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## Configuring Lotus Domino R5 for use with Internet Exchange Gateway and Messaging Server Products

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## **Configuring Lotus Domino R5 for use with Internet Exchange Gateway and Messaging Server Products**

### **Introduction**

This document provides instructions on how to configure Lotus Domino R5 for Internet Exchange Gateway and Messaging Server products. Internet Exchange Gateway products include all versions of Internet Exchange for Lotus Notes and all versions of the Internet Exchange Messaging Server for Lotus Notes Connector.

This paper deals with setting up the Lotus Notes Server so that it can communicate properly with the either Internet Exchange Gateway or Messaging Server products. You must follow the procedures described herein before attempting to install Internet Exchange. You should also be familiar with the configuration processes for the Lotus Notes Server.

If you are not familiar with the Notes Server setup process, please refer to the Lotus Notes Server Administrator's Manual. If using previous versions of Domino, the following preliminary steps have to be taken:

- Remove the entry "SMTPMTA" in the Server Tasks option from the NOTES.INI file. This prevents default startup of the Lotus SMTP MTA.
- Delete the file SMTP.BOX created by the Lotus SMP MTA and re-create one using the standard "mail router mailbox" template because Internet Exchange does not understand the format of the one created by the Lotus SMTP MTA.

In order to configure Lotus Domino R5 for use with Internet Exchange, you must ensure that your Domino R5 has been properly installed in your machine and the NOTES.INI file has been moved to the Microsoft Windows Installation directory before installing either Internet Exchange Gateway or Messaging Server products. You will also need to start the "Lotus Notes Domino Administrator program". If you are a first-time user of the Domino R5 Server, an automated tool guides you through the initial server configuration.

To configure Lotus Domino R5, you need to follow the step-by-step procedures provided herein to complete your configuration successfully. You will be required to complete the following steps:

- Pre-installation
- Create the Foreign SMTP domain document
- Establish SMTP connection document
- Add SMTP routing task to your Notes server
- Create SMTP.BOX file to hold outbound messages
- Set up the access control for SMTP.BOX and MAIL.BOX

This paper also provides information on how to install either Internet Exchange Gateway or Messaging Server on a Notes Workstation. Here, you just need to follow the same procedures stated above. In addition, you will also be required to create a MAIL.BOX file on the Notes Workstation. After completing the procedures, you are expected to set up the Notes connector but ensure that the Notes server where the Internet Exchange Gateway or Messaging Server on Notes Workstation will be connected to is up and running.

After you have completed the procedures, your system should be ready to work with either all versions of Internet Exchange for Lotus Notes or all versions of the Lotus Notes Connector (Internet Exchange Messaging Server).

Moreover, if you need information on how to configure previous versions of Lotus Notes for Internet Exchange Gateway and/or Messaging products, please refer to the appropriate manuals. You may also visit our web site at [www.ima.com](http://www.ima.com).

## Overview

Internet Exchange is a family of electronic mail gateway and messaging server that connect either Lotus cc:Mail or Lotus Notes Local Area Network e-mail environments to the Internet, and/or to private TCP/IP-based Local Area Networks. It is the most advanced and complete gateway technology linking cc:Mail and Notes users with the Internet.

Internet Exchange communicates with mail hosts on the Internet using the Simple Mail Transfer Protocol (SMTP). This Protocol is used for the submission as well as the reception of mail messages. Internet Exchange implements SMTP as two separate modules. A client program send messages from the gateway to the Internet, and a server program receives messages from the Internet bound for the local environment.

Throughout this document, you will chance upon terms that might be new to you. They include the following:

- *Simple Mail Transfer Protocol (SMTP)*

SMTP is the protocol used to transport electronic mail on the Internet. It can also be used as a common mail backbone between organizations that use other types of mail systems. Internet Exchange uses SMTP to send and receive messages over the Internet.

- *Simple Mail Transfer Protocol Client (SMTPC)*

The SMTPC program is responsible for the delivery of messages on the Internet. It regularly checks for messages queued in the SMTP OUT queue. When messages are found, it establishes the required number of connections with external SMTP servers (up to a maximum of 120 concurrent connections) and transfers the messages to the appropriate Internet mail hosts.

- *Simple Mail Transfer Protocol Daemon (SMTPD)*

SMTPD receives messages from the Internet. It is a background Windows process that listens for incoming SMTP connections on TCP port 25. When a connection request is detected, it creates a new thread that manages the new connection. When a message is received by SMTPD, it is placed in the gateway queue SMTP IN.

- *SMTP.BOX*

Lotus Notes users send mail to users on the Internet by sending the mail to the Lotus Notes database that is assigned to the gateway. Mail that arrives for the gateway will be temporarily stored in this database, called SMTP.BOX. Internet Exchange regularly checks SMTP.BOX to ensure the regular pickup of mail leaving the Lotus Notes domain for the Internet.

- *MAIL.BOX*

A database that temporarily stores incoming mails on the Lotus Notes server.

- *NOTESIN*

Mail messages are delivered to the Lotus Notes environment by the Internet Exchange module NOTESIN. It first checks the SMTP IN queue for any messages. For each message that it finds, it performs address and, possibly, message content translation in preparation for submission to Lotus Notes. Addresses are converted to a form that can be used in the Lotus Notes environment. It converts messages, which are multipart or are encoded non-textual data.

Once the messages properly converted, NOTESIN connects to the MAIL.BOX database in the Lotus Notes Server, and delivers the message. The message is either delivered directly to a local Lotus Notes user or further routed within the Lotus Notes domain.

- **NOTESOUT**

This module obtains messages from Lotus Notes by polling SMTP.BOX. NOTESOUT logs into SMTP.BOX using the Lotus Notes API. If messages are present, it will move each message (one at a time) out of SMTP.BOX and into an internal gateway queue (SMTP OUT). In moving a message into the SMTP OUT queue, NOTESOUT will perform any address and message format translations necessary. It is also responsible for the creation of the initial SMTP envelope.

*Note:* NOTESIN/NOTESOUT is used strictly for Internet Exchange for Notes version 3 gateway product line. In Internet Exchange Messaging Server version 4 product line, the message is read/stored in MQ's queue.

- **Internet Exchange for Lotus Notes (IELN)**

Domain name for Internet Exchange for Lotus Notes

- **Notes Server**

The machine running the Notes server processes manually which usually includes a Mail router, Replication and HTTP daemon. The Notes server usually holds the user mailbox file (.NSF file) on its local directory. For Internet Exchange to plug into the Notes environment, the system administrator has to determine which Notes server will hold the database file called "SMTP.BOX". Internet Exchange connects to the Notes server, reads the pending mails from the SMTP.BOX, does all the required conversions and then submits the message to the internet .

- **Notes Domain**

Refers to a group of Notes servers sharing a common Public Address Book(PAB). The public address book is a Notes database which contains all the server configurations such as connection documents, domain documents and server documents. These documents contain important information that tell the Notes router about the mail routing path. In addition, the PAB also stores user information like the username and their mailbox location.

## Sample Installation

In configuring the domain name and domain server for both the internet and Notes environment, we have taken the case of an organization called Jade Network, which uses the fully qualified internet domain name of jade.net and operates an Internet Exchange gateway with the fully qualified internet domain name of "iegate.jade.net" where "iegate" is the name of the gateway.

We used "ieln" as our example for the Notes domain name mapped for (\*.\*) which means that if Lotus Notes receives a message for a domain which is not recognized as a valid Notes domain as defined in the Public Address Book (PAB), Notes will send it to "ieln". With the help of a foreign SMTP domain document and SMTP connection document, Internet Exchange will map "ieln" to jade.net. "ieln" is actually the virtual domain name for the Notes domain server1/Jade\_Network which holds the SMTP.BOX file and the public address book. server1/Jade\_Network is the example used for the Notes source server name. It is the standard way of identifying the source server where "server1" is the name of the Notes source server and "Jade\_Network" is the name of the organization.

## Pre-installation

Before installing Internet Exchange, make sure that the Domino R5 has been properly installed and the NOTES.INI<sup>1</sup> file, located under the C:\LOTUS\DOMINO directory of the Notes Domino server, has been moved to the Microsoft Windows Installation directory. The default location for Windows NT is C:\WINNT. Similarly, if you are installing Internet Exchange on a R5 Notes Domino Workstation, move the NOTES.INI file from the C:\LOTUS\NOTES directory of the Notes Domino Workstation to the Microsoft Windows Installation Directory.

After moving the NOTES.INI to the Microsoft Windows Installation Directory, you will then need to configure the Lotus Notes R5 Domino Server.

## Configuring Lotus Notes R5 Domino Server for Internet Exchange<sup>2</sup>

In configuring the Domino Notes Server, you need to start the "Lotus Notes Domino Administrator program". If you are a first-time user of the Domino R5 Server, an automated tool guides you through the initial server configuration. From there, you proceed to the Domino Administrator to manage users. The Domino Administrator has a task-oriented multi-tab interface. A Web administration interface lets you perform basic tasks from any browser (i.e., Netscape, Internet Explorer).

After you have started the "Lotus Notes Domino Administrator program", you are required to complete the following steps:

### I. Create the Foreign SMTP domain document

To allow Notes users to send Internet email messages via Internet Exchange, you first need to create a Foreign SMTP domain document on the Domino directory.

To do this, select the "Configuration" tab on the Domino Administrator program. On the left-hand pane, expand the "Messaging" folder and select the "Domains" entry (see **Figure1**).

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<sup>1</sup>It is absolutely essential to follow this procedure as the current installations of Internet Exchange specifically looks for the NOTES.INI file in the Microsoft Windows Installation Directory. Failing to do so may result in unexpected error.

<sup>2</sup>Before modifying the Notes R5 domino Server settings, make sure that you have administrative privilege rights to modify the R5 Domino directory. Also, make sure that you are able to create and modify Notes database on the target Domino Server.

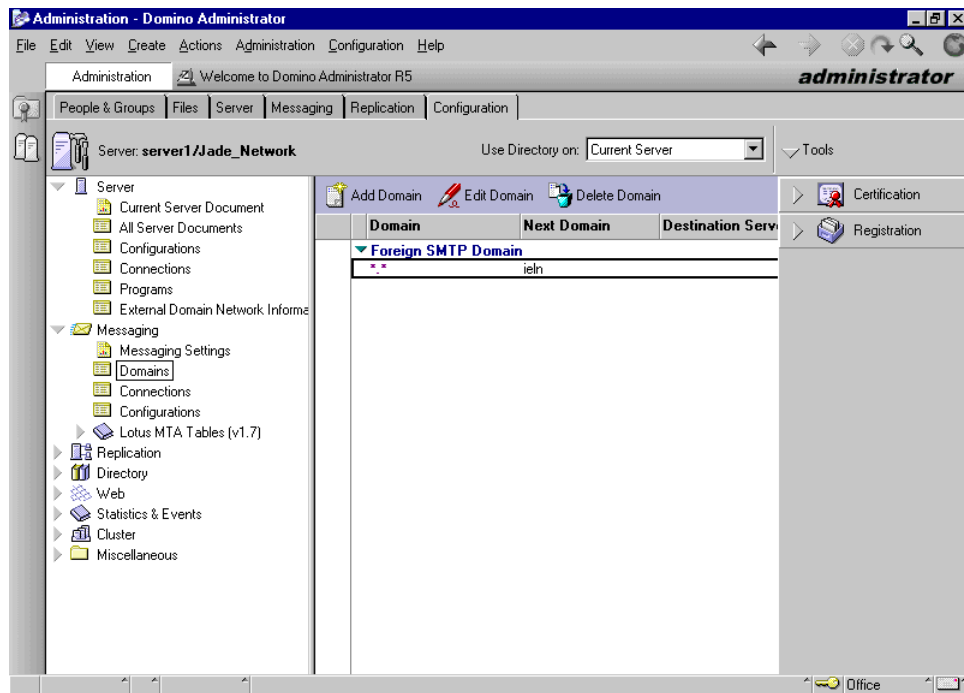


Figure 1: The screen shows how to create the Foreign SMTP domain document

To create a new Foreign SMTP domain document, click on the "Add Domain" icon. This will show the Domain document. Then, select "Foreign SMTP Domain" in the Domain type entry (see **Figure 2**).

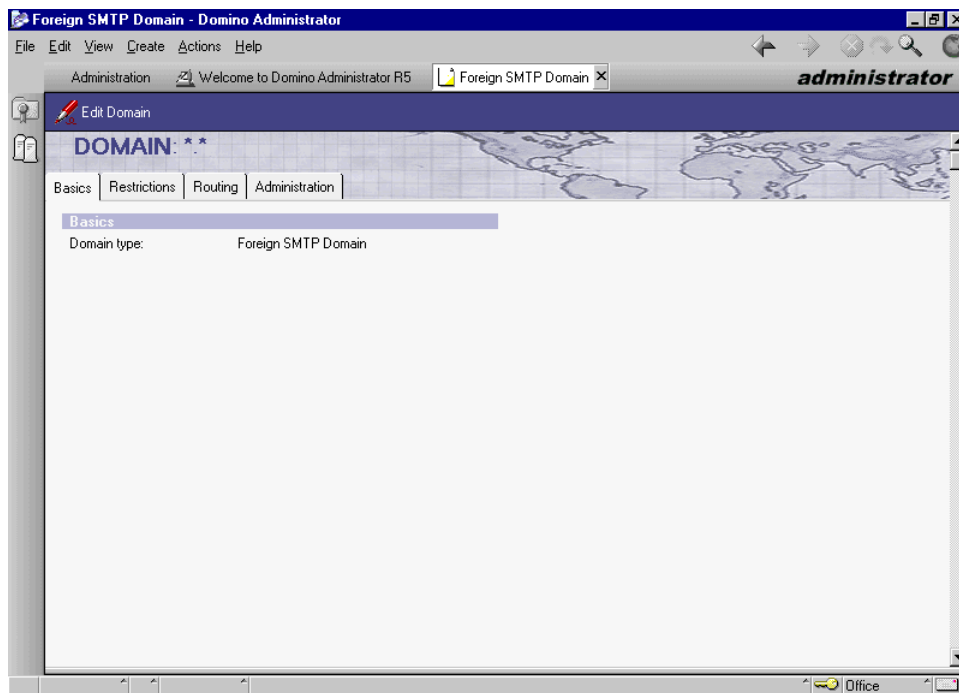


Figure 2: This displays how to configure the new Foreign SMTP domain document

After selecting the “Foreign SMTP Domain” in the Domain type entry, click on the “Routing” tab. You need to specify “\*.\*” for the “Internet domain” field to tell the Notes router to route messages with any Internet recipient to the SMTP.BOX file. Internet Exchange will subsequently poll for messages from there, after which it will send the messages to the intended Internet recipients via SMTP.

If you want Internet Exchange to handle the outbound traffic for only a specific Internet Domain, (i.e., “company.com”) then place “company.com” in this field. In the “Should be routed to” field, enter the name of the Notes gateway (i.e., “ieln”). This field is used to specify all outgoing SMTP Mail. You may choose to call it any name you like. See **Figure 3**.

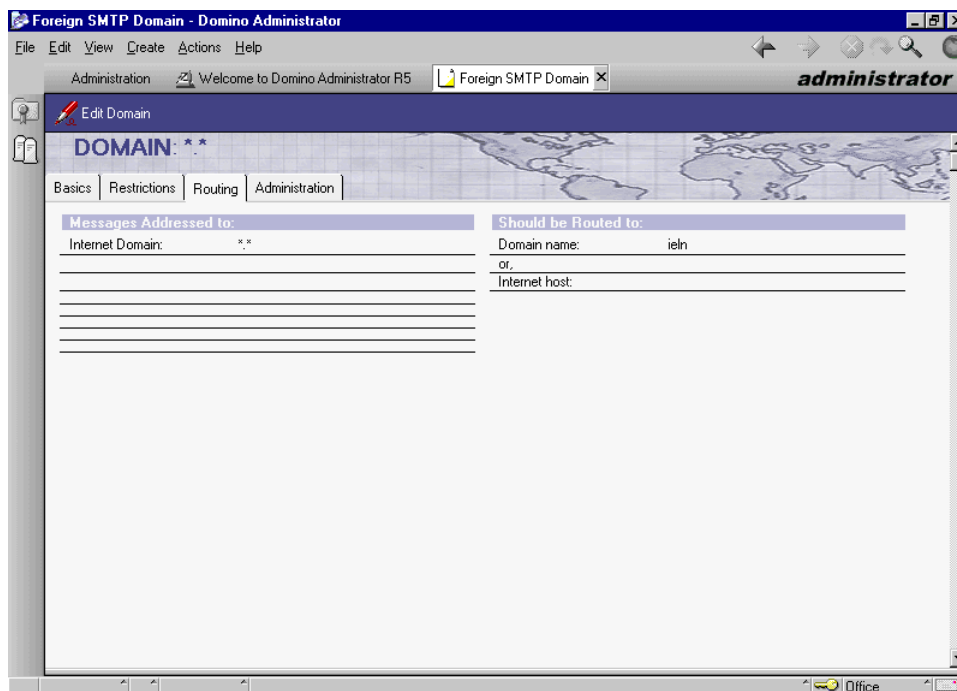


Figure 3: Specifying a “\*. \*” for the “Internet domain” field would tell the Notes router to route messages with any Internet recipient to the SMTP.BOX file

## II. Establish SMTP connection document

You must establish a SMTP connection document in order to tell the Notes router where the outbound Internet mail should be routed to. From the “Messaging” folder (see **Figure 4**), select the “Connections” entry and click “Add Connection” link. A screen similar to **Figure 5** will appear.

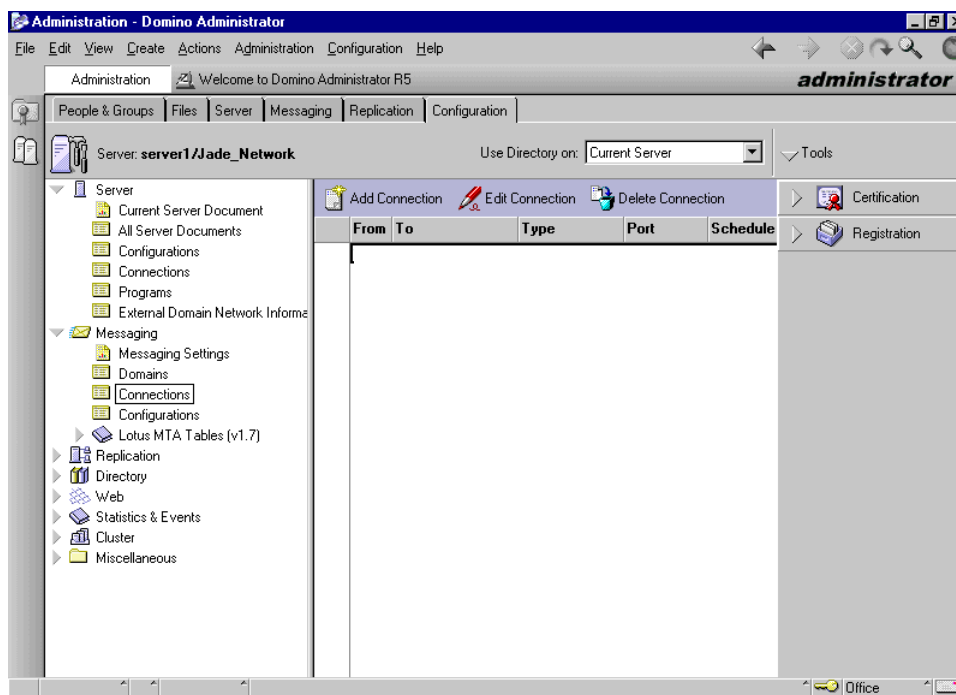


Figure 4: Establishing SMTP connection document

The Server connection provides information to Lotus Notes on how to route the Internet Mail by defining the "Connection Type" as SMTP. The Source Server and Source domain is the Notes Server and Domain from which mail is sent. The Destination Server and Destination Domain is the location to which all Source Mail is routed. In the following example we have given this the name "ieln", the same name that we defined earlier as the domain in the "Should Be Routed To" field. This will route the mail to the Internet Exchange Mail gateway and send it via the Internet. The Domain Name setting is case sensitive which means you must adhere to exactly the same case syntax that you have used before.

The Source Server must be the name of the system/Notes Domain, which we named as "Server1/Jade\_Network".

The Destination Server, the Destination Domain, the Source Server name can be called anything as long as they are called the same. It will not influence the setting of Internet Exchange at all if you change the name to anything else. Make sure it is the same name you used in the Domain settings.

If you already have this set up from a previous installation, you will most likely only need to add an additional "Routing Task", which would be SMTP Mail Routing and then "Save" and "Close" the menu.



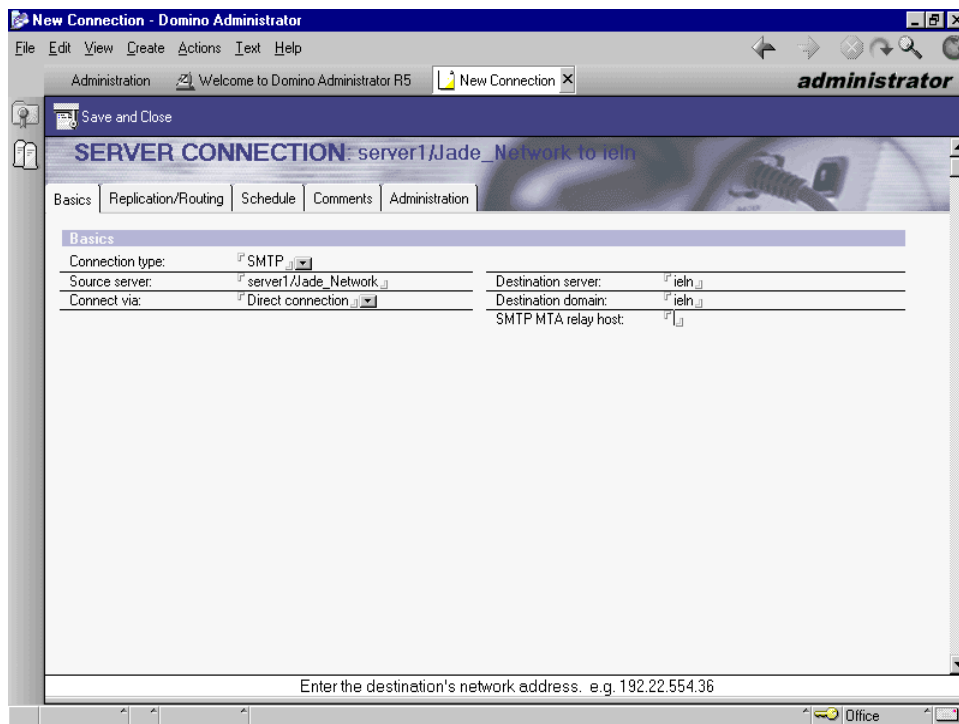


Figure 5: Indicating a source server name where the "SMTP.BOX" file will reside

Under the "Basics" tab, select "SMTP" as the connection type. The source server name is the name of the server where the "SMTP.BOX" file will reside. As shown in figure 5, the source server name is "server1/Jade\_Network". In case you have multiple Notes servers under the same Notes domain, put the name of the Notes server where the "SMTP.BOX" file is located. For the "Connection via" field, choose "Direct connection". On the right hand side, you need to enter the name of the foreign SMTP domain name in the "Destination server" and "Destination domain" field entries, which in this case should be "ieln" as configured in the first step.

Now, click the "Replication/Routing" tab to continue with the configuration.

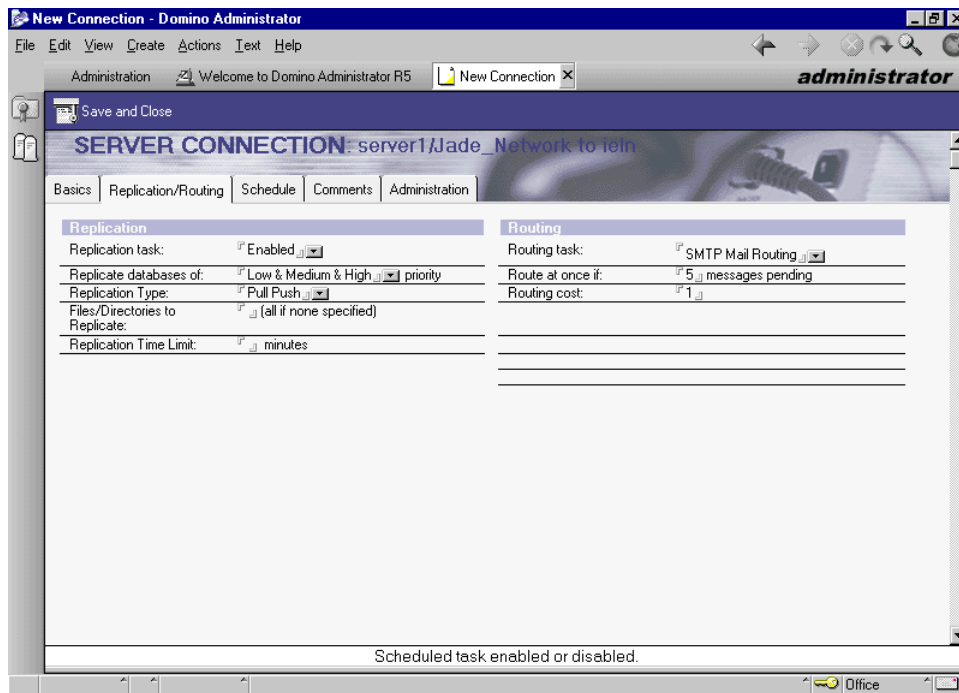


Figure 6: Changing the “Routing task” to “SMTP Mail Routing”

The next step is to configure the mail routing. As shown in **Figure 6**, go to the “Routing” section and change the “Routing task” field to “SMTP Mail Routing”. Click “Save” and “Close” to save the settings. See **Figure 7** for results.

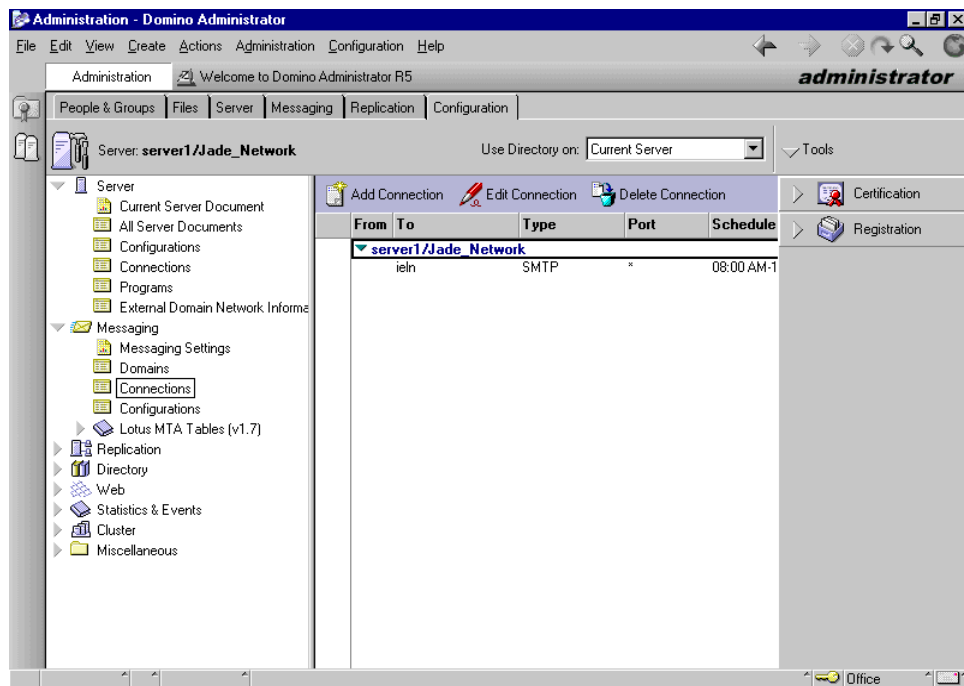


Figure 7: SMTP Mail Routing settings

### III. Add SMTP routing task to your Notes server

The last modification to be made in the server address book is to add “SMTP mail routing” to the server task. To do so, select “Server” from the left pane and then select “All Server Documents” folder in the same pane as shown in **Figure 8**.

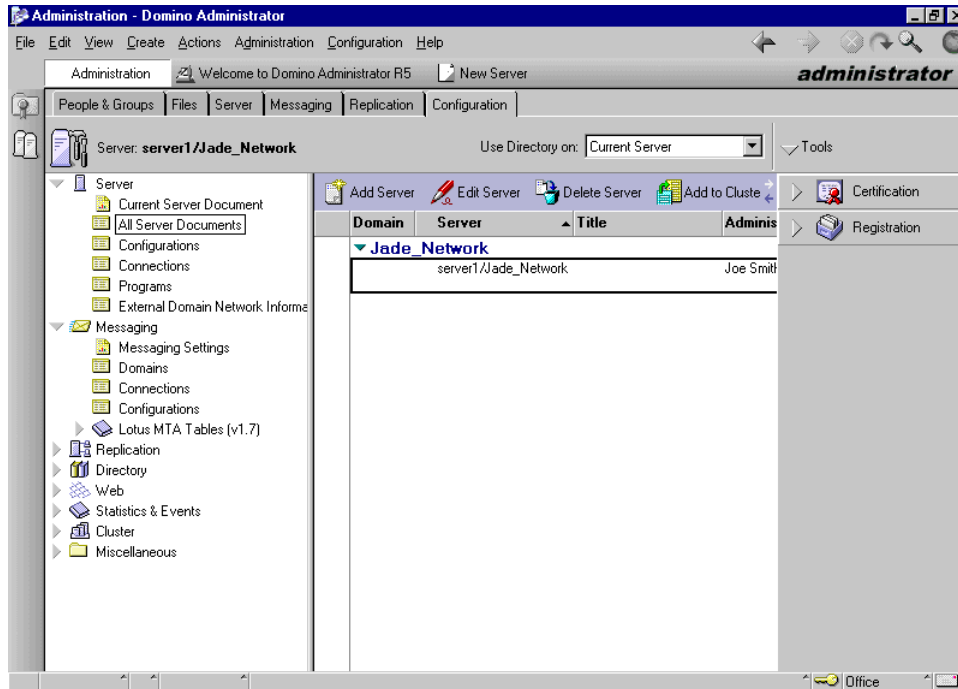


Figure 8: This screen shows how you will add a SMTP routing task to the Notes server

In case there are multiple Notes servers, select the server where the file SMTP.BOX resides. Double click on the server name, which should present you with the server configuration page.

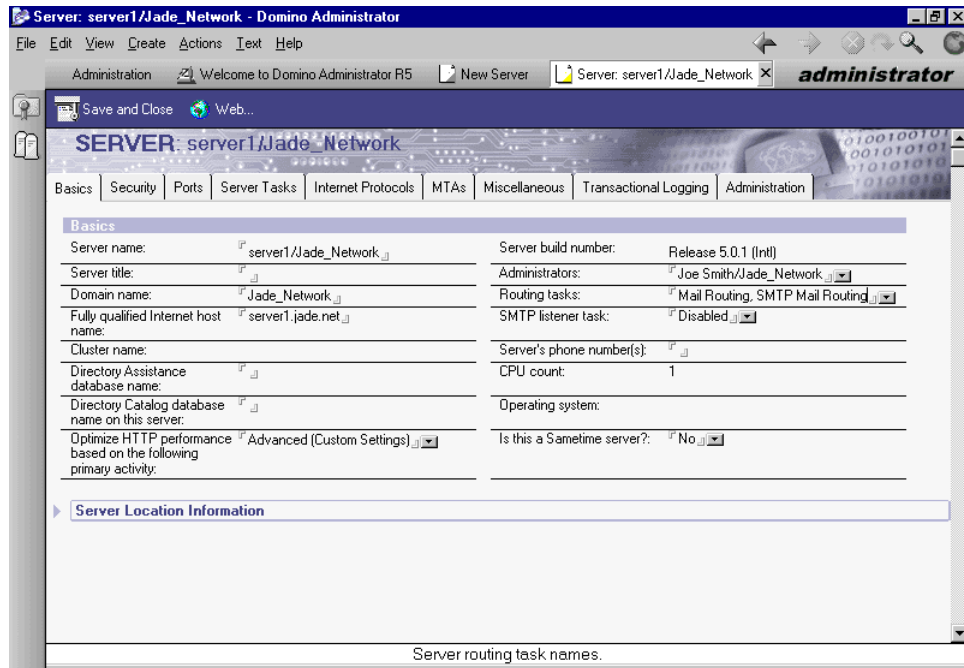


Figure 9: Completed configuration of the server address book

The server configuration page (see **Figure 9**) now shows that the "SMTP<sup>3</sup> Mail Routing Task" has been added to the server "server1/Jade\_Network". Click "Save" and "Close" to save the changes. This completes the configuration of the server address book.

The next step is to create SMTP.BOX file on the Notes server to which Internet Exchange will be connected.

#### IV. Create SMTP.BOX file to hold outbound messages

Bring up the Notes client on the Notes server to which Internet Exchange will be connected to. Go to the "File" menu and select "Database". Select "Create" to create a new database. A dialog box as shown in **Figure 10** will appear.

In most cases, the Notes Server is Local as this will be the server where the SMTP mail is being configured to run. The filename for Internet Mail should be called SMTP.BOX. The template used for this database is "Mail Router Mailbox" which can be selected by scrolling down the template options.

The Mail Router Mailbox is a special Notes template used to automatically create a database that holds mail in transit to other servers or users. This database will manage and hold all your outgoing Internet mail with Internet Exchange.

<sup>3</sup>If Domino R5 server is configured to use "SMTP for Notes internal mail transfer" as the backbone, Internet Exchange CANNOT be installed to work with that Notes server, because the Notes SMTP will conflict with the Internet Exchange SMTP Daemon module. In this case, you may consider moving Internet Exchange installation to a Domino workstation PC, but before doing so ensure that the "SMTP listener task" is disabled.

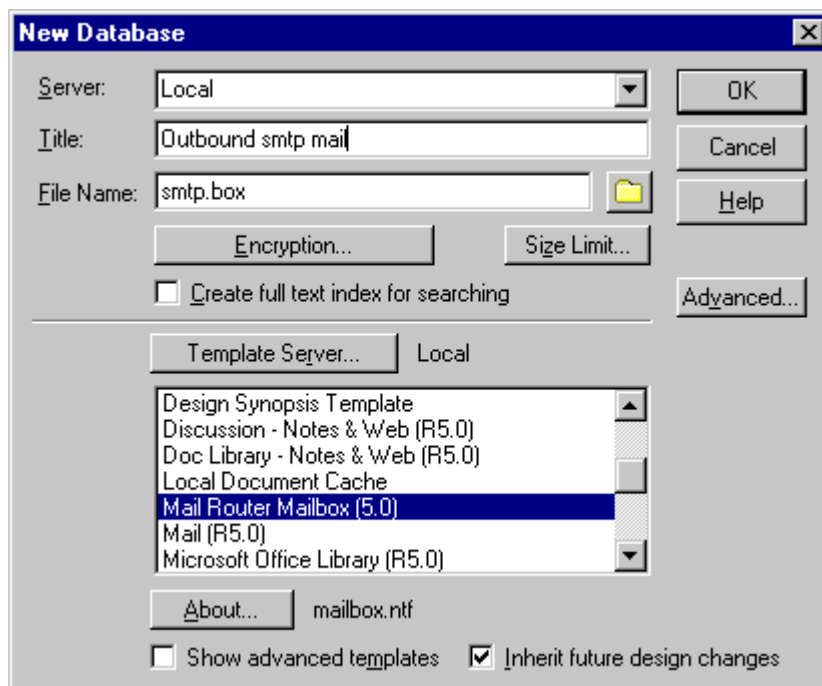


Figure 10: Creating SMTP.BOX to hold outbound messages

Select the “Mail Router Mailbox (5.0)” template to create SMTP.BOX<sup>4</sup> file. Give it a meaningful title (i.e. Internet Mailbox), which suits your system requirements. Make sure that the database file is named as “SMTP.BOX” and is created in the Domino server “DATA” directory. Click “OK” to create the database after having entered all the necessary details.

#### V. Set up the access control for SMTP.BOX and MAIL.BOX

Every database includes an Access Control List (ACL) which Notes uses to determine the level of access that users and servers have to a database. You must now configure the mail database SMTP with correct access permissions. The ACL dialog box is in *File/Database/Access Control* once you have selected your new database (in this case is SMTP.BOX)

Although the names of access levels are the same for users and servers, those assigned to users determine the tasks that users can perform on a database while those assigned to servers determine what information within the database the servers can replicate.

Internet Exchange uses the USER.ID/SERVER.ID file to access SMTP.BOX and MAIL.BOX files on the Domino Server. It is, therefore, very important to setup the appropriate access for the owner of the Notes ID file. Internet Exchange requires “Manager” level access with the “Delete Documents” flag enabled to import/export mail. To configure this, bring up the “Access control” setting dialog box for both SMTP.BOX

<sup>4</sup>When upgrading from Domino R4.x with SMTPMTA running, it is essential to disable SMTPMTA on the Domino server. To do this, issue the command “tell smtpmta quit” on the Notes server console. You will also need to remove SMTPMTA from SERVETASKS in NOTES.INI file. Later, you must delete SMTP.BOX file created by SMTPMTA and re-create a new SMTP.BOX file as stated above.

and MAIL.BOX files on the Notes server. Add the owner's name to the Access Control List, whose ID file will be used by Internet Exchange. (See **Figure 11** for details).

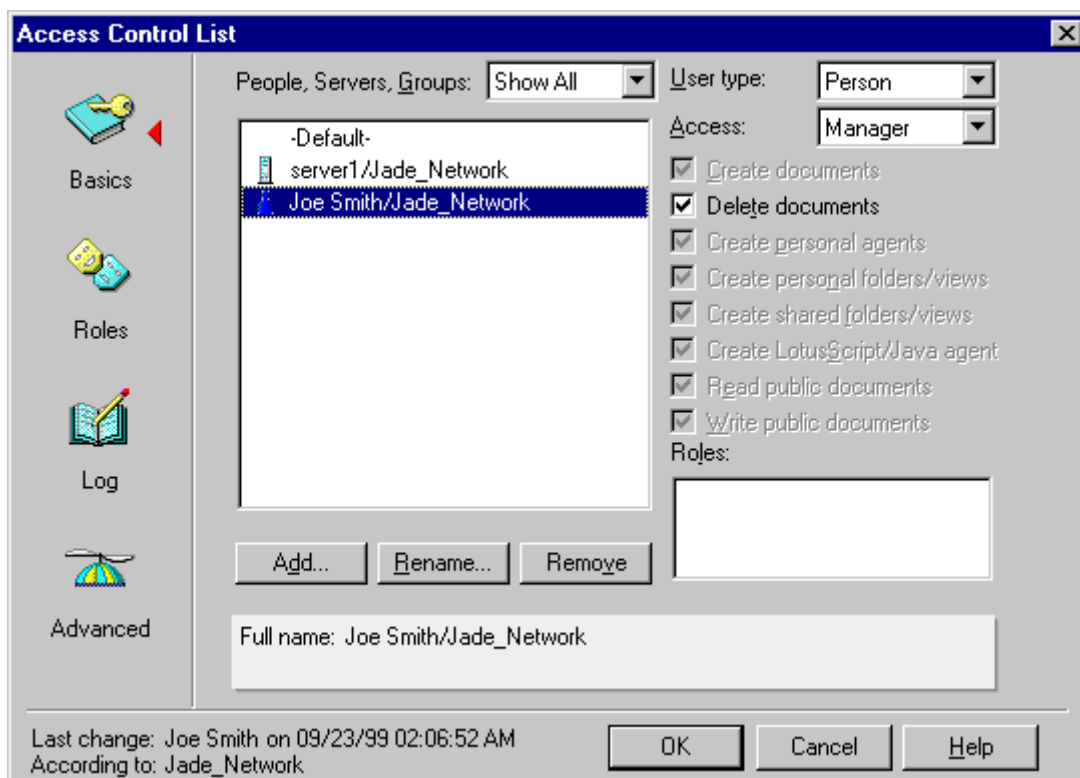


Figure 11: Setting up the access control for SMTP.BOX and MAIL.BOX files

In this example, we have entered the user “Joe Smith/Jade\_Network”. The requirement is that the Access be set to Manager and with the permission to Delete documents. This step is important as this will be the user that Internet Exchange uses to control this particular mail database.

Repeat the steps for the mail database MAIL.BOX and make sure that you are editing the access control of that particular database. The User with access control in MAIL.BOX should be the same with access control as SMTP.BOX. In this case, it should be “Joe Smith/Jade\_Network”.

After you have performed all these basic installation steps, your Notes server is now ready to send mail to the Internet via Internet Exchange.

### **Creating a MAIL.BOX on Notes workstation while running Internet Exchange on a Notes R5 workstation**

When installing Internet Exchange on Notes Workstation, you will need to repeat the steps mentioned above in order to create all the necessary settings. In addition, you need to create a MAIL.BOX file on the Notes Workstation. The usage of MAIL.BOX on a Notes Workstation is for bouncing mail generated by NOTESOUT (outbound process) directly back to the Notes mail sender.

To create a MAIL.BOX file, select "File" from the Notes Workstation Menu (see **Figure 12**). Go to "Database" and select "Create". A Dialog box (as shown in **Figure 13**) will be displayed.

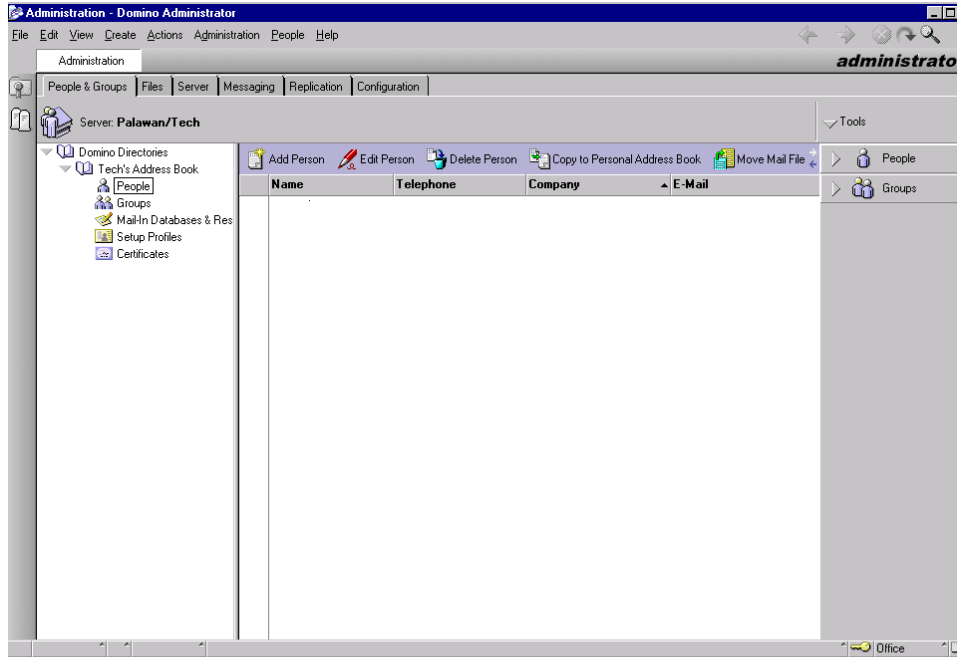


Figure 12: Creating a MAIL.BOX file from the Notes Workstation Menu

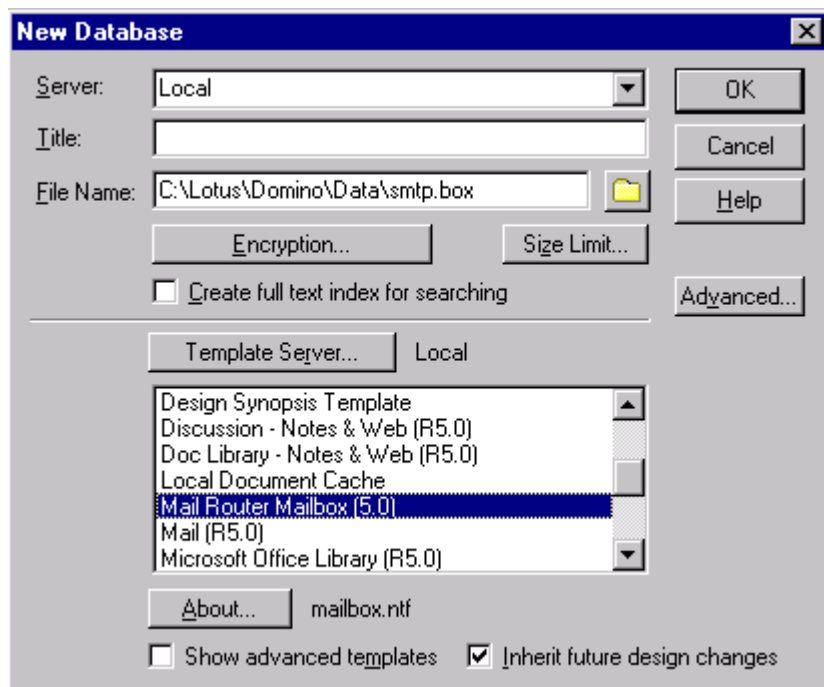


Figure 13: Selecting a Mail Router Mailbox (5.0) to create a database file.

Once again, select “Mail Router Mailbox (5.0)” template to create this database file. The file name must be “MAIL.BOX” which should be located in the DATA directory on the Notes workstation.

### Setting up the Notes connector

Make sure that all the steps mentioned above have been completed before attempting to set up the Notes Connector. Ensure that the Notes Server where the Internet Exchange will be connected to is up and running. Run notessetup.exe from the Internet Exchange installation directory (default is C:\Program Files\lma\Internet Exchange 4.0). A configuration screen will appear (see **Figure 14**).

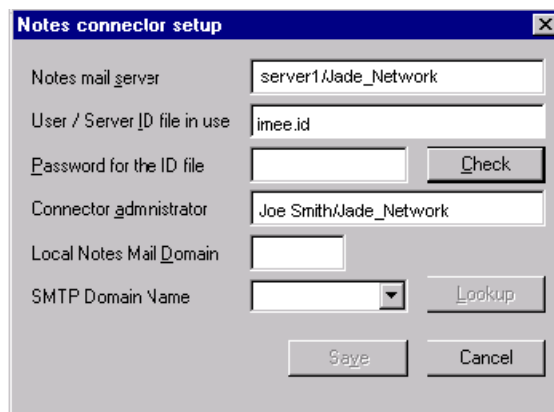


Figure 14: Notes Connector Setup

The fields “Notes Mail Server”, “User/Server ID file in use”, and “Connector administrator” should already be set up automatically and coincide with your Lotus Notes Server or Workstation installation.



However, you will still need to specify values (see **Table**) for the following fields: "Password for the ID file", "Local Notes Mail Domain", and "SMTP Domain Name". In this case, you may supply the following values for the said fields:

| CONNECTOR SET UP FIELDS    | VALUES                 |
|----------------------------|------------------------|
| Notes Mail Server          | server1/Jade_Network   |
| User/Server ID File in Use | imee.id                |
| Password for the ID file   | *****                  |
| Connector Administrator    | Joe Smith/Jade_Network |
| Local Notes Mail Domain    | Sales                  |
| SMTP Domain Name           | ieln                   |

Table: The table provides example values for connector set up fields

Once you have entered the password, click on the "Check" button. You will see a confirmation if the password entered is correct. Once the password for the ID you are using has been verified, click on "Save" to save the settings in the configuration file.

After completing the fields, you will see a screen similar to Figure 15.

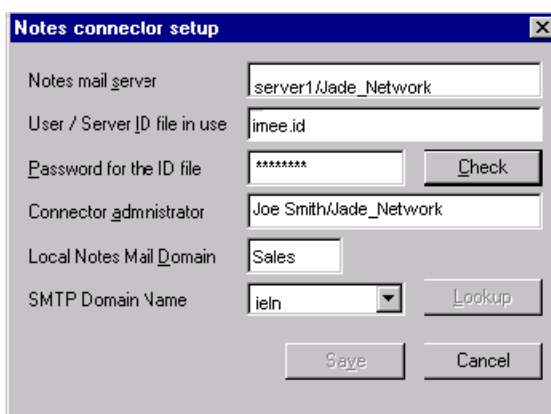


Figure 15: Completed Notes Connector Setup

Then, go to the Internet Exchange web administration interface for Notes connector configuration. Click on the "Notes Connector" button on the web administration interface, then click on the "Notes Domain Configuration" button. See **Figure 16**.

**Configure Notes Domain**

Notes Mail Server:

Local Mail Domain:

ID file in use:

Password for the ID file:

Notes administrator:

SMTP Domain Name:

Include SMTP Domain Name in addresses

Figure 16: Configuring Notes Domain

In this screen, you must specify values for Notes Mail Server. In this case, it should be server1/Jade\_Network. Click on the "Submit" button to save the changes. Now the configuration is set and you can run the "NotesIn" and "NotesOut" modules from the Program menu.

**Conclusion**

You have just completed the configuration. Your system should now be ready to work with either Internet Exchange Gateway or Messaging Server products.