed in your personal address book, such as "Jane Smith", the address is replaced with the Internet address only, for example, jsmith@xyz.com, and not the full name that includes the phrase "Jane Smith." If you want the address to include a phrase, ensure that the e-mail address includes a phrase, such as:

```
"Jane Smith" <jsmith@xyz.com>
```

Client

Alternate Memo Editor issues

- Microsoft Word 95/97 (versions 7.0 and 8.0) and Lotus Word Pro (Millennium edition/version 9.0) are supported as alternate memo editors. Lotus Word Pro 97 is supported, although we suggest you upgrade to Word Pro (Millennium Edition) in order to take advantage of new ActiveX features. Lotus Word Pro 96 is not supported as an alternate mail editor.
- You may experience redraw issues when switching back and forth between the salutation of a new alternate memo and the body of the memo. You may also experience this issue when selecting one of the action buttons (such as Send) after switching back and forth between the salutation of a new alternate memo and the body of the memo.
- Printing from within the alternate memo editor results in three print jobs. The rich text field, the OLE object, and the document with the mail header all print. Printing an alternate memo editor from a view results in one print job.

Client

Alternate name address that cannot be solved in server

When using Internet mail, do not use alternate name addresses that cannot be solved in your mail server. For example, an alternate name address using DBCS characters becomes garbled and prevents any reply.

If a notes address of the form:

```
Alternate Name@Otherdomain
```

is sent in a message over SMTP, it is run through the routine that converts Notes addresses into Internet addresses. It form an address like this:

```
Altername_name%Otherdomain@internetDomain
```

Then if the Alternate name contains non-US ASCII characters, those characters are Eisen-encoded (encoded in US ASCII). The resulting address can be replied to and should work fine. Its only problem is that it cannot be easily read. If the administrator enables lookups to convert Notes addresses into Internet addresses, or the sending client is R5 and the Notes user has an Internet address in their Person document, then this won't happen.

If a message is sent to both an Internet recipient and a recipient using their non-US ASCII alternate name and the recipient with an alternate name does not have an Internet Address in their Person document, then the Internet recipient sees the address of the alternate named user converted to a valid Internet address. This conversion provides an address to which replies can be sent, but it is not readable by the end user. It might look like this:

```
oddCharacters%NotesDomain@InternetDomain
```

If Notes can resolve alternate name user address for Internet users, Notes automatically changes the address to correct one in Domino Directory for Internet users.

Client

Cannot connect to two mailboxes on same server

You cannot connect to two mailboxes on the same server.

Server

Configuring languages

The following example shows how you might configure Character Conversions for your system. While this example shows a configuration for Vietnamese, it could be used for other language groups.

Setting up the Configuration Settings document

1. From the Domino Administrator, click the Configuration tab and then expand the Messaging section.
2. Choose Configurations.
3. Click Add Configuration to create a new Configuration Settings document.
4. On the Basics tab, complete the following fields:

Field	Enter
Use these settings as the default settings for all servers	Check yes
International MIME Settings for this document	Check Enabled
Optimize LDAP queries	Yes

5. On the LDAP tab, select

Field	Enter
Choose fields that anonymous users can query via LDAP	List the appropriate fields

6. On the MIME -Basics tab, complete the following fields:

Field	Enter
Primary character set group	Vietnamese
Secondary character set group	Unicode

7. On the MIME - Settings by character set group tab, complete the following fields:

Field	Enter
For outbound message options below use all possible choices	Check the box to indicate that all character sets are available during configuration of the headers and message body parts.
MIME settings by character set group	Vietnamese

8. On the MIME - Advanced - Advanced Inbound Message Options tab, enter the following field:

Field	Enter
For non-MIME messages or MIME messages with an unknown character set, 8-bit character set is assumed to be	Windows-1258

9. On the MIME - Advanced - Advanced Outbound Message Options tab, enter the following field, and save the Configuration Settings document.

Field	Enter
When a Notes user sends a multilingual messages	Send it in most representable charset

10. Create a Foreign SMTP domain document.
 11. Create a Global domain document.
 12. Edit the Server document as follows: On the Internet protocols tab, enter the following and save the document.

Field	Enter
Allow HTTP clients to browse databases	Yes

Client

Creating a new memo with automatic signature enabled

If you're creating a new memo and receive a message stating that the file does not exist, then it's possible that the automatic signature feature is enabled, but the signature file that it's referring to no longer exists.

Client, Server

Decoding of inbound Internet messages

In some cases, an Internet message containing data encoded in the UUENCODE format and received by a Notes client is not decoded properly. The behavior of the Domino server depends on the recipient's message format preference. The R5 Domino Directory Person document sets a user's message preference in the field "Format preference for incoming mail" on the Mail tab.

Inbound Internet messages are converted to Notes format upon delivery to recipients whose mail format preference is set to "Prefers Notes rich text." A non-MIME Internet message (one that does not contain a MIME-Version header and also does not contain any MIME Content- headers) is scanned for data in UUENCODE format. Each UUENCODEd object found in the message is decoded and converted to an attachment in Notes format. Similarly, an Internet message in MIME format is scanned for MIME parts whose content transfer encoding is X-UUENCODE (or one of several variations). Each UUENCODEd part found is also decoded and converted to a Notes format attachment. If multiple UUENCODEd objects are present in a single MIME body part, only the first one is decoded.

Inbound Internet messages are not converted to Notes format upon delivery to recipients whose mail format preference is set to Prefers MIME or No Preference. Any UUENCODEd data in such messages remains in UUENCODEd form. The simplest workaround is to export the message from the Notes client and use an external decoding program to decode the UUENCODEd data in the message.

Server

Do not use both sendmail and SMTP on UNIX

Sites with UNIX platforms running the sendmail daemon should not enable the optional SMTP component of Domino on these machines. In the default configurations, each respective program attempts to use port 25 to provide service, but only one will be successful in obtaining the port. Therefore, it is recommended that you enable either the sendmail daemon or the SMTP component, but not both, when SMTP services are required. The normal caveats apply to SMTP services of a machine if the service is not running.

Server

Do not use sendmail on AIX

On the AIX platform only, to ensure inbound mail is received from Internet mail clients and directed to Lotus Notes clients, stop the sendmail daemon on the Domino server.

English text when accessing translated versions of Web mail

For customers who are using a Localized Server Kit (LSK) or an equivalent Domino environment, some English text will be encountered when accessing Web mail.

The Localized Server Kit consists of the following components :

- International English Domino program code (DLLs)
- Translated Server and Client templates
- Translated Help databases

The following fixes applied to Domino resolve this issue:

1. Copy the following files from the Language client install to the Domino Server:

Note: C:\LOTUS\DOMINO represents your Domino program directory and XX is the Language identifier.

C:\LOTUS\DOMINO\DATA\DOMINO\ICONS\SRCHXX.HTM
C:\LOTUS\DOMINO\DATA\DOMINO\ICONS\SCHBXX.HTM
C:\LOTUS\DOMINO\NHTRSXX.DLL

2. Add the following NOTES.INI setting to the Domino Server, where XX is the required Language identifier:

DOMINORESLANG=XX

Language identifiers

Language	Identifier	Language	Identifier	Language	Identifier
German	de	Danish	da	Polish	pl
French	fr	Dutch	nl	Czech	cs
Spanish	es	Norwegian	no	Hungarian	hu
Italian	it	Swedish	sv	Russian	ru
Portuguese (Brazilian)	pt	Finnish	fi	Turkish	tr
				Greek	el
				Slovenian	sl

3. Open the Server document and select the Internet Protocols - Domino Web Engine tab. In the Character Set Mapping section, set the option "Convert Resource Strings to" to the required language.

IMAP client issues

- If the Drafts or Sent folders are removed from the proxy, you receive an error when trying to save drafts or send mail. Either recreate the folders or change your Account document Configuration Options to save drafts and sent mail to your Inbox or some other folder.
- There is no way to add a certificate to the address book directly from a signed message in an IMAP proxy. You must have the recipient's certificate in order to send encrypted mail over the Internet. As a workaround, you can either download the message into an R5 mail template via IMAP offline mode or POP3, or you can use LDAP to retrieve the certificate when sending encrypted mail. You cannot rename a folder on a Netscape server from a Notes IMAP client database.
- To get new mail notifications from your IMAP proxy database, you must:
 1. Set your mail program to Lotus Notes in your Mail User Preferences.
 2. Enter the name of the proxy in your location document.
- In some circumstances, Netscape's V3.0 Messaging server does not completely delete folders that have contained messages or that contain subfolders. These folders are turned into No Select folders.
- Appending messages to a Cyrus server may cause the error "cannot find the message's UID". If this happens, close the message without saving, and try again.
- cc:Mail servers do not currently support the storage of MIME, which results in HTML tags appearing in the body of messages. The text/html part of the message is stored as text/plain by the cc:Mail server.
- You can not replicate an IMAP Server Proxy database connected to a cc:Mail server.
- A Notes IMAP client database cannot be used with servers that do not conform to the IMAP specification RFC 2060, regarding BODY [HEADER.FIELDS]. Alta Vista servers and cc:Mail servers prior to version 8.30 do not conform to this specification.

These servers cannot correctly interpret the following standard IMAP command:

```
FETCH X:Y (BODY [HEADER.FIELDS (FROM DATE SUBJECT MESSAGE-ID)])
```

which Notes uses for summary information regarding messages in an IMAP mailbox. Notes uses this command to improve performance when opening an IMAP Server Proxy database. X:Y represents a message set.

IMAP exact message size

The default for the "IMAP server returns exact size of message" field on the Configuration Settings document is set to "enabled." If non-MIME messages are being handled by the IMAP server requiring exact message size, the server must convert every message to MIME just to display its summary information. Therefore, Lotus strongly recommends that you disable this field for performance purposes if you are using clients that work with an estimated message size. If you are using Netscape Navigator 4.5 and above or Pine as a browser, you need to use the default.

Server

IMAP proxy error when connecting to Netscape server

The Netscape server may drop your connection when using the IMAP proxy if it encounters a bad message. You receive the error "Remote system no longer responding." Netscape will continue to drop the connection until the faulty message is removed.

Client, Server

International MIME settings are not reloaded

When you change the International MIME settings in a Personal Address Book on a client, they automatically reload, however, they do not automatically reload in the Domino Directory.

Also, the International MIME settings are currently not loading from group-specific Configuration Settings documents.

Client

Mail Rule issues

- The Mail Rule condition "Internet Domain" may not work for all incoming Internet mail.
- When editing an existing Mail Rule, enable it before you save and close it. If you enable the Mail Rule at the Rules view level, then the Rule continues to run the old action.
- When creating a Mail Rule, the system incorrectly allows you to choose a private folder. Mail Rules cannot move mail into private folders.
- When editing a Mail Rule in Netscape Navigator 4.5, you may see old cached data. Click on the refresh button of the browser to insure the data is current.

Client, Server

Moving mail files

When a user's R5 client recognizes that the location of their mail file has been moved, the client tries to post an administration requests to the Administration Requests database on the user's new mail server. If the person does not have access to the new mail server, this request is not posted. As a result, the mail file on the old mail server is not removed.

Client

No such entry error when replying to mail from a R4.6 user

If you encounter the error "no such entry" when replying to mail to another in the same Notes domain, you can successfully work around the problem by "fully qualifying" the address in the To: field. For example, if you are replying to Jane Doe/East/Acme, append "@domain" to the address, where "domain" is the name of the Notes mail domain. For example, Jane Doe/East/Acme@Acme

Client, Server

Non Delivery Reports do not preserve non-US ASCII Subject fields

The Router, when it generates an SMTP DSN style Non Delivery Report, fails to select an appropriate character set in which to encode the delivery report text if any of the text is not US ASCII. As a result, the subject, if not in US ASCII, will not be readable in the Non Delivery Report text sent via SMTP.

Client

Notes MAPI provider requires R4.x mail template

When using a MAPI client such as Exchange or Outlook to access a Notes mail database, some folders might not correctly display all the columns (for example, Subject). This problem indicates that the mail database is using the R5 mail template. The columns display correctly if the mail database uses an R4.x mail template. In a future release, the Notes MAPI provider will be enhanced so that either of the R4.x or R5.x templates can be used.

Client

Opening folders on cc:Mail IMAP server

If messages in the Sent or Drafts folder on a cc:Mail IMAP server won't open from a Notes IMAP client database, you can press Control-Break to resume normal operations.

Client

Out of Office agent issues

- Currently, the Out of Office setup process does not inform you if you do not have access rights to run the agent. You are informed that the agent is enabled to run, but it does not run if you do not have access rights. If you go to the agents view and do the enable manually, you are presented with a dialog explaining that you don't have the proper access rights.
- The Out of Office agent exception "Do not automatically reply to mail from Internet addresses" may not work for all incoming Internet mail.

Client

Outgoing MIME encoding preference ignored

The "Outbound attachment encoding method" field in Location documents (on the Advanced - MIME Settings tab) offers a choice of encoding methods for text attachments in outbound MIME messages. This field is ignored. Attachments are always encoded using the base64 method, even when the quoted printable method is selected.

Client

Pasting messages into Cyrus IMAP Proxy

When you try to cut and paste using a Cyrus IMAP client, you may get the following error message "Cannot find the message's UID." The workaround is to select "Paste" again from the "Edit" menu. No error is displayed the second time.

Client

Prevent Copying stops printing, forwarding, reply with history

A Notes mail user can use the delivery option "Prevent copying" to send documents that cannot be shared with others. Recipients who try to print, forward, or reply with history to the e-mail receive the error "Unable to execute the specified command."

Server

Problems using the -s option with convert

When using convert, the mail file conversion utility, you can use the -s option to prevent the utility from upgrading any folders when converting a mail file. However, when upgrading from R4.6 to R5, the option also prevents the Inbox folder from being upgraded. This results in the following error appearing when the database is opened:

```
Illegal circular USE: Object Variables
```

To work around this problem, edit the design of the mail file being converted. Enable the "Prohibit design refresh or replace to modify" checkbox in Design Properties, then re-run the conversion utility without the -s option.

Note: The upgrade by mail notification sent by an administrator to an end user does not use the -s option.

Server

Pull/Push not supported for non-Domino servers

The Pull/Push to a non-Domino server option used for mail routing is no longer a supported configuration. Messages follow the regular SMTP routing algorithm. This change was made so that Notes could support flat names.

Client, Server

R4.x clients cannot use inline images served from UNIX

If a native MIME message is accessed by an R4.x client, or replicated to an R4.x server, the R5 server converts the message to CD records on the fly. If the native MIME message contains inline images, the image conversion may fail, with the result that the images are converted to attachments that cannot be accessed by an R4.x client. When an R4.x client displays the message, attachment icons appear, but attempts to view, launch, or detach them result in the error "Invalid or nonexistent document".

The original native MIME message will still contain the images and can be successfully accessed using an R5 client or a Web browser.

This problem always happens if the R5 server is a UNIX server; on NT servers it happens rarely, if at all. The problem affects only inline images; image attachments are not affected.

Client, Server

R5 clients unable to read R4.x encapsulated messages

When a message is encapsulated on an R4.6x client and transported over the Internet via SMTP to an R5 server, the message is not converted correctly for recipients whose Person document field "Format preference for incoming mail" is set to "Prefers Native MIME" or "No Preference." The message appears as an ENCAP2.OND attachment that cannot be viewed by the R5 client.

Client, Server

Replies may be encrypted by default

If a recipient's person document indicates that all received mail should be encrypted on reception, whenever such a recipient replies to a message, the reply will by default be encrypted. All replies can be sent encrypted if desired, or the end user can select the delivery options dialog and disable encryption if they desire.

Server

Resource and data fork stored as two attachments

Any MIME message that contains a multipart/appledouble part delivered to an R5 recipient contains two attachments: one for the resource fork and one for the data fork, rather than a combined attachment.

Client

Retrieving duplicates pulling to server-based mail account

When you choose not to use replication history when replicating to a server-based mail account, you may retrieve duplicates.

This works as designed. Because of the huge performance impact of checking to see if there is a message already on the server for each new entry brought in, when "No" is selected for the prompt, "Use Replication History", Notes purposely does not check to see if it already has the message. Note that this is not the case if you are pulling messages to a local mail file.

Client

Sending Notes documents to other Notes users over Internet

The Advanced Delivery Option to send Notes documents to other Notes users over the Internet only functions if the outbound Internet mail server is running the pre-R5 SMTP MTA. This option is intended to support R5 mail users sending Notes mail to pre-R5 Notes mail users over the Internet only.

Client

Sent mail format versus saved mail format

R5 users who save their sent mail should be aware that the saved format of their mail may be different from that which was sent to Internet users. Saved mail is almost always Notes Rich Text, whereas Internet mail will often be sent in MIME format.

Server

SMTP inbound recipient control fields do not expand groups

The Server Configuration document in the Domino Directory allows you to restrict who in your organization can receive mail from external Internet domains. You set these restrictions on the Router/SMTP - Restrictions and Controls - SMTP Inbound Controls tab, under the Inbound Intended Recipients Controls section, in the fields "Allow messages intended only for the following Internet addresses" and "Deny messages intended for the following internet addresses." If you enter a group in one of these fields, the Router does not expand the group into the group's members and the restriction does not work. This will be fixed in a future release.

Client

Switching to Prefers MIME

If, after using Notes mail and receiving messages, a user decides to change their preference from "No Preference" or "Prefers Notes Rich Text" to "Prefers MIME", and they then begin using an Internet client to access their mail, they may find that Notes Rich text messages they received take longer to retrieve from Internet clients. This is because the messages need to be converted from Notes Rich Text format to MIME on the fly during download to the client. These users should increase the message download timeouts on their Internet clients to prevent timing out when very large messages need to be converted.

Server

Temporary numeric directory during CD-to-MIME conversion

In the Domino data directory a temporary subdirectory with a numeric naming convention gets created when any thread of a server task performs a CD-to-MIME conversion. In normal processing these temporary directories and their contents get deleted. If these files are not removed under an abnormal shutdown of the server, it is safe to delete these subdirectories and their contents before restarting the server.

Client

Text color not converted from HTML to Notes Rich Text

Text color attributes are not preserved when a message is converted from MIME/HTML format to Notes Rich Text.

Client

Web mail issues

- If you use a browser to access folders that were created in Notes R4, they do not use the new View and Action Bar applets.
- You are unable to read encrypted mail from a browser.
- Using the Next or Previous actions may cause the browser to stop displaying the View/Folder pane.
- If you add colored text to the body of the e-mail, the color attributes are lost if you send the message to a Notes user or another Web mail user.
- If you reply with history to a message from your inbox, the header that is generated in the rich text field may show your e-mail address first, and a "Sent by:" with the actual sender's e-mail address below yours. This should not interfere with sending the reply to the correct person.
- If you are using a mail template to send mail to someone using Web mail, do not encrypt the mail because the encryption files are not used by a browser. Therefore, the mail cannot be decrypted at the browser. Also, Web mail users cannot process meeting invitations that were sent from a client that had encrypt option set.
- Users do not have the preference settings available to toggle the display of Calendar Entries in the All Documents view, nor is the ability to toggle the display of meeting invitations in the Sent View available. This will be enhanced and added in a future release.

- Web mail users whose mail files are located in a directory other than the data directory local to the server receive the following error message after they send a message or create/respond to a calendar entry:

Error 404 HTTP Web Server: Lotus Notes Exception - File does not exist

For example, if the server administrator has created a database link to the mail file (to the directory G:\MAIL\MYMAIL.NSF) instead of having the mail file located locally on the server (C:\DOMINO\DATA\MAIL\MYMAIL.NSF) the error occurs.

Migration

Administrator Client

All migrated cc:Mail messages are marked unread

Messages that are migrated using the cc:Mail migration tool are marked as unread in the users' mail files.

Administrator Client

cc:Mail migration error not accurate

An inaccurate error appears in the following situation:

1. Use the cc:Mail migration tool to migrate a user from cc:Mail to Notes.
2. Open the migrated mail file with the migrated user's ID file.
3. Place the Notes administrator name on the Access Control List for the Notes mail file, with manager access.
4. As the Notes administrator, re-migrate the user's cc:Mail mailbox with the Mail Only option (do not re-register the user), and the user should migrate successfully.
5. However, if you check the local Notes Log, you receive a "The name is not in the list." error.

For example, user is Six Pwd. The error is in **bold** below:

```
03/15/99 10:03:43 AM Registration completed. Now converting mail file for
Six Pwd...
03/15/99 10:03:44 AM cc:Notes/DOMINO Admin Server: I:11009 Processing
messages for user "Pwd, Six" on post office "6"...
03/15/99 10:03:45 AM cc:Notes/DOMINO Admin Server: I:11019 Processing
messages in Drafts...
03/15/99 10:03:45 AM cc:Notes/DOMINO Admin Server: I:11020 Processing
messages in Message Log...
03/15/99 10:03:46 AM cc:Notes/DOMINO Admin Server: I:11018 Processing
messages in Inbox...
03/15/99 10:03:57 AM cc:Notes/DOMINO Admin Server: I:11010 Processing
messages in folder "three"...
03/15/99 10:04:00 AM cc:Notes/DOMINO Admin Server: I:11010 Processing
messages in folder "two"...
03/15/99 10:04:03 AM cc:Notes/DOMINO Admin Server: I:11024 Processing private
mailing lists...
```


03/15/99 10:04:26 AM cc:Notes/DOMINO Admin Server: I:11043 Completed processing messages for user "Pwd, Six" on post office "6"; "23" messages(s) in total, "23" messages(s) successfully migrated, "0" messages(s) unsuccessfully migrated

03/15/99 10:04:26 AM cc:Notes/DOMINO Admin Server: I:11030 Processing alias entries...

03/15/99 10:04:26 AM The name is not in the list.

03/15/99 10:04:26 AM Six Pwd registered successfully

Administrator Client

cc:Mail upgrade wizard not yet certified with R8 clients

The cc:Mail upgrade wizard (end-user migration tool) is designed to work with cc:Mail R2.x or R6.x clients. For R8 clients, it can be used to migrate personal addresses, but not archive files. This will be addressed in a future release.

Administrator Client

Corrupt file during cc:Mail migration

When opening a valid cc:Mail post office for migration, the following error may appear:

Initialization of cc:Mail Migration engine failed

The error occurs when the CCVER.TB file created during cc:Mail installation is corrupt. The workaround is to copy a good CCVER.TB file in the cc:Mail postoffice directory.

Administrator Client

Crash when migrating empty second-level subfolder

The Domino Administrator crashes when migrating a cc:Mail mail box that contains an empty second-level subfolder (for example, Folder\subfolder1\subfolder2). If the subfolder contains at least one item, the migration proceeds without incident. Before migrating users, instruct them to delete empty subfolders from their mail boxes.

Administrator Client

Empty cc:Mail folders are not created during migration

When migrating a cc:Mail mail box, if a folder in the migrating mail box does not contain any messages, the migration tool does not create an equivalent Notes folder in the target mail database. The migration tool only creates and populates folders that contain messages.

Administrator Client

Messages with Thai characters do not display correctly

Messages with Thai characters migrated from cc:Mail DB6 or DB8 format do not display correctly. This will be fixed in future release.

Administrator Client

Migration fails for cc:Mail DB8 users without passwords

cc:Mail users must have passwords on their mailboxes in order for the mailbox to be migrated. If no password exists, the migration creates a Notes Person document and mail file, but fails to convert the user's mail.

For users whose mail boxes reside on a DB6 post office, you can use the option to generate random passwords during migration to successfully migrate users who have no current cc:Mail password. For users with mail boxes on a DB8 post office, using the random password option to assign passwords does not enable successful mail conversion.

Before attempting to migrate mail messages from a DB8 post office, verify that the post office users have valid cc:Mail passwords.

Administrator Client

Migration of non-ASCII data is not supported

Migrating cc:Mail post offices that contain non-ASCII data (SBCS or DBCS) is not yet implemented.

Administrator Client

Two mail files upon re-migrating cc:Mail users

Please be aware of the following scenario when re-migrating cc:Mail users:

1. Use the cc:Mail migration tool to migrate a user from cc:Mail to cc:Mail R6.3.
2. After successful migration, open \CCDATA\NOTES.USR and note the mail and ID files that are listed.
3. As the administrator, re-migrate the user's cc:Mail mailbox. If you do not have access to the existing mail file, you are prompted to create a new mail file.
4. After designating a unique filename, you are prompted to update the Person document in the directory. The user should be successfully migrated to a second mail file.
5. Check the user's Person document and note that it points to the second mail file, as expected. Now check the NOTES.USR file and note that it still points to the original mail file. Notes mail is delivered to one file, while the user logs into another.

To avoid this problem, administrators should not create a second mail file for cc:Mail R6.3 users. If the administrator needs to re-migrate the user, they should place themselves on the Access Control List so that they may combine mail files.

Administrator Client

LDAP directory searches based on DN organization fail

When you migrate a user from an LDIF file, if you select the option "Add full name provided to the Notes person document," the migration tool adds the user's LDAP distinguished name (DN) to the Notes Person document as a secondary user name. The primary user name is always derived from a user's First name and Last name components, together with the organizational information taken from the certifier ID. This is true, even if the user is migrated as a directory entry only, and is not registered as a Notes user.

For example, if you used the /Acme Corp certifier ID to import the following LDIF file:

```
dn: cn=Bruce Bitter, ou=Product Development, o=Acme, c=US
objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
ou: Product Development
cn: Bruce Bitter
cn: Bbitter
cn: Bbitter Alias
sn: Bitter
givenname: Bruce
l: Boston
uid: bbitter
mail: bbitter@acme.com
```

After the migration completes, the following names appear in the User name field of the Person document, regardless of whether you register the user:

```
Bruce Bitter/Acme Corp
Bruce Bitter
Bruce Bitter/Product Development/Acme/US
Bbitter
Bbitter Alias
```

Note that the organizational modifier for the primary name (/Acme Corp) is derived from the certifier ID, not from any attribute in the LDIF file.

LDAP searches of the Domino Directory examine only the primary user names in the Person document. As a result, if you specify a search base to limit the search to the organizational hierarchy found in the imported DN (/Product Development/Acme/US), the search would fail, since the specified base does not exist in the Domino Directory. To correctly search the Domino Directory for this user, specify the search base "o=Acme Corp."

```
ldapsearch -l 300 -L -h server -b "o=Acme Corp" "(cn=Bruce Bitter*)"
```

If you are not sure of the correct base, do not specify a search base. When no base is specified, the search attempts to locate the user in all available hierarchies.

Administrator Client

LDIF migration tool supported schema

The current version of LDIF migration tool supports a limited range of schema. The tool supports importing attributes for the following schema:

- LDAP
- X.500
- Internet White pages

If you export users from the Domino Directory to an LDIF file and then import the file using the LDIF migration tool, Notes attributes that do not conform to the supported schema are not imported.

LDIF tool does not import all attributes

The Domino migration tool for LDIF does not import the following attributes from entries in the LDIF file:

- MailSystem
- AltFullNameLanguage

MailSystem

The value of the Notes attribute MailSystem is intended to reflect a user's actual mail configuration. Prior to migration, an administrator specifies a value for this attribute based on the system to be used for exchanging e-mail. Because an imported value for this attribute could conflict with configuration settings set by the administrator, the migration tool does not import the MailSystem value.

AltFullNameLanguage

The value of the Notes attribute AltFullNameLanguage specifies the languages available for storing alternate language versions of a user's Notes name. For example, setting French as a value for this attribute lets you provide a user named Steven with a French alternate name, such as Etienne. The alternate languages available depend on the certifier ID used to register a user. You can give users alternate names only in those languages supported by the certifier ID.

Before you perform a migration, the LDIF migration tool cannot determine whether the certifier ID being used supports the language specified in AltFullNameLanguage. Because of this, the migration tool does not import the value of AltFullNameLanguage.

AltFullname

The migration tool does import the attribute AltFullname from user entries in an LDIF file, but Notes only uses the attribute if the administrator configures an appropriate alternate language (AltFullNameLanguage) for that migrated user. If the certifier ID used to register a user does not support the alternate language specified, Notes ignores the value of the AltFullname attribute.

LDIF tool does not import countryname and c attributes

The LDIF migration tool does not import the LDAP attributes countryname and c. In a future release, these attributes will be correctly imported and mapped to the Notes item OfficeCountry.

Available people/groups list issues

- After you connect to the Exchange server to migrate, the names of users available for migration appear in the Available people/groups list. The names in this list are imported from the Display name field of the Exchange directory, not from the Exchange First name and Last name fields. The migration tool parses the Exchange display name into the First name and Last name components of a user's Person document.
- The Available people/groups list displays the object "Schedule + Free/Busy connector." This item is not a user, and should not be migrated.

Administrator Client

Cannot migrate Custom Recipients

You cannot migrate Custom Recipients listed in the Exchange directory. The Available people/groups list does not display the names of Custom Recipients. Also, when migrating Exchange groups (Distribution lists), Custom Recipients who are members of the group are not migrated and do not become members of the resulting Notes group.

Administrator Client

Does not migrate personal folders for non-ASCII names

The end-user upgrade wizard for Microsoft Exchange does not migrate data from the personal folders of users whose names contain non-ASCII characters from the following Windows code pages : Central European (1250), Cyrillic (1251), Greek (1253), Turkish (1254), Baltic Rim (1257).

Administrator Client

Does not properly convert bullets in Japanese messages

The Domino migration tool for Microsoft Exchange does not correctly convert bullet characters in messages migrated from environments that use the Japanese character set (codepage 932).

Administrator Client

Does not properly convert Western European codepage characters

When converting messages, the migration tool for Microsoft Exchange does not correctly convert the following characters from the Western European codepage 1252:

–	ÿ	†	,	<i>f</i>	„	”	...	•	œ
‡	—	™	~	%	Š	š	‹	›	Œ

Administrator Client

End-user wizard does not migrate Deleted Items folder

The end-user upgrade wizard for Microsoft Exchange does not migrate items from the Deleted Items folder of a user's Personal Folders.

Administrator Client

Ignore errors about messages without body content

The Domino migration tool and end-user upgrade wizard for Microsoft Exchange incorrectly report errors to the Notes log when migrating messages that have a subject line, but contain no message body. Ignore these log entries.

Incorrectly maps fonts in Japanese-language messages

When converting messages from environments that use the Japanese character set (codepage 932), the migration tool for Microsoft Exchange incorrectly maps font settings in the message text as follows:

Exchange	Notes
MSP Gothic	MS Gothic
MSP Mincho	MS Gothic
MS Gothic	MSP Mincho
MS Mincho	MSP Gothic

Known message and folder migration issues

This release note lists message and folder information that may not be migrated along with a user's Exchange mail file.

Messages

The Domino migration tool for Microsoft Exchange does not migrate the following message items:

- Attachments in messages where the attachment is preceded by an embedded object in the body of the message.
- Messages that are inserted within another message.
- Information in the BCC field of a message.
- CC recipient lists over 255 characters. Only the first 255 characters of the CC field are preserved during migration.
- Read/unread marks.
- Some font information. The fonts used to display text in a migrated message may differ from those used in the original Exchange message.
- Large Outlook "Notes" items. The Domino Administrator may hang while attempting to process these items.

Receipts

The Domino migration tool for Microsoft Exchange does not migrate the following information in automatically generated messages:

- Body text of Exchange return receipt messages marked read before migration and stored in the Exchange Inbox, Deleted Items, or Personal folders.
- Body text for delivery confirmation receipts.
- Body text in undeliverable message reports.
- Return receipts for unread messages received by Outlook\Exchange users.

For example, if Outlook\Exchange user A sends a message to Outlook\Exchange user B with a request to receive a return receipt, and the message remains unread prior to migration, after Users A and B are migrated, if user B opens the message in Notes, user A does not receive the return receipt.

Folders

The Domino migration tool for Microsoft Exchange does not migrate the following folder items:

- Subfolders within a user's Outbox, Sent Items, or Drafts folder. Messages within these folders are migrated to the All Documents view of the mail file.
- Folder names containing the characters "\" or "|". These folders may be renamed during migration.
- Folder hierarchy for subfolders migrated from a user's Inbox and Deleted Items folders. Subfolders migrated from these locations are placed within a folder named according to the following format:

```
Exchanged[Inbox|Deleted Items]Subfolders
```

For example, after migrating a subfolder CurrentProjects from a user's Inbox, in the Notes mail file a folder with that name is placed within a folder with the name ExchangedInboxSubfolders.

Administrator Client

May not import user attributes with large DBCS values

The migration tool for Microsoft Exchange migrates certain user attributes to equivalent user attributes in the Notes Person document. In environments that use a DBCS code page, the migration tool may be unable to migrate values for the following Notes attributes if their Exchange equivalents contain large amounts of data:

- MiddleInitial
- OfficePhoneNumber
- OfficeFAXPhoneNumber
- CellPhoneNumber
- PhoneNumber_6
- Assistant
- StreetAddress
- City
- State
- Zip
- Country
- PhoneNumber
- Comment

The problem occurs only when the Exchange field mapped to one of these Notes fields contains excessive data. Otherwise, the fields are mapped correctly and migrate successfully.

Administrator Client

Owner field of Exchange Distribution lists not migrated

When migrating Exchange Distribution lists to Notes groups, information in the Owner field of the Exchange list is not migrated to the Owners field of the resulting Notes group. You can edit the Group document to specify an Owner, if necessary.

Progress bar in end-user wizard inaccurately represents data

When migrating a user's personal mail data, the progress bar displayed by the end-user upgrade wizard does not accurately represent the amount of data migrated.

The upgrade wizard for Microsoft Exchange lets end users migrate personal addresses from two sources: Outlook Contacts and Personal Address Books (PABs). The upgrade wizard migrates Outlook Contacts, which are stored on the Exchange server, from a message attachment generated by the Domino migration tool and saved in the user's newly created Notes mail file. Outlook contacts can also be stored in a Personal Folder.

From the upgrade wizard, when a user runs an Express upgrade or a Custom upgrade with the option to migrate Personal Address books, a progress bar shows how much of the available information has been converted to Notes. In this release, the progress bar only represents the amount of information converted from the Outlook Contacts, which were stored on the Exchange server. Therefore, it does not reflect the number of Outlook contacts which are kept in Personal Folders nor PAB entries.

The progress bar is also inaccurate in depicting the migration of information from Personal Folders.

Microsoft Mail migration tool runs on Windows NT only

The Microsoft Mail migration tool in the Domino Administrator client only runs on Windows NT. Windows 95 and Windows 98 have a conflicting DLL (dynamic link library) that prevents you from using the migration tool on these platforms.

Please note, however, that you can use the Microsoft Mail migration tool to migrate users from a Microsoft Mail post office to any Domino platform, including Windows NT, OS/2, AIX, HP/UX, Solaris, OS/390, and AS/400. The Windows NT restriction applies only to where the migration tool can be run.

Networking Issues

Administrator Client, Client, Designer, Server

Authentication error in Windows NT clients

Due to a problem introduced by Microsoft in Windows NT Service Pack 4, a Windows NT client communicating over NetBIOS may return the following error:

```
Unknown authentication message type was received
```

This message usually appears when you try to connect to a non-Windows NT Domino server. To avoid this message you have to disable "DNS for Windows Resolution" in the Microsoft TCP/IP Properties for the Notes client.

Server

Domino availability on AIX using SPX protocol

Domino on AIX can experience periods of service refusal when connecting over the SPX protocol. In this scenario, the SPX listener task does not report any errors, and the service appears in the bindery as well. Clients receive a "server not responding" message, however, the clients can connect at a later time. This issue is under investigation.

Administrator Client, Client, Designer, Server

Issues with third-party WinSock services

Some third-party PPP dialers or TCP/IP proxy client services, as well as protocol tunneling software, replace your original WinSock services on Windows platforms. If you encounter connectivity problems after installing these applications you need to un-install them so you can recover the original WinSock services. You may also find the original DLL (Dynamic Link Library) file was renamed in your Windows directory so you need to switch the files around. If you encounter problems you may need to contact the third-party software vendor. Domino server and Notes client software require Microsoft's supplied WinSock DLL services supplied with Windows 95/98/NT

Note: WinSock 2.1 services from Microsoft are also supported.

Client

RAS dialing with blank phone number in Connection Document

If a Dialup Network Connection document has a blank telephone number field, the proper behavior is that the telephone number in the Dial-up Networking entry is used. This functions properly if there is no special Phone Setting information in the Location document.

However, if the active Location document specifies a number for an outside line, for example, 9 for an outside line, or other numbers in Phone Settings tab, this additional information is sent to the Dial-up Networking dialer and it does not dial the correct phone number.

To avoid this, remove the Phone Settings information from the Location document. If some Connection documents have phone numbers and some do not, you can create a separate Location document for each case. Alternatively, you can enter a full telephone number complete with all prefixes and suffixes in the Connection document and keep the Phone Settings fields in the Location document blank.

SPX port cannot be restarted on AIX

Attempts to use "restart port spx" or the stop and start sequence of commands on an AIX Domino server can result in an unrecoverable listener failure for SPX. If this happens, it requires that Domino be brought down and back up again in order to accept client connections over the SPX protocol.

SPX with Token-Ring, FDDI, LAN/WAN topology networks

Windows 95, Windows 98, or Windows NT systems deployed with Microsoft's NWLink do not support large SPX network packets. This underlying protocol issue can cause problems on Token-Ring and FDDI, or in some cases, mixed LAN/WAN topology networks with IPX/SPX, generating the following Notes/Domino errors:

Client or Server Error Messages

- Server Not Responding
- Network Operation Did Not Complete in a Reasonable Amount of Time
- Remote System is No Longer Responding

Server Session Errors

- Mail Router spawning multiple sessions to other server.
- Replication failures and spawning multiple sessions to other server.
- "Security context error" when using passthru server services.

There are two possible ways that you can correct the issue:

1. Use the Microsoft-supplied client with a NIC driver that can constrain the Frame size.
2. Use the Novell Client services with an ODI NIC driver that can set the Link Support Layer maximum buffer size.

One of these approaches should control the IPX/SPX Packet size, depending on your client services and NIC vendor's driver.

Microsoft stack

Depending on the NIC vendor's driver, you must either alter the interface properties or edit the Registry to adjust the frame size. Review the documentation that came with your adapter, or discuss your requirements with the interface vendor's support staff. Use the table below to determine the frame sizes setting.

Novell stack

The Novell client services offer a way to prevent the creation of SPX packets that are too large for the other system to accept by using the "Link Support Layer Max Buffer Size" setting to control the transport buffer size. You also need to use an ODI-based adapter driver for the LSL buffer setting to work. Review

the documentation that came with your adapter, or discuss your requirements with the interface vendor's support staff. Use the table below to determine the needed LSL buffer setting to control the Packet size setting.

Topology/Frame type	Frame size	IPX packet size	SPX data size	LSL buffer size	Comments
Ethernet/DIX or RAW	1518	1500	1458	N/A	Entry provided for reference only
Ethernet/802.2 LLC	1518	1496	1454	N/A	Entry provided for reference only
Token-Ring/802.2 LLC	1522	1500	1458	1500	Optimized for SPX crossing Eth with DIX or RAW to TR with Bridges or Routers
Token-Ring/802.2 LLC	1518	1496	1454	1496	Optimized for SPX crossing Eth with LLC to TR with Bridges or Routers
Token-Ring/802.2 LLC	2048	2026	1984	2026	Required for older 4Mb adapters & networks using them.
Token-Ring/802.2 LLC	4096	4074	4032	4074	Optimized for performance
Token-Ring/802.2 LLC	4202	4180	4138	4180	Novell default frame size
Token-Ring/802.2 LLC	4500	4478	4436	4478	
FDDI/802.2 LLC	1538	1500	1458	1500	Optimized for SPX crossing Eth with DIX or RAW to FDDI with Bridges or Routers
FDDI/802.2 LLC	1534	1496	1454	1496	Optimized for SPX crossing Eth with LLC to FDDI with Bridges or Routers
FDDI/802.2 LLC	4112	4074	4032	4074	Optimized for SPX crossing TR using 4096 fs to FDDI with Bridges or Routers
FDDI/802.2 LLC	4218	4180	4138	4180	Optimized for SPX crossing TR using 4202 fs to FDDI with Bridges or Routers
FDDI/802.2 LLC	4516	4478	4436	4478	Optimized for SPX crossing TR using 4500 fs to FDDI with Bridges or Routers
FDDI/802.2 LLC	4096	4058	4016	4058	Optimized for performance
FDDI/802.2 LLC	4202	4164	4122	4164	Novell default frame size
FDDI/802.2 LLC	4500	4462	4420	4462	

Note: Token-Ring allows larger frame/packet sizes than those listed here. In most cases, these are the values to use in your network; if you require other values, use the formulas given below.

Note: IPX using LLC/SNAP framing is not recommended and is not included in these tables.

Note: Windows NT systems using SPX II negotiate to the common packet size between the systems as needed.

The following formulas are used to derive the values in the table shown above:

Frame/IPX packet

Ethernet with DIX Frame size - MAC headers (18) = IPX packet size

Ethernet with LLC Frame size - MAC headers (18) - LLC headers (4) = IPX packet size

Token-Ring Frame size - MAC headers (18) - LLC headers (4) = IPX packet size

FDDI Frame size - MAC headers {ANSI standard} (34) - LLC headers (4) = IPX packet size

IPX packet to SPX data size (Notes RPC data stream)

IPX packet - IPX headers (30) - SPX headers (12) = SPX data size

Note: All measurements are in octets. Bytes is quite often used as the term but technically it is not the same.

During the workstation's (IPX client) attachment process, it accesses the NetWare server to acquire additional setting information, which includes the maximum frame size the NetWare server accepts. By default, the maximum frame size is set to 4202. With Ethernet networks, the topology's limitation of 1518 takes precedent, but with Token-Ring or FDDI networks, or mixed topology networks, this value can create problems with SPX communication.

Within a flat network, make sure the settings of the Notes and Domino server systems are set for the NetWare default settings as needed. If you have a Switched, Bridged, or Routed network with either Token-Ring or FDDI, it is recommended that you alter the NetWare servers setting "Set Maximum Physical Receive Packet Size" to 4096 to better match the memory buffers of the switches, bridges, and routers. With a mixed topology network, you may need to use one of the optimized choices listed in the table above. The guidelines you should use are as follows:

- Transparent Bridge or Straight-Routed networks with Token-Ring or FDDI: Use the entries in the table as needed.
- Token-Ring Source Route Bridged networks: An additional 30 bytes must be subtracted to account for the RIF field in the IPX packet, SPX packet, and LSL buffer settings. This applies only to Token-Ring or FDDI network values and ones that are not optimized for SPX conversion with Ethernet.
- Translational Bridge between Token-Ring or FDDI and Ethernet networks: Use the optimized listings in the table as required.
- Transparent or Source Route Bridges between FDDI and Token-Ring: Use the optimized listings in the table as required.

Because SPX is not a fragment-prone protocol, unlike SPX II, networks that have systems located on dissimilar topologies require alteration of the Frame/Packet size to meet the requirements of the smaller Frame/Packet size allowed between the topologies (maximum common size). If the systems are crossing over a larger frame-capable topology and the maximum size at each end node is the same, there is no conflict. Otherwise, with mixed topologies you need the following change:

- Routing between Token-Ring or FDDI to Ethernet networks or between Token-Ring to FDDI networks: Use the optimized listings the table as required.

Using a NetWare server as a Router

If you are using the NetWare server as a Router with Token-Ring, it is recommended that the NetWare server's STARTUP.NCF file contain the following line:

```
Set Maximum Physical Receive Packet Size = 4096
```

Follow with any needed alterations to the Domino server and Notes client systems. This ensures all the end nodes that are accessing this NetWare server are using the 4096 frame limit.

Note: Your network may require different values if there are network segments set up with a lower frame or packet size. Consult your network administrator to discuss any possible conflicts, and use the largest value your network can support.

Server

TCP/IP MTU sizing issues

You may encounter problems with TCP/IP MTU (Maximum Transmission Unit) sizing depending on the version of the system's TCP/IP stack (end node and routers) and the types of devices and topologies that make up your network. This can happen when end node systems (Domino servers or Notes clients) are located on Token-Ring or FDDI networks directly, located in a mix with Ethernet network segments, or with WAN or SLIP/PPP dial up connections that you are trying to access.

Using the PING TCP/IP tool, you can verify what the limitations of the network are. Make note that not all PING variations offer the same functions. The PING utility must be able to create variable test packets and be able to set the Don't Fragment flag, which prevents the packet from being fragmented by either the Router or the direct end node system. The Windows 95/98/NT version of PING offer these functions.

Use the table below to base your measurements for the value of the test packet, where the test packet returns acknowledgments for each successful packet, plus one more byte to the test packet, should give you an error indicating the packet needed to be fragmented. This break point is the maximum size the pathway supports. In some cases, the larger test packets return one or two errors. This is not an issue with packet sizing but should be investigated with your network administrators as it is an indication of a network health problem.

Depending on your TCP/IP stack and your network devices you may need to set the MTU size manually. Most TCP/IP stacks use Maximum Segment Size (MSS) discovery to learn the local segment (routed segment) TCP data size, which it then translates into the IP packet size. By default, 576 is used when the TCP/IP MSS can not be discovered. Newer TCP/IP stacks use the MTU path discovery method to learn the limits of the entire pathway. In some cases, these mechanisms fail to offer the needed constraint or prevent the effective use of the topologies abilities. Some TCP/IP stacks may need to be manually set or tuned for the local segment topology as their default setting is set the minimum value (576), which is not

recommended for most LAN networks (Ethernet, Token-Ring or FDDI). Make sure the stack needs to be set, the size is correct for the LAN topology/ies in use, and any WAN links are set to smaller values. If you need to lock down the MTU manually the use the following guidelines on the needed sizes.

Topology/ Frame type	Frame size	IP packet/ MTU Size	Ping test packet size	Comments
ARPA or SLIP	1024	1006	978	Still used with some old Routers supporting ARPA framing (rare)
Ethernet/ DIX or PPP	1518	1500	1472	Preferred size for Ethernet networks
Ethernet/ 802.2 SNAP	1518	1492	1464	Rarely used in Ethernet only networks
Token-Ring/ 802.2 SNAP	1522	1500	1472	Optimized for TCP/IP crossing Eth w/DIX to TR w/Bridges or Routers
Token-Ring/ 802.2 SNAP	1518	1492	1464	Optimized for TCP/IP crossing Eth w/SNAP to TR w/Bridges or Routers (rarely used)
Token-Ring/ 802.2 SNAP	2048	2022	1994	Required for older 4Mb adapters & networks using them.
Wide-Band/ Frame-Relay	N/A	2048	2020	
Token-Ring/ 802.2 SNAP	4096	4070	4042	Optimized for performance
Token-Ring/ 802.2 SNAP	4202	4176	4148	Optimized for TCP/IP with NetWare 3.x/4.x servers
Token-Ring/ 802.2 SNAP	4500	4474	4446	Default size for most Routers
FDDI/802.2 SNAP	1542	1500	1472	Optimized for TCP/IP crossing Eth w/DIX to FDDI w/Bridges or Routers
FDDI/802.2 SNAP	1526	1492	1464	Optimized for TCP/IP crossing Eth w/SNAP to FDDI w/Bridges or Routers (rarely used)
FDDI/802.2 SNAP	4096	4054	4026	Optimized for performance
FDDI/802.2 SNAP	4104	4070	4042	Optimized for TCP/IP crossing TR to FDDI w/Bridges or Routers
FDDI/802.2 SNAP	4202	4160	4132	Optimized for TCP/IP with NetWare 3.x/4.x servers
FDDI/802.2 SNAP	4440	4474	4446	Optimized for TCP/IP crossing TR to FDDI w/Bridges or Routers
FDDI/802.2 SNAP	4394	4352	4324	RFC 1188 IETF standard
FDDI/802.2 SNAP	4500	4458	4430	Optimized for TCP/IP using full FDDI packets (not recommended)

Note: Token-Ring allows larger frame/packet sizes than what is listed here. In most cases, these are the values used in your network. If you require other values use the formulas listed below.

Note: Refer to your OS or TCP/IP stack vendor for details of altering the MTU or TCP window size as required.

The following formulas are used to derive the values in the above table:

Frame/IP packet sizing

Ethernet w/DIX Frame size - MAC headers (18) = IP packet size

Ethernet w/LLC Frame size - MAC headers (18) - LLC/SNAP headers (8) = IP packet size

Token-Ring Frame size - MAC headers (18) - LLC/SNAP headers (8) = IP packet size

FDDI Frame size - MAC headers {ANSI standard} (34) - LLC/SNAP headers (8) = IP packet size

Ping test data size

IP packet - IP headers (30) - UDP (TCP) headers (12) = Ping test packet size (TCP data size)

Note: All measurements are in octets. Bytes is quite often used as the term but technically it is not the same.

Within a flat network, make sure the settings of the Notes and Domino server systems are set for the largest Frame/Package size workable for the LAN topology. If you have a Switched, Bridged or Routed network with either Token-Ring or FDDI, it is recommended you alter the Frame/Package sizing to 4096 to better match the Switches, Bridges, and Routers memory buffers. With a mixed topology network, you may need to use one of the optimized choices listed in the table above. Here are the guidelines you should follow:

- Transparent Bridge or Straight-Routed networks with Token-Ring or FDDI: Use the table entries as needed.
- With Token-Ring Source Route Bridged networks: An additional 30 bytes must be subtracted to account for the RIF field in the IP packet and MTU settings. This only applies to Token-Ring or FDDI network values and ones that are not optimized for Ethernet.
- Translational Bridge between Token-Ring or FDDI and Ethernet networks: Use the optimized listings that offer the same IP packet size as required (common size).
- Transparent or Source Route Bridges between FDDI and Token-Ring: Use the optimized listings as required.
- ATM with either ClassicIP or LANE should be matched to the same LAN topology the other end node is using.
- WAN links using ATM should use smaller packet sizes to compensate for the BER of the link.
- With Wide area networks using T1/E1, T3/E3 Wide Band links or Frame-Relay links, match them to the LAN topologies MTU or alter the LAN topologies MTU to match Wide Band or Frame-Relay link.

Note: With WAN connections, you may want to add a second NIC in the Domino server systems. This offers a way to tune the TCP/IP stack for the constraints of the WAN link without effecting local user or server access.

Because IP is a fragment-prone protocol, networks that have systems located on dissimilar topologies, with a direct router connection offering fragmentation services, do not require alteration of the Frame/Package size to meet the requirements of the smaller size allowable between the topologies (maximum common size). If the systems are crossing over a larger frame-capable topology network and the maximum size at each of the end node systems are the same, there is no MTU conflict. Otherwise,

with mixed topology networks crossing between Switches, Bridges, or a Router that does not offer fragmentation services, or it is disabled, you require the following changes:

- Between Token-Ring or FDDI to Ethernet networks, or between Token-Ring to FDDI networks: Use the optimized listings that offer the same IP packet size as required (common size).
- Between Token-Ring or FDDI networks accessing across a Leased Line, Fractional T1/E3, T1/E1, Fractional T3/E3, T3/E3 or Frame-Relay network: Use the optimized listings that offer the same IP packet size as required (common size). With these networks we strongly recommend multi-homing so the local LAN traffic accesses a separate NIC than the remote traffic. which requires the tuned interface.
- When using GEO stationary satellite up/down link access you need to multi-home the Domino server with separate NICs at each location so the MTU and TCP window sizes can manually tuned for the satellite path latency.

Note: If the Router is doing a lot of fragmentation you may want alter the Routers port MTU setting to match the smaller segments MTU setting (enforcing the end node systems to use smaller packets). In the case of a Domino server, you may want to add a second NIC in the system. This offers a way to tune the TCP/IP stack for the constraints of the pathway without effecting other local user or server access.

Using a NetWare server as a Router

It is recommended if you are using the NetWare server as an TCP/IP Router with Token-Ring to append "Set Maximum Physical Receive Packet Size = 4096" to the STARTUP.NCF file and follow the needed alterations to the Domino server and Notes client system TCP/IP stacks for a 4096 frame size. This ensures all the end nodes that are accessing across the NetWare server are using the 4096 frame limit.

Note: Your network may require different values if there are network segments set up with lower frame sizes. Consult your network administrator to discuss any possible conflicts, and use the largest value your network can support.

Administrator Client, Client, Designer, Server

Using IPX/SPX with NetWare 5.0-only networks

Domino and Notes using SPX or SPXII still require access to IPX/NCP services for NDS access. When using only NetWare 5.0 servers in your network you need to enable the IPX gateway services so the Domino servers and Notes clients can access the NetWare 5.0 NDS services. As long as there are NetWare 3.xx or IntranetWare 4.xx servers present in the network, Bindery services can be used as well.

Note: The SPX/SPXII protocols are not transportable over Novell's new native IPX over-IP services.

Administrator Client

Using the Setup Ports tool

In Domino Administrator, if you use the Setup Ports tool on the Server - Status tab to create ports but exceed the ports line size limit, *next ports line* is added to the end of the first ports line, a Ports1 line is created, and the following error appears:

```
Server error: No response from server for this command
```

The ports information is added to the NOTES.INI file correctly (for example, TCP/IP= TCP, 0, 15, 0) but the ports are not added to the Active ports (Ports=) line in NOTES.INI.

The workaround is to manually add the port name(s) to the Ports= line in NOTES.INI.

Programming Issues

Designer

ACLEntry.isAdminReaderAuthor incorrectly returns false

When an administration server ACLEntry is set to "Modify All Reader And Author Fields," in the Access Control List, and then this ACLEntry is obtained in a backend application, for example, the backend call "ACL.getEntry(entry name)," calling "isAdminReaderAuthor" incorrectly return false, even though the ACLEntry has rights to modify all reader and author fields. If, instead, setAdminReaderAuthor(true) has been set to true in the backend application, isAdminReaderAuthor correctly returns true.

Designer

Backend call Database.getSize returns negatives values

With LotusScript and Java backend classes programming, as your database size grows beyond 2 GB, calling Database.getSize() returns an increasingly lower negative double number. To convert this negative double to the correct positive double that reflects the size of the database, take the absolute value of the negative double returned from Database.getSize() (subtract the returned value from 0 to change its sign), and then add 2^{31} (2 GB) to that absolute value.

Designer

Database.getURLHeaderInfo is not implemented

The Back End class call, Database.getURLHeaderInfo(), behaves unreliably in R5 depending on the context of the application that calls it. For this reason this method is considered not implemented and it should not be called. In LotusScript, calling it raises the error "not implemented." In remote IIO Java, a "not implemented" NotesException is thrown. In a Java agent, if the web retriever task is not running, the method returns a null or an empty string. In a Java agent, if the web retriever task is running, the agent may hang.

Designer

Differences between UI and backend ACLEntry settings

The following applies to Java and LotusScript backend classes:

- In the user interface (UI), when you set an ACLEntry to be "administration server," its type is automatically made "server." In backend classes, when you set an ACLEntry to be "administration server," its type is not changed.
- In the user interface (UI), when you set an ACLEntry to be "administration server," any existing administration server entry in the ACL is no longer an administration server. In backend classes, when you set an ACLEntry to be "administration server," any existing administration server entry in the ACL remains an administration server -- you can set more than one entry to be an administration server.

Designer

Embedded Java Applet issues

- There is a 32K limit for an Applet Shared resource in Domino Designer. There is a list of the files that is part of the resource in a field and this field must be less than 32K bytes. The workaround for the size limitation here is to split these files into separate resources.
- There is a 64K size limit for Imported Java Applet Files. The combined amount of data stored with the applet (which includes the signature information, the applet parameter information, and list of all of the files associated with the applet) is limited to 64K bytes.
- Canceling the paste of a parameter value may not revert it to its original value. When you have more than one applet parameter, pressing "x" to cancel the paste operation of a subsequent value replaces the value with that of the first parameter.
- Loading and reloading large Java applets leads to "out of memory" conditions. A workaround is to use JavaUserClasses in NOTES.INI to load all or most of the classes. This ensures the classes are loaded only once, so there is no significant heap size expansion for every applet instance that is loaded. There may be replication problems with this workaround because it relies on classes loaded from the file system, which is outside of Designer's control.

Designer

JavaScript and dates

Notes uses a "rule of 50" convention for dealing with two-digit dates. Less than 50, the year is set to 20nn, greater than 49 is set to 19nn.

The JavaScript DateObject constructor does not adhere to this convention. If you pass it a two-digit year it always returns 19.

For example, if you perform @Year on a Notes date of 01/28/01 you receive 2001, while if you create a JavaScript Date object from 01/28/01 and call getYear(), you receive 1901.

Designer

JavaScript and layout regions

JavaScript does not work in a layout region. To ensure that JavaScript works properly, place the scripted object outside of any layout regions.

Note: The above information refers to Notes applications only. Layout regions should be avoided in Web applications.

Designer

JavaScript in templates

For JavaScript to work properly in databases created with templates such as Web Mail, Discussion, or TeamRoom, the databases must have an .NSF extension.

Designer

JavaScript issues

- Support for the Document Object Model (DOM) within the R5 Notes Client is as defined in the Notes Document Object Model database, which will be available at <http://www.notes.net/doc>.
- Domino does not emit onKey and onMouse JavaScript events for SELECT-like fields (Dialog List, ListBox, or ComboBox).

Designer

LotusScript and Java method CreateFromTemplate

There has been a change in how the CreateFromTemplate method determines if the source database is a template or a database. In R4.6, the source database required an NTF extension only. In R5, the CreateFromTemplate method does not treat the source database as a template unless it has both an NTF extension and the "Database is a template" property selected. Otherwise, the source is treated as a database, and does not convert bracketed entries (such as [-Default-]) in the ACL to regular ACL entries in the newly created database.

Designer

LotusScript Terminate

All file handles are now closed when a LotusScript module stops executing, so Sub Terminate doesn't need a "Close" statement.

Terminate can be used for other kinds of cleanup, such as deleting temporary files, but Terminate should be kept as short as possible, because if a module times out during Initialize, Terminate is called and runs to completion. For example, if a module times out after one minute and the module's Terminate runs for two minutes, the total module will run for three minutes.

If a module is halted by control-break, Terminate runs only for a fraction of a second after the control-break, and results are unpredictable.

Halted by	Initialize()	Terminate()	File handles
Normal completion	runs to completion	runs to completion	all close
Timeout during Initialize()	stops at timeout	runs to completion	all close
Timeout during Terminate()	runs to completion	runs to completion	all close
Control-Break during Initialize()	stops at control-break	runs for its first <1 second	all close
Control-Break during Terminate()	runs to completion	continues for <1 second	all close

Designer

NotesRegistration.AddUserProfile

The NotesRegistration.AddUserProfile method is not working correctly. The workaround is to use the GetDocumentByKey method to find person documents and replace the value. This will be fixed in a future release.

Designer

Outline and Database object recycling issue

Because of the way OutlineEntry, Outline, and Database are contained within the class containment hierarchy, if your application calls Database.recycle() after instantiating Outlines and OutlineEntries from it, your application must call, in this order, OutlineEntry.recycle(), Outline.recycle() and finally Database.recycle(). These must always be called in this order; otherwise, it is better to not call Database.recycle() at all.

Designer

OutlineEntry.isHidden does not work correctly

The Java backend class OutlineEntry.isHidden() does not work correctly in R5. It should return the property that was set by OutlineEntry.setHidden(), but does not.

Designer

OutlineEntry.setHidden sets two hide properties

OutlineEntry.setHidden(true) sets both "Hide from Notes R4.6 or later" and "Hide from Web" properties. OutlineEntry.setHidden(false) unsets both properties. In this release, there is no method to set each property individually. If you need to set/unset one of these properties, you have to set it using Domino Designer.

Designer

OutlineEntry.setImagesText() may not keep value

When an outline is saved, modifications to the entry frame text on a newly created outline entry may be lost. The work around for this is to first add the entry to the outline prior to setting the imagetext. For example, the following order does not keep the imagetext:

```
Outline outline = db.createOutline("Test");
OutlineEntry oe = outline.createEntry("Domino");
oe.setImagesText("abc.gif");
outline.addEntry(oe, null);
outline.save();
```

If oe.setImagesText() is moved after outline.save(), it keeps the imagetext.

Designer

Session.getAgentContext returns null

Session.getAgentContext() returns null or crashes if the agent runs on "All Docs in Database" when the database is empty. You can work around this problem by opening and saving the appropriate agent context document in the AGENTRUNNER.NSF database.

Designer

Shared LotusScript actions and UnprocessedDocuments

If a shared LotusScript action calls a script library in a view that has no non-shared actions or events that use the library, then the method NotesDatabase.UnprocessedDocuments may return an empty list the first time the button is clicked. The second and subsequent clicks work.

The workaround is to add a non-shared action to the view that uses the script library containing the call to the UnprocessedDocuments method. In the Options section of the new action, create USE statements for each script library used in the shared actions.

Designer

StrCompare using case sensitivity

If the following code sample is run in an agent inside of Notes the result will be +1. If run outside of Notes the result will be -1

```
Sub Initialize
    Print sSrCompare( "A", "a")
End Sub
```

The different behavior is the result of different versions of ccstr used in a Notes build versus a standalone LotusScript build. Now that both use the same version of ccStr, the behavior is the same - strcompare ("A", "a") == 1. This differs from previous versions of Notes.

Designer

Use of createSession method within Java agents

The use of the createSession() method on the Session class is deprecated when running in an agent. Instead, use the getSession() method, which provides the necessary context for the agent.

Designer

Using FullTrim with strings containing significant white space

FullTrim does not render you with a space delimited string in all cases. For example, if you have the following: space, space, tab, tab, tab, space, space, tab, tab - between two words within a string - the results would still contain significant white space between the words consisting of space,tab,space,tab. In other words, FullTrim for strings removes duplicate adjacent white space characters, not just all duplicate white space characters.

Designer

Using LotusScript Data Object on AIX

The Intersolv Driver Pack version 3.02 for AIX contains an archived version of the driver manager libodbc.a, while LotusScript Data Object (LS:DO) requires an executable or shared object version of the driver manager. To check the type of your libodbc.a, enter the following command:

```
file libodbc.a
```

In case of an archive file, you need to extract the executable or shared object version of the driver manager odbc.so with the following:

```
ar -x libodbc.a
```

Save the archived version and rename odbc.so to the new libodbc.a with the following:

```
mv odbc.so libodbc.a
```

so that the driver manager is an executable or shared object file.

Designer

ViewEntry returned when MaxLevel is set

If a ViewNavigator is created via:

- createViewNavFromCategory
- createViewNavFromChildren
- createViewNavFromDescendants

and the MaxLevel is set, calling the following methods returns a ViewEntry which is not in the navigator:

- gotoPos
- gotoEntry
- getPos

Designer

Web Server uses last @SetTargetFrame/@Command

@SetTargetFrame is a new @Function that works with certain @Commands. See the "@SetTargetFrame" topic in Domino 5 Designer Help for a list of compatible @Commands.

This note discusses the effects of multiple @SetTargetFrames and @Commands.

Program a button or hotspot as follows:

```
@SetTargetFrame("FrameA")
@Command([OpenForm]; "Form A");
@SetTargetFrame("FrameB")
@Command([OpenForm]; "Form B");
```

In the Notes client, this formula opens Form A in FrameA and Form B in FrameB. In a Web browser, only the last @SetTargetFrame @Command combination executes, so that Form B opens in FrameB, but Form A does not open in FrameA.

To avoid this problem and to open multiple pages in multiple frames from one button or hotspot on the Web Server, use JavaScript. The example below assumes that there are three frames in the frameset.

FrameNav has two sibling frames named FrameA and FrameB.

The page loaded in FrameNav can have a hotspot or button that executes the following JavaScript code:

```
parent.FrameA.location = "http://myserver/mydb.nsf/FormA?OpenForm";  
parent.FrameB.location = "http://myserver/mydb.nsf/FormB?OpenForm";
```

Designer

Writing executable code at module level

Executable code at the module level is not supported. Code inside an execute statement but outside any function is at module level and should be avoided.

For example, the code fragment:

```
Execute |  
    Print "Hello World!"  
|
```

Should be rewritten as:

```
Execute |  
    Sub Initialize  
        Print "Hello World!"  
    End Sub  
|
```

Designer

@SetTargetFrame and pre-defined target names

@SetTargetFrame does not work when used with one of the predefined frame names that are relative, such as, _parent and _self.

Search Issues

Server

Cannot use Domain Search using Mac Internet Explorer

You cannot perform a Domain Search when you use Internet Explorer Release 4.x on the Macintosh. You get the following error message when you try to search or click + to open the More section:

A script error occurred. Some scripts on the affected page may not work correctly. Do you want to continue running scripts on the affected page?

Server

Cannot use termweight syntax in Search by Field

When searching by field, you cannot use the termweight syntax. This issue will be addressed in a later release.

Server

Domain Index -- do not copy files into a directory

Do not use the operating system to copy files into a directory that the Domain Indexer updates. Files that are older than the current date and time are not included in the index. This problem occurs only after you set up Domain Search for the directory and files that are older than the current date and time are copied into that directory. It does not occur when you initially set up the directory for Domain Search.

Server

Domain Search and documents with 205x creation date

When using Domain Search to search for documents by creation date, Domino returns unexpected results if the document creation date is after 1/1/2050.

Server

Domain Search and HTML files

By default, when Domino indexes HTML files for Domain Search, only the text in the <BODY> field is indexed. Domino does not index text included in any other fields. You can do the following to include all HTML fields in a Domain index, for example, <META> or <TITLE> fields:

1. Edit the FORMATS.INI file in the Notes or Domino directory.
2. Find the 210=htm statement and enter the following to remark out the statement:

```
REM 210=htm
```

3. Add the following variable to the NOTES.INI file in the Notes or Domino directory:

```
FT_HTML_TITLE=1
```


Server

Domain Search and replica databases

Limiting the scope of servers to include in a Domain Index produces unpredictable results if you have multiple Domain Index servers in a single Notes domain that include the same replica databases in each of the indexes. As a workaround, disable the "Include in multi database indexing" Database Property on those databases that you do not want to include in the Domain Index.

Server

Domain Search by Author on the \$UpdatedBy field

Using Domain Search to search by Author returns hits on only the first name listed in the \$UpdatedBy field.

Server

Domain Search for file systems on UNIX

The following are known issues with Domain Search on a Domino for UNIX server.

Specifying paths to file systems

If you want to index files on a Domino for UNIX server and the files are in a subdirectory of the Domino data directory, specify a path that is relative to the Domino data directory. This path is specified in the File system field in the File System document of the Domain Catalog. Domino for UNIX servers require a relative path to the file system if you specify a file system that's a subdirectory of the Domino data directory.

For example, if you want to specify the following directory as a file system to search:

```
/lotus/domino/data/files
```

You specify the following in the File system field in the File System document:

```
/files
```

Relative paths are a requirement for UNIX servers only. Windows NT requires an explicit path to the file system.

Embedded spaces in file names

If a file on a Domino for UNIX server is indexed and contains a space in the file name, an error is generated when a change is made to the file and the index is updated. The error "You received the following error when performing your search: Notes Error: File truncated. - file may have been damaged." is displayed when you try to search for information related to the file.

Sorting results by date

Using Domain Search to search file systems on a Domino for UNIX server and setting the Sort by to either Newest First or Oldest First does not sort the results correctly.

Server

Domain Search for file systems that use non-ASCII characters

You cannot use Domain Search for file systems that use non-ASCII characters for file names or directories, for example, file names or directories that contain Japanese or Cyrillic characters.

Client

Domain Search issues

- On the Domain Search form, Domain Indexes containing multiple code pages (more than one language is present in the indexed databases) display duplicate search results when the query is Search By Date (created/modified).
- There is no highlighting in documents returned from a search on the client.
- In Domain Search of file systems, categories are not supported, and if they are selected then no documents will be returned.
- In Domain Search of file systems, documents are indexed as text; therefore, number searches are not supported.

Server

FIELD CONTAINS syntax to search attachments

The FIELD CONTAINS syntax does not locate hits on the contents of an attachment in a rich text field. Attachments are stored internally in a separate field named \$FILE, even though when displayed, the attachment appears as part of the rich text field.

Server

Full-text indexing attachments that use Korean character set

Domino does not create a full-text index for a database if a document has an attachment that uses the Korean character set. This problem occurs when the attachment is the only content in the field; it does not occur if there is content in the field in addition to the attachment.

Server

Full-text indexing on UNIX

R5 provides a more accurate method of indexing attachments called the "Binary" method, and it is used to include the entire contents of a file attachment in the "searchable index." However, some file types that are indexed on certain Domino UNIX platforms are not indexed as accurately as NT or Alpha. The specifics are:

- On Domino for Sun Solaris Intel X86 and IBM AIX, the attachments are indexed; however, the results are as accurate because the "Binary" method does not work with these two UNIX platforms.
- Word Pro attachments are indexed, however, the results are not as accurate because the "Binary" method does not work on any platform except Intel NT, Window NT and Windows 98.
- Domino for IBM AIX and Sun SPARC may return additional results when searching on extended characters from the 1252 Code Page table.
- Domino for IBM AIX and Sun SPARC may produce an error (Query Not Understandable) when searching on a single extended characters from the 1252 Code Page table.

- Domino for Sun Solaris Intel X86 does not execute the Word Variants search option well. The user may see:
 1. Searching for a word with Work Variants enabled (in either FT Search or Domain Search) does not work.
 2. Searching may intermittently return No Results when search matches exist. Re-executing the Search may retrieve the search matches.
- Domino for IBM AIX, Sun SPARC, and Sun Solaris Intel X86 return corrupted text in the document summary field when searching on a file system and displaying detailed results.

Client, Server

Full-text search for extended characters on UNIX Intel servers

Full-text searches on a databases residing on UNIX Intel servers returns bad results when searching on extended characters.

Client

Full-text search issues

- Full-text indexes containing multiple code pages (more than one language is present in the indexed database) display duplicate search results when the query is searching on a specific field and the field is a date or a numeric field.
- The search by example feature (Fill Out Example Form button) crashes when used in a TeamRoom database or a Personal Address book.
- Search results in categorized views may not appear as single documents. This occurs when using the "sort by" options "Keep current order" or "Show all documents." To see your result documents, expand the Category triangle or expand the view categories (View - Expand All) prior to executing search.
- After a full-text search, sortable columns work only if using the "sort by" options "Keep current order" or "Show all documents."
- The full-text search message is misleading when Search finds more than the Maximum Results Limit. If you set the Maximum Results Limit to 20 and Search finds 25 documents, the status bar should display "More than 20 documents found." Currently it reports, "20 documents found."
- Performing a full-text search for a word written in Chinese, Korean and Japanese characters may not work if a document has the word but there is a carriage return in the middle of a it. For an example, if your search word consists of three Chinese characters and a document has this word with a carriage return after the first character, Notes does not find the document.
- Currently there is no way you perform a full-text search for a search word of pattern : double byte string 1 + single byte space + double byte string 2. Double bytes strings means a series of Chinese, Korean, or Japanese characters. In order to search for a word pattern like this, use the following pattern with the "Fuzzy search" option enabled : double byte string 1 + double byte string 2.
- By default, the "Fuzzy search" option finds words that match 75% or more of a search word. You can change the value of this option by using the "matchinglevel" operator. For example, if you search using the string "matchinglevel 80 user", the results reflect words where "user" makes up 80% of the word.
- You cannot use wild card characters (* or ?) when searching for words written in Chinese, Korean, or Japanese.

R4.x full-text options no longer supported in R5

- Thesaurus
- The "Stop Word" file option is no longer used when creating a full-text index
- The word proximity/breaking operator "NEAR"

Client, Server

Full-text search: attachments for international character sets

In order for attachments to be indexed correctly for full-text search, the document in which the attachment is stored must have a field that contains text in the same language as the attachment. For example, if the contents of the attachment are in Chinese, a field in the document must contain Chinese text.

If the attachment is stored in a document that does not have some text in one of the fields, Notes/Domino is not able to determine the language and character set of the attachment content. This may result in improper conversion of the attachment, resulting in the inability to retrieve the information during a search.

This applies to all languages that are represented by code-pages other than cp1252 (Latin1).

Client, Server

Full-text search: Thai is not supported

Full-text search does not support searching of Thai text. This will be supported in a future release.

Server

Highlights on search results

When searching, highlights do not appear in the document in the following situations:

- Searching for text in encrypted fields
- Searching for text in fields that use the Native Control style

Client

Incorrect Domain Search results by Newest or Oldest First

When you search a domain and sort results by Newest First or Oldest First, Domino displays the results correctly on the first page, but does not display the results correctly for subsequent pages.

Server

Indexing Readers fields

In order for Readers fields to be indexed by the Domain Indexer, the name of the server must be included in the Readers field. The server name must be in canonical format, for example, CN=ServerName.acme.com,O=DomainName.

Client

Limiting Domain Search by categories

When performing a Domain Search and limiting the search results to one or more categories, Notes finds documents that contain the category name or a substring of the category name. For example, if you perform a Domain Search and you limit the results to the category "Insurance," Notes returns matching documents from the Insurance category as well as Life Insurance, Homeowner's Insurance, and Auto Insurance if these categories exist.

Server

List in Database Catalog

If you deselect List in Database Catalog in the Database Properties box, you must remove the entries listed in the Categories field, otherwise the database continues to appear in the Database Catalog.

Server

Max Results is set for all databases

When you set the Max Results value to determine the maximum number of search results that Notes displays, this value applies to all databases that you search, not just the current database.

Server

Maximum size for full-text index file

Domino uses a default maximum size of 6 MB for full-text index files. If you have a database with large attachments that you want to full-text index, you can increase the default size using the NOTES.INI variable FTG_Index_Limit = xxx, where xxx is the number in MB that you want to use as the maximum size.

Client

Navigation buttons and full-text search

Using the Navigation buttons when reading the results of a full-text search does not always advance to the next or previous document in the full-text index results view.

Server

Netscape 3.04 and Domain Search

The Domain Search form does not display properly using a Netscape 3.04 browser. Use Netscape Communicator 4.0 or greater to display the form properly.

Client

Search query syntax

The following applies to the query syntax to use in the Search field:

- In R5, using the NOT expression requires a parenthesized expression. For example:

NOT (field number1 = 20)

NOT (field number1 =20 or field number1 = 21)

- Split complex queries into separate parts, such as:

(Field subject contains cat) or (field subject contains dog)

([subject] contains apple) and ([date1] = 12/31/1996)

- Maximum query length of a single word is 65 characters. If the query contains dashes between words, each dash is counted as one character when computing the sum of 65 characters.

Server

Searching documents that use extended characters

When searching for extended characters from code page 1252, incorrect search results are returned in the following situations:

- The document that you search has an attached file that contains 2 extended characters, which do not contain any text following the characters. The document was also indexed using the Raw Text Attachments indexing method.
- You search for an extended character from code page 1252 and documents that use punctuation characters that use an equivalent code in LMBCS are returned.

Server

Updating a database ACL in the Domain Index

When changing the ACL of a database that is part of the Domain Indexer, a document in that database must also be changed. The Domain Indexer does not update the index files of a database (including ACL information) unless a document has been modified, added or deleted.

There is a similar problem when updating database categories in a database. All documents that utilize the change to the category must be modified in order for their index entry to be updated.

Security Issues

Server

Authenticating Web clients in an LDAP directory

The first time a Web client authenticates with an LDAP server, server response time can be slow. This occurs because Domino takes time to initialize the views in the LDAP directory. When the Web client authenticates subsequent times, server response time improves.

Administrator Client, Client, Server

CA e-mail notification not readable in Web mail

When selecting the option "Send a notification e-mail to the requester" in the Certificate Authority database, the e-mail notification cannot be opened using Web mail, and must either be opened in a Notes client or the sequence number can be transmitted to the certificate recipient via another means.

When opened in Web mail, the Web server responds with a "Corrupt Data Exception" rather than displaying the e-mail.

To fix this problem, open the database in Designer, open the form MailClientCertRequestApproved, and open the form properties. Select the option "Store Form in Document." Save the form. All e-mail should then be readable by Web mail.

Client, Server

Certificates containing extended characters

When performing the action "Add Internet Cert To Selected People" in the Domino Directory, Internet certificates are created with the ASN1 encoding of the x.509 certificate as follows:

1. Printable
2. IA5
3. Latin-1
4. BMP (form of Unicode).

However, please note that a NOTES.INI setting allows the user to default to UTF8 instead of BMP.

If the user has extended characters (not Printable, not IA5, and not Latin-1) in its user name then the X.509 certificate, created by the above action, includes BMP-labeled (or UTF8-labeled) strings. When a Netscape user tries to open signed mail sent by such a user with BMP or UTF8 strings in its certificate, Netscape crashes.

When creating certificates and certificate requests for key ring files, or when creating certificates from Web client certificate requests via the Domino Certificate Authority, Domino encodes distinguished name character strings via the following procedure:

- If the string contains only ASN1 printable characters: encoded as a DER printable string
- If the string contains only US-ASCII characters: encoded as a IA5 string
- If the string contains non-US-ASCII characters: encoded as a T.61string using Latin-1 character set

To change how non-US-ASCII strings are encoded use the NOTES.INI setting, IntIDERStringEncodingType as follows. (This should be set on both the Domino server and the Notes client that hosts the Domino Certificate Authority application and the Domino Certificate Administration application.):

IntIDERStringEncodingType=1	Encode non-US-ASCII strings as UTF8
IntIDERStringEncodingType=2	Encode non-US-ASCII strings as BMP

Server

Controlling access to the Web Administrator files

The Web Administrator files are stored in the subdirectory domino\adm-bin of the Domino data directory. You should protect access to this directory so unauthorized users cannot access the Web Administrator. Domino creates a File Protection document for this subdirectory by default when you start the server for the first time. The File Protection document appears in the Web - Web Server Configurations view on the Configuration tab of the Domino Administrator. The NOTES.INI file variable DominoConfigLevel indicates whether the File Protection document has been created during server startup. It also indicates whether Mapping/Redirection and Virtual Server documents have been upgraded to the Domino Directory. For more information and mapping and redirection, see the release note "Migrating Mapping/Redirection and Virtual Server documents" in the Troubleshooting section.

If DominoConfigLevel is set to

- 1 -- Mapping/Redirection and Virtual Server documents in the Domino Configuration database (DOMCFG.NSF) are upgraded, but the File Protection document for domino\adm-bin is not created yet.
- 2 -- File Protection document for domino\adm-bin is created, but the Mapping/Redirection and Virtual Server documents in the Domino Configuration database are not upgraded yet.
- 3 -- Both the File Protection document and upgrade of the Domino Configuration database are done.

Use the DominoConfigLevel setting to troubleshoot problems with controlling access to the Web Administrator files and migrating Mapping/Redirection and Virtual Server documents. Do not modify this setting in the NOTES.INI file.

For more information on File Protection documents, see *Administering the Domino System* or Domino 5 Administration Help.

Server

Default validity period for certificates issued by a Domino CA

The default validity period for certificates issued by a Domino CA is blank, which issues certificates that are valid for 1 day. You need to modify the profile in the Domino Certificate Authority application in order to change this default. To modify the profile, open the Domino Certificate Authority application and choose Configure Certificate Authority Profile.

Server

Protect directives are ignored in R5

In R5 the Domino Web Server ignores any protect directives that users may have specified in the HTTPD.CNF file using earlier versions of the software. With R5, administrators can create File Protection documents in the Domino Directory to protect files and directories from Web browser users.

Client

Recovering an ID file

When recovering an ID file using File - Tools - Recover ID, Notes prompts you two times for the ID file to recover. You must specify the same ID file each time; otherwise, you will not be able to recover the ID file.

Administrator Client, Server

Server key ring file should be owned by server

When copying a server key ring file to the Domino server data directory, make sure the file owner is the same as the account that is running the server, otherwise the key ring may not be able to be read by server tasks.

Server

X.509 client certificates containing accented characters

X.509 client certificates containing accented characters may not display details correctly in Person document of Domino Directory.

When accessing a Person document in the Domino Directory, the user is able to examine the X.509 client certificate by putting the document into edit mode and then clicking on Examine Internet Certificates. The X.509 client certificate appears and the dialog box displays detailed information about the certificate, such as validity dates, issued to, serial number and fingerprint. This information does not display if the certifying authority who issued this client certificate contains any accented characters in the distinguished name.

This is only a display problem. The client certificate is valid and authenticates properly.

Upgrade Issues

Server

Collect task has replaced Reporter task

The R5 Collect task has assumed the functions of both the Reporter and R4.x Collect tasks. If you were running the Reporter task on an R4.x server, you now need to run the Collect task if you want to have statistic events, alarms and statistics reports generated in the Statistics Reporting database (STATREP.NSF).

During an upgrade from R4.x to R5, the Reporter task is automatically removed from NOTES.INI and the design of the Statistics & Events database (EVENTS4.NSF) is upgraded to support new features, including the new Statistic Collector (Collect) task.

Server

COLLECT4.NSF not upgraded to EVENTS4.NSF

The R5 Statistic Collector (Collect) task does not use the Collector Configuration database (COLLECT4.NSF). Any Statistic Monitors created in the Collector Configuration database need to be recreated in the Statistics & Events database (EVENTS4.NSF) after upgrading from R4.x to R5.

Client, Server

Concurrent Web retrievers setting

R5 includes a new default setting for the concurrent Web retrievers setting on both the client and server. If you are upgrading from an earlier release, including an R5 beta, you need to modify the setting to reflect the R5 default value.

For Notes, choose File - Preferences - Location Preferences, then set the "Concurrent retrievers" field on the Advanced - Web Retriever tab to the default setting of 15.

For Domino, set the "Concurrent retrievers" field on the Server Tasks - Web Retriever tab of the Server document to the default setting of 50.

Server

Deleting obsolete Stats Mail-In Databases and documents

After upgrading from R4.x to R5, a new Stats Mail-In Database document and an associated Stats Mail-In Database is automatically created for your Domino server. Although it is not necessary to do so, the R4.x versions of both items may now be deleted.

To delete the R4.x Stats Mail-In Database document, open your server's Domino Directory (NAMES.NSF) and go to the Server/Mail-In Databases and Resources view. The R4.x Stats Mail-In Database that may be deleted is in this format:

Title: <ServerName/Organization> Stats

File name: STATSnnn.NSF

Note: the "nnn" in statsnnn.nsf may be any 3-digit number.

To delete the database itself, choose File - Database - Open and browse to find the database. Once the database is open, choose File - Database - Delete. You receive a message that the database is currently open and that it will be deleted later. After you close the database, the database is deleted.

The new R5 Stats Mail-In Database is:

Title: <ServerName> Stats/<OrganizationName>
File name: STATMAIL.NSF

Server

Domain Catalog ACL

In some instances, when you upgrade a Release 4.x standard catalog (CATALOG.NSF) to a Release 5 Domain Catalog, the ACL of the Domain Catalog is not properly set. Make sure the ACL for the Domain Catalog includes the following entries:

LocalDomainCatalogServers	Editor
LocalDomainServers	Editor

Server

Event monitors may not work after an upgrade from R4.x

R4.x event monitors may not work after an upgrade to R5. All R4.x Event Monitors are upgraded to R5 event notifications and are in the Statistics & Events database (EVENTS4.NSF) in the Event Notification view. If events are no longer being logged, you need to open, edit and save each Event Notification (no changes are necessary).

Server

Remove free time databases from R5 Betas

There have been changes to the format of the final R5 free time database (BUSYTIME.NSF and CLUBUSY.NSF for clustered R5 servers). Since it is possible that some old or inaccurate data may be left in the free time databases created by some of the R5 beta versions, the administrator should manually delete the free time database on any R5 server that was used for R5 Beta testing. Simply delete either the CLUBUSY.NSF (Clustered Server) or the BUSYTIME.NSF (non-Clustered Server) before starting the Schedule Manager task for the first time.

This task should only be done once when the server is upgraded from an Beta R5 server to a final R5 server.

Server

Router error when configuration document missing fields

The message "Router: Unable to update field MTENABLED. Received error: Item not found" is reported on the server console because items needed by message tracking are missing. This situation can occur when upgrading from an R4.x server with an existing server configuration document, because that document does not contain new items related to message tracking. To stop the display of this message, open the server configuration document and save it. This action adds the missing items to the document.

Upgrading Mapping/Redirection and Virtual Server documents

In previous releases, you used the Domino Configuration database (DOMCFG.NSF) to map and redirect URLs on the Domino Web server and set up a virtual server. In this release, the Mapping/Redirection and Virtual Server documents are stored in the Domino Directory. Domino migrates existing Mapping/Redirection and Virtual Server documents after you start the server for the first time. The Mapping/Redirection and Virtual Server documents appear in the Web - Web Server Configurations view on the Configuration tab of the Domino Administrator. The NOTES.INI file variable DominoConfigLevel indicates whether the documents have been upgraded. It also indicates whether a File Protection document has been created for the domino\adm-bin directory.

If DominoConfigLevel is set to

- 1 -- Mapping/Redirection and Virtual Server documents in the Domino Configuration database (DOMCFG.NSF) are upgraded, but the File Protection document for domino\adm-bin is not created yet.
- 2 -- File Protection document for domino\adm-bin is created, but the Mapping/Redirection and Virtual Server documents in the Domino Configuration database are not upgraded yet.
- 3 -- Both the File Protection document and upgrade of the Domino Configuration database are done.

Use the DominoConfigLevel setting to troubleshoot problems with controlling access to the Web Administrator files and migrating Mapping/Redirection and Virtual Server documents. Do not modify this setting in the NOTES.INI file.

For more information on upgrading, see *Moving to Domino Release 5* or *Domino 5 Administration Help*.

Upgrading partitioned servers not supported for R4 to R5

Upgrading partitioned server installations (R4.5.x or R4.6x to R5) are not supported at this time. Upgrades of partitioned servers from R5 to future versions will be supported.

Upgrading servers that use the SMTP MTA

When you upgrade to R5 a 4.x server that uses the SMTP MTA, the program file NSMTPMTA.EXE and the NOTES.INI file setting ServerTasks=SMTPMTA are not automatically deleted. You must manually delete the program file from the Domino directory and remove the setting from the NOTES.INI file.

User author access to Administration Request database

Many Domino sites currently restrict access to the Administration Request Database to their Administrators. In R5, Administration Requests associated with Mail File Delegation, Mail File Move, and Change User License Type are created by Notes users. To take advantage of the new feature, users must have Author access in the Administration Request database.

Chapter 4 - Documentation updates

Notes 5 Help

Client

Deleting repeating meetings from the Meetings view

If you create a repeating meeting and then delete it from the Meetings view, Notes does not send a cancellation notice to the meeting's invitees. To send a cancellation notice to the invitees, delete the repeating meeting from the Calendar view instead.

Client

Full-text search: Highlighting in DBCS languages

Highlighting of search text in the result-set documents is not implemented to support DBCS languages, which do not have spaces to delimit words. Notes highlights all the text in a sentence or paragraph.

Client

Keyboard access to the Bookmark bar

You can expand upon the accessibility feature "Show extended accelerators" by enabling keyboard navigation of the Bookmarks bar. Add the line AllowBookmarkFocus=1 to the NOTES.INI and restart Notes. Press Alt-B and then you can use the up arrow, down arrow, Home, End, Page Up and Page Down keys to navigate the Bookmark bar. Use Enter to select a Bookmark bar icon and Esc to exit.

Note: This feature is only available when "Show extended accelerators" is enabled in User Preferences.

Client

Removing Bookmarks

To remove a bookmark, right mouse click on the bookmark and select "Remove Bookmark" from the pop-up menu.

To remove a replica for a database, right mouse click on the bookmark, then select Open Replica - Manage List. In the dialog box, select the replica and click the "Remove" button.

Client

TeamRoom topics

In the topic "TeamRoom Main Document," the following text:

10. If you would like to keep this document private, click the Mark Private action button at the top of the screen. Private documents are readable only by the author and those individuals the author designates in the Reviewers, Assignees, or Invitees fields.

Should be replaced by:

10. If you would like to keep this document private, click the Mark Private action button at the top of the screen. You can use the "Mark Private" and "Mark Public" actions in the template to control whether anyone other than yourself can read a specific document. For example, if you have not completed the writing of a particular document, you can click the "Mark Private" action and others will not be able to see the document. When you complete the document, you can click the "Mark Public" action to make it available for others to read.

In the topic "TeamRoom Calendar," the following text:

The TeamRoom Calendar provides a graphical display of meeting documents and other documents with an associated due date.

Should be replaced by:

The TeamRoom Calendar provides a graphical display of active Milestones/Events, meeting documents and other documents with an associated due date.

Client

Underscores do not work in folder names

Do not use underscores (_) when naming folders.

Domino 5 Designer Help

Designer

Restricted LotusScript and Java agent operations

In the Help topic "Restricted LotusScript and Java agent operations," the following text in **bold** is incorrect:

Users with unrestricted access must also set the Notes.ini parameter "**JavaNotesClasses**" to the file name of the class file that contains the native methods.

It should read:

Users with unrestricted access must also set the Notes.ini parameter "**JavaUserClasses**" to the file name of the class file that contains the native methods.

Designer

New @Functions and @Commands

The following new @Functions and @Commands are new to R5 but do not appear in Domino 5 Designer Help:

@Functions

@HardDeleteDocument
@PasswordQuality

@Commands

@Command([CreateCrossCert])
@Command([Directories])
@Command([ViewAddInternetCertificate])

Designer

ACLEntry class isAdminReaderAuthor property

This information supplements the Java ACLEntry class topic:

isAdminReaderAuthor property. Read-Write. Indicates if the ACLEntry, which must be an administration server, can modify reader and author fields (just as in the Designer UI's Database AccessControl Advanced dialog). If the ACLEntry is not an administration server (see isAdminServer property), calling isAdminReaderAuthor(true) does nothing -- the property remains false, and no exception is thrown. If the ACLEntry is being created programmatically, and you want it to be an administration server, call isAdminServer(true), and then you can call isAdminReaderAuthor(true).

Designer

Additional value for Agent class Trigger property

The Trigger property of Agent class has an additional value of "8" that is not listed in the constants for the property. This value corresponds to "Run Once" agents.

Designer

AgentContext property

With the Java AgentContext property, if the current program is not running from an agent, the property throws an exception.

Designer

Agent.runOnServer

The Java Agent.runOnServer() method is provided so that client foreground agents and applications may acquire an agent that is in a database on a server, and have that agent run on the server. The agent runs immediately when runOnServer() is called on it.

When runOnServer is invoked from Notes Client, it runs under the security of the signer of the server agent. When the runOnServer is invoked from a Web browser, it runs under the security of the person who initiated the agent from the Web.

Designer

Database.getOutline

The description of the getOutline method incorrectly states: "Creates an Outline". The description should say: "Gets the requested Outline". To create an Outline, use the createOutline method.

Designer

Database.isMultiDbSearch() clarification

This property corresponds to the "Type" dropdown box in the Basics tab of the Database Properties box. Setting the type to MultiDbSearch returns true for this property. This should not be confused with the "Include in multi database indexing" option on the Design tab of the Database Properties box.

Designer

DateTime class

The Java DateTime class includes the following new method:

```
timeDifferenceDouble  
    int timeDifferenceDouble(DateTime dt)
```

Designer

getItemValueInteger method

The Java getItemValueInteger method returns a zero when field does not exist. To ensure a field exists before using getItemValueInteger, use the hasItem method.

Designer

Outline class addEntry method

In the Java Outline class addEntry method, the first entry in an empty outline may be added using null for the reference entry argument.

Designer

Registration.registerNewCertifier method

The Java Registration.registerNewCertifier method now supports registration of certifiers of type orgUnit. This behavior is turned on by setting the registration property OrgUnit to the value a desired organizational unit. Note that the organization and country input parameters are ignored when the organizational unit is specified.

Designer

Session.ConvertMime property

Java. Read-write. Indicates if items of TYPE_MIME_PART will be converted to Rich Text when the items are instantiated.

Note: This property is new with Release 5.0.

Defined in

Session

Data type

Boolean

Syntax

```
public boolean isConvertMime()  
    throws NotesException  
  
public void setConvertMime(boolean)  
    throws NotesException
```

Legal values

True

False

Default value is False

Usage

Set ConvertMime Session property to FALSE prior to instantiating the items to avoid conversion of TYPE_MIME_PART items.

Set ConvertMime Session property to TRUE to force conversion of TYPE_MIME_PART items prior to instantiating the items.

Designer

Session.getUserNameList()

Java Session.getUserNameList() is not implemented. If the session is a remote session acquired via IIOp, and your Java program calls Session.getUserNameList(), Domino throws a "not implemented" exception.

Designer

Additional value for NotesAgent class Trigger property

The Trigger property of NotesAgent class has an additional value of "8" that is not listed in the constants for the property. This value corresponds to "Run Once" agents.

Designer

Agent.runOnServer

The LotusScript Agent.runOnServer method is provided so that client foreground agents and applications may acquire an agent that is in a database on a server, and have that agent run on the server. The agent runs immediately when runOnServer is called on it.

When runOnServer is invoked from Notes Client, it runs under the security of the signer of the server agent. When the runOnServer is invoked from a Web browser, it runs under the security of the person who initiated the agent from the Web.

Designer

Error in GetEntryByKey method

The documentation for the LotusScript method for NotesView class GetEntryByKey method states, in the Return Value section, that the return value is a notesviewentrycollection. This is incorrect. It is a notesviewentry.

Designer

NotesACLEntry class isAdminReaderAuthor property

This information supplements the LotusScript NotesACLEntry class topic:

isAdminReaderAuthor property. Read-Write. Indicates if the ACEEntry, which must be an administration server, can modify reader and author fields (just as in the Designer UI's Database AccessControl Advanced dialog). If the ACEEntry is not an administration server (see isAdminServer property), calling isAdminReaderAuthor(true) does nothing -- the property remains false, and no exception is thrown. If the ACEEntry is being created programmatically, and you want it to be an administration server, call isAdminServer(true), and then you can call isAdminReaderAuthor(true).

Designer

NotesAgent.ServerName

In the LotusScript NotesAgent class ServerName property topic, the following text is incorrect:

If the parent database is on a workstation, this property returns the current user name.

The text should read:

If the parent database is on a workstation, this property returns an empty string.

The Java ServerName property also returns an empty string. The similar text in that Help topic is correct.

Designer

NotesDatabase.GetProfileDocCollection

In the LotusScript NotesDatabase.GetProfileDocCollection method, the profilename\$ parameter is optional. If you omit the profilename\$ parameter, a document collection is returned containing all of the profile documents in the database.

Designer

NotesSession.ConvertMime

LotusScript. Read-write. Indicates if items of TYPE_MIME_PART will be converted to Rich Text when the items are instantiated.

Note: This property is new with Release 5.0.

Defined in

NotesSession

Data type

Boolean

Syntax

To get: *flag* = *notesSession*.**ConvertMime**

To set: *notesSession*.**ConvertMime**= *flag*

Legal values

True

False

Default value is False

Usage

Set ConvertMime Session property to FALSE prior to instantiating the items to avoid conversion of TYPE_MIME_PART items.

Set ConvertMime Session property to TRUE to force conversion of TYPE_MIME_PART items prior to instantiating the items.

Designer

NotesSession.UpdateProcessedDoc

The LotusScript NotesSession.UpdateProcessedDoc method does not mark a document as processed by the agent until the agent has completed. Therefore, subsequent calls within the agent to the NotesDatabase.UnprocessedDocuments property yield the same document count as the first call before NotesSession.UpdateProcessedDoc is called.

Designer

Outline class addEntry method

In the LotusScript Outline class addEntry method, the first entry in an empty outline may be added using null for the reference entry argument.

Domino 5 Administration Help

Administrator Client

Adding the distinguished name to the Person document

In the LDIF migration topic "Adding the distinguished name to the Person document," the following text in **bold** is incorrect and should be ignored:

When importing users as directory entries only, select the migration option "Add full name provided to the Notes Person document" on the People and Groups Migration dialog box. **Selecting this option instructs the migration tool to add the complete distinguished name, including all hierarchical information (CN, OU, O, and C attributes) as the primary entry in the User name field of the Person document.**

The primary entry in the User name field of the Person document is always derived from the First name and Last name components, together with the organizational information taken from the certifier ID.

Administrator Client

Converting bulletin boards to a Notes discussion database

In the topic "Converting bulletin boards to a Notes discussion database" the following text in **bold** is incorrect and should be ignored:

For networks that employ the cc:Mail MTA to provide coexistence between cc:Mail and Domino, the MTA automatically synchronizes bulletin boards. **If you are using the cc:Mail MTA version 2.0 or higher, and want to keep information synchronized between cc:Mail bulletin boards and a Notes Discussion database, select [the Convert bulletin boards] option the first time you migrate users from a post office, so that the discussion databases are created. Make the database a mail-in database.**

When you use the cc:Mail MTA to create a Notes discussion database, it creates a database CCMTABBX.NSF (using the template CCMTABBX.NTF). The cc:Mail migration tool migrates bulletin boards to a database CCNOTBB.NSF (using the template CCNOTBB.NTF). These two databases are separate and do not share information. If you intend to use the cc:Mail MTA for bulletin board synchronization during lengthy migrations in which cc:Mail and Notes need to coexist and be synchronized with each other, do not use the migration option "Convert bulletin boards." If you intend to perform a quick "rip-and-replace" migration, you can use the bulletin board conversion option to do a one-time conversion of bulletin boards.

The topic "Synchronizing cc:Mail bulletin boards and Notes discussion databases" contains the correct instructions for synchronizing bulletin boards with Notes discussion databases.

Find Group Member

In the Domino Administrator, you can quickly locate a group member by completing the following steps:

1. Click the People & Groups tab.
2. Select Groups. A list of groups in the server's Domino Directory displays.
3. Choose Actions - Find Group Member, or on the Action bar, click Find Group Member. You may have to scroll to the right to reveal the button.
4. Enter the common name (for example: Jane Doe) and click OK. If the group member is found, a checkmark appears to next to the group or groups in which the member name was found.

In the Domino Directory, do the following:

1. Click Groups.
2. Choose Actions - Find Group Member or on the Action bar, click Find Group Member.
3. Enter the common name (for example: Jane Doe) and click OK. If the group member is found, a checkmark appears to next to the group or groups in which the member name was found.

Password recovery information message box

This release note supplements the information in the Help procedures on registering users, servers, and organizational units.

If the current certifier ID does not contain recovery information, a message box displays during user, server, and organizational unit registration. The message reads "The current certifier ID contains no recovery information and will not allow ID/password recovery on IDs created with this certifier. the "EscrowAgent" ID recovery mechanism is no longer supported." You can then specify whether you want the message to display in the future by clicking Yes or No.

For information on ID and password recovery, see the chapter "Protecting and Managing IDs" in *Administering the Domino System*.

Preparing to migrate cc:Mail users

The topic "Preparing the directory for migration" incorrectly lists the syntax of the cc:Mail DIRSTAT command as follows:

```
DIRSTAT po_name po_pass po_path /DL /LU /LOG output.txt
```

The correct syntax is:

```
DIRSTAT /N po_name /P po_pass /D po_path /DL /LU /LOG output.txt
```

Server

Create replica administration request across domains

You can create a database replica across domains using the Administration Process by selecting a database and then choosing Database - Create Replica from the tools pane in the Domino Administrator. The following requests are generated:

Check access for new replica creation - Source domain

Triggered by: Initiating the Create Replica command from the Domino Administrator.

Carried out on: The server on which you initiate the action.

Carried out: Immediately

Result: Checks for the appropriate Cross-domain Configuration documents and Connection documents. Sends the Create Replica administration request to the destination domain.

Create replica - Destination domain

Triggered by: Receipt of the Create replica administration request from the source domain.

Carried out on: The server designated as the destination server in the Cross-domain Configuration document.

Carried out: Immediately

Result: Creates the replica on the designated server.

Server

Move a mail file - administration request

After the "Replace mail file fields" administration request is generated as part of the process to move a mail file from one server to another, the user must authenticate with the old mail server by opening any database on the old mail server. Following this authentication, the "Push changes to new mail server" administration request is generated.

Server

Store server's DNS host name - administration request

The Result statement in the "Store server's DNS host name" administration request process should be changed to the following:

The server's DNS host name is placed in the "Fully qualified Internet host name" field on the Basics tab in the Server document.

Server

Decommissioning a Domain Catalog server

If you want to decommission a Domain Catalog server, and have it revert back to acting as a "regular" Domino server, or to remove the server from duty entirely, you should follow these steps:

1. Ensure users are not still actively using the server you are about to decommission, and that they have specified a different server as their Catalog/Domain Search server in their Location documents.
2. Edit the Server document. On the Server Tasks - Domain Indexer tab, disable the "Domain-wide indexer" field.
3. Edit the LocalDomainCatalogServers Group document in the Domino Directory and remove the server name from the group list.
4. Delete the Domain Catalog database (CATALOG.NSF) from the server.
5. Delete the FTDOMAIN.DI subdirectory in the Domino data directory.

How document titles are selected for Domain Search results

When indexing, the Domain Indexer looks for Notes fields or items that can represent the document's title. The Indexer checks each document, in order, for the following items:

- Title
- Subject
- Headline
- Topic
- Computes the Window Title as designated by the developer of that Domino application.
- Computes the view summary using the default form and default view.

If the Domain Indexer can't find any of these items, it will return "Document has no title."

Be aware that computing the Window Title for every document requires additional CPU utilization. Administrators may omit this computation by setting the following variable in the Domain Catalog Server's NOTES.INI file:

```
FT_NO_COMPWINTITLE=1
```

For personal productivity files, for example, Microsoft Office or Lotus SmartSuite documents, we extract the title from the document properties Title field.

Result URLs in Domain Search require host name

When a browser user executes a Domain Search, results are formatted as a page of URL links to the appropriate documents.

In order for the Domain Catalog Server to form valid URLs, the Domain Catalog Server must have its host name specified in its Server document.

To insure the Server document is filled in correctly:

1. Open the Server document for the Domain Catalog Server.
2. Select the Internet Protocols tab.
3. In the first field on the HTTP tab, enter the fully qualified host name of the computer that servers as the Domain Catalog Server. (such as servername.acme.com)
4. Save and Close the Server document.

Setting up an SSL Key Ring for Domino for Microsoft IIS

Tips for setting up the SSL Server Key Ring and Installing Trusted CA Root Certificates

The following will help get you started using SSL and Domino/IIS. Please refer to the Microsoft NT 4.0 Option Pak online documentation for detailed information about using the Key Manager and setting up SSL for a Microsoft IIS Server.

Creating the Server Key Ring

1. Using the Microsoft Management Console, highlight the Default Web Site and select the Key Manager.
2. Select Key - Create New Key and enter all information for the key ring, including the common name as your Web site DNS name (for example, www.sales.com).
3. Save the certificate request to a file. Another available choice is to mail it to the Certificate Authority.

Submitting the Certificate Request

1. Using an editor or Notepad, open the certificate request file and copy the certificate to the clipboard; specifically, the text between and including the Begin Certificate and End Certificate lines.
2. If submitting this request to a Domino Certificate Authority, paste this request in the area provided under the option to Request a Server Certificate in the Domino R5 Certificate Authority Application. Most Certificate Authorities support this method.

Installing the Signed Server Certificate

1. After submitting the certificate request to a Certificate Authority, you should receive an e-mail with a pickup ID from the Domino CA.
2. Using a browser, access the Domino CA Web site and application and select Pickup Server Certificate. Enter the pickup ID. If the Microsoft Certificate Server is the CA, you are able to download the certificate to a file.
3. Copy and paste the signed certificate first to the clipboard and then to a new text file. Include the text between the Begin Certificate and End Certificate lines.
4. Go back to the Microsoft Management Console, select Key Manager, then choose Key - Install Key Certificate. Select the file that contains the signed certificate and it is merged into the key ring.
5. The key ring in the key manager must be set to default, which may be accomplished by assigning a port.
6. Restart the Web site.

Installing the Trusted Root into the local registry

For complete instructions, see the Microsoft NT 4.0 Service Pak 4 readme file.

1. If using the Domino Certificate Authority, access the Domino CA Web site with Internet Explorer 4.x, which should be located on your IIS Web server machine.
2. Select - Accept this Authority in your browser (do not select Accept this Authority in your Server). If another CA other than Domino is accessed this step will be specific to that application.
3. Select "Open this file from its current location," and then click OK.
4. Click Install certificate. If you do not receive this dialog, you may have to reinstall SP4.
5. After the Certificate Manager Import wizard has started, click Next.

6. Select "Place all certificates into the following store."
7. Click Browse, and then click "Show physical stores."
8. Expand Trusted Root Certification Authorities, select Local Computer, and then click OK.
9. Click Next, and then click Finish.
10. Restart your Web server.

Client, Server

LDAP search utility corrections

In Domino 5 Administration Help, information on the command-line LDAP search utility is incorrect as follows:

- Help incorrectly gives the name of the utility as LSEARCH.EXE. The correct name for this utility is LDAPSEARCH.EXE. Wherever LSEARCH.EXE or LSEARCH appears, the correct text should be, respectively, LDAPSEARCH.EXE or LDAPSEARCH.
- Help incorrectly states that you must use a platform-specific prefix when you run the utility. This is incorrect. No prefix is required; for example just specify LDAPSEARCH and not NLDAPSEARCH.
- For this release, the utility is available only on Windows NT and Windows 95 platforms and not on Windows 98, Windows NT Alpha, or UNIX platforms.

Server

Corporate hierarchy information

Administrators can assign hierarchy information to a person. Notes lists users according to the specified hierarchy when users can choose Find People on the Search menu to search for a person.

You assign a corporate hierarchy on the Work/Home - Corporate Hierarchy Information tab of the Person document. Level 0 is the list of categories that appear in the search list. Level 1 lists the subcategories of the categories listed in the Level 0 fields, Level 2 lists the subcategories of the categories listed in the Level 1 field, and so on.

For example, you can set up a Corporate Hierarchy for a person as follows:

	Hierarchy 1	Hierarchy 2	Hierarchy 3
Level 0:	Department name	Dept#	Location
Level 1:	Sales	224	Cambridge
Level 2:			Rogers St

The following appears when users choose Find People on the Search menu:

```

Department name
    Sales
Dept #
    224
Location
    Cambridge
        Rogers St
  
```

You can further refine the display of names by entering a Personal ranking number. This setting overrides the default sort order, which is last names sorted in alphabetical order. For example, if Phyllis Spera and Alan Jones are both in the same department and location, and Phyllis has a personal ranking of 1 and Alan Jones does not have a personal ranking, Phyllis' name appears before Alan's name. If neither Phyllis nor Alan have a personal ranking, Notes displays the Alan's name before Phyllis' name.

Server

Foreign directory sync allowed

The option "Foreign directory sync allowed" is available in Person, Group, and Mail-In Database documents in the Domino Directory. This option allows you to synchronize information in these documents with a post office directory, such as a cc:Mail post office directory or a Microsoft Exchange Address Book. Use this option when you have different types of mail systems set up at your organization and users need to send mail to users of the other mail system.

Server

Moving a user's mail file procedure

Step 6 in the topic "Moving a user's mail file" should be changed as follows:

Ignore the sentence "Edit the user's Person document in the Domino Directory to reflect the new Server name; this requires Editor access to the Domino Directory."

In Domino R5, the Person document is updated automatically during the "Move a user's mail file" process.

Server

Web page field in Person document

Users and administrators have the option to specify a Web page for a user in the Person document. This field is for informational purposes only and may be used, for example, if a user has set up a personal Web page on the organization's intranet. You must have at least Author access and the UserModifier role to edit Person documents or your name must be listed in the Administrator's field of the Person document.

To specify a Web page in a Person document

1. Select the People & Groups tab and open the Person document.
2. Choose the Miscellaneous tab and enter the URL address in the Web page field.

Server

MIME and international character set conversion options

Using a Configuration Settings document you can set up how MIME and international character sets convert on multiple Domino servers. You can indicate that you want all servers in the Notes domain to be included by entering a wildcard (*) in the group or server field or you can specify specific server names or group names that are controlled by this document. By checking the "International MIME Settings for this document" field on the Basics tab in the Configuration Settings document, it means obey the international MIME settings for the servers using this document. This allows your organization to set language groups for messages depending on the server.

MIME - Basics tab

Domino R5 supports all 16 language groups including Unicode. Some language groups support multiple character sets. You can indicate the primary (usually the most inclusive) and secondary character set group used by your organization. These fields are used when two character sets are detected during a multilingual CD-to-MIME conversion. If the character sets are the primary set/language group and another group, the primary is chosen. If the character sets are the Secondary and an unlisted group, the Secondary is chosen.

Field	Enter
Primary character set group	Choose the appropriate language or region -- for example, Western Europe -- used by your organization.
Secondary character set group	Choose the appropriate language or region -- for example, Western Europe -- used by your organization.

MIME - Conversion Options - General tab

This tab allows you to indicate whether return receipts can be requested for messages that are going either inbound or outbound from the Internet.

Field	Enter
Return receipts	Enable to allow return receipts for outbound or inbound SMTP messages. For inbound messages, it supports both disposition notifications and return receipts. (default = Disabled)

MIME - Conversion Options - Inbound tab

The fields on this tab control how inbound messages are converted.

Field	Enter
Line length	The maximum line length for the body of inbound messages, useful when a message contains long lines of text without spaces -- for example, URLs. (default = 75)
Use character set auto-detection if message has no character set information	Yes to determine the character set used in the body by examining the content; useful if your site routinely receives non-MIME messages that are encoded in character sets other than ASCII. Provides the best fidelity, but costs in performance. (default = No)

MIME - Conversion Options - Outbound tab

The fields on this tab control how outbound SMTP messages are converted.

Field	Select
Attachment encoding method	The method for encoding file attachments included with outbound SMTP mail. Choose one: - Base64 (default) - Quoted Printable - UUencode
Message Content	Determines how the message will be converted. Choose one: - Convert from Notes to Internet message format (default) - Create multi-part alternative including conversion and encapsulation. This provides true fidelity of the note and encapsulation.
Covert tabs to spaces	Enable to change tabs within text to spaces. (default = No)
Outbound line length	The maximum line length for the body of outbound messages, useful when a message contains long lines of text without spaces -- for example, URLs. If there is a table or forwarded mail headers, then the line length default is doubled so no line break occurs until 150. (default = 75)
Lookup Internet address for all Notes addresses when Internet address is not defined in document	Enable to lookup the Internet address in the Person document , if not provided in the Send To field. Disable (default) to form an Internet address by converting spaces into underscores and encoding Notes domains with percent signs. For example: John_Smith%Notes@acme.com

MIME - Settings by Character Set Groups tab

If the language must be converted, you can indicate substitutions for a default character sets or language groups. If you specify a specific character set, it will be used as the default for MIME headers and the message body character set and for encoding methods used during CD to MIME conversion.

Field	Enter
For outbound messages options below use all possible choices	Check this box to indicate that all character sets are available during configuration of the headers and body character sets. This changes the encoding options available below.
MIME settings by character set group	The language group to be used for MIME headers and the message body. (default = English)

MIME - Settings by Character Set Groups tab
Inbound Message Options - Font Options section

Field	Enter
HTML Proportional	The typeface style to be used for proportional type in inbound SMTP messages. (default = Default Serif)
HTML Mono-spaced	The typeface to be used for mono-spaced type in inbound SMTP messages. (default = Default Monospace)
HTML Size	The point size to use for HTML text in inbound SMTP messages. (default = 12)
Plain text	The typeface to be used for plain text in inbound SMTP messages. (default = Default Monospace)
Plain text size:	The point size to use for plain text in inbound SMTP messages. (default = 10)

MIME - Settings by Character Set Groups tab
Outbound Message Options section

Enter the Character set and encoding type for the header and body text of a message. This does not affect attachments. For each language (or region) there is a default character set. For example, for Western Europe the default character set is ISO-8859-1, but other Latin character sets would also be appropriate. You can indicate the specific character set and encoding to be used for outbound SMTP message headers and body content.

The following matrix shows supported combinations of Message Content versus Attachment Encoding:

Message Content Options	Base 64	Quoted Printable	UUencode
Users without Lotus Notes [MIME]	Yes	Yes	Yes
Users with & without Lotus Notes (not a recommended option)	Yes	No	No

Note: You must be a system administrator with editor access to the Administration Client to see the value choices.

Field	Choose
Header Character Set	The character set (default = character set defined in the MIME settings by character set group field.
Body Character Set	The character set (default = character set defined in the MIME settings by character set group field.
Header Encoding	The encoding method for outbound headers. Choose one: - Base 64 - Quoted Printable - None (default)
Body Encoding	The encoding method for outbound body text.

MIME - Advanced - Advanced Inbound Message Options tab

Field	Enter
Resent headers take precedence over original headers	Enable to use RFC822 re-sent headers instead of normal headers (default = Disabled)
Remove group names from headers	Enable to remove all group names from address headers (default = No)
If each recipient's address does not appear in any address header, then add their address to the BCCList	Enable resolve differences between the address in the envelope and the address in the header. Any non-RFC822 compliant address is placed in the BCC: header field of a separate copy of the message. (default = No)
For non-MIME messages or MIME messages with an unknown character set, 8-bit character set is assumed to be	Choose the character set to be used as the default if the "Use character set auto-detection if message has no character set information" field is disabled or fails to identify the character set.
Character set name aliases	Enter the substitute name for the equivalent character set to allow MIME to be converted to native MIME.

MIME - Advanced - Advanced Outbound Message Options tab

Macintosh file attachment support

Sending and receiving Macintosh attachments presents a unique set of problems. Conventional operating systems store a file as an unstructured stream of bytes, along with a small amount of descriptive information such as the file name, creation date, and so forth. The Macintosh operating system (MacOS) carries more information, and stores a file in three parts:

1. Finder information: This includes the file creator and type, which are 32-bit binary identifiers (often represented as 4-character strings), as well as the position of the file icon in the Finder window it lives in.
2. Resource fork: Structured information that can be manipulated by standard system tools; this can include strings, sounds, pictures, code segments, icons, GUI elements, and so forth.
3. Data fork: An unstructured byte stream.

When Macintosh users exchange attachments, they want all this information to be preserved. If only the data fork is preserved, then the attachment won't have the correct icon, cannot be launched, and may be completely useless.

RFC1740 vs. BinHex

The traditional way Macintosh users have coped with this problem is to encode Macintosh files using an encoding called BinHex. This encodes all three parts of a Macintosh file in a single text file using a subset of the ASCII character set. BinHex-encoded Macintosh files can be safely mailed or stored on non-Macintosh systems, and when decoded on a Macintosh the resulting file is intact.

BinHex is fine for Macintosh-to-Macintosh use, but often a Macintosh user wants to send a file containing valid cross-platform data -- for example, a JPEG image, a QuickTime video, or a Lotus 1-2-3 spreadsheet -- to a colleague who is using a PC. BinHex isn't as suitable for this case. Although there are freely available utilities for PCs that let them decode BinHex attachments, using such a utility entails an extra manual step (not to mention the trouble of obtaining and installing the utility in the first place). Because of

this, the Internet community defined a standard, called RFC1740, for mailing Macintosh attachments that preserves maximum fidelity for Macintosh users and yet permits cross-platform data to be received in a useful form by non-Macintosh users. In most cases, RFC1740 encoding is used to send Macintosh file attachments.

MIME encoding for Macintosh attachments outbound (Notes to Internet)

Standard RFC1740 encoding occurs for outbound MIME processing and when the "Outbound Macintosh attachment conversion" field is set to "AppleDouble (base64 only)". If the attachment contains a resource fork, the Notes format to MIME converter always sends the resource fork, followed by the data fork. The MIME-to-Notes format converter handles the forks in either order. If the attachment does not contain a resource fork, the data fork is sent "normally" (as a standard MIME type if it can be recognized as such).

If the message is sent outbound as MIME and "Outbound Macintosh attachment conversion" is set to "BinHex", and it goes through a Notes format to MIME conversion, then the attachment is sent as application/mac-binhex40.

In all cases, the attachment is accompanied by the MIME "x-mac-type" and "x-mac-creator" parameters so that even if there is no "application/applefile" part, the receiving user agent can store the attachment with the correct type and creator, allowing the attachment to be launched properly.

Inbound (Internet to Notes)

Inbound, AppleSingle, AppleDouble, and BinHex are supported. Macintosh attachments of any encoding are stored as normal Notes Macintosh attachments; if the data fork would be meaningful to a PC user, then a PC Notes user can launch the attachment normally.

In these examples, unless noted otherwise, when we say that an attachment can be detached and launched normally, or can be launched from within Notes, we assume that the user has the application needed to open the attachment properly installed on his or her system. Also, we assume that MIME-compliant user agents are used.

1. A Macintosh Netscape user sends a JPEGview file containing a JPEG image (with no resource fork, which would be the normal case) to two recipients: both are Notes users, one uses a Macintosh and one uses a PC.

Both receive the attachment intact. If the Macintosh user has JPEGview, the attachment displays with the JPEGview file icon, and can be launched from within Notes. If the Macintosh user does not have JPEGview, the attachment displays with a generic file icon and cannot be launched from within Notes. For the PC user it also has a generic icon; it can be launched from within Notes only if its name ends in .JPG and the user has an application association set up for the .JPG extension. In all cases, the image can be viewed from within Notes by using the "Attachment - View" function.

2. A Macintosh Claris Emailer user sends a 1-2-3 spreadsheet to two Notes users; one who uses a Macintosh and one who uses a PC.

Both recipients receive an intact 1-2-3 spreadsheet attachment. The Macintosh recipient can launch it from within Notes, or can detach it and double-click to launch -- regardless of the name given to the attachment.

The PC user can launch it from within Notes, or detach it and double-click to launch, only if the filename ends in .WK1, WK3, .123, or some other extension associated with the Lotus 1-2-3 application. (This is a restriction of Windows and has nothing to do with Notes.)

3. A PC Notes user sends a 1-2-3 spreadsheet to a Macintosh Claris EMailer user.

The PC user would have to save the spreadsheet as a 1-2-3 R1 spreadsheet, since it is the most recent version of 1-2-3 available on the Macintosh. This is encoded with the MIME type "X-Lotus-123R1", a private MIME type defined by Lotus. Since this is a private MIME type, normally Claris EMailer would not understand it, so the attachment would contain correct data but could not be directly launched. It could be opened manually by first launching 1-2-3 and using the File - Open command.

As an alternative, Claris EMailer uses the file mapping table maintained by Internet Config (a widely used free software utility) to look up MIME types and map them to Macintosh file type and creator codes. It's easy to use Internet Config to add a mapping for the "X-Lotus-123R1" type. If this is done first, then the attachment in this example can be directly launched on the Macintosh.

Field	Enter
Macintosh attachment conversion	The format for Macintosh attachments. Choose one: <ul style="list-style-type: none"> - AppleDouble [Base64 only] (default) - BinHex4.0
RFC822 phrase handling	The way that phrases are handled within an address header. Choose one : <ul style="list-style-type: none"> - Do not add phrase (default) - Use DN as phrase (Use domain name for the phrase) - Use alt. name if available - otherwise DN (Use the alternative name or domain name) - Remove phrase
Internet mail server sends Notes private items in messages	Enable to send non-standard Internet items to IMAP or POP3 clients. This allows all Notes header items that are not in RFC822. (default = Disabled)
Notes fields to be removed from headers	List of Notes item names that are not be included in outbound Internet messages if you have enabled Notes private items to appear in messages (see previous field).
When converting a multilingual message	The character set that is chosen for a message containing more than one language group, where some character sets may not include all the characters of the other. Choose one: Send it in Unicode [UTF8] Send it in most representable character set
Character set name aliases	Enter the substitute name for the equivalent character set to allow MIME to be converted to native MIME.

The server directory catalog and directory assistance

The information in **bold** below in the topic "The server directory catalog and directory assistance" in Chapter 15 of *Administering the Domino System* and in Domino 5 Administration Help is not correct. The text should instead say that if a directory catalog cannot satisfy a request -- for example, if an LDAP client searches for a field that isn't configured in the directory catalog -- the search only extends to the complete directory if you set up directory assistance for that directory.

A server always searches its primary Domino Directory and then searches the directory catalog on the server, if a directory catalog is configured on the server, before it uses directory assistance. In general, it's best to set up both a server directory catalog and directory assistance. The server directory catalog can often satisfy requests -- for example, mail addressing requests -- so that a server needs to search only the directory catalog and not multiple secondary directories.

Each entry in the directory catalog includes the replica ID of the Domino Directory from which the entry was derived and the UNID for the entry, a unique ID associated with a replicated document. In the cases where the directory catalog can't satisfy a search -- for example, to process LDAP searches of fields not included in the catalog -- a server uses this information and information available through directory assistance to very quickly access the complete entry in the secondary Domino Directory.

It's not necessary to set up the same secondary Domino directories in the server directory catalog and in directory assistance. If you set up a secondary Domino Directory in directory assistance but not in the server directory catalog, a server searches the secondary Domino Directory after searching the directory catalog. **If you include a secondary Domino Directory in the server directory catalog configuration but do not configure the directory in directory assistance, if a server needs to search the secondary Domino Directory the server uses document links in the directory catalog to locate entries in the complete directory.** These are less efficient searching procedures than when directory assistance and the directory catalog are used together.

Corrections to Network Configuration topics

In the following Network Configuration topics, the text "Notes Preferences" should be replaced with "User Preferences":

- Locating Domino on an IPX/SPX network
- Port configuration options for NetBIOS
- Port configuration options for SPX
- Running a Notes workstation and AppleTalk on the Macintosh
- Running Domino on LAN Server on OS/2 Advanced Warp Server
- Setting up Domino and AppleTalk on Windows NT
- Setting up multiple TCP/IP ports

FTG_Index_Limit

Domino uses a default maximum size of 6 MB for full-text index files. If you have a database with large attachments that you want to full text index, you can increase the default size using the NOTES.INI variable FTG_Index_Limit = xxx, where xxx is the number in MB that you want to use as the maximum size.

Server

Settings for troubleshooting HTTP/SSL

There are two new NOTES.INI settings that allow administrators to troubleshoot HTTP connections using SSL.

ReportSSLHandshakeErrors=1

Reports HTTP SSL handshake errors to the console and LOG.NSF. You may want to set this by default, since it only reports errors

TraceSSLHandshake=1

This allows you to follow the handshake details on the console and in LOG.NSF to better pinpoint errors.

Server

Adding a Notes or Internet cross-certificate on demand

You cannot add an Internet cross-certificate on demand if the Internet certificate of a user exists in an LDAP directory.

Server

Mail encryption

Step 3 in the S/MIME section of the topic "Mail encryption" is missing information. If a Notes client is sending encrypted S/MIME mail, Notes looks for the recipient's Internet (x.509) certificate in the Personal Address Book, Domino Directory, or LDAP directory to which the client has access. If found, Notes looks in the client's Personal Address Book for a cross-certificate that indicates that the Internet certificate can be trusted. If the certificate can be trusted, Notes encrypts the message with the recipient's public key found in the Internet certificate. If no certificate for the recipient is found, the sender receives a warning that encryption is not possible for this recipient. The sender is then given the choice of not sending the message or sending it unencrypted.

If a cross-certificate cannot be found, the sender is given the choice of creating a cross-certificate for the recipient and sending the encrypted message.

The section "To encrypt outgoing mail" in the "Encrypting mail" topic is missing information. Senders of encrypted S/MIME mail must have a cross-certificate stored in the Personal Address Book that indicates whether the Internet certificate of the recipient can be trusted.

Server

Obtaining certificates and cross-certificates for S/MIME

To read S/MIME-signed mail, clients must have a cross-certificate for the signer or the signer's CA. To send S/MIME-encrypted mail, clients must have a cross-certificate for the recipient or the recipient's CA and clients must have the recipient's Internet certificate. The recipient's Internet certificate can be stored in the sender's Personal Address Book, the Domino Directory, or LDAP directories. The cross-certificate must be stored in the sender's Personal Address Book. Notes searches for these certificates in these locations and uses them automatically if found.

Some S/MIME products automatically trust certain certificate authorities. By requiring Internet certificates and cross-certificates, Notes gives you more flexibility and control over the people you want to trust.

Adding Internet certificates

To add a recipient's Internet certificate to the Personal Address Book or Domino Directory, you can add the certificate to the Contact or Person document when you receive a signed mail from the recipient. To do so, choose Tools - Add Sender to Address Book.

Adding cross-certificates

You can use several methods to add a cross-certificate. If you add a cross-certificate for one person, you can send encrypted mail only to that person and read signed mail sent only by that person. If you add a cross-certificate for a CA, you can send encrypted mail messages to and read signed mail messages from all users who have certificates issued from that CA.

To add a cross-certificate, do one of the following:

1. Add a cross-certificate for the person by opening the Contact or Person document in the Personal Address Book or Domino Directory and choose Actions - Create Cross Certificate. You can use this method only if the person is in the Personal Address Book or Domino Directory. You cannot use this method if the person is in an LDAP directory. For more information on this method, see the Security section of Domino 5 Administration Help.
2. Add a cross-certificate for the person's CA by choosing File - Tools - Add Internet Cross Certificate. For more information on this method, see the Security section of Domino 5 Administration Help.
3. Copy a cross-certificate for the person's CA from the Domino Directory to the Personal Address Book.
4. Add a cross-certificate for the person's CA from the Personal Address Book template.

For information on the methods in items 3 and 4, see the steps below.

To add a cross-certificate to the Domino Directory

In order to send encrypted mail, cross-certificates must be stored in the sender's Personal Address Book. In order to verify a signature on a signed mail message, the signer's cross-certificate must be stored in the Personal Address Book. The Domino administrator can add cross-certificates to the Domino Directory so users can easily copy the cross-certificate to their Personal Address Books. In most cases, the Domino administrator creates a cross-certificate to the person's CA instead of the person's Internet certificate so all users who have certificates issued by that CA will be trusted.

Administrators can add a cross-certificate to the Domino Directory from an Internet server using File - Tools - Add Internet Cross Certificate. For more information on this method, see Domino 5 Administration Help.

Domino automatically adds commonly-used Internet certificates to the Domino Directory when you install the server for the first time. You can create cross-certificates from these Internet certificates. If you are upgrading, you must create the cross-certificate from the Domino Directory template (PUBNAMES.NTF) instead of from the Domino Directory, since replacing the design on the Domino Directory does not automatically add these Internet certificates to the Domino Directory. Adding cross-certificates to the Domino Directory makes these certificates available to all users in your organization.

1. Open the Domino Directory or the Domino Directory template (PUBNAMES.NTF).
2. In the Server - Certificates view, open the Internet Certifier for which you want to create a cross-certificate.
3. Choose Action - Create Cross Certificate.
4. Select the certificate you want to cross certify and click OK.

5. Click the Certifier button to select the organization certifier ID file.
6. Select Server and specify the server on which you want to create the cross-certificate.
7. (Optional) Select a Subject name, Subject alternate name, and Expiration date.
8. Click Cross Certify.

Domino adds the cross-certificate to the Domino Directory on the server you specified in the Certificates view, Internet Cross Certificates category.

Users can also create a cross-certificate that is only available to that user in the Personal Address Book. Similar to the Domino Directory, the Internet certificates are added to the Personal Address Book the first time the client is installed. If the user is upgrading, then the user needs to create the cross-certificate from the Personal Address Book template (PERNAMES.NTF). Users can follow the steps above using the Advanced - Certificates view in the Personal Address Book template (PERNAMES.NTF) and add the cross-certificate locally to their Personal Address Book.

To copy a cross-certificate from the Domino Directory to the Personal Address Book

After the administrator adds the cross-certificate to the Domino Directory, clients can add the cross-certificates to the Personal Address Book.

1. From the Notes client, open the Domino Directory.
2. In the Server - Certificates view, select one or more cross-certificates to add.
3. Click Copy to Personal Address Book.

Notes adds the cross-certificates to the Personal Address Book, in the Advanced - Certificates view, in the Internet cross-certificates category.

Server

Securing messages with S/MIME

To set up Notes clients to encrypt mail messages using S/MIME, the client needs:

- The recipient's Internet certificate stored in the Personal Address Book, Domino Directory, or LDAP directory.
- A cross-certificate stored in the Personal Address Book. This cross-certificate must be issued to either the recipient's Internet certificate or to the recipient's certificate authority (CA). If a cross-certificate is issued for a recipient's Internet certificate, only messages to that recipient can be encrypted. If a cross-certificate is issued to the recipient's CA, you can send all recipient's that have a certificate issued by that CA encrypted messages.

To set up Notes clients to decrypt S/MIME-encrypted messages, the client needs an Internet certificate stored in the Notes ID file.

To set up Notes clients to send signed messages using S/MIME, the client needs an Internet certificate stored in the Notes ID file.

To verify an electronic signature message, the Notes client needs a cross-certificate stored in the Personal Address Book. This cross-certificate must be issued to either the signer's Internet certificate or to the signer's CA. If a cross-certificate is issued to the signer's Internet certificate, only messages to that signer can be verified. If a cross-certificate is issued to the signer's CA, you can verify signatures on all messages signed by users that have certificates issued by that CA.

The trusted root certificate is necessary only when the client creates the cross-certificate. After the cross-certificate is created in the Personal Address Book, trust for the recipient's Internet certificate (S/MIME encryption) and trust for the signer's Internet certificate (S/MIME signatures) can be established.

For information on obtaining Internet certificates and cross-certificates, see Domino 5 Administration Help.

Server

Setting up Notes clients for SSL

The documentation incorrectly states that a trusted root certificate is necessary for a Notes client to use SSL. A trusted root certificate is necessary to create a cross-certificate; however, once that cross-certificate is created, the trusted root certificate is no longer necessary.

Server

Using a view name in the Domino Directory to control access

The chapter "Controlling Access to Servers" includes topics that incorrectly state that you can control access by specifying *People in the Server document field. Instead of using *People, use *(\$Users) to allow access for all users listed in the (\$Users) view.

This change affects the following topics:

- Controlling access to a passthru server or passthru destination
- Restricting users from monitoring databases on a server
- Controlling creation of databases and replicas
- Setting up Notes user and Domino server access to a Domino server

Server

Using cross-certificates for access and secure S/MIME

The topic "Using cross-certificates to access servers and send secure S/MIME messages" contains incorrect information about Internet cross-certificates. Internet cross-certificates ensures the sender of an encrypted message that the Internet certificate of the recipient is valid. In addition, the cross-certificate ensures the recipient of a signed message that the signature used to sign the message is valid.

Internet cross-certificates are stored in Certifier documents in the Personal Address Book.

Server

Notes Modem Configuration template is obsolete

The topic "System and application templates" in Domino 5 Administration Help incorrectly includes the Notes Modem Configuration template (MODEMS.NTF). This template is obsolete.

Setting up transaction logging

In the topic "Setting up transaction logging," the following sections should be corrected to read as follows:

To change the log path

1. Perform a full backup of all databases.
2. Edit the "Log path" field, and then save the Server document.
3. Stop the server and use the operating system to move the existing log files to the new path.
4. Restart the server so that the changes take effect.

To re-size the log

1. Perform a full backup of all databases.
2. Edit either the "Maximum log space" field or the "Use all available space on log device" field, and then save the document. As Domino logs transactions, changes take effect; you do not need to restart the server.

To change logging style

1. Perform a full backup of all databases.
2. Edit the "Logging style" field, and then save the Server document.
3. Restart the server so that the changes take effect.
4. Perform another full backup of all databases because Domino assigns new DBIIDs to all databases.

Last-Modified header supported for Domino URLs

Domino R5 now sends a Last-Modified header with most Domino responses. This often results in a performance enhancement, since it enables many Web browsers or proxy servers to cache Domino pages.

The HTTP Last-Modified header indicates the date and time that the information in the server response was last modified. For traditional Web servers that store HTML pages and images in the file systems, the Last-Modified time is the last modification time of the file.

Browsers use Last-Modified HTTP header to manage the browser's local cache, depending the user's chosen configuration. Typically, when a user requests a page that is in the browser's cache, the browser sends the page request to the server along with the HTTP header If-Modified-Since, indicating the modification time of the cached page. The server checks the If-Modified-Since header against the time of the page on disk. If the page has not been updated since that time, the server sends back a "Not modified" status code, which informs the browser that it can redisplay the cached page. If the page has been modified, the server sends back the entire new page.

Domino calculates the Last-Modified time for different kinds of requests as follows:

Files in the file system	Last-Modified is set to the modification time of the file according to the operating system. This is also supported by Domino R4.5x and R4.6x.
File attachments and other embedded objects in a Domino database	Last-Modified is set to the modification time of the document to which the object is attached.
Other Domino database requests	<p>Last-Modified is set to the "database modification time", which is the last time that the database was modified (which is essentially the last time any document or design element in the database was modified). The database modification time is displayed in the database properties box.</p> <p>For these requests, Last-Modified headers are most effective for databases which do not change often such as a help-desk or product-catalog database.</p>

Domino does not send Last-Modified headers in response to the following types of requests:

- Pages whose content is dependent on the current time (such a field formula that uses @Now) or whose time dependencies cannot be efficiently determined (for example, a field formula that uses a @DbColumn which references another database)
- OpenAgent
- OpenNavigator
- CreateDocument
- EditDocument
- SaveDocument
- DeleteDocument

Server

Setting up the Server document for the NNTP service

While setting up the Server document, you need to define the following News Reader parameters:

- Allow Posting - Select one of these:
Yes (default) to allow newsreader clients to post articles.
No to prevent all newsreader clients from posting articles.
- Maximum post size - Maximum size for an article (in kilobytes) that a newsreader client can post to a newsgroup. The default is 1024 KB.
- Maximum connection size - Maximum size allowed for combined articles in a client session. The default is 10 MB.
- Connection timeout - Length of time in seconds for the Domino NNTP server to keep an idle newsreader client session open. The default is 600 seconds (ten minutes).
- Maximum connections - Maximum number of simultaneous newsreader client connections allowed. The default is 20.

Using Web client certificates with Domino for IIS

Domino for IIS supports using client certificates alone or in combination with any of the other authentication options. In all cases we rely on IIS to verify the certificate signer. The certificates do not have to be stored in the Domino Directory since Domino for IIS uses the common name from the certificate sent from IIS. No configuration of Domino is necessary other than enabling client certificates on the SSL port.

Here is a step-of-step description of how authentication works with client certificates:

1. The user opens an SSL connection to IIS and presents a client certificate.
2. IIS verifies the certificate signer.
3. On every Domino request made during the SSL session, IIS passes the client certificate to Domino. IIS will also pass a user name with the request if any of the following conditions is true:
 - Client certificate mapping is enabled in IIS. In this case, the user name is the mapped NT account name.
 - Certificate mapping is not enabled, but Basic Authentication is enabled in IIS and the browser has sent a basic authorization header. In this case, the user name is the name entered by the user into the browser.
 - Certificate mapping is not enabled, but NTLM is enabled in IIS. In this case, the user name is the user's NT account name.
4. Domino does a lookup of the certificate common name in the Domino directory. If the lookup succeeds, Domino maps the user to the distinguished name specified in the directory. Domino uses the distinguished name for ACL checking. Domino also sets the CGI variable REMOTE_USER to the distinguished name.
5. If Domino does not find the certificate common name in the directory, but IIS also passed a user name with the request, then Domino does a lookup of the user name in the directory. If that lookup succeeds, Domino maps the user to the distinguished name as described above. If the lookup fails, then Domino returns a 401 error.
6. If Domino does not find the certificate common name in the directory, and IIS did not send a user name with the request, then Domino authenticates the user as Anonymous, if Anonymous is enabled for the SSL port. If it is not enabled then Domino returns a 401 error.

Client Certificate Scenarios & SSL tips

Scenario 1: How do I use my existing IIS client certificates mapped to NT User Accounts with Domino/IIS?

This scenario represents an existing MS IIS configuration with SSL, including client certificates already in use and mapped to NT accounts. All users requiring access to protected Domino databases that are defined by an existing NT user account mapped with a client certificate need a corresponding Person document in the Domino Directory. Domino needs to authenticate the user by verifying the name in the user name field of the Person document. The user name field must either include the certificate's common name or NT account name as an alias, and then be mapped to a Domino Distinguished Name.

The first example below demonstrates the common name on the user certificate mapped to a Domino Distinguished Name. The second example below demonstrates the NT account name mapped to the Domino Distinguished Name. The ACL setting on the database only authorizes the first entry in the user name field. In this scenario, IIS validates the client certificate, and if it exists in the Domino directory it

would not be used. The SSL port settings in Domino are honored and are enabled by default for anonymous, basic and client certificate authentication.

Joe Smith/CorpSales
Joe Smith
.....any other aliases

or

Joe Smith/CorpSales
SALES\JSmith
.....any other aliases

Scenario 2: How do I use my existing Domino client certificates currently registered in Domino and continue to register new users?

When using Domino for IIS, IIS handles the actual SSL connection. If you currently use SSL and have a Domino Server Key Ring configured, it is not used and you need to create one for IIS. All users registered in the Domino Directory with a client certificate continue to use their existing client certificates for database authorization to protected Domino databases. To achieve this, IIS's Directory Security must be enabled for Anonymous access and set to Accept Client Certificates. Users with client certificates must be able to authenticate with the IIS server "Anonymously" and also send the client certificate following the request from IIS. Domino must also have client certificate authentication enabled in the Server document. Registering new client certificates may continue, using the Domino CA Application, after creating Person documents in the Domino Directory. The user name field for this scenario may be the same as scenario 1. If the user has an NT Account, this may also be used as an alias.

Benefits for implementing this option:

- Users can access Domino servers elsewhere (without IIS) to take advantage of features such as Domino clustering
- Circumvents the IIS certificate authentication
- Do not have to create NT user names for the certificates

Managing Domino Databases

Designer, Server

Maximum database size

Chapters 1 and 8 in the book *Managing Domino Databases* incorrectly state that the maximum size a Release 5 database can attain is 32GB. This is true only for databases on OS/2 servers; databases on Windows and UNIX platforms can be as large as 64GB.

Client

Name of User Activity button incorrect

The topics "Viewing database activity statistics generated by the Statlog task" and "Managing database activity recording in databases" in Chapter 9 of *Managing Domino Databases*, in Domino 5 Designer Help, and in Domino 5 Administration Help state that you should click the User Activity button on the Info tab of the database properties box to view and manage user activity statistics. The name of this button is actually User Detail.

Moving to Notes and Domino Release 5

Client, Designer, Server

Correction to print topic Upgrading databases and applications

In the topic "Upgrading databases and applications" in Chapter 8 of *Moving to Notes and Domino Release 5*, the following text in **bold** is incorrect and should be ignored:

2. Upgrade the server and database format to R5, but leave the database design and features at R4.

All clients can access the database without issue, **but R4 clients cannot make local replicas of the database without specifying that it should be an .NS4 replica.** There should be no problems with the upgrade -- compact the database to the new ODS.

3. Upgrade the server, database format, database design, and database features to R5

R4 clients cannot use R5 features and cannot make a local replica of the database without specifying that it should be an .NS4 replica. You may need to make changes to the application to use new features. Compact the database to the new ODS, replace the R4 design with the R5 design, and add new R5 features as wanted.

The online version of this topic, in Domino 5 Administration Help, is correct.

Server

Forcing Release 5 mail hubs to convert inbound Internet mail

You can add the variable `MailConvertMIMEOnTransfer=1` to the Domino server's `NOTES.INI` file to force the server to convert inbound mail from the internet from MIME to the format specified in each recipient's Person document in the Domino Directory. This setting causes the router on the Release 5 server to mimic the functionality of the Release 4 SMTP/MIME Message Transfer Agent. If you do not set this variable, the R5 router forwards the native MIME messages to the next hop servers. Any necessary conversion takes place on delivery to the user's mail file.

Server

Maximum requests over a single connection

In R5, the default value for the field "Maximum requests over a single connection" on the Internet Protocols - HTTP tab of the Server document is 1. In Release 4.6, the default value was 5. This change improves performance. If you are upgrading an R4 server to R5, the value you set in this field is preserved and does not change.

Client, Designer, Server

Mixed-release environments with allowing more fields

Databases in R5 format (On Disk Structure, or ODS) can have up to 64,000 fields by enabling the option "Allow more fields in database" on the Advanced tab of the Database Properties box. Databases in R4 format and R5 databases that do not have this option enabled can have up to 3000 fields (where the total length of the concatenated field names is less than 64KB).

Enabling "Allow more fields in database" lets you create more fields in a database but keeps some features, such as full-text indexing, searching by form, and populating the field list in the Design pane of Domino Designer, from working. Also, replication between a database with the "Allow more fields in database" enabled and a replica of that database on an R4 server fails. You cannot create a new replica of a database that has this option enabled on an R4 server.

Lotus recommends that customers not enable the option "Allow more fields in database" for databases with replicas on both R5 and R4 servers.

Server

New R4.6x servers in Notes domain with R5 hub

If you add an R4.6x server to a Notes domain which has an R5 hub server, change the Home URL field on the Internet Protocols - HTTP tab of the Server document for the R4.6x server. The default setting for the Home URL field is:

```
/homepage.nsf?Open
```

Homepage.nsf is an R5 database. Change the entry in the Home URL field to a URL you want users to see when they open the server, such as with a `?OpenServer` command, from a browser.

To change the Home URL field

1. From the Domino Administrator, click the Configuration tab.
2. Expand the Server Configuration section.
3. Click "All Server Documents."
4. Double-click the Server document for the server for which you want to change the Home URL field.
5. Click Edit Server.
6. Click the Internet Protocols - HTTP tab.
7. Under the Mapping section, enter the Web page or database that users should see when they access the server with a browser.
8. Click Save and Close.

If you set the Home URL field to:

`/?Open`

or

`/?OpenServer`

to allow users to see a list of the databases on the server, you must also do the following:

1. From the Domino Administrator, click the Configuration tab.
2. Expand the Server Configuration section.
3. Click "All Server Documents."
4. Double-click the Server document for the server for which you want to change the Home URL field.
5. Click Edit Server.
6. Click the Internet Protocols - HTTP tab.
7. Select Yes for the field "Allow HTTP clients to browse databases."
8. Click Save and Close.

If you do not make this change, Web clients try to browse the list of databases, but get an error because they are not authorized to do so. In R4.6x, the default setting for "Allow HTTP clients to browse databases" is Yes. In R5, the default setting is No.

Setting message format preferences for users

The Release 5 Domino Directory Person document sets a user's message preference in the field "Format preference for incoming mail" on the Mail tab. There are three choices:

- Prefers MIME. Messages in Notes rich text format are converted to MIME on delivery to the user's mail file. This is the preferred setting for users who access mail using POP3 or IMAP.
- Prefers Notes rich text. Messages in MIME format are converted to Notes rich text on delivery to the user's mail file. This is the preferred setting for users who access mail using a Release 4 Notes client.
- No Preference. Mail is delivered to the user's mail file in either format -- Domino does not convert the format. This is the preferred setting for users who access mail using a Release 5 Notes client.

When you register a new user in Release 5, you select their mail system: Notes, POP3, IMAP, etc. Domino sets the "Format preference for incoming mail" field based on this selection:

- If the user's mail system is Notes, the setting is No Preference.
- If the user's mail system is POP3 or IMAP, the setting is Prefers MIME.

If you want to change this setting for a user, register the user and then edit their Person document in the Domino Directory. Registration does not allow you to edit this setting. These default settings work best with Release 5 and provide the best performance since they minimize conversion between formats.

If you want to register new Release 4 users, use a Release 4 client to register them.

If you upgraded to Release 5 from a version of Release 4 prior to 4.6, the Person document did not have a setting for message format preference. Thus, the field is blank for users registered under R4. Domino interprets a blank field as Prefers Notes rich text. To change this, edit the Person document and select a different setting.

Note: If you edit one of these upgraded Person documents and do not change the field's setting, the document is saved with the default setting of No Preference. For R4 and POP/IMAP users, you should alter the setting to the proper selection.

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Chapter 5 - Interoperability

Client Interoperability

Administrator Client, Client, Designer

Cannot use R5 to open R4 database on read-only media

When you open an R4 database, R5 clients rebuild views so it can be properly opened in R5. In order to rebuild the views, R5 needs write access to the media storing the R4 database. If the R4 database is stored on read-only media, such as a CD-ROM, then R5 cannot rebuild the views and cannot open the database. You must copy the R4 database to read-write media, such as your hard drive.

An example of this is the README.NSF file supplied on the root of R5 installation CDs. It is an R4 database; you can use an R4 client to open the database directly from the CD-ROM. If you want to open it using an R5 client, you must copy it from the CD-ROM to a hard drive.

Designer

Case and accent sensitive sorting in view columns

In R4, the view column properties "Case sensitive sorting" and "Accent sensitive sorting" meant if two strings were the same without regard to case or accent, then the case and accent would be used to try to differentiate them. This meant that most of the time, case and accent-sensitive sorting was not used.

In R5, the two properties mean to sort with regard to case and accent all the time. This is fundamentally different than it was in R4. For this reason, an R4 database converted to R5 defaults to not having the properties selected.

Client, Designer

Do not start Notes R4.6 with Designer R5 still active

It is not recommended to start the Notes R4.6 client if the Domino Designer R5 client is still active. Close Designer R5 before starting the R4.6 client.

Client

Notes 4.x cannot open a Notes R5 mail or calendar file

Earlier versions of the Notes client cannot open a Notes R5 mail or calendar file.

Client, Designer

R5 embedded elements lost if form design saved in R4

In R5, you can embed an Outline, Date Picker, or Group Scheduling Control in a form. If you then edit and save this form in R4.x, the embedded elements are no longer displayed. The new elements in R5 can't be correctly saved in R4 because R4 treats hotspots differently than R5. You can click where they were to select them and get the embedded element properties box, but they never display, either in form design or document, even after re-saving in R5. You need to delete and re-add the elements in R5.

Client

Server-based password checking with mixed R4/R5 clients

If a single user uses both R4 and R5 clients with Domino servers that have "Check Passwords on Notes IDs" enabled, there may be problems when that user changes passwords. In particular, a password set on an ID file using R4 will not match the same password set on an ID file using R5, and the user is likely to get error messages of the form "Your password does not match the one stored in your entry in the server's Address Book." The workaround is to copy the user's ID file from the client where authentication is successful to the clients where it fails.

Client

Sharing ID Files between R5 and R3

ID files are fully backwards and forwards compatible between R4 and R5. There are, however, certain R4 and R5 operations that render an ID file unreadable by R3 clients. The new operations in R5 are:

- Adding recovery information so that the ID file can be recovered even if the user forgets the password
- Adding Internet X.509 certificates to the ID file

If either of these operations is required for a user who still uses R3, a separate copy of the ID file should be kept for that purpose and that copy of the ID file should never be used with an R5 client.

Client

Using private views

During R5 installation, desktop information migrates to the DESKTOP5.DSK and BOOKMARK.NSF files. Private view information is stored in these files, which means that R5 is storing private view information in a different file than in R4. For most situations, this presents no difficulties. However, if you are switching between using R4 and R5 clients, note that private folders you create in a database with the R4 client may not be visible when you look at the same database with an R5 client.

The workaround for this is to delete your R5 DESKTOP5.DSK and BOOKMARK.NSF files and allow the R5 client to rebuild them from the R4 client files. This enables you to see private views created with the R4 client. This workaround should be used carefully, because using it causes you to lose all R5 private views and all custom bookmarks.

Designer Interoperability

Designer

Compatibility between R4 and R5 Designer

Once you begin using R5 Designer with a database, you must continue to use R5 Designer. If you later use the R4 Designer with the database, your changes may not be visible to all users. For example, if you save a form using R5 Designer, any subsequent changes to actions using R4 Designer will not be visible to R5 clients.

Designer

R5 formula agents not compatible with R3

Any formula agent created, enabled or disabled by R5 is not compatible with R3 servers.

Mail Interoperability

Client

Switching from Prefers MIME

If, after using the "Prefers MIME" setting for some time and switching to "No Preference" or "Prefers Notes Rich Text," any attachments that were stored while receiving messages in the "Prefers MIME" mode are only readable from R5 clients and not R4 clients. In R4 clients, the attachments do not launch and if detached, they will be in Base64 (encoded) form.

Server

Upgrade R4.6 LDAP servers to R5

An R4.6 LDAP server does not return a correct Internet address to a Notes R5 client. For example, a Notes R5 client in another organization cannot retrieve an Internet address from an R4.6 LDAP server in your organization. If you want this capability, upgrade all R4.6 LDAP servers to R4.63 or R5.

Server Interoperability

Server

Adding R4.6x server in Notes domain with R5 hub server

If you add an R4.6x server to a Notes domain which has an R5 hub server, change the Home URL field on the Internet Protocols - HTTP tab of the Server document for the R4.6x server. The default setting for the Home URL field is:

```
/homepage.nsf?Open
```

Homepage.nsf is an R5 database. Change the entry in the Home URL field to a URL you want users to see when they open the server, such as with a ?OpenServer command, from a browser.

To change the Home URL field

1. From the Domino Administrator, click the Configuration tab.
2. Expand the Server Configuration section.
3. Click "All Server Documents."
4. Double-click the Server document for the server for which you want to change the Home URL field.
5. Click Edit Server.
6. Click the Internet Protocols - HTTP tab.
7. Under the Mapping section, enter the Web page or database that users should see when they access the server with a browser.
8. Click Save and Close.

If you set the Home URL field to:

```
/?Open
```

or

```
/?OpenServer
```

to allow users to see a list of the databases on the server, you must also do the following:

1. From the Domino Administrator, click the Configuration tab.
2. Expand the Server Configuration section.
3. Click "All Server Documents."
4. Double-click the Server document for the server for which you want to change the Home URL field.
5. Click Edit Server.
6. Click the Internet Protocols - HTTP tab.
7. Select Yes for the field "Allow HTTP clients to browse databases."
8. Click Save and Close.

If you do not make this change, Web clients try to browse the list of databases, but get an error because they are not authorized to do so. In R4.6x, the default setting for "Allow HTTP clients to browse databases" is Yes. In R5, the default setting is No.

Server

Cluster Replicator and the Public Directory Profile

If you run a R4.63a, or lower, server in the same domain as an R5 server and there is a cluster in the domain, the Cluster Replicator removes entries in the Public Directory Profile. To prevent this, the following enhancement was added to R4.6.3b:

SPR# SALR3Y8NZH - Fix a problem with profile documents not being replicated via the cluster replicator.

R4.6.3b will be a required minimum for cluster replication with R5 Domino servers.

Server

Error message using LDAP 4.6x server for authentication

If you set up an LDAP directory assistance document on a Domino Web server so that the server uses names and passwords in a Public Address Book on a Domino 4.6 LDAP server, authentication fails if Web users provide a distinguished name with two cn components-- for example, "cn=qa/cn=recipients/ou=acmeqa/o=acme." The server logs this error message:

```
Failed search on LDAP Server xxxxxx(server name).com Reason: Insufficient access.
```

Server

Free time information not always removed in mixed clusters

The new R5 Schedule Manager does not flush a user's free time information if their home server is a cluster mate. It incorrectly assumes that all cluster mates are R5 servers. However, this is not always true because Notes clustering is available in R4.x, which does not have clustered free time information.

For example, a user on Server A (R5) moves to Server B (R4.64). Server A does not flush the user's free time information and as a result, all other R5 cluster mates have old or inaccurate information. Since Server B is pre-R5, it does not handle clustered free time information and does not maintain the information used by Server A.

To solve this, the administrator should delete the user's entry in the CLUBUSY.NSF database.

This is not an issue with R5 servers that are not clustered; the free time system works with R4.x.

Interoperability issues in a mixed cluster

If you are using clusters that contain some Domino R5 servers and some Domino R4.x servers, keep the following in mind when you set up mail databases:

- The R5 mail template does not work properly on R4.x servers. If a user has a R5 mail database, do not create a replica on a R4.x server.
- Because the cluster replicator always replicates the template design between replicas, the user's mail replicas should use only the R5 mail template or only the R4.x mail template.

In addition, users see and experience the following things differently when they fail over between Domino R5 servers and Domino R4.x servers:

- Documents that you receive in MIME are converted to Notes CD records on R4.x servers, so they look different than on R5 servers. R5 servers display these documents in native MIME.
- Documents that you send in MIME are converted to CD records when you send them from R4.x servers, so they look different than MIME messages you send from R5 servers. In addition, the original MIME version is attached to the message on a R4.x server. This is not necessary on a R5 server because the message is sent in native MIME.
- Encrypted S/MIME documents can be decrypted by R5 servers but not by R4.x servers. When an R4.x server receives such a document, whether because of cluster failover or replication, the content of the document is replaced a warning stating that the document was encrypted with an Internet certificate and cannot be read.

R4.6 LDAP servers and R5 Domino Directory

Prior to R4.6.3, LDAP servers on R4.6 were unable to serve correct e-mail addresses when the Public Address Book was upgraded to the R5 Domino Directory. This problem was corrected in R4.6.3 and above (SPR# BAKH3Z9QW3).

Web Server Access option and LDAP 4.6x servers

Do not choose the Web Server Access option "Fewer name variations with higher security" on a Web server that has an LDAP Directory Assistance document for a Domino LDAP 4.6x Server. This option produces a filter that uses "uid" and this attribute is not recognized by the 4.6x server.

Template Interoperability

Server

Server.Planner templates replication error

When replicating any of the Server.Planner templates (DSPA.NTF, DSPV.NTF, DSPD.NTF) from an R4.6x server to an R5 server, a message similar to the following may appear:

```
Unable to store document in dspa.ntf (NoteID = 326) from  
toshi/46x dspa.ntf (NoteID = 322): Field is too large (32K) or View's column &  
selection formulas are too large
```

To avoid this message, the templates should be deleted from the R4.6.x server and replicated from the R5 server.

Administrator Client, Client, Designer, Server

R4.6 and R4.5 enhancements for R5 interoperability

R4.6.4

Template - Mail file

SPR# FGRN3YFSN3 - Fixed a problem with receiving an erroneous error message (Object variable not set) when receiving a reschedule notice for a repeating meeting from an R5 user without having first accepted the parent. [4.6.4, 4.6.3b]

Template - Web Mail file

SPR# FGRN3WPHWF, FGRN3ZJQCT - Replace the RSVP button with the Accept button on Calendar entries for repeating meetings received by Web users from R5 users. When using the RSVP button (which is invalid for Web users), the error "Original invitation document not found (wNoticeOpen)" appeared. [4.6.4,4.6.3b]

R4.6.3b

Template - Mail file

SPR# FGRN3YFSN3 - Fixed a problem with receiving an erroneous error message (Object variable not set) when receiving a reschedule notice for a repeating meeting from an R5 user without having first accepted the parent.

SPR# FGRN3ZJQCT - Correct a problem with the first instance of a repeating meeting having no date and time saved when a new date and time are proposed by an R5 user.

SPR# FGRN3WPHWF, FGRN3ZJQCT, FGRN3Z8HSR - Replace the RSVP button with the Accept button on Calendar entries for repeating meetings received by Web users from R5 users. When using the RSVP button (which is invalid for Web users), the error "Original invitation document not found (wNoticeOpen)" appeared.

R4.6.3

Templates

SPR# RJAN3WCLSH - Provides compatibility with R5 for repeating meetings in all of the mail templates and in the Resources Reservations template. [4.6.3]

R4.5.7

Templates

SPR# RJAN3WCLSH - Provides compatibility for future feature releases for repeating meetings in all of the mail templates and in the Resources Reservations template. [4.6.3,4.5.7]

Client, Designer

Replacing Document Library design with R4.6 or R5 design

When replacing a R4 document library design with either of the following templates:

- Doc Library - Notes & Web (R4.6)
- Doc Library - Notes & Web (R5.0)

Run the "Upgrade Doclib R4 Documents to New Design" agent against the database before opening the converted documents. The agent appears in the Action menu of the R4.6 and R5 Doc Library templates. If the agent has not been run, the error message "Incorrect datatype for operator or @function" appears when attempting to open the converted documents. Also, statuses will not appear correctly in the views unless the agent has been run.

Client, Designer, Server

Template interoperability

This table lists those templates that can be installed in Notes, Domino Designer, the Domino Administrator, and Domino for R5. The third column indicates if the template can be used by R4.6x clients in a mixed environment.

Notes

Template file name	Template title	R4.6x client support
ALOG4.NTF	Agent Log	Yes
ARCHLG50.NTF	Archive Log (R5.0)	Yes (altered appearance)
BOOKMARK.NTF	Bookmarks (Desktop is converted to Bookmarks)	No
BUSYTIME.NTF	Local free time info	Yes
CACHE.NTF	Local Document Cache	Not applicable
DBLIB4.NTF	Database Library	Yes
DECSADM.NTF	DECS R5 Administrator Template	Partial
DOCLBM50.NTF	Microsoft Office Library (R5.0)	Yes
DOCLBW50.NTF	Doc Library - Notes & Web (R5.0)	Yes
DSGNSYN.NTF	Design Synopsis Template	No
HEADLINE.NTF	Subscriptions	No
IMAPCL5.NTF	Mail (IMAP)	No

JOURNAL4.NTF	Personal Journal (R4)	Yes
LOG.NTF	Notes Log	Yes
MAIL50.NTF	Mail (R5.0)	No
MAILBOX.NTF	Mail Router Mailbox (5.0)	Yes
NNTPL5.NTF	News Articles (NNTP)	No
PERNAMES.NTF	Personal Address Book	Yes (altered appearance)
PERWEB50.NTF	Personal Web Navigator (R5.0)	Yes
R63MAIL.NTF	DLL that facilitates the upgrade of cc:Mail users to Notes	Yes

Domino Designer

Template file name	Template title	R4.6x client support
ALOG4.NTF	Agent Log	Yes
ARCHLG50.NTF	Archive Log (R5.0)	Yes (altered appearance)
BOOKMARK.NTF	Bookmarks (Desktop is converted to Bookmarks)	No
BUSYTIME.NTF	Local free time info	Yes
CACHE.NTF	Local Document Cache	not applicable
CLUSTA4.NTF	Cluster Analysis	Yes
DBA4.NTF	Database Analysis	Yes (altered appearance)
DBLIB4.NTF	Database Library	Yes
DECOMSRV.NTF	Decommission Server Reports	Yes (altered appearance)
DECSADM.NTF	DECS R5 Administrator Template	Partial
DOCLBM50.NTF	Microsoft Office Library (R5.0)	Yes
DOCLBW50.NTF	Doc Library - Notes & Web (R5.0)	Yes
DOMADMIN.NTF	Domino Administrator (R5)	No
DSGNSYN.NTF	Design Synopsis Template	No
EVENTS4.NTF	Statistics and Events	Yes (altered appearance)
HEADLINE.NTF	Subscriptions	No
IMAPCL5.NTF	Mail (IMAP)	No
JOURNAL4.NTF	Personal Journal (R4)	Yes
LOGA4.NTF	Notes Log Analysis	Yes (altered appearance)
LOG.NTF	Notes Log	Yes
MAIL50.NTF	Mail (R5.0)	No

MAILBOX.NTF	Mail Router Mailbox (5.0)	No
NNTPC5.NTF	News Articles (NNTP)	No
NTSYNC45.NTF	NT/Migrating Users' Passwords	Yes
PERNAMES.NTF	Personal Address Book	Yes (altered appearance)
PERWEB50.NTF	Personal Web Navigator (R5.0)	Yes
R63MAIL.NTF	DLL that facilitates the upgrade of cc:Mail users to Notes	Yes
STATREP5.NTF	Statistics Reporting 5.0	Yes
USERREG.NTF	User Registration Queue	No

Domino Administrator

Template file name	Template title	R4.6x client support
ADMIN4.NTF	Administration Requests (R5.0)	Yes (altered appearance)
ALOG4.NTF	Agent Log	Yes
ARCHLG50.NTF	Archive Log (R5.0)	Yes (altered appearance)
BILLING.NTF	Billing	Yes
BOOKMARK.NTF	Bookmarks (Desktop is converted to Bookmarks)	No
BUSYTIME.NTF	Local free time info	Yes
CACHE.NTF	Local Document Cache	Not applicable
CATALOG.NTF	Catalog (5.0)	Yes (altered appearance)
CCA50.NTF	Domino R5 Certificate Authority	Yes
CERTLOG.NTF	Certification Log	Yes
CLDBDIR4.NTF	Cluster Directory (R5)	Yes (altered appearance)
CLUSTA4.NTF	Cluster Analysis	Yes
CSRV50.NTF	Server Certificate Admin	No
DA50.NTF	Directory Assistance	Yes (altered appearance)
DBA4.NTF	Database Analysis	Yes (altered appearance)
DECOMSRV.NTF	Decommission Server Reports	Yes (altered appearance)
DECSADM.NTF	DECS R5 Administrator Template	Partial
DIRCAT5.NTF	Directory Catalog	No
DISCSW50.NTF	Discussion - Notes & Web (R5.0)	No
DOMADMIN.NTF	Domino Administrator (R5)	No
DOMCFG.NTF	Domino Web Server Configuration	Yes

DOMLOG.NTF	Domino Web Server Log	Yes
DSGNSYN.NTF	Design Synopsis Template	No
DSPA.NTF	Server.Planner: Analyst	Yes
DSPD.NTF	Server.Planner: Decision Maker	Yes
DSPV.NTF	Server.Planner: Vendor	Yes
EVENTS4.NTF	Statistics and Events	Yes (altered appearance)
HEADLINE.NTF	Subscriptions	No
IMAPCL5.NTF	Mail (IMAP)	No
JOURNAL4.NTF	Personal Journal (R4)	Yes
LOGA4.NTF	Notes Log Analysis	Yes (altered appearance)
LOG.NTF	Notes Log	Yes
MAIL50.NTF	Mail (R5.0)	No
MAILBOX.NTF	Mail Router Mailbox (5.0)	Yes
MAILLIST.NTF	Mailing List (5.0)	Yes
MTSTORE.NTF	Domino MailTracker Store	No
NNTPCL5.NTF	News Articles (NNTP)	No
NNTPDI50.NTF	NNTP Discussion (R5.0)	Yes
NNTPOST.NTF	NNTP Cross-Post	Not applicable
NTSYNC45.NTF	NT/Migrating Users' Passwords	Yes
PERNAMES.NTF	Personal Address Book	Yes (altered appearance)
PERWEB50.NTF	Personal Web Navigator (R5.0)	Yes
PUBNAMES.NTF	Domino Directory	Yes (altered appearance)
PUBWEB50.NTF	Server Web Navigator (R5.0)	Yes
REPORTS.NTF	Reports	Yes
RESRC50.NTF	Resource Reservations (5.0)	Yes
SIREGW50.NTF	Site Registration 5.0	Yes
STATREP5.NTF	Statistics Reporting 5.0	Yes
TEAMRM50.NTF	TeamRoom (5.0)	No
USERREG.NTF	User Registration Queue	No
WEBADMIN.NTF	Domino Web Administrator	No

Domino Enterprise Server

Template file name	Template title	R4.6x client support
ADMIN4.NTF	Administration Requests (R5.0)	Yes (altered appearance)
ALOG4.NTF	Agent Log	Yes
ARCHLG50.NTF	Archive Log (R5.0)	Yes (altered appearance)
BILLING.NTF	Billing	Yes
BOOKMARK.NTF	Bookmarks (Desktop is converted to Bookmarks)	No
BUSYTIME.NTF	Local free time info	Yes
CACHE.NTF	Local Document Cache	Not applicable
CATALOG.NTF	Catalog (5.0)	Yes (altered appearance)
CCA50.NTF	Domino R5 Certificate Authority	Yes
CERTLOG.NTF	Certification Log	Yes
CLDBDIR4.NTF	Cluster Directory (R5)	Yes (altered appearance)
CLUSTA4.NTF	Cluster Analysis	Yes
CSRV50.NTF	Server Certificate Admin	No
DA50.NTF	Directory Assistance	Yes (altered appearance)
DBA4.NTF	Database Analysis	Yes (altered appearance)
DBLIB4.NTF	Database Library	Yes
DECOMSRV.NTF	Decommission Server Reports	Yes (altered appearance)
DECSADM.NTF	DECS R5 Administrator Template	Partial
DIRCAT5.NTF	Directory Catalog	No
DISCSW50.NTF	Discussion - Notes & Web (R5.0)	No
DOCLBM50.NTF	Microsoft Office Library (R5.0)	Yes
DOCLBW50.NTF	Doc Library - Notes & Web (R5.0)	Yes
DOMADMIN.NTF	Domino Administrator (R5)	No
DOMCFG.NTF	Domino Web Server Configuration	Yes
DOMLOG.NTF	Domino Web Server Log	Yes
DSGNSYN.NTF	Design Synopsis Template	No
DSPA.NTF	Server.Planner: Analyst	Yes
DSPD.NTF	Server.Planner: Decision Maker	Yes
DSPV.NTF	Server.Planner: Vendor	Yes
EVENTS4.NTF	Statistics and Events	Yes (altered appearance)

HEADLINE.NTF	Subscriptions	No
IMAPCL5.NTF	Mail (IMAP)	No
JOURNAL4.NTF	Personal Journal (R4)	Yes
LOGA4.NTF	Notes Log Analysis	Yes (altered appearance)
LOG.NTF	Notes Log	Yes
MAIL50.NTF	Mail (R5.0)	No
MAILBOX.NTF	Mail Router Mailbox (5.0)	Yes
MAILLIST.NTF	Mailing List (5.0)	Yes
MTSTORE.NTF	Domino MailTracker Store	No
NNTPCL5.NTF	News Articles (NNTP)	No
NNTPDI50.NTF	NNTP Discussion (R5.0)	Yes
NNTPPOST.NTF	NNTP Cross-Post	Not applicable
NTSYNC45.NTF	NT/Migrating Users' Passwords	Yes
PERNAMES.NTF	Personal Address Book	Yes (altered appearance)
PERWEB50.NTF	Personal Web Navigator (R5.0)	Yes
PUBNAMES.NTF	Domino Directory	Yes (altered appearance)
PUBWEB50.NTF	Server Web Navigator (R5.0)	Yes
REPORTS.NTF	Reports	Yes
RESRC50.NTF	Resource Reservations (5.0)	Yes
SIREGW50.NTF	Site Registration 5.0	Yes
SRCHSITE.NTF	Search Site	Yes
STATREP5.NTF	Statistics Reporting 5.0	Yes
TEAMRM50.NTF	TeamRoom (5.0)	No
USERREG.NTF	User Registration Queue	No
WEBADMIN.NTF	Domino Web Administrator	No

Domino Mail Server

Template file name	Template title	R4.6x client support
ADMIN4.NTF	Administration Requests (R5.0)	Yes (altered appearance)
ALOG4.NTF	Agent Log	Yes
ARCHLG50.NTF	Archive Log (R5.0)	Yes (altered appearance)
BILLING.NTF	Billing	Yes
BOOKMARK.NTF	Bookmarks (Desktop is converted to Bookmarks)	No
BUSYTIME.NTF	Local free time info	Yes
CACHE.NTF	Local Document Cache	Not applicable
CATALOG.NTF	Catalog (5.0)	Yes (altered appearance)
CCA50.NTF	Domino R5 Certificate Authority	Yes
CERTLOG.NTF	Certification Log	Yes
CLDBDIR4.NTF	Cluster Directory (R5)	Yes (altered appearance)
CLUSTA4.NTF	Cluster Analysis	Yes
CSRV50.NTF	Server Certificate Admin	No
DA50.NTF	Directory Assistance	Yes (altered appearance)
DBA4.NTF	Database Analysis	Yes (altered appearance)
DBLIB4.NTF	Database Library	Yes
DECOMSRV.NTF	Decommission Server Reports	Yes (altered appearance)
DECSADM.NTF	DECS R5 Administrator Template	Partial
DIRCAT5.NTF	Directory Catalog	No
DISCSW50.NTF	Discussion - Notes & Web (R5.0)	No
DOCLBM50.NTF	Microsoft Office Library (R5.0)	Yes
DOCLBW50.NTF	Doc Library - Notes & Web (R5.0)	Yes
DOMADMIN.NTF	Domino Administrator (R5)	No
DOMCFG.NTF	Domino Web Server Configuration	Yes
DOMLOG.NTF	Domino Web Server Log	Yes
DSGNSYN.NTF	Design Synopsis Template	No
DSPA.NTF	Server.Planner: Analyst	Yes
DSPD.NTF	Server.Planner: Decision Maker	Yes
DSPV.NTF	Server.Planner: Vendor	Yes
EVENTS4.NTF	Statistics and Events	Yes (altered appearance)

HEADLINE.NTF	Subscriptions	No
IMAPCL5.NTF	Mail (IMAP)	No
JOURNAL4.NTF	Personal Journal (R4)	Yes
LOGA4.NTF	Notes Log Analysis	Yes (altered appearance)
LOG.NTF	Notes Log	Yes
MAIL50.NTF	Mail (R5.0)	No
MAILBOX.NTF	Mail Router Mailbox (5.0)	Yes
MAILLIST.NTF	Mailing List (5.0)	Yes
MTSTORE.NTF	Domino MailTracker Store	No
NNTPCL5.NTF	News Articles (NNTP)	No
NNTPDI50.NTF	NNTP Discussion (R5.0)	Yes
NNTPPOST.NTF	NNTP Cross-Post	Not applicable
NTSYNC45.NTF	NT/Migrating Users' Passwords	Yes
PERNAMES.NTF	Personal Address Book	Yes (altered appearance)
PERWEB50.NTF	Personal Web Navigator (R5.0)	Yes
PUBNAMES.NTF	Domino Directory	Yes (altered appearance)
PUBWEB50.NTF	Server Web Navigator (R5.0)	Yes
REPORTS.NTF	Reports	Yes
RESRC50.NTF	Resource Reservations (5.0)	Yes
SIREGW50.NTF	Site Registration 5.0	Yes
SRCHSITE.NTF	Search Site	Yes
STATREP5.NTF	Statistics Reporting 5.0	Yes
TEAMRM50.NTF	TeamRoom (5.0)	No
USERREG.NTF	User Registration Queue	No
WEBADMIN.NTF	Domino Web Administrator	No



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