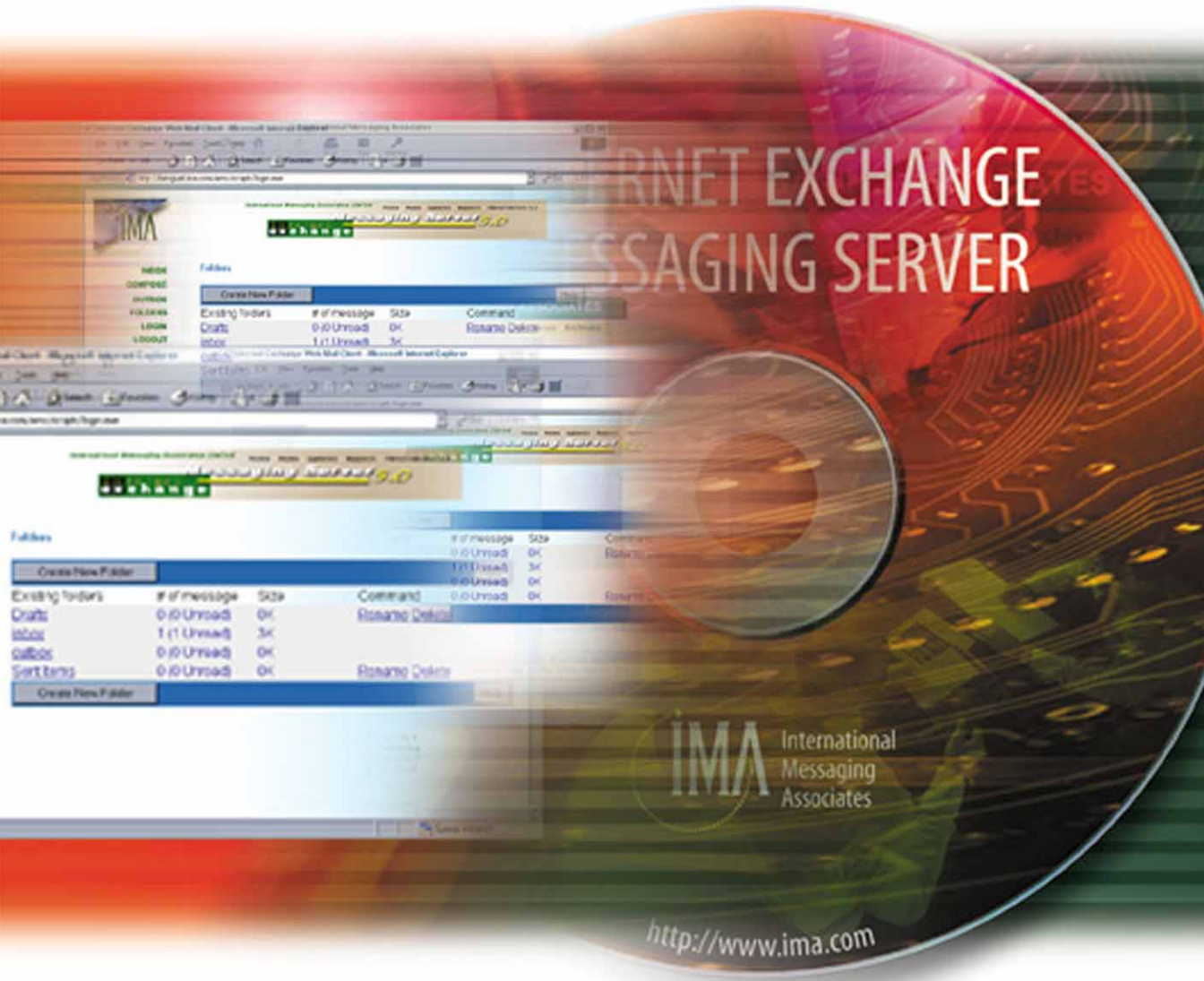


# Internet Exchange Messaging Server

A highly scalable, open architecture, Internet messaging system  
that runs on Windows and Linux platforms.



## Installation Guide

### Version 5

Version 1.0  
June 2001

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# Preface

This is the Internet Exchange Messaging Server (IEMS) version 5 Installation Guide that comes along with your IEMS software. IEMS runs on Microsoft Windows<sup>1</sup> platforms and on six major Linux<sup>2</sup> distributions. As such, this guide has been authored to help you setup, install and run IEMS for Linux and Windows platforms either on a single machine or in a distributed environment. Running IEMS on a single machine means all its components are installed on one machine only. Running IEMS in a distributed environment means its various components are installed and run in parallel across different machines<sup>3</sup>, providing a scalable and multi-platform messaging environment.

You may successfully install IEMS without a license, but this does not mean immediate access to the software. You still need to install a license certificate after the completion of the setup to enable your software. See **“Installing the License Certificate After Installation”** in Chapter 3.

To successfully setup, install and run IEMS, it is best to read the instructions/configuration procedures contained herein. This installation guide contains the following sections:

**Chapter 1, *Installing Internet Exchange Messaging Server 5 on a Single Machine***, enumerates the steps that must be followed in installing IEMS for Linux and Windows in a single machine.

**Chapter 2, *Installing Internet Exchange Messaging Server 5 in a Distributed System***, details the steps that must be followed in installing IEMS for Linux and Windows in a distributed system.

**Chapter 3, *Installing the License Certificate After Internet Exchange Messaging Server 5 Installation***, specifies the steps that must be followed in installing IEMS license certificate.

**Chapter 4, *Running Internet Exchange Messaging Server 5***, provides the steps on how to run IEMS for Linux and Windows platforms.

---

<sup>1</sup> Support for Microsoft Windows platforms include: Windows 98, 2000 and NT.

<sup>2</sup> The six major Linux distribution systems include: Redhat 6.2, 7.0 and 7.1; Caldera 2.3.1; VALinux 6.2.3; TurboLinux Server 6; SuSE 7.1; and Mandrake 7.2 and 8 beta 1.

<sup>3</sup> Running IEMS 5 for Linux in a distributed environment enables you to connect to the cc:Mail and Notes environments that run under Windows.

## Conventions Used in this Manual

The conventions used in this manual are designed to help you learn IEMS easily and efficiently.

Directory Path (e.g. *c:\IMACert.imc*) are printed in italic, arial font.

File names (e.g. **Setup.exe**) are printed in bold, arial font.

Menu choices (drop-down or pull-down list, links, columns, parameters, fields) are presented in bold, arial black font (e.g. **Host Table file name**).

Button commands (e.g. **Add**) are presented in bold, italic, arial font.

Screen Page (e.g. "User Details" page) are put in quote.

Keyboard Keys are presented in this manner: ENTER; DELETE

Anything you are asked to type are presented in courier new font (e.g. `jdoe@ima.com`).

## Before You Start

Before attempting to install and set up IEMS, please take time to read the following:

**Appendix A**, *License Agreement*, states the terms and conditions in using the IEMS.

**Appendix B**, *System Requirements*, outlines the recommended minimum hardware and software configurations needed by your machine to install IEMS and its components, either on Linux or Windows.

You are now ready to know more about the Internet Exchange Messaging Server 5.

# Chapter 1

## Installing Internet Exchange Messaging Server 5 on a Single Machine

IEMS can be installed and run either on a single machine or on a distributed environment.

Installing IEMS on a single machine means all IEMS components such as the MTA, Preprocessor, Directory Server, among others, will reside and run on a single machine.

This chapter details how to install IEMS on a single machine. Because IEMS supports both Linux and Windows, this chapter is divided into two sections; one that describes the installation procedure for Linux and another for Windows.

### Linux Installation

Internet Exchange Messaging Server (IEMS) for Linux distribution consists of two packages, **IEMS** and **DCE RPC**. IEMS is an RPM package that consists the files and executables of the Internet Exchange Messaging Server. RPM is a format for wrapping software into easily installed and maintained packages. **DCE RPC** (Distributed Computing Environment-Remote Procedure Call) on the other hand, is a package consisting of codes and binaries that enable communication between platforms.

These two packages are executed one after the other by the installer program `iems-5.0-linux-setup`, which runs on either non-X windows or X windows environments.

The X-windows based installation incorporates a GUI (graphical user interface), which makes use of windows to display installation information. It is mouse-driven providing effortless navigation through a point-and-click system.

The non-X windows installation, on the other hand, functions the same as its X-windows counterpart, but makes use of text screens instead of windows to present information. Navigation is done through pressing the keys given below:

KEYS	ACTION
UP ARROW KEY	Moves the cursor up
DOWN ARROW KEY	Moves the cursor down
TAB	Moves the cursor from the menu options to the buttons; bring the cursor from one button to another
SPACE BAR	Marks a radio button with an “X” or “O”
ENTER	Displays the next screen

**Note:** To select an option, mark the option’s radio button. Move the cursor to the radio button and press space bar.

You can acquire IEMS by either purchasing the IEMS CD or downloading an evaluation copy at <http://www.ima.com/download/v5eval.html>.

To install IEMS using the CD, insert the CD on your CD-ROM drive and run the `/linux/iems-5.0-linux-setup` file. This displays the IEMS setup opening screen (**Figure 1-1** on page 3).

The downloaded copy of IEMS is either a standard tar (`iems-5.0-linux.tar`) or compressed tar (`iems-5.0-linux.tgz`) file. Hence, it needs to be extracted to obtain the installer file. To do this, follow the steps given below:

1. Create a directory
2. Move the downloaded copy of IEMS to the directory previously created
3. From this directory, extract the installer file by typing any one of the following:

```
tar xvf iems-5.0-linux.tar or tar xvzf iems-5.0-linux.tgz
```



Figure 1-1: Welcome Screen

After extracting the `iems-5.0-linux-setup` file, open a root shell. Go to the directory where the package was extracted and locate the installer file. Run this file by typing :

```
./iems-5.0-linux-setup
```

on the `#` prompt. This will lead you to the screen in **Figure 1-1** above.

**Note:** *The first 7 screens presented here are for the non-x windows installation. The post configuration screens after these are done via web.*

The display of the "Internet Exchange Messaging Server 5 Installer" screen (see **Figure 1-1** above) signals the start of the installation process. To continue with the installation, select Next. This will show the License Agreement\* screen (see **Figure 1-2** on page 4) containing information on the usage of the software.

\*You may check Appendix A, License Agreement, for complete information.



Figure 1-2: License Agreement

If you do not agree with the terms and conditions, click the **Decline** button to terminate installation. Otherwise, click the **Accept** button to indicate your acceptance of the terms and conditions stated herein. This also displays the screen in **Figure 1-3** below.



Figure 1-3: Modifications

**Note:** Some files will be created and modified during and after the entire installation process (see **Figure 1-3** on page 4). Select and press **Accept** to proceed with the installation. Should you want to revert back to the old setup, type `rpm -e iems` to uninstall IEMS after the installation process.



Figure 1-4: Installing DCE-RPC and IEMS package

The DCE RPC 1.1 package as shown in **Figure 1-4** above, will be installed before IEMS. This package enables IEMS to work in a distributed environment.

Select and press **Ok** to install both the DCE RPC package and IEMS (see **Figure 1-5** below).

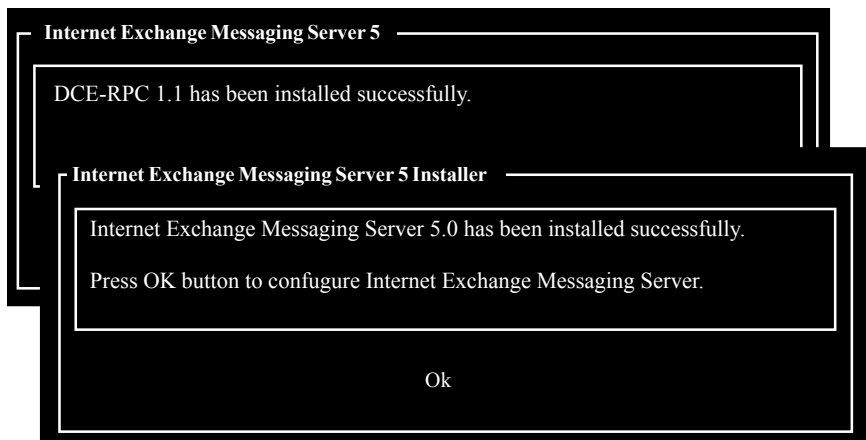


Figure 1-5: Successful installation of DCE RPC 1.1

Once successfully installed, IEMS is ready for configuration. (see **Figure 1-6** below). Select and press **Ok** to proceed with web-based post configuration (see **Figure 1-7** below).

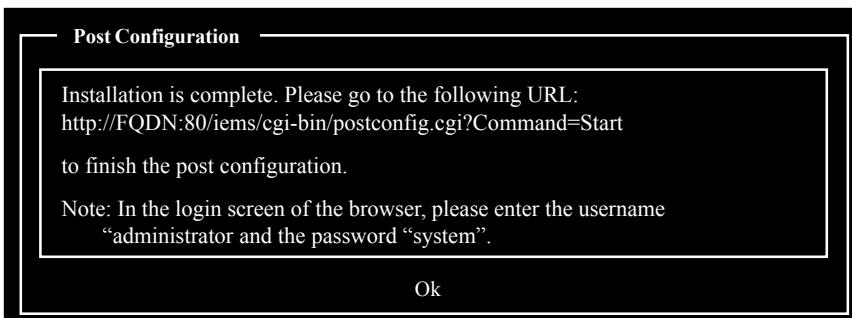


Figure 1-6: Post configuration

To do the post configuration<sup>5</sup>, open a browser. Type:

```
http://:FQDN:80/iems/cgi-bin/poststconfig.cgi?Command=Start
```

where FQDN is the Fully Qualified Domain Name of the machine where IEMS resides.

Before you proceed with the web-based postconfiguration, a dialogue box will prompt you to enter the default username and password. The default username is `administrator` while the default password is `system`. Select and press **Ok**. This will show the welcome screen of the web-based post configuration (see **Figure 1-7** on page 7).

In the “Web-based post configuration” screen, select the **First Internet Exchange Messaging Server 5 Installation** option if you are installing IEMS for the first time.

Press **Accept** to continue. This will display the “Select Components” screen (see **Figure 1-8** on page 7).

<sup>5</sup>If you installed IEMS 5 on X-Windows, the installer automatically launches the IEMS post configuration on netscape or any browser installed in your system provided that you give the complete path of the program.



Figure 1-7: Web-based post configuration opening screen

The “Select Components” screen (see **Figure 1-8** below) lists the key components of IEMS (i.e., Preprocessor, MTA and Message Store) available for installation. Initially, every listed component is selected for installation. This is denoted by the presence of ✓ marks.

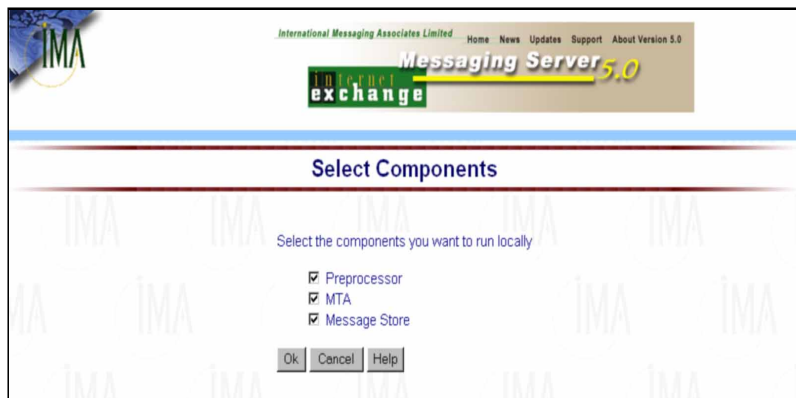


Figure 1-8: Selecting components

Because you are installing the entire messaging server on a single machine, select all the components listed in the above screen. Press **Ok**. This displays the “Certificate Installer” screen (see **Figure 1-9** below).



Figure 1-9: Determining the availability of the license certificate

If you still need to obtain a license certificate from IMA, select **No** and press **Ok** in the “Certificate Installer” screen (see **Figure 1-9** above). This will show a screen asking if you want to apply for an Evaluation Certificate online (See **Figure 1-10** on page 9).

**Note:** Selecting “Yes” in Figure (1-9) means you already have the license certificate and wishes to pursue with the instalation. The next screen that will appear will prompt you to enter the full path name and filename of the certificate (see **Figure 1-14** on page 12).

The screen in **Figure 1-10** on page 9 prompts you to apply for an Evaluation Certificate. Select **Yes** and press **Ok** to apply. This will show the “License Registration” screens (see **Figure 1-11** on page 9). If you do not wish to apply, select **No** and press **Ok**.

**Note:** To register online at your preferred time, simply visit <http://www.ima.com/download/v5eval.html>.

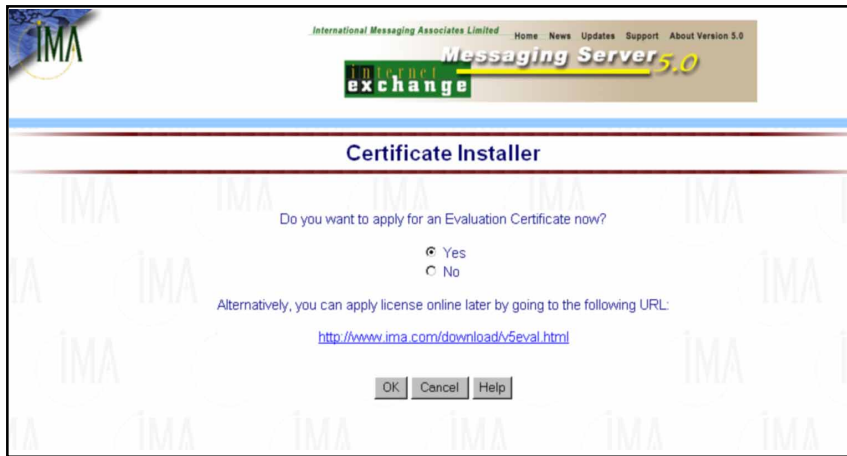


Figure 1-10: Applying for a license certificate online

The screenshot shows the 'License Registration' window. At the top, the IMA logo is on the left, and the title bar reads 'International Messaging Associates Limited Home News Updates Support About Version 5.0'. Below the title bar, the text 'Internet exchange' is displayed in a stylized font, followed by 'Messaging Server 5.0'. The main content area has a light blue background with a repeating 'IMA' watermark. It contains a paragraph: 'Please take some time to fill out the information below so that we may issue you a license certificate. These information are required by our support staff to process your evaluation. Please ensure that these fields are filled in your registration. The certificate will be sent to the email address you specified in the form.' Below this is a form with the following fields: 'Name:' (John Doe), 'Company:' (Big Corporation, Inc.), 'Mailing Address:' (4/F Tower Bldg., Engineering Dept.), 'Country:' (Philippines), 'Email Address:' (john@ima.com), 'Telephone No:' (123-4567890), and 'Facsimile:' (123-4567891). At the bottom are 'Next', 'Cancel', and 'Help' buttons.

Figure 1-11: License Registration

**Figure 1-11** on page 9 requires you to enter information about your company. IMA support staff will use the information entered here when processing your request for an evaluation certificate. Click the **Next** button.

The screen below allow the system administrator to enter his primary and secondary contact information. The primary technical contact is required, whereas the secondary is optional. After completing the form, click the **Next** button to continue. This will show the “FQDN Information” screen (see top screen in **Figure 1-12** below).

International Messaging Associates Limited Home News Updates Support About Version 5.0

**Messaging Server 5.0**  
**exchange**

**License Registration**

Technical Contacts:

Primary

Name: Jade Enriquez

Telephone No: 098-1234567890

---

International Messaging Associates Limited Home News Updates Support About Version 5.0

**Messaging Server 5.0**  
**exchange**

**License Registration**

The licensing of Internet Exchange is tied with the Fully Qualified Domain Names of each machine running Internet Exchange components. The Fully Qualified Domain Name for a given machine is the combination of its Host Name and Domain Name. For instance, the FQDN for the machine "mail" in the domain ima.com is "mail.ima.com".

License Information - FQDN

MTA Server: mail.ima.com

Directory Server: mail.ima.com

Message Store: mail.ima.com

ccMail:

Connector:

Note Connector:

Operation Environment

Operating System: Linux

Accept Cancel Help

Figure 1-12: FQDN Information

The license of IEMS is tied with the FQDN of the machines (other than the Preprocessor modules) running the IEMS components. The FQDN for a given machine is the combination of its Host Name and Domain Name. For instance, the FQDN “host1.ima.com” is made up of the following: host1 is the host name or machine name and ima.com is the domain name.

To fill the FQDN information screen in **Figure 1-12**, type the FQDN of the machines which will run the IEMS components you will use (MTA Server, Directory Server, Message Store, cc:Mail Connector, Notes Connector). The corresponding operating system you are using is indicated (e.g. Linux). Click the **Finish** button to complete the registration process.

**Note:** Filling up the corresponding boxes for cc:Mail and Notes are optional. It would only be applicable if you are installing either or both in a distributed environment with a different FQDN.

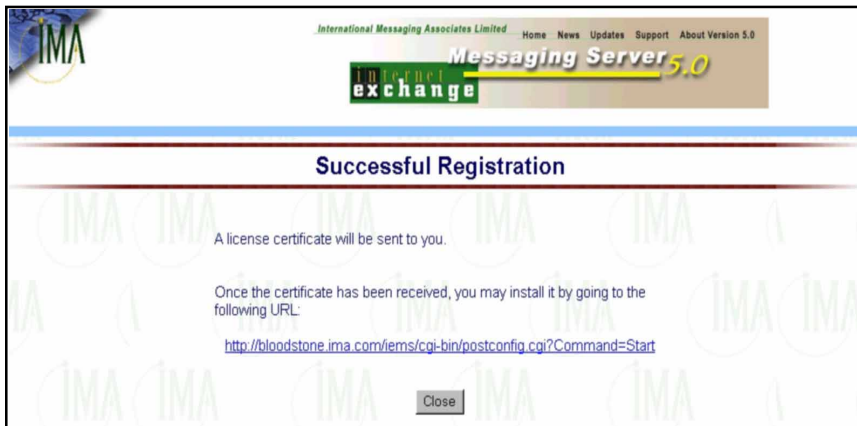


Figure 1-13: Successful License Registration

The above screen confirms a successful license registration. Once registration is successful, the evaluation certificate will be sent to the email address you have indicated in the registration form. Once received, install the certificate on the indicated URL.

**Figure 1-14** on page 12 will appear if you already have the license certificate. On this screen, type the directory location and name of the certificate file<sup>6</sup> (i.e., **/CERT/IMACert.imc**) in the box provided and click **Ok**. Press ENTER.

*By default, the screen will display IMACert.imc.*

<sup>6</sup> Linux is case sensitive. You have to type IMACert.imc as is, otherwise, the certificate file will not be recognized.

Once the certificate installer locates the certificate file, it extracts and displays the licensing information contained in the certificate (see **Figure 1-15** below).

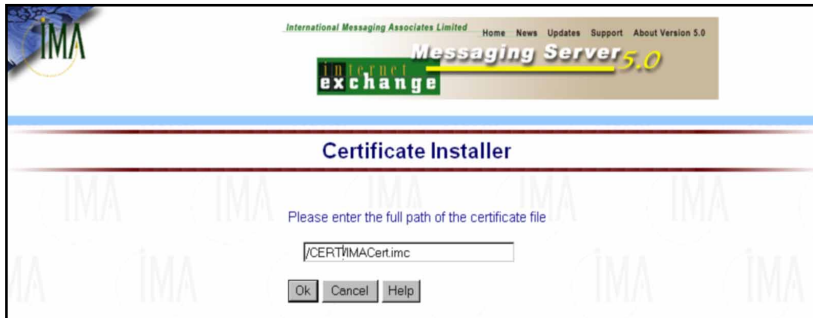


Figure 1-14: Entering the license certificate path

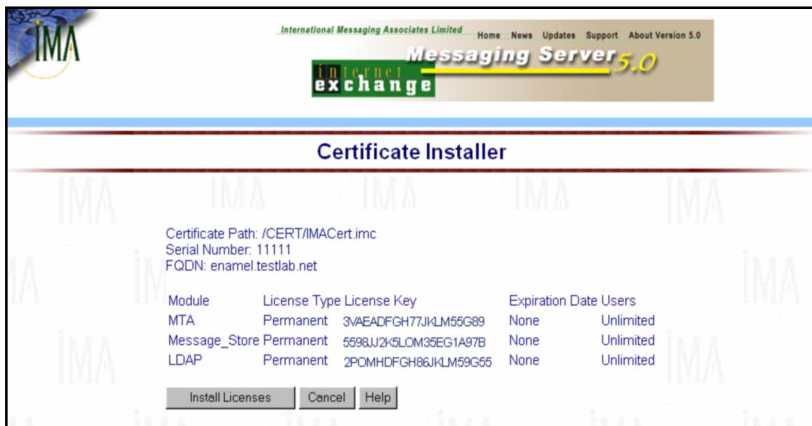


Figure 1-15: Displaying the contents of the certificate file

**Certificate Serial Number**

The application serial number for the IEMS components being licensed.

**Certificate Information**

The IEMS components (MTA, Message Store, LDAP, cc:Mail connector, Notes connector) that require a software license for activation.

**License Type**

The type of license to be installed. There are three license types, namely:

- **Evaluation/Interim**

These keys are time-limited keys (normally 30 days), and are used with the freely available evaluation copies of IEMS 5. Once a registration form is received from a customer, the License Manager generates this key and sends it to the client.

These keys can be updated to a permanent license at a later date.

- **Permanent**

These keys are used for the conversion of a given evaluation/interim evaluation key into a permanent license and are only applied to serialized copies of the software. Permanent keys are generated only by an authorized license manager.

**License Key**

The license key stored in the certificate. This is supplied by IMA to enable the software license.

**Expiration Date**

The date of validity for the component's certificate/license key. The date format should be: mm/dd/yy.

**Users**

The number of users allowed for the component being licensed.

On the "Certificate Installer" screen (see **Figure 1-15** on page 12), click **Install Licenses**. This action displays the "Configuration Complete" screen (see **Figure 1-16** on page 14), which points you to a site, containing information on the configuration and administration of IEMS. This completes the installation of IEMS for Linux.

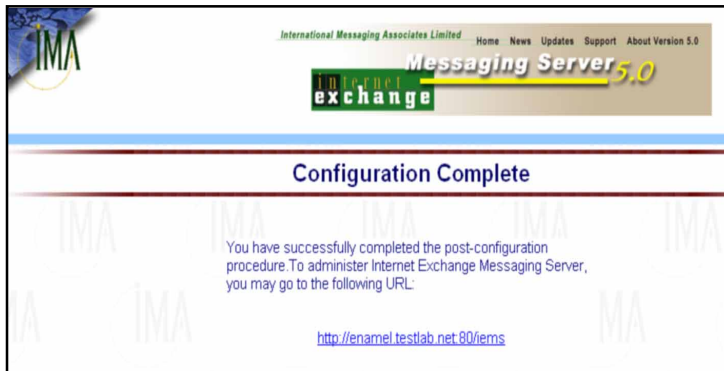


Figure 1-16: Displaying the administration and configuration site

**Note:** The actual FQDN of the machine where IEMS 5 is installed will appear on this screen (e.g. [mail.ima.com](mailto:mail.ima.com)).

## Windows Installation

Before installing IEMS for MS Windows, you must decide if you wish to install and configure cc:Mail and/or Notes connectors.

If you wish to include cc:Mail connector support, you must install the Lotus VIM ( 32-bit Windows version) in your machine in order for IEMS to work properly with cc:Mail. Make sure that you do not have multiple copies or different versions of the Lotus VIM library in your system.

You may download the VIM libraries from [ftp://ftp.support.lotus.com/pub/comm/ccmail/dev\\_tools/vdlw32.zip](ftp://ftp.support.lotus.com/pub/comm/ccmail/dev_tools/vdlw32.zip). To install the Lotus VIM library, overwrite the existing files with the latest version of the VIM library.

For more information on the cc:Mail VIM support, please go to <http://www.ima.com/pdf/ccmailcn.pdf> or <http://www.ima.com/documents/whitepaper/2.0/vim6db8.html>.

If you wish to install the Notes connector, make sure that Domino R4.6/R5 have been properly installed before installing IEMS. The NOTES.INI file, located under the C:\LOTUS\DOMINO directory of the Notes Domino Server, shall be moved to the Microsoft Windows installation directory. The default location for Windows NT is C:\WINNT. Similarly, if you are installing IEMS on R4.6/R5 Notes Workstation, move the NOTES.INI file from C:\LOTUS\notes directory of the Notes 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 R4.6/R5 Domino Server. 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 R4.6/R5 Server, an automated tool guides you through the initial server configuration. From there, 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). Start the “Lotus Notes Domino Administrator program” and complete the following steps:

- I. Create the Foreign SMTP domain document
- II. Establish SMTP connection document
- III. Add SMTP routing task to your Notes server
- IV. Create SMTP.BOX file to hold outbound messages
- V. Setup the access control for SMTP.BOX and MAIL.BOX
- VI. Create MAIL.BOX file on the Notes Workstation
- VII. Setup the Notes connector

For more information, please see <http://www.ima.com/pdf/notescn.pdf> and <http://www.ima.com/pdf/notes5config.pdf>.

**If you are not going to include cc:Mail and Notes support, the installation procedure starts here.**

You can install IEMS<sup>7</sup> for Windows on a single machine in one of two ways. One, is to simply insert the IEMS CD on your machine's CDROM drive and let the autorun utility automatically initiate the installer setup program. The setup opening screen (see **Figure 1-17** on the next page) will appear. In case this does not happen, run the setup.exe file manually from your CD-ROM drive (located in the Windows directory).

---

<sup>7</sup>This program is designed to be both installed and removed from the system should the need arise.

The other installation method applies to the evaluation copy of IEMS (**iems-5.0-windows.zip**) which can be from <http://www.ima.com/download/v5eval.html>.

The downloaded copy is compressed. Hence, you first need to extract the installer file setup.exe in your preferred directory. After extraction, locate the setup.exe file in the directory where you extracted the IEMS files and run it. Like the first method, this also leads you to the IEMS setup opening screen in Figure 1-17 below.

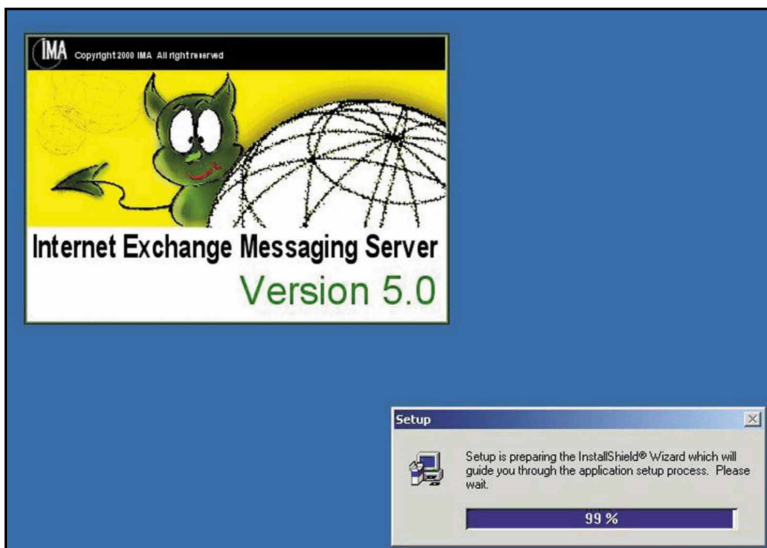


Figure 1-17: Setup opening screen

The “Welcome” screen (see **Figure 1-18** on page 17) informs you that copyright laws and international treaties protect IEMS.

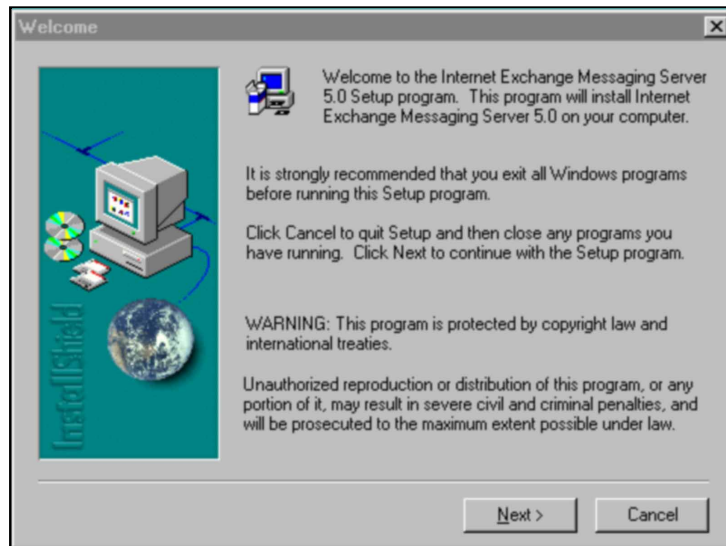


Figure 1-18: Welcome screen

Click the **Next** button to proceed with the installation. This action displays the "License Agreement" screen (see **Figure 1-19** on page 18).

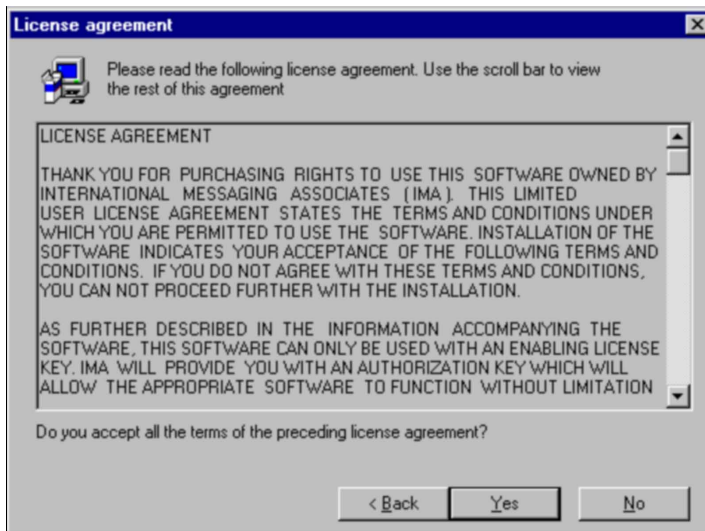


Figure 1-19: License Agreement

The above "License Agreement" screen contains information on the usage of the software.

If you do not agree with the terms and conditions, click the **No** button. The installation will terminate. Clicking the **Yes** button indicates your acceptance of the terms and conditions stated herein. Thus, allowing you to proceed with the installation (see **Figure 1-20** on page 19).



Figure 1-20: Selecting installation type

In the above screen, select the **First Internet Exchange Messaging Server 5 Installation** option if you are installing IEMS for the first time.

If you are installing additional IEMS components on multiple machines, select the **Installing Additional Internet Exchange Messaging Server 5 Components** option.

To initiate installation, choose the type of installation you wish to perform. Press **Next** to continue. This will display the "Choose Destination Location" screen (see **Figure 1-21** on page 20).

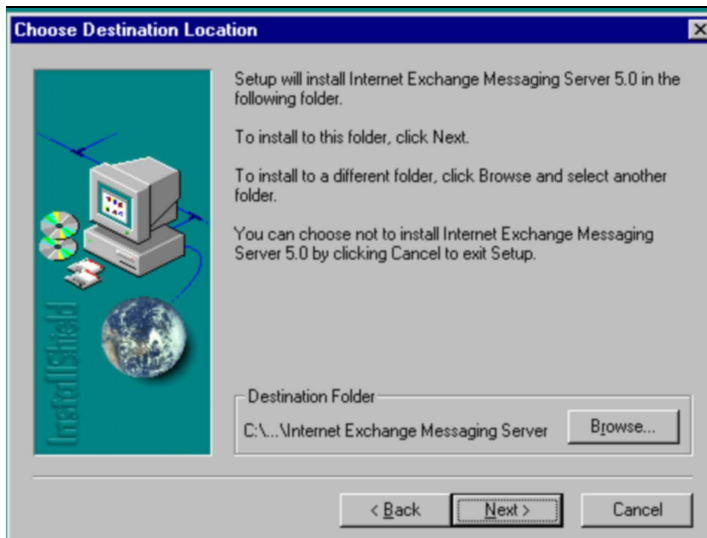


Figure 1-21: Choosing directory location for IEMS

Specify the directory or folder where you wish the executable files of IEMS stored. By default, these files will be installed in the *C:\Program Files\IMA\Internet Exchange Messaging Server 5* folder.

If you wish to install IEMS in a different folder, use the **Browse** button to indicate your preferred directory. After specifying the directory location, click the **Next** button.

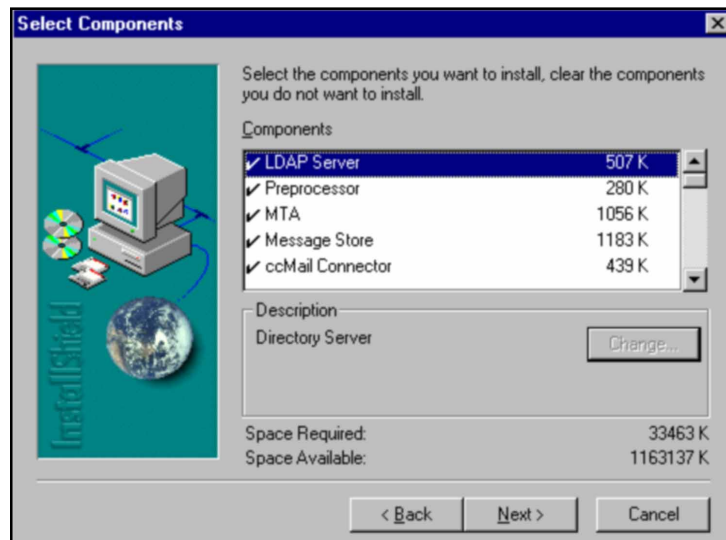


Figure 1-22: Selecting the components to be installed

A new screen (see **Figure 1-22** above) lists all the IEMS components available for installation. The installer checks if you already have cc:Mail or Notes installed in your system. If such components already exist in your system, they are automatically selected. If there is none, such components are deselected for installation. This is denoted by the check mark at the left most side of each component. If you do not want a specific component installed, remove the check mark. After determining the components to be installed, click the **Next** button.

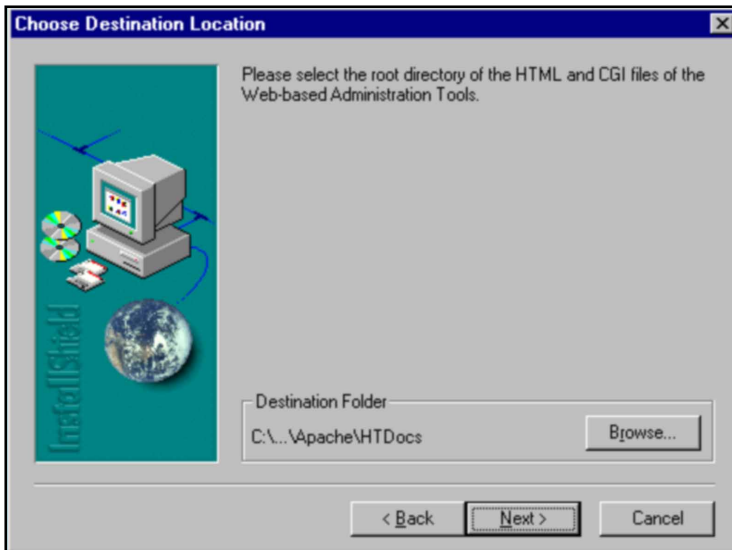


Figure 1-23: Choosing directory location for HTML and CGI files

The screen (see **Figure 1-23** above) prompts you to indicate the directory where you wish the HTML and CGI files of the web-based administration tools installed. By default, these files will be installed in the *C:\Program Files\IMA\Internet Exchange Messaging Server 5\Apache\HTDocs* folder. However, if you wish to install the HTML and CGI files in a different directory, you may use the **Browse** button to indicate your preferred directory.

After specifying the directory location, click the **Next** button. This action displays the “Select Program Folder” (see **Figure 1-24** on page 23).

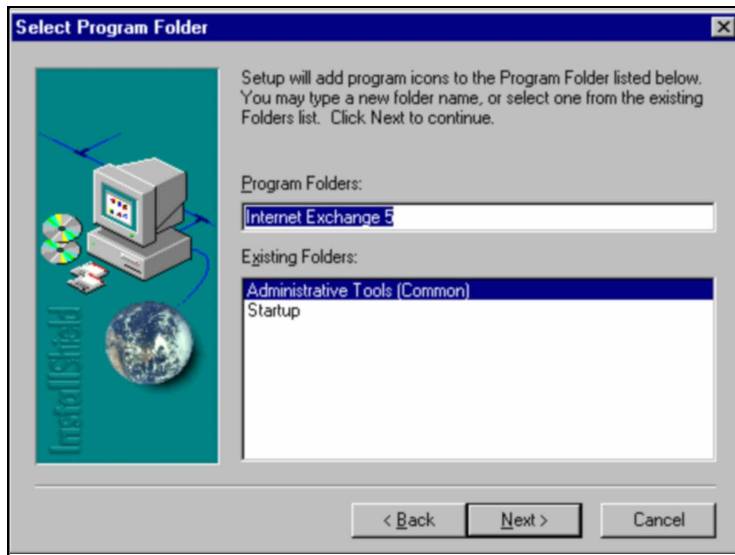


Figure 1-24: Selecting program folder

Enter the name of the folder where the IEMS program files will be stored. By default, the program folder name is set to “Internet Exchange 5”. If you wish to change this name, you may do so in this screen. You may also select from any of the folder names included in the “Existing Folders” list. After specifying the program folder, click the **Next** button. This will show the screen with a progress bar (see **Figure 1-25** below) that displays how much of the installation process has been completed.

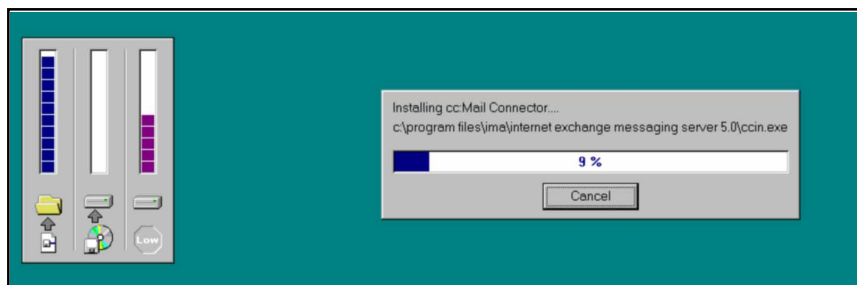


Figure 1-25: Installation progress bar

**Note:** Pressing any key while installation is in progress displays the “Exit Setup” screen. Click the **Resume** button to continue installation.

Upon completion of the installation, the setup program informs you that the end of installation has been reached (see **Figure 1-26** below).

Click the **Finish** button.

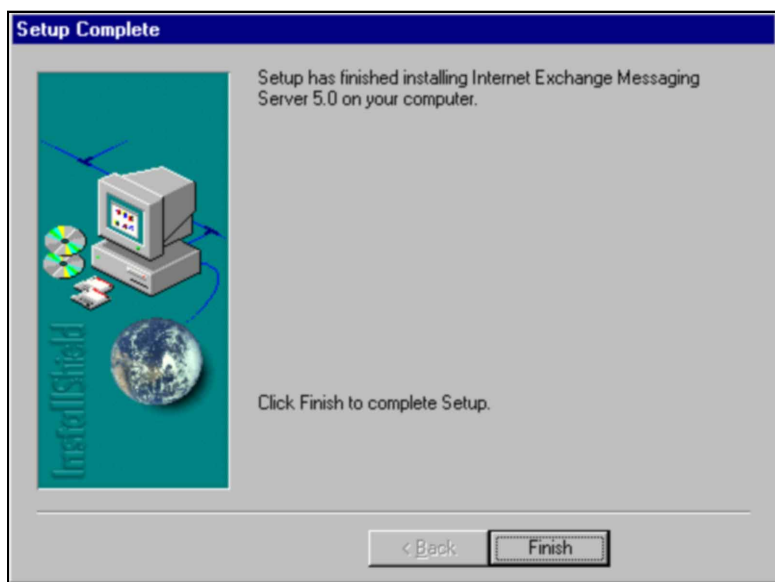


Figure 1-26: Setup complete

If the cc:Mail and Lotus Notes connectors<sup>6</sup> were not selected for installation, the setup program directly proceeds to the installation of licenses (see **Figure 1-29** on page 28). If not, screens for preconfiguring these connectors will appear.

---

<sup>6</sup>The cc:Mail and Notes connectors configuration screens will only appear if you have selected them among the components to be installed in your machine.

## cc:Mail Connector

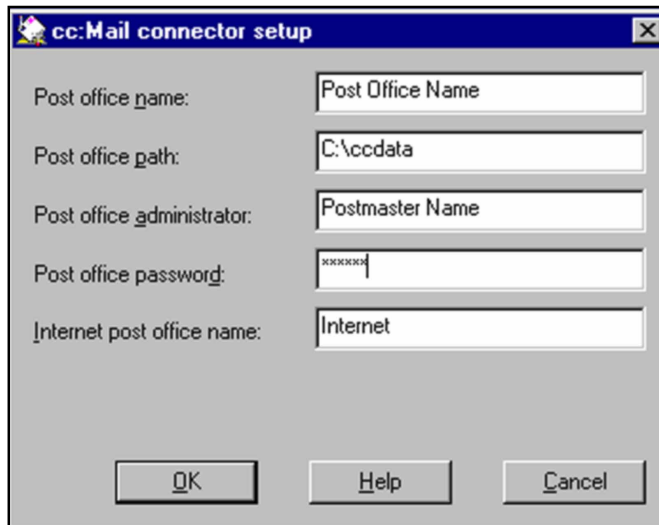


Figure 1-27: Configuring the cc:Mail connector

On the above “cc:Mail Connector Setup” screen, provide information on the following:

### Post Office Name

The name of the cc:Mail Post Office (e.g. Jade) that IEMS will log on to, to retrieve and send messages.

### Post Office Path

The directory where the cc:Mail Post Office resides (e.g. \ccmail\ccdata). If the Post Office is on a shared network, it is suggested that a drive letter mapping be given instead of a UNC (Universal Network Convention) path.

### Post Office Administrator

The cc:Mail address of the administrator (e.g. Postmaster) managing IEMS.

### Post Office Password

The password that IEMS will use to log on to the local cc:Mail Post Office. The password appears on screen as a row of asterisks for security purposes.

### Internet Post Office Name

The Internet Post Office name (e.g. Internet) which IEMS will use to log on to the cc:Mail Post Office. This name must exist in the cc:Mail directory and must be defined as a Post Office. Although any unique name may be used here, it is recommended that “Internet” be used for clarity.

After entering values for all the fields, click the **OK** button. If the Notes connector was installed, this action displays the “Notes Connector Setup” screen (see **Figure 1-28** below).

## Notes Connector

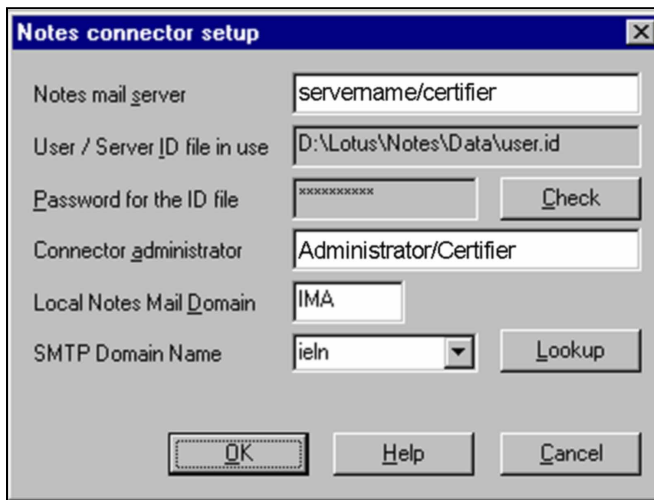
The image shows a Windows-style dialog box titled "Notes connector setup". It contains several input fields and buttons. The fields are: "Notes mail server" with the text "servename/certifier"; "User / Server ID file in use" with the text "D:\Lotus\Notes\Data\user.id"; "Password for the ID file" with a masked password "xxxxxxxxxx" and a "Check" button to its right; "Connector administrator" with the text "Administrator/Certifier"; "Local Notes Mail Domain" with the text "IMA"; and "SMTP Domain Name" with a dropdown menu showing "ieln" and a "Lookup" button to its right. At the bottom of the dialog are three buttons: "OK", "Help", and "Cancel". The "OK" button is highlighted with a dashed border.

Figure 1-28: Configuring the Notes connector

### Notes mail server

The name of the Notes server (e.g. notes5/Jade) that will be accessed by IEMS.

**User/Server ID file in use**

The name of the ID file (e.g. C:\Lotus\Notes\Data\user.id) specified in the entry KeyFileName of IEMTA.INI file. IEMS uses the owner of this ID file to access SMTP.BOX and MAIL.BOX in the Notes server. Normally, the file is created in the data directory of the Lotus Notes server/workstation during the installation process. If KeyFileName does not contain any path information, IEMS automatically appends the data directory specified in the directory from IEMTA.INI as the prefix.

**Password for the ID file**

The password that will be used by the user to access the SMTP.BOX and MAIL.BOX in the Notes server. The password will appear on screen as a row of asterisks for security purposes.

**Connector Administrator**

The user name for the administrator (e.g. John Doe/Jade). By default, IEMS uses the owner of User/Server ID file as the name of the administrator. Messages received by IEMS addressed to the Postmaster will be sent to this Notes user.

**Local Notes Mail Domain**

The local Notes mail domain name (e.g. Jade) connected to IEMS. This is created automatically in the server during the installation of the Notes server.

**SMTP Domain Name**

The domain name of the machine to which IEMS is connected to. Select the correct entry to enable concurrent multiple SMTP server for a single Notes environment (i.e., ieln). On the “Notes Connector Setup” screen (see **Figure 1-28** on page 26), enter the **Password for the ID file** and click **Check**. After typing the **Local Notes Mail Domain** to be used, click the **Lookup** button. This action displays choices in the **SMTP Domain Name** menu. Choose an SMTP domain name from the menu.

Click the **OK** button to continue with the installation. This displays the “Certificate Installer” screen (see **Figure 1-29** on page 28) which determines whether or not you have received the license certificate.

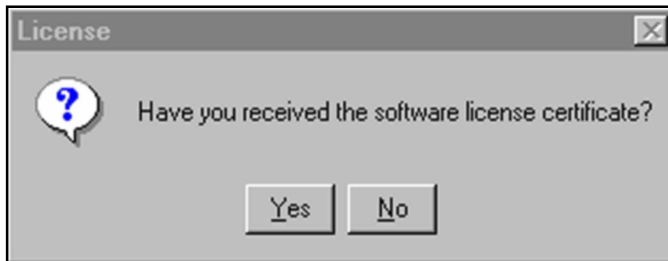


Figure 1-29: Determining the availability of the license certificate

The screen above appears after successfully installing IEMS on a single machine and pre-configuring the connectors (if installed). This screen signals the start of the license certificate installation. The license certificate contains the keys necessary to activate IEMS components.

If you still need to obtain a license certificate from IMA, press the **No** button in the above "Certificate Installer" screen. This will show a screen asking if you wish to apply for an Evaluation Certificate online (See **Figure 1-30** below).

**Note:** Clicking on **Yes** button means you already have the license certificate. The next screen that will appear will prompt you to enter the full path name and filename of the certificate (see **Figure 1-34** on page 32).

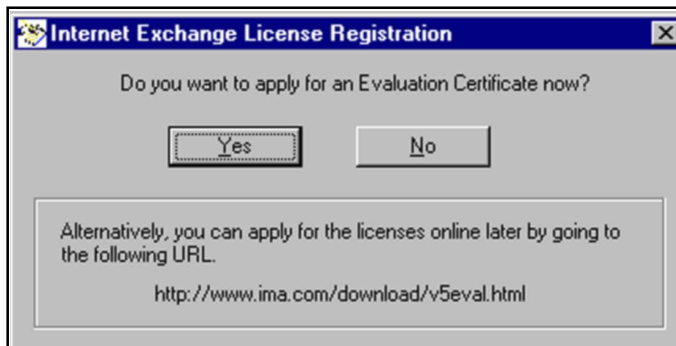
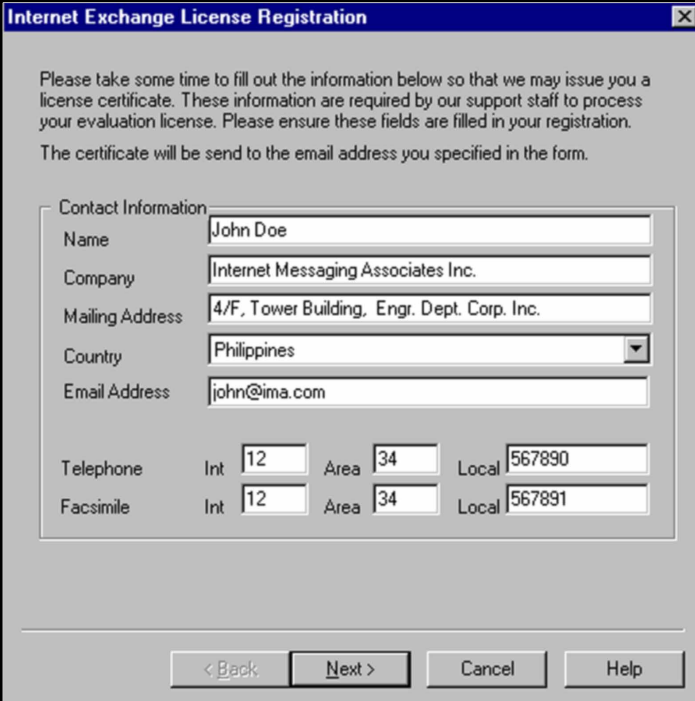


Figure 1-30: Apply for a license certificate online

This screen prompts you to apply for an Evaluation Certificate. Press **Yes** to apply. This will show the “License Registration” screen (see Figure 1-31 below). Press **No** if you do not wish to apply.

**Note:** To register online at your preferred time, simply visit <http://www.ima.com/download/v5eval.html>.



The image shows a Windows-style dialog box titled "Internet Exchange License Registration". It contains a block of text at the top explaining the purpose of the form. Below the text is a section titled "Contact Information" which contains several input fields. The fields are: Name (John Doe), Company (Internet Messaging Associates Inc.), Mailing Address (4/F, Tower Building, Engr. Dept. Corp. Inc.), Country (Philippines, shown in a dropdown menu), Email Address (john@ima.com), Telephone (with sub-fields for Int: 12, Area: 34, and Local: 567890), and Facsimile (with sub-fields for Int: 12, Area: 34, and Local: 567891). At the bottom of the dialog box are four buttons: "< Back", "Next >", "Cancel", and "Help".

Please take some time to fill out the information below so that we may issue you a license certificate. These information are required by our support staff to process your evaluation license. Please ensure these fields are filled in your registration. The certificate will be send to the email address you specified in the form.

Contact Information

Name: John Doe

Company: Internet Messaging Associates Inc.

Mailing Address: 4/F, Tower Building, Engr. Dept. Corp. Inc.

Country: Philippines

Email Address: john@ima.com

Telephone: Int 12 Area 34 Local 567890

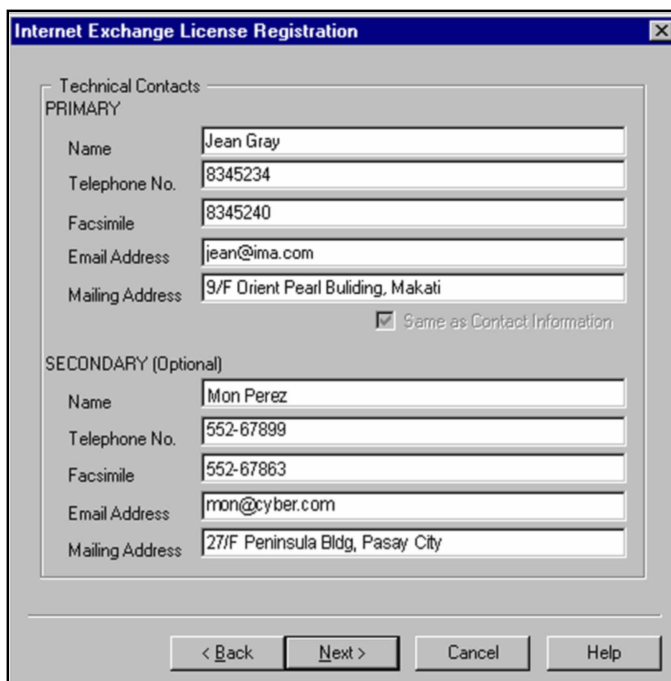
Facsimile: Int 12 Area 34 Local 567891

< Back Next > Cancel Help

Figure 1-31 License Registration

**Figure 1-31** above requires you to enter information about your company. IMA support staff will use the information entered here to process your request. Click the **Next** button.

The screen below allows the system administrator to enter his primary and secondary contact information. The primary technical contact is required, whereas the secondary is optional. After completing the form, click the **Next** button to continue. This will show the “FQDN Information” screen (see **Figure 1-33** on page 31).

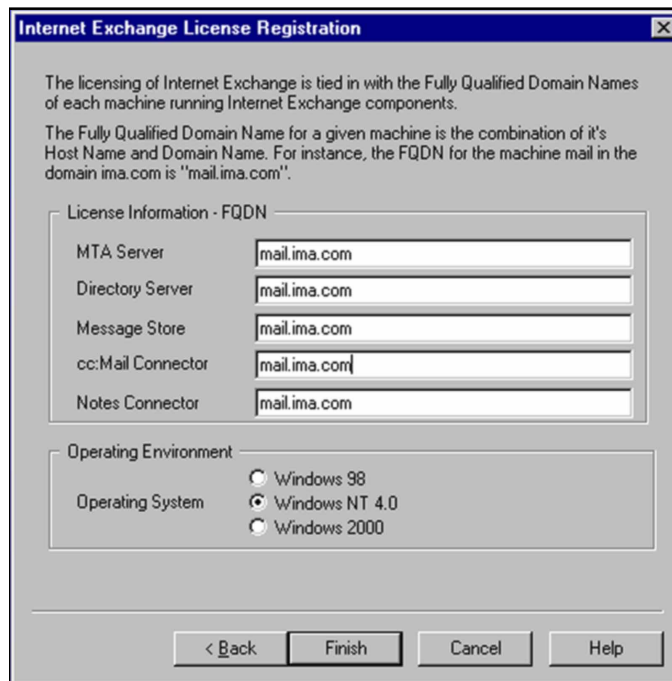


The image shows a Windows-style dialog box titled "Internet Exchange License Registration". It contains two sections for technical contacts. The "PRIMARY" section has fields for Name (Jean Gray), Telephone No. (8345234), Facsimile (8345240), Email Address (jean@ima.com), and Mailing Address (9/F Orient Pearl Buliding, Makati). There is a checkbox labeled "Same as Contact Information" which is checked. The "SECONDARY (Optional)" section has fields for Name (Mon Perez), Telephone No. (552-67899), Facsimile (552-67863), Email Address (mon@cyber.com), and Mailing Address (27/F Peninsula Bldg, Pasay City). At the bottom are four buttons: "< Back", "Next >", "Cancel", and "Help".

Technical Contacts	
<b>PRIMARY</b>	
Name	Jean Gray
Telephone No.	8345234
Facsimile	8345240
Email Address	jean@ima.com
Mailing Address	9/F Orient Pearl Buliding, Makati
<input checked="" type="checkbox"/> Same as Contact Information	
<b>SECONDARY (Optional)</b>	
Name	Mon Perez
Telephone No.	552-67899
Facsimile	552-67863
Email Address	mon@cyber.com
Mailing Address	27/F Peninsula Bldg, Pasay City

< Back   Next >   Cancel   Help

Figure 1-32: License Installation



The licensing of Internet Exchange is tied in with the Fully Qualified Domain Names of each machine running Internet Exchange components.

The Fully Qualified Domain Name for a given machine is the combination of its Host Name and Domain Name. For instance, the FQDN for the machine mail in the domain ima.com is "mail.ima.com".

License Information - FQDN

MTA Server	mail.ima.com
Directory Server	mail.ima.com
Message Store	mail.ima.com
cc:Mail Connector	mail.ima.com
Notes Connector	mail.ima.com

Operating Environment

Operating System

- ☐ Windows 98
- ☒ Windows NT 4.0
- ☐ Windows 2000

< Back Finish Cancel Help

Figure 1-33: FQDN Information

The license of IEMS is tied with the Fully Qualified Domain Name (FQDN) of the machines (other than the Preprocessor modules) running the IEMS components. The FQDN for a given machine is the combination of its Host Name and Domain Name. For instance, the FQDN "host.ima.com" is made up of the following: mail is the host name or machine name, ima.com is the domain name.

To fill the FQDN information on the "FQDN Information" screen above, type the FQDN of the machines which will run the IEMS components you will use (MTA Server, Directory Server, Message Store, cc:Mail Connector, Notes Connector). The corresponding operating system you are using is indicated (e.g. Linux). Click the **Finish** button to complete the registration process.

A screen will confirm a successful license registration. Once registration is successful, the evaluation certificate will be sent to the email address you have indicated in the registration form. This prompts you to install the certificate on the indicated URL, once received.

**Figure 1-34** below will appear if you already have a license certificate. This prompts you to specify the path where the certificate file is installed. By default, the file is located at `C:\Cert\IMACert.imc`. If the certificate file is located in another directory, use the **Browse** button. Once the certificate installer locates the certificate file, it extracts and displays the licensing information contained in the certificate.

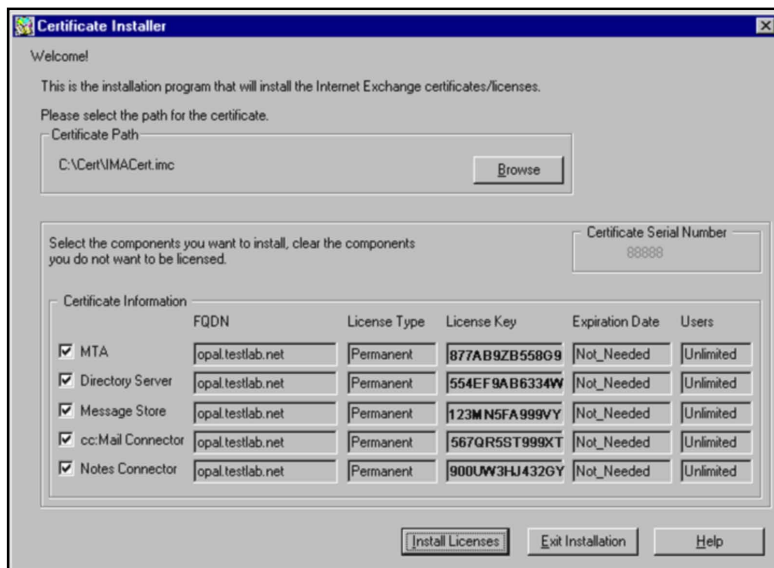


Figure 1-34 Specifying certificate path

**Note:** For a single machine, only one FQDN is used because each component is installed in the same machine.

Select a component to be licensed by marking its check box then, click the **Install Licenses** button, a new screen displaying the component licenses that have been successfully installed appears (see **Figure 1-35** below). Click the **Ok** button.

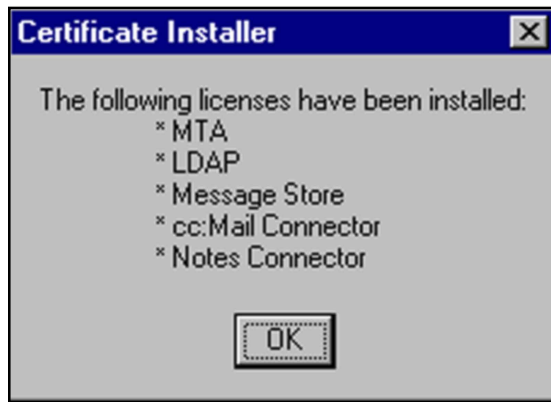


Figure 1-35: Confirming installation of licenses

Upon confirming the installation of the licenses, **Figure 1-36** below will appear to indicate successful installation. Click the **OK** button. **Figure 1-37** on page 34 will then appear. The screen will point you to a site containing information on the configuration and administration of IEMS.

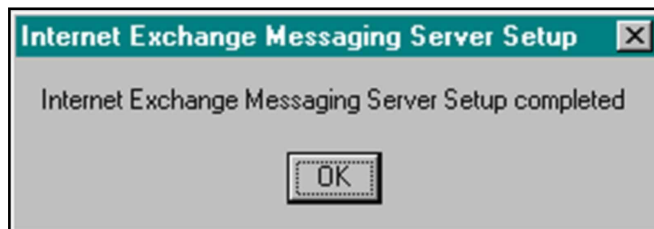


Figure 1-36: Setup complete



Figure 1-37: Information screen

## Chapter 2

# Installing Internet Exchange Messaging Server 5 in a Distributed Environment

The Internet Exchange Messaging Server (IEMS) 5 may be installed in a distributed environment consisting of multiple Linux and/or Windows machines. For the purpose of having an example scenario, two computers (Machine A and Machine B) are used in installing the components of IEMS. The components are distributed as follows:

Machine A – Directory Server, Preprocessor, MTA with FQDN of “host1.ima.com” and IP address “192.168.0.1”

Machine B – Message Store with FQDN of “host2.ima.com” and IP address: “192.168.0.2”

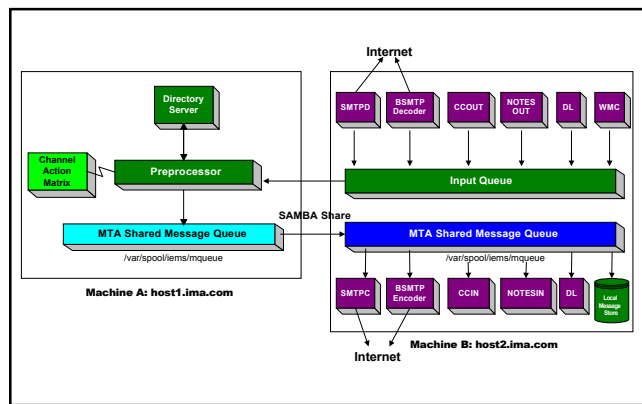


Figure 2-1: IEMS in a distributed environment

To install IEMS in a distributed environment, the Directory Server must first be installed for some of the core software configurations. Without an active Directory Server, you cannot install additional components on the other machines.

## Linux Installations

IEMS for Linux binaries, by default, are installed under the */opt/iems/bin* directory, while the Message Queue is located under the */var/spool/iems/mqueue* directory.

In order to install and run IEMS for Linux in a distributed environment, the system administrator must first log on as the “root” user. The administrator must then configure the SAMBA server on Machine A where the Preprocessor will be installed to make the remote Message Queue directories available to the machines running the other MTA components.

### On Machine A:

To install the Directory Server, Preprocessor and MTA components on Machine A, follow the steps in “**Installing Internet Exchange Messaging Server 5 for Linux on a Single Machine**” on **Chapter 1**, pages 1 to 14.

After installing the Directory Server, Preprocessor and MTA components on Machine A, preconfigure the Preprocessor to allow Machine B to access the components installed in Machine A.

IEMS comes with a **preconf** utility specially designed to help you perform this task. The **preconf** utility is located in the */opt/iems/bin/* directory. To run the **preconf** utility, type the following:

```
/opt/iems/bin/preconf
```

This displays the Preprocessor configuration menu (see screen on page 37).

```

Preprocessor Configurations
[1] Local Internet Domains          host1.ima.com,host2.ima.com
[2] Default Local Delivery Channel  local
[3] Internet Delivery Channel       smtpc
[4] MQ Server                       host1.ima.com
[5] MQ Server Access Addresses      192.168.0.1, 192.168.0.2
[6] MQ Remote Access Directory      /var/spool/ims/remotqueue
Enter [1....6] to change value
    [A]dd
    [R]eload settings
    [Q]uit to save changes

```

On this menu screen, perform the following:

1. Modify the **Local Internet Domain** field by selecting “Local Internet Domains” ( 1 ) and pressing ENTER. This displays a new set of options for modifying the local Internet domain.

```

Enter  [A]DD AN ITEM IN THE LIST
        [D]ELETE AN ITEM FROM THE LIST
        [M]ODIFY AN ITEM FROM THE LIST
        [E]XIT
        [C]ANCEL

```

2. Since you are going to add the FQDN of the machine B that runs the Message Store in the **Local Internet Domain** field, select **Local Internet Domain** by typing A and pressing ENTER. Enter the FQDN of B. Type E to save and return to the Preprocessor configurations menu.
3. Modify the **MQ Server Access Addresses** field by selecting “MQ Server Access Address ( 5 ) and pressing ENTER. This displays a new set of options for modifying the MQ Server Access Addresses.
4. Since you are going to add the IP address of Machine B, which contains the Message Store, to the **MQ Server Access Addresses** field, select “Add items in the List” ( A ) and press ENTER.

5. The **preconf utility** instructs you to type the IP address you wish to add to the **MQ Server Access** field. Type the IP address (e.g. 192.168.0.2) and press ENTER.
6. After adding the IP address of Machine B to the Preprocessor, select "Exit" (E) to save and exit from the current menu.

You have just finished setting up Machine A. You may now start the services in this machine before installing the Message Store on Machine B.

To configure the SAMBA share for RedHat Linux 6.2/7.0/7.1, perform the following:

1. Go to `/etc` (RedHat 6.2) or `/etc/samba/` (RedHat7.0/7.1) directory of the SAMBA server.
2. Edit the **smb.conf** file using a text editor.
3. Insert the following information:

```
[mqueue]
public=yes
writable=yes
browseable=yes
path=/var/spool/iems/mqueue
max connections=0
available=yes
valid users=iems
```

where:

**[mqueue]** - the samba share name

**public=yes** - allows those without a login on the server to access a share

**writable=yes** - means given full permission to write

**browsable=yes** - means existence of the share can be seen even by those without rights to the share

**path=/var/spool/iems/mqueue** - directory accessed through the share

**max connections= 0** - means unlimited connections

**available=yes** - means share is available to all

**valid users=iems** - means only iems has rights to the share

4. Save the new settings of the **smb.conf** file.

After configuring the Samba, create and add an “smb user” which has permission to access the Message Queue. To do this, follow these steps:

1. Type:

```
smbadduser iems:iems
```

at the # prompt (root login) then press ENTER

**Note:** *The login user name from Host1 and Host2 are both set as ‘iems’, this however, can be changed in any name, provided, the user has full permission to the share. It is advisable for both to use the default login name (iems) for stability.*

2. Enter the password for the shared folder for the remote machine for authentication purposes.

3. Once the # appears restart the SAMBA daemon by executing:

```
/etc/rc.d/init.d/smb restart
```

### On Machine B:

To install the Message Store on Machine B, follow the steps in “**Installing Internet Exchange Messaging Server 5 for Linux on a Single Machine**” on **Chapter 1**, pages 1 to 12 except for the following:

In selecting installation type (see **Figure 1-7** on page 6), choose **Installing Additional Internet Exchange Messaging Server 5 Components installation** because you are installing an additional IEMS component, which is the Message Store on Machine B.

In selecting a component to be installed (see **Figure 1-8** on page 7), select only the Message Store.

After successfully installing the Message Store on Machine B, mount the Message Queue located in Machine A (i.e., `//host1/mqueue`) to `/var/spool/iems/remotqueue` on Machine B by typing:

```
smbmount //host1/mqueue /var/spool/iems/remotetequeue  
username=iems,password=your_password9
```

After mounting the Message Queue to Machine B, restart all the installed services to reflect the changes done because of the addition of the Message Store.

## Windows Installations

### On Machine A:

To install the Directory Server, Preprocessor and MTA on Machine A, follow the steps in “**Installing Internet Exchange Messaging Server 5 for Windows on a Single Machine**” on **Chapter 1**, pages 10 to 30.

After successfully installing the Directory Server, Preprocessor and MTA on Machine A, the next step will be to make the Message Queue on Machine A accessible to the other MTA components installed in other machines. To do this, follow the steps given below.

1. Go to the directory location of the Message Queue. By default, this directory is in *Program Files\IMA\Internet Exchange Messaging Server 5\*.
2. Right click the MsgQueue folder. A menu will appear.
3. Select **Properties**. The “Msgqueue Properties” tab will appear.
4. On this tab, click the **Shared As** radio button.
5. Type “msgqueue” in the input box opposite the **Shared As** radio button.
6. Click the **Ok** button.

To access Message Store from Machine B, you must first run the Preprocessor Configuration (see **Figure 2-2** on page 41). To run, go to the directory where the Preprocessor Configuration utility (preconf.exe) is

---

<sup>9</sup>The password you are going to use is the one you entered when you created an SMB user.

installed. By default, this is installed in C:\Program Files\IMA\Internet Exchange Messaging Server 5.0\.. Locate and then double click the **preconf.exe** file. The screen below will appear.

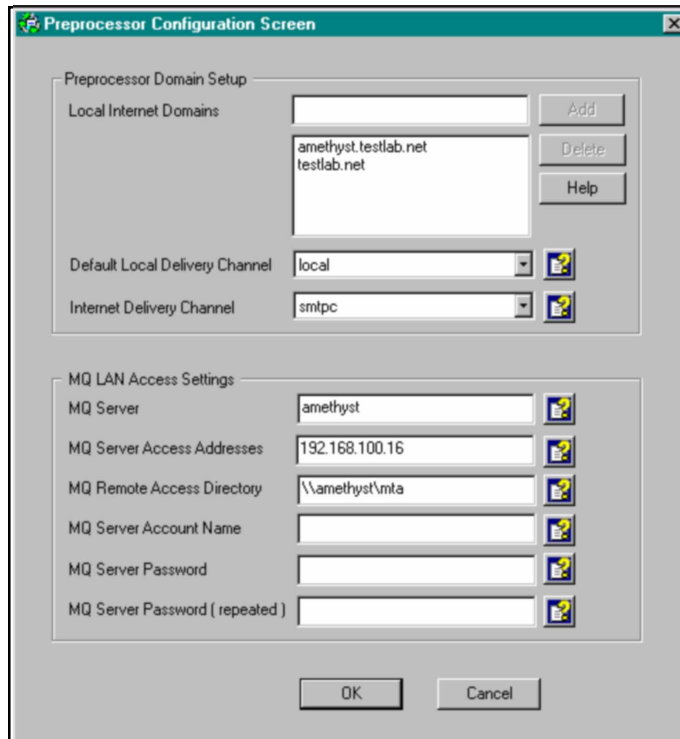


Figure 2-2: Preprocessor Configuration

On the above screen, each box corresponds to the following:

1. **Local Internet Domain:** contain the listing of the domains which your mail server accepts. Use the **Add** and **Delete** button to modify the listing. Add the FQDN of Machine B.
2. **Default Local Delivery Channel:** used for recipients who belong to the local domain, but are not located in the Directory Server.

3. **Internet Delivery Channel:** set to SMTPC by default. This sets the channel which is capable of delivering messages to the internet.
4. **MQ Server:** the host name of the system where the preprocessor is running. If the Messaging Server is installed on multiple system, both the computer name and the Internet Host Name must be the same.
5. **MQ Server Access Address:** has a mechanism which only allows connection from host with the IP address matching this entry. The default will be the IP address of the host.
6. **MQ Remote Access Directory:** contains the name of the network share when the Messaging Server is installed on multiple systems. The share must be accessible using the 'MQ Account Name' and 'MQ Server Password' as entered on the last two fields. This is the directory shared and accessible to the other machines (i.e. MsgQueue).
7. **MQ Server Account Name:** this field is only applicable if you plan to install Messaging Server on multiple systems. When installing IEMS on a distributed system, this stands for the user account name authorized to access the Message Queue.
8. **MQ Server Password:** contains the password which gives the 'MQ Account Name' full access to the 'MQ Remote Access Directory' on the above field.
9. **MQ Server Password:** contains the same password as the previous field. It has to be entered twice for verification purposes.

After providing the values to the corresponding fields, press **Ok** button to proceed with the rest of the installation process.

### On Machine B:

To install the Message Store on Machine B, do same steps in installing the Directory Server, Preprocessor and MTA on Machine A except for the following: In selecting an installation type (see **Figure 1-20** on page 19), choose **Installing additional Internet Exchange Messaging Server**.

After selecting the installation type, enter the FQDN of the machine running the Directory Server (see **Figure 2-3** on page 43).

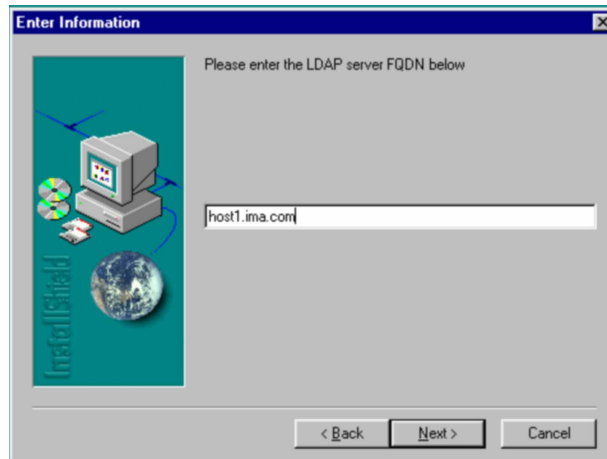


Figure 2-3: Entering FQDN of the machine running the Directory Server

Input the port number used by the Directory Server (see **Figure 2-4** below). By default, the Directory Server uses port 389. If the Directory Server is using a different port number, enter that port number in the text box provided.

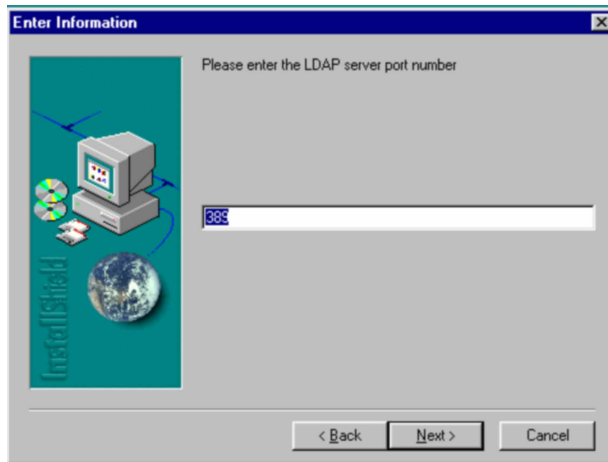


Figure 2-4: Entering Directory Server port number

In selecting the components to be installed, select Message Store, Web Administrator and Apache Web Server (see **Figure 1-22** on page 21). Select **Message Store**. Having installed Message Store to Machine B, restart all machines for the new settings to take effect.

## Chapter 3

# Installing the License Certificate After Installation

Successful installation of the Internet Exchange Messaging Server (IEMS) 5 does not mean immediate access to the software. You still need to install a license certificate to enable the IEMS software. Validation of the certificate is necessary to be able to use the applications.

## Linux Installations

To install the license certificate for IEMS for Linux after software installation, copy the certificate file (IMACert.imc) to a local folder (i.e., / CERT). On the # prompt, issue the command:

```
chown -R iems:iems /CERT
```

Open a Linux shell as the “root” user and issue the following command to start the certificate installer. Type:

```
/opt/iems/bin/certinst
```

to launch the “Certificate Installer” (see the box on next page).

```

-----
Certificate Installer
-----

```

Welcome!

This is the installation program for Internet Exchange Messaging Server 5 certificates/licenses.

B - Browse certificate path

C - Cancel (Exit) Installation

Command:

The screen above instructs the setup program to proceed with the license installation. Typing “B” or “b” will prompt you to enter the directory location of the certificate. Type the directory location and the name of the certificate file. By default, the file is located at /CERT/IMACert.imc. Press ENTER.

Once the certificate installer locates the certificate file, it extracts and displays the licensing information contained in the certificate (see the box below).

```

      Expiration Date      : Not_Needed
      Users                 : Unlimited

*** LDAP ***
      FQDN                  : mail.ima.com
      License Type          : Permanent
      License Key           : 554EF9AB6334W4
      Expiration Date      : Not Needed
      Users                 : Unlimited

*** Message Store ***
      FQDN                  : mail.ima.com
      License Type          : Permanent
      License Key           : 567QR5ST999XT9
      Expiration Date      : Not Needed
      Users                 : Unlimited

*** MTA ***
      FQDN                  : mail.ima.com
      License Type          : Permanent
      License Key           : 877AB9ZB558G9
      Expiration Date      : Not Needed
      Users                 : Unlimited

```

B - Browse certificate path  
C - Cancel (Exit) installer  
I - Install license

Typing “I” would give you the choice to install each module.

Install MTA? (Y/N)

Install LDAP? (Y/N)

Install MessageStore? (Y/N)

Selecting “Y” would install the corresponding modules and complete the license installation.

## Windows Installations

You may install the license after the installation of IEMS for Windows by going to the *Start\Programs\Internet Exchange\System Configuration* or by opening Windows Explorer and going to the installation directory of IEMS (C:\Program Files\IMA\Internet Exchange Messaging Server 5). Double click the **Certinst.exe** file to activate the “Certificate Installer” screen.

The “Certificate Installer” screen (see **Figure 1-29** on page 28) signals the start of the software license installation. Click the **Yes** button. A new screen (see **Figure 1-34** on page 32) prompts you to specify the path where the certificate file is installed. By default, the file is located at C:\Cert\IMACert.imc. If the certificate file is located in another directory, use the **Browse** button. Once the certificate installer locates the certificate file, it extracts and displays the licensing information contained in the certificate (see **Figure 1-34** on page 32). Select a module to be licensed by marking its check box then, click the **Install Licenses** button. This displays the component licenses that have been successfully installed.

## Chapter 4

# Running Internet Exchange Messaging Server 5

This section familiarizes you with the ways by which IEMS can be run.

## Linux Installations

### Via the Run Control Script

To start the responder, type:

```
/etc/rc.d/init.d/responder start
```

on the # prompt of the current directory.

On the other hand, if you wish to stop the responder, type:

```
/etc/rc.d/init.d/responder stop
```

### By running the executable files

Another way of running Internet Exchange Messaging Server (IEMS) 5 for Linux is to manually start each of the different components of IEMS. If the Apache web server has not been started yet, start it by typing:

```
/etc/rc.d/init.d/httpd start
```

on the # prompt of the current directory.

Next, go to the directory where the executable files of the IEMS components are stored (/opt/iems/bin). Once on the # prompt directory, type:

```
./<exe> &
```

where:

- <exe>** - executable file of the component
- &** - runs the program in the background

For example, if you wish to run the Preprocessor, type:

```
./preprocessor &
```

Below are the corresponding executable files of the IEMS components:

- IMAP4 - imapd
- POP3 - pop3d
- Local Mail Delivery Agent - locmail
- Local Mail Server - locmails
- Message Store Server - msgstors
- Quota Agent - quota
- Message Queue Router - mqrouter
- SMTP Client - smtpc
- SMTP Daemon - smtpd
- Batch SMTP - bsmtip
- Distribution List Manager - dl
- Directory Server - Idapserv
- Preprocessor - preprocessor
- Log Daemon - logd

## Windows Installations

### Through Start Menu

Go to *Start\Programs\Internet Exchange 5\Apache Web Server*. This runs the Apache web server. Then, go to *Start\Programs\Internet Exchange 5\MC Responder* to activate the MC Responder. This automatically runs all the IEMS components (i.e., LDAP, MTA, Preprocessor, among others).

**By running the executable files**

Another way of starting the different components of IEMS manually is to run the Apache web server by going to *Start\Programs\Internet Exchange\Apache Web Server*. Open MS DOS session, then go to the IEMS directory (C:\Program Files\IMA\ Internet Exchange Messaging Server 5.0\ ) to run the corresponding executable files of the components you wish to run. See list of executable files on the previous page.

# Appendix A

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# Appendix B

## System Requirements

For optimum performance, it is recommended that Internet Exchange Messaging Server (IEMS) 5 and its components be installed using the following minimum configurations:

### For Windows 98

- Pentium or higher
- Minimum recommended RAM: 64MB
- Minimum recommended hard disk space for applications: 200MB
- Minimum recommended hard disk space for message store: 1GB or dependent on the number of users

### For Windows 2000 and Windows NT 4.0 with SP4

- Pentium or higher
- Minimum recommended RAM: 96MB
- Minimum recommended hard disk space for applications: 200MB
- Minimum recommended hard disk space for message store: 1GB or dependent on the number of users

### For Linux

- Pentium 133 or higher
- Minimum recommended RAM: 64MB
- Minimum recommended hard disk space for applications: 200MB
- Minimum recommended hard disk space for message store: 1GB or dependent on the number of users.

IEMS 5 supports the following Linux distributions:

- RedHat 6.2, 7.0 and 7.1
- Caldera 2.3.1
- VAlinux 6.2.3
- TurboLinux Server 6
- Suse 7.1
- Mandrake 7.2 and 8 beta 1

Support for other Linux distribution systems will be added soon.

**Note:** *The system requirements mentioned above are applicable for both single and multiple machines (distributed system) installations.*

The base hardware/software configuration is only for running the machine's OS (Operating System) and other software needed to install IEMS properly. To determine the total minimum memory requirement needed by your machine to install the OS and IEMS, you must add the memory requirements of the IEMS components to the base hardware configuration. To compute the minimum memory requirement for your machine, please refer to the table found on the next page. This table contains the memory requirement of each IEMS component.

For example, if you have a machine running Windows 98, you need a minimum of 64MB of RAM to run the OS. If you wish to install the IEMS on that machine, then you will have to install additional RAM of 6MB for SMTPD, 4MB for SMTPC, 2MB for the MQ Router, 4MB for the Directory Services, 4MB for the DL Manager, 8MB for the Preprocessor, 4MB for the Btrieve Database Engine, 4MB for the Anti-virus, 2MB for the Responder, 2MB for the Apache Web Server, 2MB for the Auto-loop detection DLL (Dynamic Link Library), 2MB for the Anti-spam, and 8MB for the Administration Tools. Thus, the machine needs at least 118MB of RAM in order for IEMS to run smoothly.

Before installing the software either on a single machine or on a distributed system, make sure that you have installed the certificate file issued to you by IMA on your local disk drive. It is recommended that you place it on your "C:" drive. By default, the certificate installer reads the certificate file (**ImaCert.imc**) from *C:\CERT*. The certificate file will be used to activate the modules to be installed on your machine. Please take note of the directory path of the certificate file. You will be prompted to verify this directory path when you reach the licensing stage. Without the certificate file, you will not be able to run the software.

Internet Exchange Messaging Server Components	Memory Usage
* CCIN	8
* CCOUT	8
* NOTESIN	8
* NOTESOUT	8
SMTPD	6
SMTPC	4
MQ ROUTER	2
DIRECTORY SERVICES	4
LMDA	4
LOCAL MAIL SERVER	2
DL MANAGER	4
MESSAGE STORE SERVER	2
IMAP4 SERVER	6
POP3 SERVER	4
PREPROCESSOR	8
BTRIEVE DATABASE ENGINE	4
ANTI-VIRUS	4
ANTI-SPAM	2
RESPONDER	2

**Note:** Those with \* are applicable only in IEMS 5 for Windows platform.

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