BEA eLink Adapter for Mainframe

Installation Guide

BEA eLink Adapter for Mainframe 4.0
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BEA® eLink™ Adapter for Mainframe Installation Guide

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4.0	825-001006-004	January 2001	BEA eLink Adapter for Mainframe 4.0

Contents

About This Document

This document provides instructions for installing BEA eLink Adapter for Mainframe (eAM) software.

This document covers the following topics:

- "Preparing to Install eLink Adapter for Mainframe" describes tasks you may need to consider before installing and running eLink Adapter for Mainframe (eAM) software.
- "Installing the eLink Adapter for Mainframe Software" provides installation information for eAM software.

What You Need to Know

This document is intended for system administrators and application programmers who will configure the eLink Adapter for Mainframe.

e-docs Web Site

BEA product documentation is available on the BEA corporate Web site. From the BEA Home page, click on Product Documentation or go directly to the “e-docs” Product Documentation page at `http://e-docs.bea.com`.

How to Print the Document

You can print a copy of this document from a Web browser, one file at a time, by using the File—>Print option on your Web browser.

A PDF version of this document is available on the eAM documentation Home page on the e-docs Web site (and also on the documentation CD). You can open the PDF in Adobe Acrobat Reader and print the entire document (or a portion of it) in book format. To access the PDFs, open the eAM documentation Home page, click the PDF files button and select the document you want to print.

If you do not have the Adobe Acrobat Reader, you can get it free of charge from the Adobe Web site at `http://www.adobe.com/`.

Related Information

The following BEA publications are also available:

- *BEA eLink Adapter for Mainframe User Guide*
- *BEA eLink Adapter for Mainframe Release Notes*
- *BEA CRM Administration Guide*

Contact Us

Your feedback on the eLink Adapter for Mainframe documentation is important to us. Send us e-mail at `docsupport@bea.com` if you have questions or comments. Your comments will be reviewed directly by the BEA professionals who create and update the eAM documentation.

In your e-mail message, please indicate that you are using the documentation for the eLink Adapter for Mainframe 4.0 release.

If you have any questions about this version of eAM, or if you have problems installing and running eAM, contact BEA Customer Support through BEA WebSupport at `www.bea.com`. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package.

When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

Document Conventions

The following documentation conventions are used throughout this document:

Item	Examples
Variable names	Variable names represent information you must supply or output information that can change; they are intended to be replaced by actual names. Variable names are displayed in italics and can include hyphens or underscores. The following are examples of variable names in text: *error_file_name* The *when-return* value...

Item	Examples

User input and screen output	For screen displays and other examples of input and output, user input appears as in the first of the following lines; system output appears as in the second through fourth lines:
	`dir c:\accounting\data`
	`Volume in drive C is WIN_NT_1`
	`Volume Serial Number is 1234-5678`
	`Directory of C:\BEADIR\DATA`

Syntax	Code samples can include the following elements: ■ Variable names can include hyphens or underscores (e.g., *error_file_name)* ■ Optional items are enclosed in square brackets: [ ]. If you include an optional item, do not code the square brackets. ■ A required element for which alternatives exist is enclosed in braces {}. The alternatives are separated by the pipe (vertical bar) character: |. You must include only one of the alternatives for that element. Do not code the braces or pipe character. ■ An ellipsis (...) indicates that the preceding element can be repeated as necessary.
Omitted code	An ellipsis (...) is used in examples to indicate that code that is not pertinent to the discussion is omitted. The ellipsis can be horizontal or vertical.
Environment variables	Environment variables are formatted in an uppercase font. ENVFILE=${APPDIR}
Key names	Key names are presented in boldface type. Press **Enter** to continue.
Literals	Literals are formatted in a monospace font. `class extendSample`
Window items	Window items are presented in boldface type. Window items can be window titles, button labels, text edit box names or other parts of the window. Type your password in the **Logon window**. Select **Export** to make the service available to the client.

1 Preparing to Install eLink Adapter for Mainframe

This section contains information to help you prepare to install BEA eLink Adapter for Mainframe (eAM) software. To ensure successful installation and operation of the eAM software, complete the tasks described in this section.

This section contains the following topics:

Note: All references to ATMI files, functions, and documentation apply to Tuxedo, eLink Platform, and WebLogic Enterprise files, functions, and documentation.

Determining Your Configuration

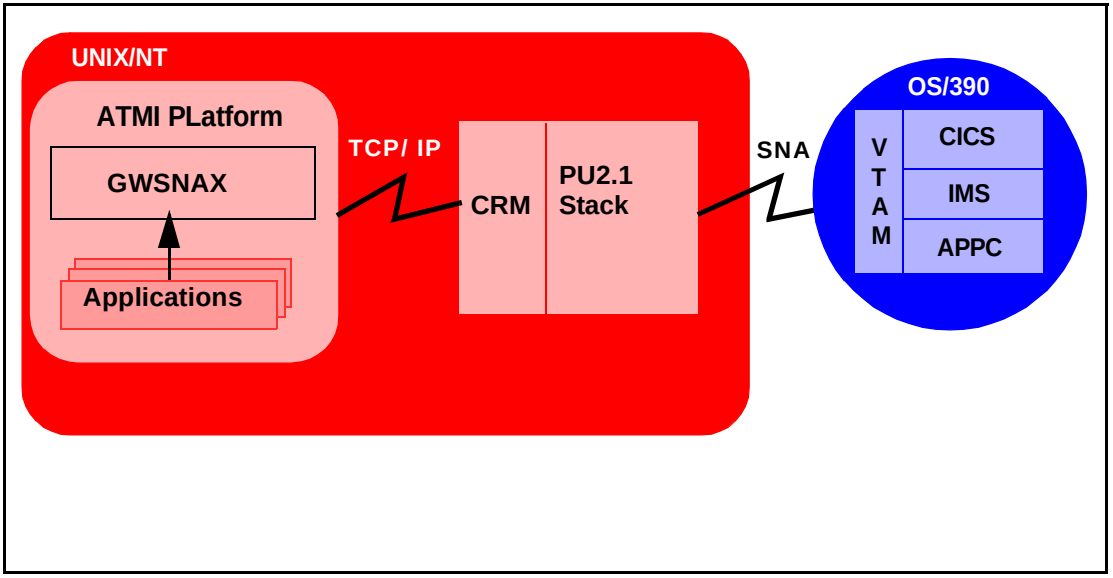
You must consider configuration as you prepare to install the eAM software. The normal eAM environment includes two properly configured components: the eAM gateway (GWSNAX) and the Communications Resource Manager (CRM). The type of network connectivity you are working with determines which type of CRM installation and configuration is required.

When the eAM gateway (GWSNAX) and CRM are installed on the same machine, the installation is referred to as a local (combined) configuration. When these components are installed on different UNIX, NT, or OS/390 platforms, the installation is referred to as a distributed (or remote) configuration. The diagrams in the following sections show examples of the eAM components in three types of configurations.

Local Configuration

Local configuration installs the application, the eAM gateway, the ATMI platform, and the CRM with the stack (PU2.1 server) on the same UNIX or Windows NT platform. This configuration uses the IBM proprietary SNA protocol for transactions with the mainframe via the stack. This configuration requires a one-to-one relationship between the local eAM gateway and the remote CRM.

Figure 1-1 Local Configuration

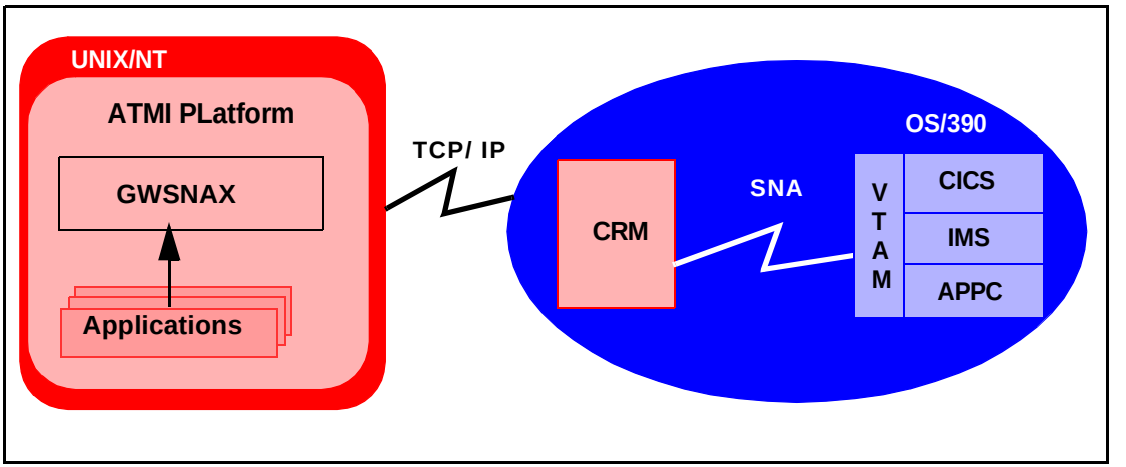


Distributed Configurations

In a distributed configuration, the CRM is installed on a different platform than the eAM gateway and applications.

One type of distributed configuration separates applications and the eAM gateway from the CRM by installing the CRM to the IBM OS/390 Mainframe. This configuration eliminates the need for a third-party stack on the UNIX or NT machine. This configuration requires a one-to-one relationship between the local eAM gateway and the remote CRM.

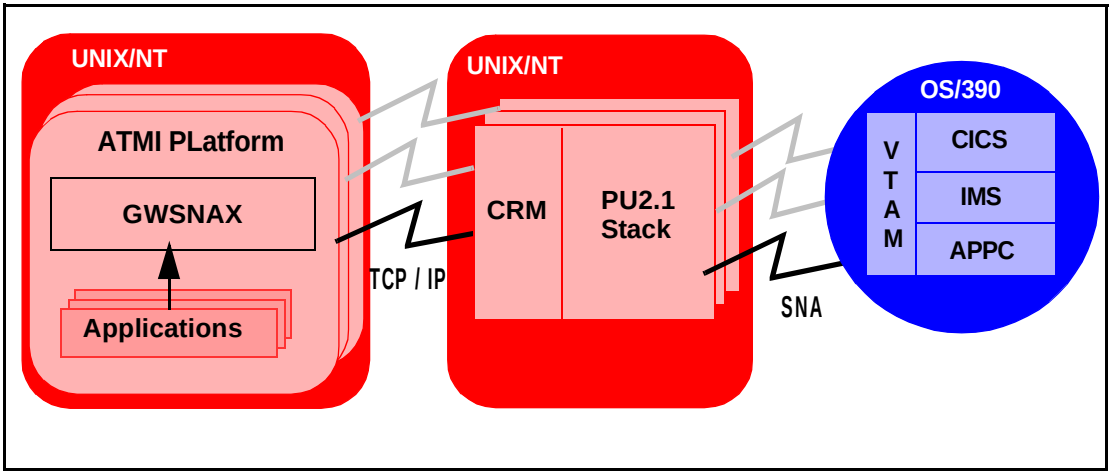
Figure 1-2 Distributed Configuration



Another type of distributed configuration separates applications and the eAM gateway from the CRM on different UNIX or Windows NT platforms. This configuration uses Transmission Control Protocol/Internet Protocol (TCP/IP) connectivity between the applications platform and the CRM platform, as well as the SNA connectivity to the mainframe environment(s). This configuration provides the flexibility to deploy the ATMI platform separately from the CRM in installations that require the ATMI

platform on a platform other than the one on which the SNA stack is running. This configuration also requires a one-to-one relationship between the local eAM gateway and the remote CRM.

Figure 1-3 Alternate Distributed Configuration



Determining Requirements for Other Components

Whether your eAM software is installed on Windows NT, UNIX, or a mainframe, make sure your system meets the appropriate requirements and that supporting software is operating correctly. The following sections describe mainframe and non-mainframe requirements, and verification of supporting software installations.

Note: Because eAM interacts with mainframe applications, involve your mainframe system support personnel early in the process of planning and installing your eAM software. Separate individuals may be responsible for Multiple Virtual System (MVS), Virtual Telecommunications Access Method (VTAM), Information Management System (IMS), and Customer Information Control System/Enterprise Systems Architecture (CICS/ESA). Make sure everyone is involved.

Mainframe Requirements

Whether the CRM component of eAM is located on the mainframe environment or not, mainframe configurations affect how eAM software functions. Prepare the mainframe to conduct operations within the eAM/ATMI platform environment by:

- Establishing the VTAM configuration
- Configuring the CICS/ESA Logical Unit (LU) by defining proper connections and sessions
- Completing cross-platform definitions for non-mainframe CRM
- Ensuring that APPC and transaction definitions exist for that environment, if using IMS or APPC/MVS

Refer to the *BEA CRM Administration Guide* for detailed information about these tasks.

Non-Mainframe Requirements

A non-mainframe environment is a UNIX or Windows NT machine running the eAM software. The software is fully bidirectional, supporting the local system as either a client or server. This environment consists of the following components:

- Hardware, defined as any workstation and network interface supported by the required software.
- Operating system software and SNA protocol stacks (PU servers) if the CRM is not installed on the mainframe. (Refer to the *eLink Adapter for Mainframe Release Notes* for a complete listing.)

  Stack installation should also be completed and verified. (Refer to vendor documentation for stack installation and verification information.)
- ATMI platform (Refer to the *BEA eLink Adapter for Mainframe Release Notes* for information on platform support.)

Installing the Prerequisite Software

The following software should be installed and configured prior to installing the eAM software for UNIX or Windows NT:

1. Install a supported SNA stack on the operating system where the CRM will be installed. Validate the stack software installation, running any sample applications provided by the vendor.
2. Configure the supported SNA stack.

   Refer to the *eLink Adapter for Mainframe Release Notes* for a list of supported SNA stacks.

Note: Refer to the SNA stack vendor's documentation on configuring your environment. A properly configured SNA protocol stack is required for the CRM to communicate with the mainframe application.

3. Install and configure the ATMI platform. Validate the software installation by running the sample applications, such as `simpapp` or `bankapp`.

   Refer to the corresponding product *Installation Guide* for installation and configuration information. Some specific configuration tasks must be completed to install eAM.
4. Shut down all domain administrative and gateway servers within an application domain prior to installing eAM software, particularly the following:
   - `GWTDOMAIN`
   - `GWADM`
   - `DMADM`

   Do not run the following commands until the installation is complete:
   - `dmadmin`
   - `dmloadcf`
   - `dmunloadcf`

Note: Due to security requirements of IBM Comm Server for AIX v6 running on AIX 4.3.3 platforms, the User ID used to start and stop eAM software must be added to the system group.

Upon completion of these tasks, continue to "Installing the eLink Adapter for Mainframe" section for installation instructions for the eAM software.

2 Installing the eLink Adapter for Mainframe Software

This section provides information and step-by-step instructions for installing BEA eLink Adapter for Mainframe (eAM) software. After completing the tasks included in the previous section, “Preparing for Installation,” install the eAM components, consisting of the eAM Gateway and the Communications Resource Manager (CRM), according to your configuration requirements as described in the following section.

Note: Refer to the *BEA eLink Adapter for Mainframe Release Notes* for information about hardware and software requirements. For additional operational and administrative information on the CRM, refer to the *CRM Administration Guide*.

Note: All references to ATMI files, functions, and documentation apply to Tuxedo, eLink Platform, and WebLogic Enterprise files, functions, and documentation.

Information topics are grouped by platform and by component (eAM or CRM) if the component installations differ for particular platforms.

This section includes the following topics:

Installing eAM on a Non-Mainframe UNIX-based Platform

Both the eAM and the CRM components are installed on non-mainframe UNIX-based platforms with the `install.sh` script. Select which components to install based on your configuration requirements.

To install the software on a UNIX-based platform, complete the following steps:

1. Run the `install.sh` script supplied on the product CD-ROM.
2. Enter the requested information as the script progresses through the installation process. This script allows you to select the eAM components you want to install. The script will ask for the following information:
   - Platform on which to install the software

     Refer to *BEA eLink Adapter for Mainframe Release Notes* for a complete listing of supported platforms.
   - Package you wish to install:

     EAM Full Installation (`eamf`)

     Communications Resource Manager (`crm`)

     EAM Gateway (`geam`)
   - Directory where the eAM system is to be installed

     You must enter a valid directory name where the ATIM platform software is installed. Make this entry in the software's highest level directory.
   - SNA stack support for the platform selected if you are installing the CRM package

Refer to *BEA eLink Adapter for Mainframe Release Notes* for a complete listing of platform-stack compatibility.

The following listings provide examples of running the installation script for each of the eAM packages.You will supply the values shown in bold in the example listings. To accept default values at a prompt, press Enter.

Note: The platforms, stacks, and file names shown in the following listings are examples only. These values are dependent on platform and stack configurations for your system and may vary from the example.

Installing the eAM Full Installation Package

Listing 2-1 provides an example for running the `install.sh` script for an eLink Adapter for Mainframe full installation.

Listing 2-1 Full Installation of eLink Adapter for Mainframe Installation

```
cmadm@dalsun4:/cmhome/dist/elm-11 sh install.sh

01) hp/hpux11        02) ibm/aix43        03) sun5x/sol7
04) sun5x/sol8

Install which platform's files? [01-    4, q to quit, l for list]: 3
** You have chosen to install from sun5x/sol7 **

BEA eLink Adapter for Mainframe Release 4.0

This directory contains the BEA eLink Adapter for Mainframe System
for
for SunOS 5.7 (Solaris 7) on SPARC.

Is this correct? [y,n,q]: y
To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1    eamf          BEA EAM Full Installation
  2    crm           Communications Resource Manager
  3    geam          BEA EAM Gateway
```

```
Select the package(s) you wish to install  [?,??,q]: 1
BEA EAM Full Installation
(sparc) Release 4.0
Copyright (c) 2000 BEA Systems, Inc.
All Rights Reserved.
Distributed under license by BEA Systems, Inc.
BEA eLink is a trademark of BEA Systems, Inc.


Directory where BEA eLink Adapter for Mainframe files are to be
installed
(Enter your Tuxedo or WLE directory path) [?,q]:/work/cmadm/wle51
Using /work/cmadm/wle51 as the BEA eLink Adapter for Mainframe base
directory

The following EAM stack support options are available:

  1    sun91         SUN Link 9.1
  2    spx62         DCL SNAP-IX 6.2

Select an option [?,??,q]: 1
Determining if sufficient space is available ...
13870 blocks are required
18262950 blocks are available to /work/cmadm/wle51

Unloading /cmhome/dist/elm-11/sun5x/sol7/eamf/EAMFC51.Z ...
bin/CRMLOGS
bin/DMINIT
bin/GWSNAX
bin/SNACRM
bin/Xsnacrm
bin/bealogo.gif
bin/crmdown
bin/crmlkoff
bin/crmlkon
bin/lic.sh
bin/xsnacrm
eLink/sna/simpapp/BEACONN.RDO
eLink/sna/simpapp/BEASNA.RDO
eLink/sna/simpapp/BEASNA.RDO.VSE
eLink/sna/simpapp/BEAWTOR.asm
eLink/sna/simpapp/DMCONFIG
eLink/sna/simpapp/EXPIMSSV.c
eLink/sna/simpapp/IMPIMSSV.cbl
eLink/sna/simpapp/MIRRDPLC.c
eLink/sna/simpapp/MIRRDPLC.c.VSE
eLink/sna/simpapp/MIRRDPLC.cbl
eLink/sna/simpapp/MIRRDTPC.c
```

```
eLink/sna/simpapp/MIRRDTPC.cbl
eLink/sna/simpapp/Makefile
eLink/sna/simpapp/README
eLink/sna/simpapp/TOUPDPLS.c
eLink/sna/simpapp/TOUPDPLS.c.VSE
eLink/sna/simpapp/TOUPDPLS.cbl
eLink/sna/simpapp/TOUPDTPS.c
eLink/sna/simpapp/TOUPDTPS.c.VSE
eLink/sna/simpapp/TOUPDTPS.cbl
eLink/sna/simpapp/TOUPDTPS.cbl.VSE
eLink/sna/simpapp/UBBCONFIG
eLink/sna/simpapp/app.env
eLink/sna/simpapp/dminit.scr
eLink/sna/simpapp/mirrorsrv.c
eLink/sna/simpapp/simpims.c
eLink/sna/simpapp/solaris.env
eLink/sna/simpapp/toupclt.c
lib/fmb.def
lib/libcsxappc.so
lib/libcsxcrm.so
lib/libcsxgpw.so
lib/libcsxscrm.so
lib/libcsxxcrm.so
lib/libcsxxfm.so
lib/libcsxxmw.so
lib/libctxcp_12.so
lib/libctxdebugs_12.so
lib/libctxmess_12.so
lib/libctxos_12.so
lib/libctxplat_12.so
lib/libctxprim_12.so
lib/libgws.so
locale/C/LIBGWS.text
locale/C/LIBGWS_CAT
udataobj/codepage/00819x00037
udataobj/codepage/00819x00273
udataobj/codepage/00819x00278
udataobj/codepage/00819x00284
udataobj/codepage/00819x00285
udataobj/codepage/00819x00297
udataobj/codepage/00819x00500
udataobj/codepage/00819x00860
udataobj/codepage/00819x01047
udataobj/codepage/00912x00870
udataobj/codepage/none
udataobj/codepage/tuxedo
13520 blocks
... finished
```

```
Unloading /cmhome/dist/elm-11/sun5x/sol7/eamf/STKC51.Z ...
lib/libcsxsun91.so
1320 blocks
... finished

Changing file permissions...
... finished

If your license file is accessible, you may install it now.
Install license file? [y/n]: n

Please don't forget to use lic.sh located in your product bin
directory
to install the license file from the enclosed floppy.
Refer to your product Release Notes for details on how to do this.

Installation of BEA EAM Full Installation was successful

Please don't forget to fill out and send in your registration card
```

Installing the Communications Resource Manager Package

Listing 2-2 provides an example for running the `install.sh` script for a CRM installation.

Listing 2-2 Communications Resource Manager Installation

```
cmadm@dalsun4:/cmhome/dist/elm-11 sh install.sh

01) hp/hpux11        02) ibm/aix43        03) sun5x/sol7
04) sun5x/sol8

Install which platform's files? [01-    4, q to quit, l for list]: 3
** You have chosen to install from sun5x/sol7 **

BEA eLink Adapter for Mainframe Release 4.0

This directory contains the BEA eLink Adapter for Mainframe System
for
for SunOS 5.7 (Solaris 7) on SPARC.
```

```
Is this correct? [y,n,q]: y
To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1    eamf          BEA EAM Full Installation
  2    crm           Communications Resource Manager
  3    geam          BEA EAM Gateway

Select the package(s) you wish to install  [?,??,q]: 2
Communications Resource Manager
(sparc) Release 1.2
Copyright (c) 2000 BEA Systems, Inc.
All Rights Reserved.
Distributed under license by BEA Systems, Inc.
BEA eLink is a trademark of BEA Systems, Inc.

Directory where Communications Resource Manager files are to be
installed
(Enter your directory path) [?,q]: /work/cmadm
Using /work/cmadm as the Communications Resource Manager base
directory

The following CRM stack support options are available:

  1    sun91         SUN Link 9.1
  2    spx62         DCL SNAP-IX 6.2

Select an option [?,??,q]: 1
Determining if sufficient space is available ...
14896 blocks are required
18258576 blocks are available to /work/cmadm

Unloading /cmhome/dist/elm-11/sun5x/sol7/crm/CRMSA.Z ...
bin/CRMLOGS
bin/SNACRM
bin/bealogo.gif
bin/crmdown
bin/crmlkoff
bin/crmlkon
bin/solaris.env
lib/fmb.def
lib/libbuft.so.60
lib/libcsxappc.so
lib/libcsxcrm.so
lib/libcsxgpw.so
```

```
lib/libcsxscrm.so
lib/libcsxxcrm.so
lib/libcsxxfm.so
lib/libcsxxmw.so
lib/libctxdebugs_12.so
lib/libctxmess_12.so
lib/libctxos_12.so
lib/libctxplat_12.so
lib/libctxprim_12.so
lib/libfml.so.60
lib/libfml32.so.60
lib/libgp.so.60
lib/libgpnet.so.60
lib/libtux.so.60
lib/libtux2.so.60
14570 blocks
... finished

Unloading /cmhome/dist/elm-11/sun5x/sol7/crm/STKSA.Z ...
lib/libcsxsun91.so
1310 blocks
... finished

Changing file permissions...
... finished

Installation of Communications Resource Manager was successful

Please don't forget to fill out and send in your registration card
```

Installing the EAM Gateway Package

Listing 2-3 provides an example for running the `install.sh` script for an eLink Adapter for Mainframe Gateway (also referred to as GWSNAX) installation.

Listing 2-3 Gateway Installation for eLink Adapter for Mainframe

```
cmadm@dalsun4:/cmhome/dist/elm-11 sh install.sh

01) hp/hpux11        02) ibm/aix43        03) sun5x/sol7
04) sun5x/sol8
```

```
Install which platform's files? [01-    4, q to quit, l for list]: 3
** You have chosen to install from sun5x/sol7 **

BEA eLink Adapter for Mainframe Release 4.0

This directory contains the BEA eLink Adapter for Mainframe System
for
for SunOS 5.7 (Solaris 7) on SPARC.

Is this correct? [y,n,q]: y
To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1    eamf          BEA EAM Full Installation
  2    crm           Communications Resource Manager
  3    geam          BEA EAM Gateway

Select the package(s) you wish to install  [?,??,q]: 3
BEA EAM Gateway
(sparc) Release 4.0
Copyright (c) 2000 BEA Systems, Inc.
All Rights Reserved.
Distributed under license by BEA Systems, Inc.
BEA eLink is a trademark of BEA Systems, Inc.

Directory where BEA eLink Adapter for Mainframe Gateway files are
to be installed
(Enter your directory path) [?,q]: /work/cmadm/wle51
Using /work/cmadm/wle51 as the BEA eLink Adapter for Mainframe
Gateway base directory

Determining if sufficient space is available ...
5198 blocks are required
18258576 blocks are available to /work/cmadm/wle51

Unloading /cmhome/dist/elm-11/sun5x/sol7/geam/GEAMC51.Z ...
bin/GWSNAX
bin/lic.sh
eLink/sna/simpapp/BEACONN.RDO
eLink/sna/simpapp/BEASNA.RDO
eLink/sna/simpapp/BEASNA.RDO.VSE
eLink/sna/simpapp/BEAWTOR.asm
eLink/sna/simpapp/DMCONFIG
eLink/sna/simpapp/EXPIMSSV.c
eLink/sna/simpapp/IMPIMSSV.cbl
eLink/sna/simpapp/MIRRDPLC.c
```

```
eLink/sna/simpapp/MIRRDPLC.c.VSE
eLink/sna/simpapp/MIRRDPLC.cbl
eLink/sna/simpapp/MIRRDTPC.c
eLink/sna/simpapp/MIRRDTPC.cbl
eLink/sna/simpapp/Makefile
eLink/sna/simpapp/README
eLink/sna/simpapp/TOUPDPLS.c
eLink/sna/simpapp/TOUPDPLS.c.VSE
eLink/sna/simpapp/TOUPDPLS.cbl
eLink/sna/simpapp/TOUPDTPS.c
eLink/sna/simpapp/TOUPDTPS.c.VSE
eLink/sna/simpapp/TOUPDTPS.cbl
eLink/sna/simpapp/TOUPDTPS.cbl.VSE
eLink/sna/simpapp/UBBCONFIG
eLink/sna/simpapp/app.env
eLink/sna/simpapp/dminit.scr
eLink/sna/simpapp/mirrorsrv.c
eLink/sna/simpapp/simpims.c
eLink/sna/simpapp/solaris.env
eLink/sna/simpapp/toupclt.c
lib/fmb.def
lib/libcsxcrm.so
lib/libctxcp_12.so
lib/libctxdebugs_12.so
lib/libctxmess_12.so
lib/libctxos_12.so
lib/libctxplat_12.so
lib/libctxprim_12.so
lib/libgws.so
locale/C/LIBGWS.text
locale/C/LIBGWS_CAT
udataobj/codepage/00819x00037
udataobj/codepage/00819x00273
udataobj/codepage/00819x00278
udataobj/codepage/00819x00284
udataobj/codepage/00819x00285
udataobj/codepage/00819x00297
udataobj/codepage/00819x00500
udataobj/codepage/00819x00860
udataobj/codepage/00819x01047
udataobj/codepage/00912x00870
udataobj/codepage/none
udataobj/codepage/tuxedo
4990 blocks
... finished

Changing file permissions...
... finished
```

```
If your license file is accessible, you may install it now.
Install license file? [y/n]: n

Please don't forget to use lic.sh located in your product bin
directory
to install the license file from the enclosed floppy.
Refer to your product Release Notes for details on how to do this.

Installation of BEA EAM Gateway was successful

Please don't forget to fill out and send in your registration card
```

Installing eAM on a Windows NT Platform

The steps for installing eAM software vary depending on the configuration you have selected. Determine whether you are using a local configuration or distributed configuration and follow the steps in the corresponding section. For general information about your configuration, see "Determining Your Configuration".

Installing the eAM Full Installation Package for a Local Configuration

To install the eAM software for Windows NT on a local configuration, start a Windows session and perform the following steps:

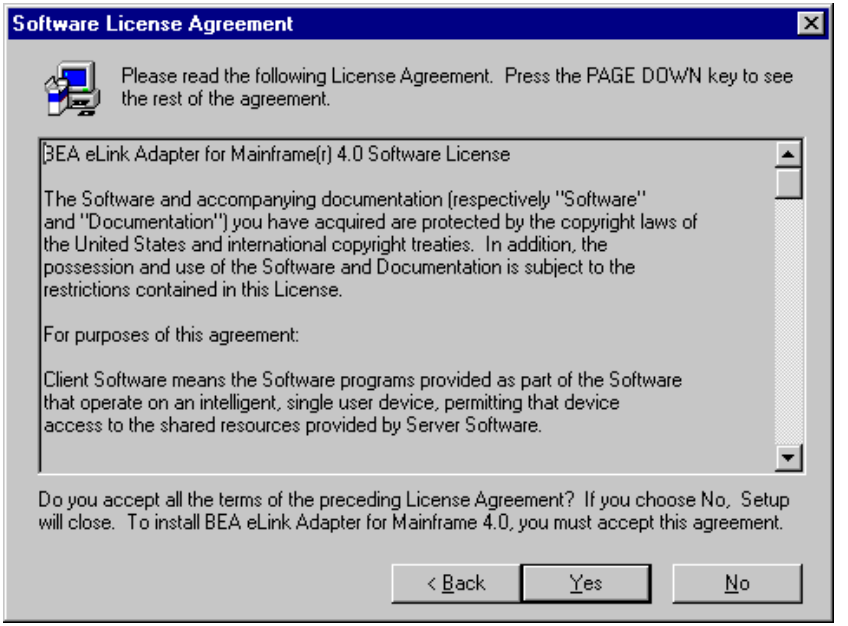
1. Insert the product CD-ROM into your drive and click the **Run** option from the **Start** menu. The **Run** window displays. Click **Browse** to select the CD-ROM drive. Select the `Winnt` folder, then select the `Setup.exe` file. Click **OK** to run the executable and begin the installation.

2. When the **Welcome** screen displays, click **Next** to continue.

Figure 2-1 Welcome Screen

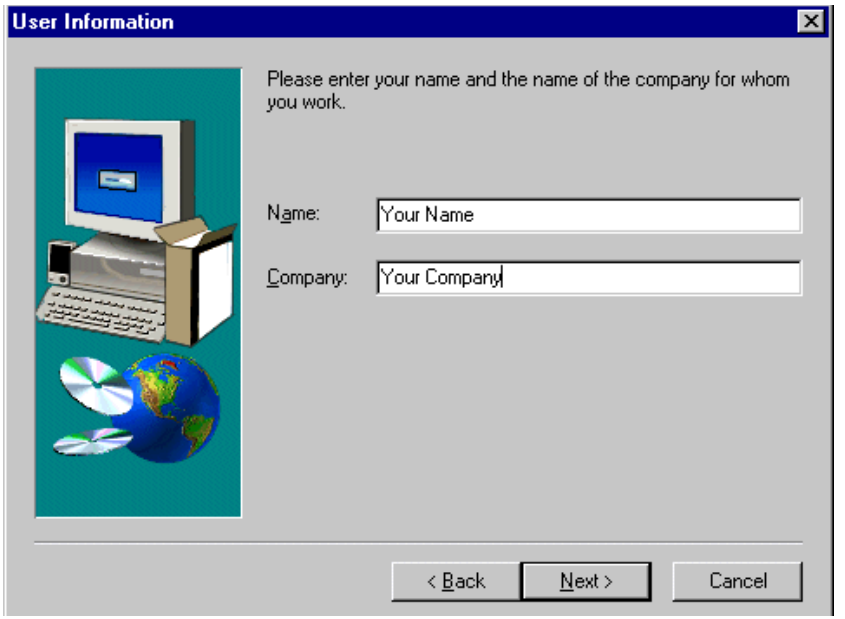
3. The **Software License Agreement** screen displays. Click **Yes** to accept the terms of the agreement and continue with the product installation. Click **No** to exit the installation process.

Figure 2-2 Software License Agreement



4. The **User Information** screen displays after the **Software License Agreement**. Enter the name of the eLink Platform System Administrator in the **Name** field. Enter the name of your company in the **Company** field. Click **Next** to continue with the installation.

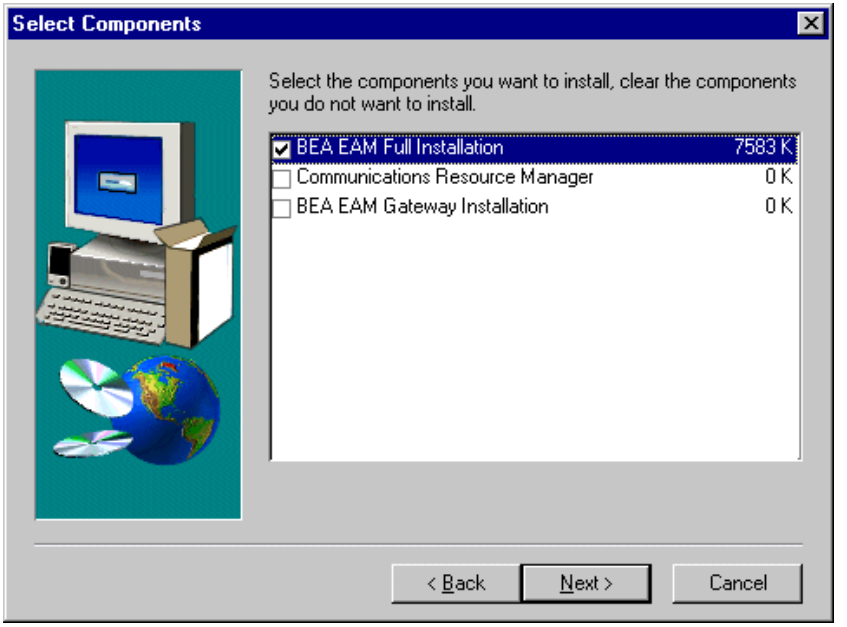
Figure 2-3 User Information Screen



5. When the **Select Components** screen displays, select **BEA EAM Full Installation**. Click **Next**.

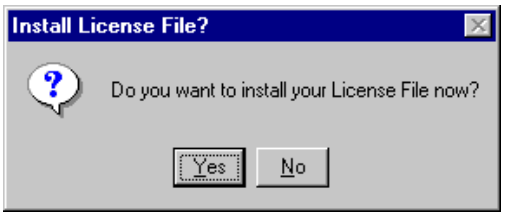
   The software automatically selects the local ATMI platform directory structure for the destination of the eAM Gateway (GWSNAX).

Figure 2-4 Select Components Screen



6. When the **Install License File?** option screen displays, select **Yes** to install your BEA Software License File or select **No** to bypass this step and continue installing the eAM software.

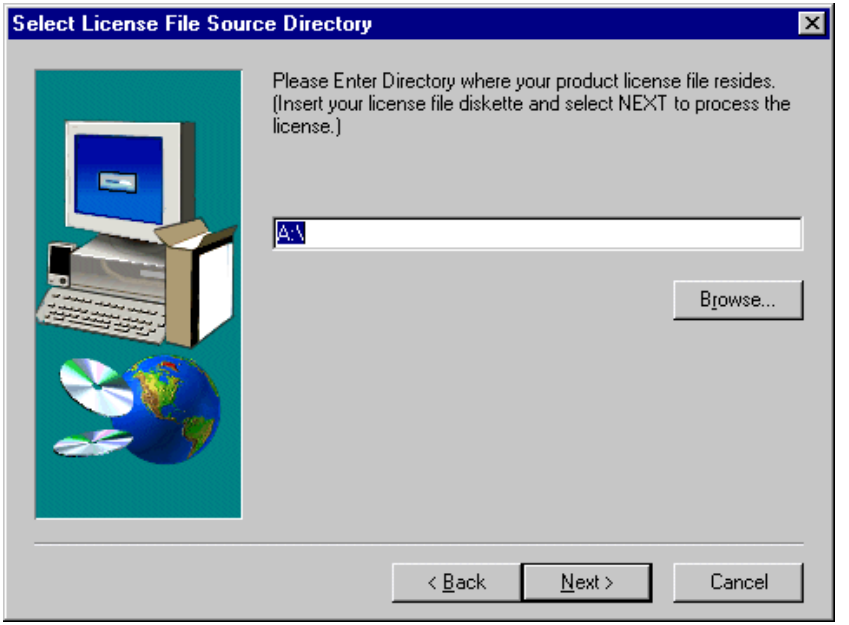
Figure 2-5 Install License File? Screen



If you select **No**, you must append the `lic.txt` file from the license diskette to the `udataobj` sub-directory located under the ATMI platform directory structure before the software will function properly.

7. If you selected **Yes**, the **Select License File Source Directory** screen displays. Enter the directory path where your license file resides or you can click **Browse** and select the directory path.

Figure 2-6 Select License File Source Directory Screen



8. Click **Next** to start the installation and display the **Installation Progress** screen, which indicates the progress of the installation of files, the quantity of read operations from the CD-ROM, the available disk space being used, and the completion percentage of the installation process. You may abort the installation process any time prior to completion by clicking **Cancel**.

9. The **Setup Complete Screen** displays, indicating the installation has been successfully completed. Click **Finish** to exit the installation process.

Figure 2-7 Setup Complete Screen

Installing the eAM Gateway and Communications Resource Manager Packages for a Distributed Configuration

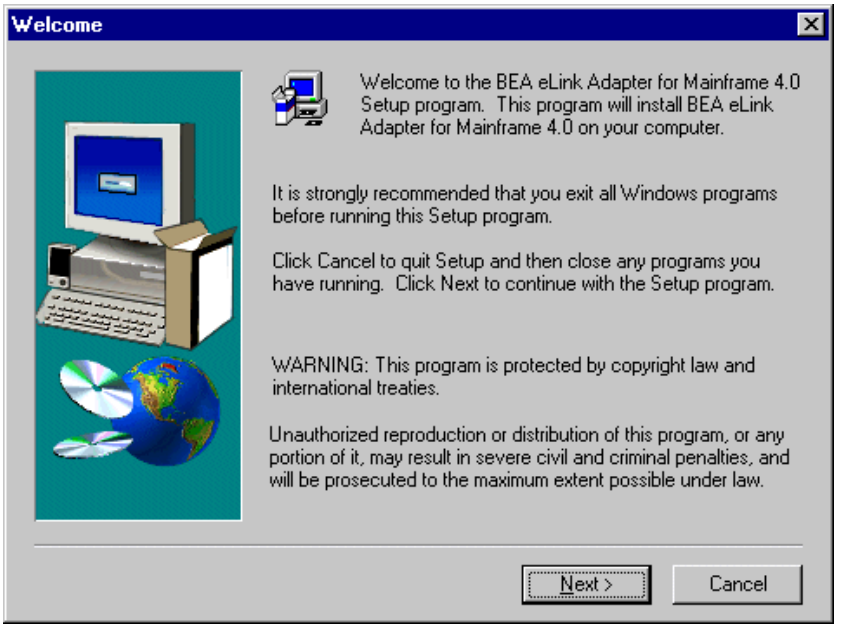
If you plan to use a distributed configuration, you will install the eAM Gateway and the CRM components on separate machines that may run different operating systems. For that reason, each component is installed separately for a distributed configuration.

To install the eAM software for Windows NT on a distributed configuration, start a Windows session and perform the following steps:

1. Insert the product CD-ROM into your drive and click the **Run** option from the **Start** menu. The **Run** window displays. Click **Browse** to select the CD-ROM drive. Select the `Winnt` folder, then select the `Setup.exe` file. Click **OK** to run the executable and begin the installation.

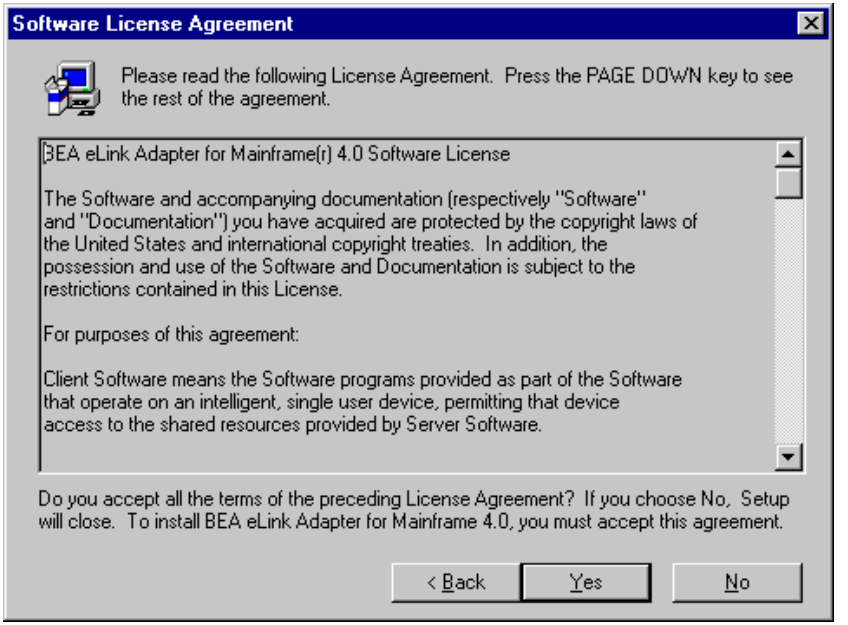
   When the **Welcome** screen displays, click **Next** to continue.

Figure 2-8 Welcome Screen



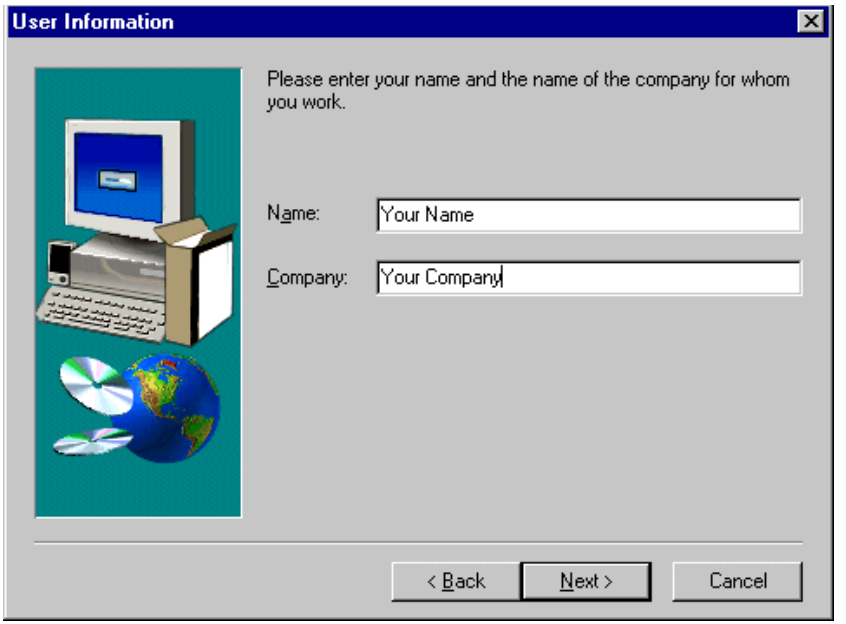
2. The **Software License Agreement** displays. Click **Yes** to accept the terms of the agreement and continue with the product installation. Click **No** to exit the installation process.

Figure 2-9 Software License Agreement



3. The **User Information** screen displays after the License Agreement. Enter the name of the eLink Platform System Administrator in the **Name** field. Enter the name of your company in the **Company** field. Click **Next** to continue with the installation.

Figure 2-10 User Information Screen



At this point, the **Select Components** screen displays and you will select the component you wish to install. The remaining installation process varies, depending on the component you choose.

Refer to the following sections for installation information for each component:

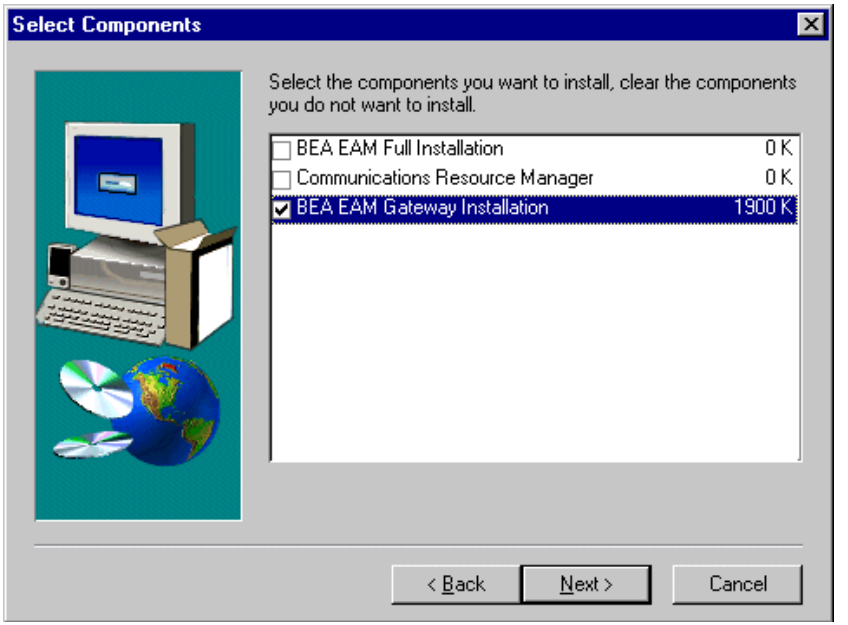
- "Installing the eAM Gateway Component"
- "Installing the Communications Resource Manager Component"

Installing the eAM Gateway Component

If you are installing a distributed configuration, follow Steps 1 through 3 of "Installing the eAM Gateway and Communications Resource Manager Packages for a Distributed Configuration" and then complete the installation for the eAM Gateway component by with the following steps:

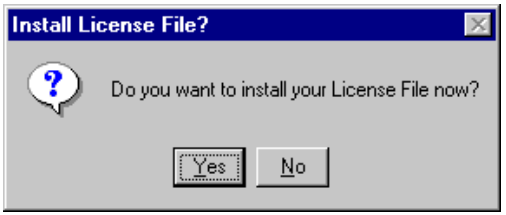
1. From the **Select Components** screen, select **BEA eAM Gateway Installation** to install the gateway. Click **Next**. The software automatically selects the local ATMI platform directory structure for the destination of the gateway (GWSNAX) files.

Figure 2-11 Select Components Screen



2. When the **Install License File?** option screen displays, select **Yes** to install your BEA Software License File or select **No** to bypass this step and continue installing the eAM software.

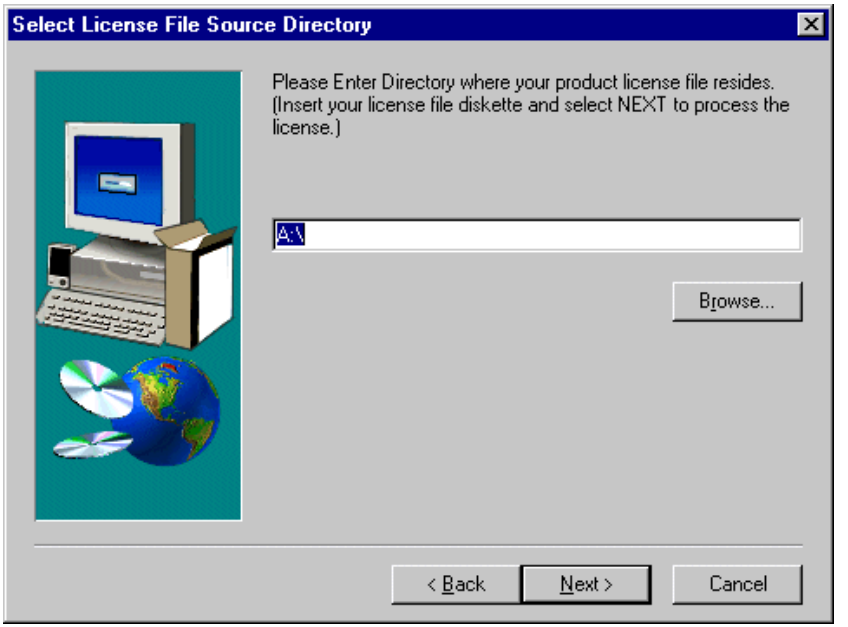
Figure 2-12 Install License File? Screen



If you select **No**, you must append the `lic.txt` file from the license diskette to the `udataobj` sub-directory located under the ATMI platform directory structure before the software will function properly.

3. If you selected **Yes**, the **Select License File Source Directory** screen displays. Enter the directory path where your license file resides or click **Browse** to select the directory path.

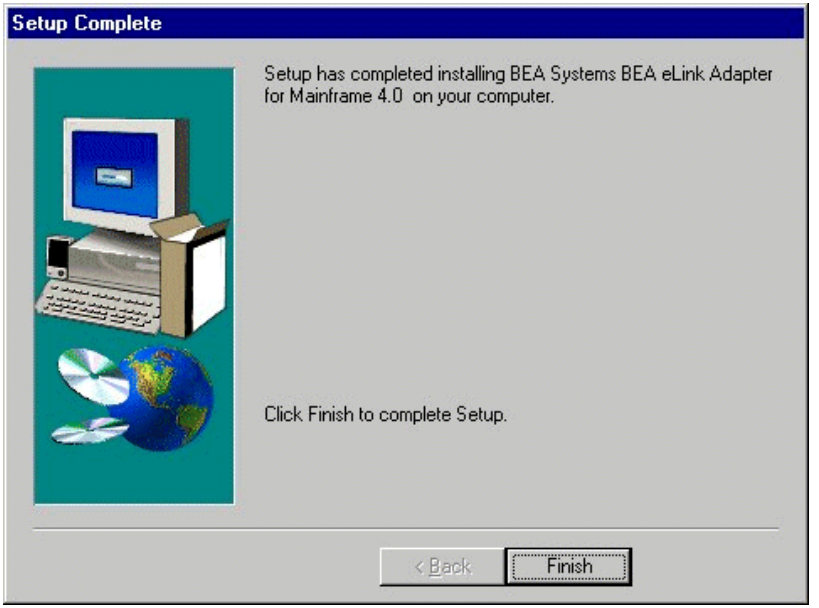
Figure 2-13 Select License File Source Directory Screen



4. Click **Next** to start the installation and display the **Installation Progress** screen, which indicates the progress of the installation of files, the quantity of read operations from the CD-ROM, the available disk space being used, and the completion percentage of the installation process. You may abort the installation process any time prior to completion by clicking **Cancel**.

5. The **Setup Complete Screen** displays, indicating the eAM Gateway has been successfully installed on your platform. Click **Finish** to exit the installation process.

Figure 2-14 Setup Complete Screen

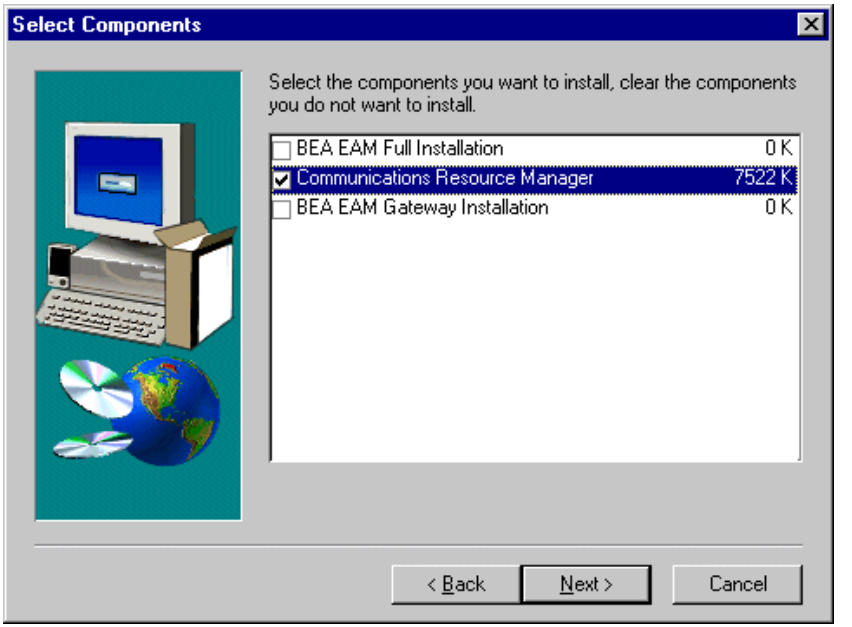


Installing the Communications Resource Manager Component

If you are installing a distributed configuration, follow Steps 1 through 3 of "Installing the eAM Gateway and Communications Resource Manager Packages for a Distributed Configuration" and then complete the installation for the CRM component with the following steps:

1. From the **Select Components** screen, select **Communication Resource Manager**. Click **Next**.

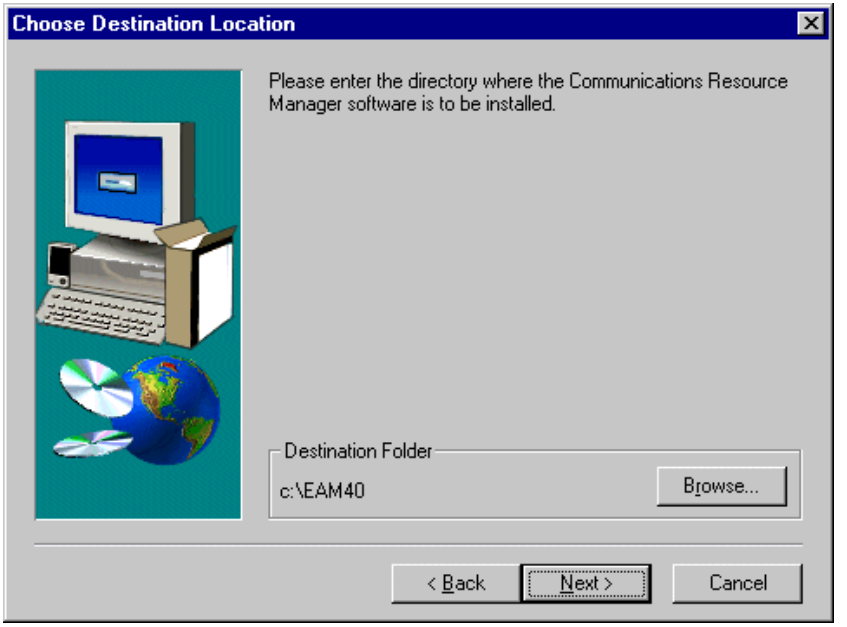
Figure 2-15 Select Components Screen



2. When the **Choose Destination Location Screen** displays, click **Browse** and select the directory where you want the CRM installed. The CRM destination typically is on a remote platform in a designated directory.

   Note: No license is required for installation of the CRM.

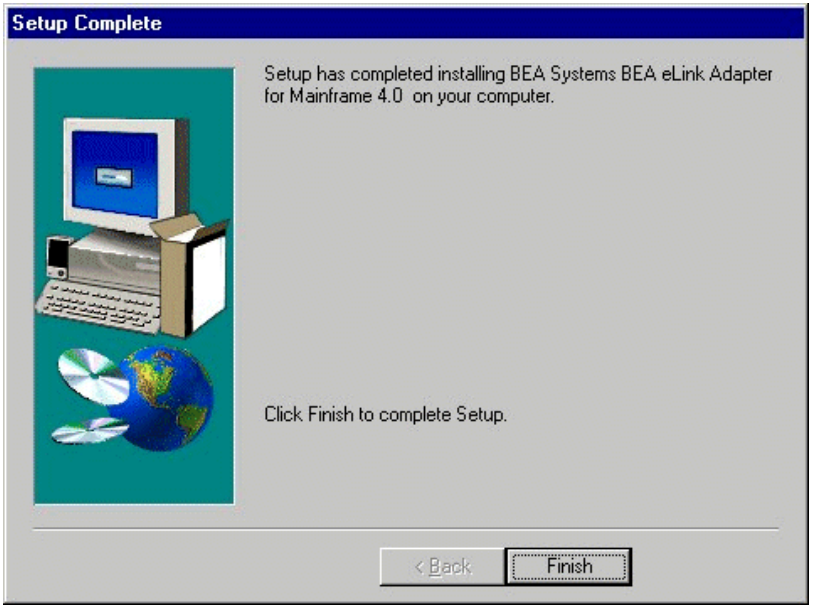
Figure 2-16 Choose Destination Location Screen



3. Click **Next** to start the installation and display the **Installation Progress** screen, which indicates the progress of the installation of files, the quantity of read operations from the CD-ROM, the available disk space being used, and the completion percentage of the installation process. You may abort the installation process any time prior to completion by clicking **Cancel**.

4. The **Setup Complete Screen** displays, indicating the CRM has been successfully installed on your platform. Click **Finish** to exit the installation process.

Figure 2-17 Setup Complete Screen



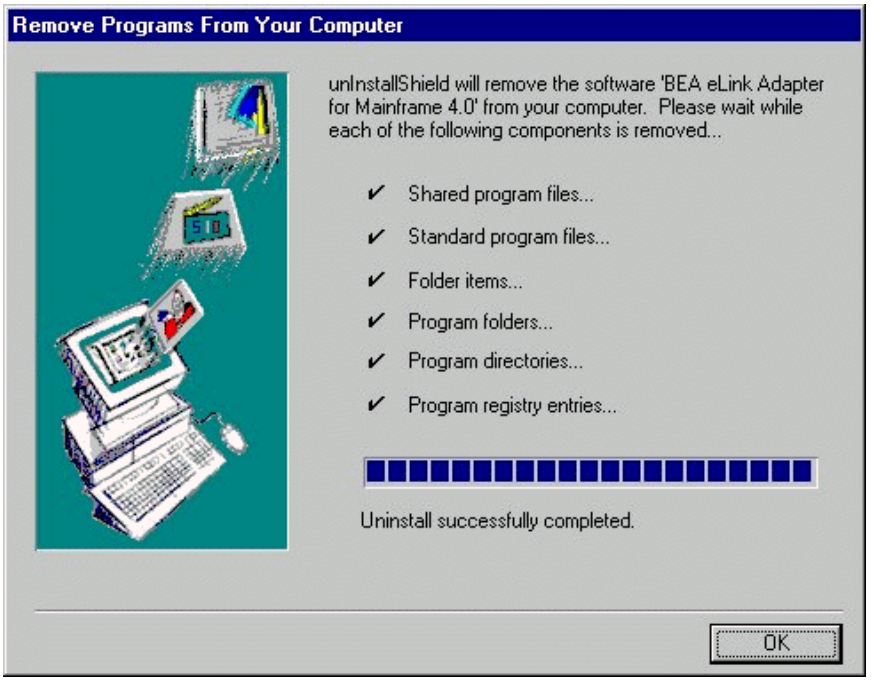
Removing eAM from a Windows NT Platform

Perform the following steps to remove the eLink Adapter for Mainframe on a Windows NT system.

1. Click **Start**, and then point to **Settings**. Point to the folder that contains **Control Panel**, and then click **Control Panel**.
2. Double-click on the **Add/Remove Programs** option from the **Control Panel** listings to access the **Add/Remove Programs Properties** window.
3. In the **Add/Remove Program Properties** window, select **BEA eLink Adapter for Mainframe 4.0** from the program list and click the **Add/Remove** button.
4. A message box will ask if you are sure you want to completely remove the software and its components. Click **Yes** to continue with uninstalling. Click **No** to cancel uninstalling.

5. The uninstall process for eLink Adapter for Mainframe begins. The **Remove Programs From Your Computer** screen displays. Click **OK** to complete the uninstall process.

Figure 2-18 Remove Programs From Your Computer Screen



Installing CRM on an OS/390 UNIX Platform

The following steps install the CRM on an OS/390 UNIX platform. This installation is for a distributed configuration where the CRM resides on the mainframe in an OS/390 environment.

Note: This procedure assumes you are familiar with File Transfer Protocol (FTP) functions.

1. Load the product CD-ROM on a machine that has File Transfer Protocol (FTP) access to the OS/390 host.
2. Put the file `os390.tar` (in binary mode) from the root directory on the CD-ROM to the working directory on the OS/390 host.
3. To extract the installation script from the tar file, use the following command:

   ```
   tar xvfo os390.tar
   ```

   Executing the `tar` command extracts from the `tar` file the `install.sh` script and subdirectories containing the software to be installed.
4. Execute the `install.sh` script using the following command.

   ```
   sh install.sh
   ```
5. The installation script prompts you for responses. Listing 2-4 is a sample installation. It shows the installation of the CRM only in a distributed configuration on an OS/390 mainframe platform. User responses are in bold.

Listing 2-4 Sample OS/390 Installation

```
user@machine-> sh install.sh

01) os390/os390r8

Install which platform's files? [01-    1 , q to quit, l for list]: 1

** You have chosen to install from os390/os390r8 **

Communications Resource Manager Release 1.2


This directory contains the Communications Resource Manager 1.2
for IBM OS/390 Unix R8 on IBM OS/390.

Is this correct? [y,n,q]: y

To terminate the installation at any time press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1     crm             Communications Resource Manager

Select the package(s) you wish to install (or 'all' to install
all packages) (default: all) [?,??,q]:

Communications Resource Manager
(OS390) Release 1.2
Copyright (c) 2000 BEA Systems, Inc.
All Rights Reserved.
Distributed under license by BEA Systems, Inc.
BEA eLink is a trademark of BEA Systems, Inc.

Directory where Communications Resource Manager files are to be
installed  (Enter your directory path) [?,q]: /u/igor

Using /u/igor as the Communications Resource Manager base directory

The following CRM stack support options are available:

  1     vtm28           OpenEdition MVS 390

Select an option [?,??,q]: 1

Determining if sufficient space is available ...
102728 blocks are required
2906552 blocks are available to /u/igor
```

```
Unloading /bea/loads/dist/elm-11/os390/os390r8/crm/CRMSA.Z ...
10272 blocks
x bin/CRMLOGS
x bin/SNACRM
x bin/crmdown
x bin/crmlkoff
x bin/crmlkon
x bin/uss.env
x lib/csxappc.dll
x lib/csxcrm.dll
x lib/csxgpw.dll
x lib/csxscrm.dll
x lib/csxxcrm.dll
x lib/csxxfm.dll
x lib/csxxmw.dll
x lib/ctxdebugs_12.dll
x lib/ctxmess_12.dll
x lib/ctxos_12.dll
x lib/ctxplat_12.dll
x lib/ctxprim_12.dll
x lib/fmb.def
x lib/libbuft.dll
x lib/libfml.dll
x lib/libfml32.dll
x lib/libgp40.dll
x lib/libgpnet.dll
x lib/libtux.dll
x lib/libtux2.dll
... finished

Unloading /bea/loads/dist/elm-11/os390/os390r8/crm/STKSA.Z ...
508 blocks
x lib/csxvtm28.dll
... finished

Changing file permissions...
... finished

Installation of Communications Resource Manager was successful

Please don't forget to fill out and send in your registration card
```

Installing CRM on an OS/390 MVS Platform

This section explains how to install the CRM component on an OS/390 Multiple Virtual Storage (MVS) platform. This installation is for a distributed configuration where the CRM resides on the mainframe in an OS/390 MVS environment.

Summary of Installation Tasks

The following list is a summary of the tasks detailed in "Installation Procedure":

- Put the JCL files in the MVS environment prior to installation, using the FTP program.
- Allocate the initial data sets, using one of the JCL jobs.
- FTP the product software files (`EAM40.xxx`) to the allocated data sets.
- Run the second JCL job to allocate the final data sets.
- Run the `TSO RECEIVE` command to unload the data in your product data sets. A third JCL file has been provided to run this procedure in batch.

Note: The installation process assumes the installer is familiar with Job Control Language (JCL) job operations and File Transfer Protocol (FTP) functions.

The installation for this environment is semi-automated. Three JCL files are provided to facilitate prerequisites for allocating data sets in the MVS environment and to unload eAM product software into the allocated data sets.

The product CD-ROM contains the following files relating to this installation procedure:

- README file contains notes on how to install the product in this environment. This is a summary of the procedure in this section.
- `dsupload.jcl` file is a JCL example for creating MVS data sets to receive the eAM software.
- `install.jcl` file is a JCL example creating the unloaded product datasets.
- `uncmpress.jcl` file is a JCL example to uncompress and unload into the product datasets.
- `EAM40.LOAD` file contains the eAM program objects. (Required)
- `EAM40.DATA` file contains eAM data files. (Required)
- `EAM40.SAMPLE` file contains sample JCL files.

Installation Procedure

Perform the following steps to install the CRM component on an OS/390 MVS platform:

1. Load the product CD-ROM on a machine that has File Transfer Protocol (FTP) access to the MVS UNIX or MVS NT directory.
2. Use FTP to put the following JCL files in the MVS destination PDS dataset:

   ```
   dsupload.jcl
   install.jcl
   uncmprss.jcl
   ```

3. In your MVS environment, change the `DSUPLOAD` job to suit your environment. This job allocates the initial data sets needed to receive the product software files from the FTP file transfer.

   Use the `SET` statements in the `DSUPLOAD` job to set the high-level qualifiers of the receiving datasets according to the following syntax:

   ```
   SET PRODHLQ=[QUALIFIER]
   ```

   The `DSUPLOAD` job has the following steps:

`DELOLD`

Deletes any existing data sets previously created so you can run this JCL multiple times, if necessary.

`CREATE`

Allocates the initial data sets needed to receive the product software files.

4. Run the `DSUPLOAD` job.
5. Put the files listed in Table 2-1 into their corresponding data sets. Use the table as a worksheet and fill in the names you created in step 3. Use the worksheet as a guide for transferring the product data to the OS/390 platform.

Table 2-1 MVS Installation Product Files and DD Name Data Sets

Product File	Set Statement	Your Dataset Name
`EAM40.LOAD`	`PRODHLQ`	`.LOAD`
`EAM40.DATA`	`PRODHLQ`	`.DATA`
`EAM40.SAMPLE`	`PRODHLQ`	`.SAMPLE`

6. From the Unix/NT command prompt, set binary data transfer mode using the FTP program.

   Note the following example of a `put` command:

   ```
   put EAM40.LOAD 'BEA.EAM40.LOAD'
   ```

   Transfer the datasets using the `put` command.

7. In your MVS environment, change the `INSTALL` job to suit your environment.

   Use the `SET` statements to alter the job for your environment according to the following syntax:

   `SET BEAPDSE=[QUALIFIER]`

   In this statement, `[QUALIFIER]` is the high-level qualifier for the SNACRM Load Library. The load library containing the `EAM40.LOAD` program objects must be a Partitioned Data Set with Extended attributes (PDSE). The PDSE minimally must have storage class SMS declaration for OS/390 v2.8.

   `SET SCLASS=[CLASS NAME]`

In this statement, [CLASS NAME] is the storage class name of the PDSE. This is required for OS/390 v2.8.

SET BEAPDS=[QUALIFIER]

In this statement, [QUALIFIER] is the high-level qualifier for the sample and data datasets. These are standard PDS.

The INSTALL job has the following steps:

DELOLD

Deletes any existing data sets created by the INSTALL job so you can run this JCL multiple times, if necessary.

CREATE

Creates the MVS data sets for you.

This step includes the minimal JCL needed to create the data sets for OS/390 v2.8. You may change the JCL to reflect your own environment.

8. Run the INSTALL job.

   Use the Table 2-2 as a worksheet to fill out the names of the datasets created in this step.

Table 2-2 Set Statements and Corresponding Datasets

Set Statement	Your Dataset Name
BEAPDSE	.LOAD
BEAPDS	.DATA
BEAPDS	.SAMPLE

9. In your MVS environment, change the UNCMPRSS job to suit your environment.

   Modify the following variables in the JCL to the high-level qualifier you listed in the tables according to the following syntax:

   <PRODHLQ>=[QUALIFIER]

   Use the qualifier you listed in Table 2-1.

   <BEAPDSE>=[QUALIFIER]

   Use the PDSE qualifier you listed in Table 2-2.

`<BEAPDS>=[QUALIFIER]`

Use the PDS qualifier you listed in Table 2-2.

The `UNCMPRSS` job has the following step:

`UNLOLD`

Performs a TSORECEIVE to uncompress and unload the data in your installation datasets created in step 8.

To manually perform the `TSO RECEIVE` command to unload the data in your installation data sets created in Step 8. For example, enter the following command:

```
TSO RECEIVE INDS('xxx')
```

When prompted, enter:

```
DA('yyy')
```

In these statements, the following definitions apply:

`xxx`
Is the dataset name you listed in Table 2-1.

`yyy`
Is the corresponding dataset name you listed in Table 2-2.

Validating the eAM Software Installation

Validate the eAM software installation in the following ways:

1. Verify the installation of the files and directories listed in the following sections.
2. Run the sample applications such as:
   - `toupclt.c` for platforms based on UNIX
   - `ntenv.bat` for platforms based on Windows NT

Verifying Installation Files and Directories

The eAM CD-ROM contains the following libraries and executable programs for each of the following installation scenarios and their supported platforms. After installing the eAM software, verify that these libraries and programs are installed on your system.

eAM Full Installation for a Local Configuration

Verify that the following ATMI platform files are installed on your system.

All directories are relative to the installation directory. Platform-specific stack abstraction libraries are included in these tables as well.

Solaris

Verify that the following files are installed for the eAM Full Installation:

Table 2-3 Solaris Installation Files and Directories for eAM Full Installation

Directory	Files
bin	Xsnacrm xsnacrm DMINIT GWSNAX CRMLOGS SNACRM crmdown crmlkon crmlkoff bealogo.gif lic.sh

Table 2-3 Solaris Installation Files and Directories for eAM Full Installation

Directory	Files
lib	fmb.def libctxmess_12.so libctxdebugs_12.so libctxos_12.so libctxcp_12.so libctxprim_12.so libctxplat_12.so libgws.so libcsxappc.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxsun91.so *or* libcsxspx62.so
local/C	LIBGWS_CAT LIBGWS.text
udataobj/codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo

Table 2-3 Solaris Installation Files and Directories for eAM Full Installation

Directory	Files
eLink/sna/simpapp	app.env BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE DMCONFIG dminit.scr Makefile MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl mirrorsrv.c README solaris.env toupclt.c TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG EXPIMSSV.c IMPIMSSV.cbl simpims.c BEAWTOR.asm

AIX

Verify that the following files are installed for the eAM Full Installation:

Table 2-4 AIX Installation Files and Directories for the eAM Full Installation

Directory	Files
bin	Xsnacrm xsnacrm DMINIT GWSNAX CRMLOGS SNACRM crmdown crmlkon crmlkoff bealogo.gif lic.sh
lib	fmb.def libctxmess_12.so libctxcp_12.so libctxdebugs_12.so libctxos_12.so libctxprim_12.so libctxplat_12.so libgws.so libcsxappc.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxibm60.so
local/C	LIBGWS_CAT LIBGWS.text

Table 2-4 AIX Installation Files and Directories for the eAM Full Installation

Directory	Files
udataobj/codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo
eLink/sna/simpapp	aix.env app.env BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE DMCONFIG dminit.scr Makefile MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl mirrorsrv.c README toupclt.c TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG EXPIMSSV.c IMPIMSSV.cbl simpims.c BEAWTOR.asm

HP-UX

Verify that the following files are installed for the eAM Full Installation:

Table 2-5 HP-UX Installation Files and Directories for eAM Full Installation

Directory	Files
bin	Xsnacrm xsnacrm DMINIT GWSNAX CRMLOGS SNACRM crmlkdown crmlkon crmlkoff bealogo.gif lic.sh
lib	fmb.def libctxmess_12.sl libctxdebugs_12.sl libctxos_12.sl libctxcp_12.sl libctxprim_12.sl libctxplat_12.sl libgws.sl libcsxappc.sl libcsxxfm.sl libcsxxmw.sl libcsxgpw.sl libcsxcrm.sl libcsxxcrm.sl libcsxscrm.sl libcsxhp60.sl
local/C	LIBGWS_CAT LIBGWS.text

Table 2-5 HP-UX Installation Files and Directories for eAM Full Installation

Directory	Files
udataobj/codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo
eLink/sna/simpapp	app.env BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE DMCONFIG dminit.scr hpux.env Makefile MIRRDPLC.c MIRRDPLC.cbl MIRRDPLC.c.VSE MIRRDTPC.c MIRRDTPC.cbl mirrorsrv.c README toupclt.c TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG EXPIMSSV.c IMPIMSSV.cbl simpims.c BEAWTOR.asm

Windows NT

Verify that the following files are installed for the eAM Full Installation:

Table 2-6 Windows NT Installation Files and Directories for eAM Full Installation

Directory	Files
bin	bealogo.gif crmdown.exe crmlkoff.exe crmlkon.exe CRMLOGS.exe csxappc.dll csxcrm.dll csxgpw.dll csxibm60.dll csxscrm.dll csxxfm.dll ctxcp_12.dll ctxdebugs_12.dll ctxmess_12.dll ctxos_12.dll ctxprim_12.dll ctxplat_12.dll jsancrm.html jsnacrm.jar monocrm.jar monocrm.x509 DMINIT.exe gws.dll GWSNAX.exe SNACRM.exe
lib	fmb.def
local/C	LIBGWS_CAT LIBGWS.text

Table 2-6 Windows NT Installation Files and Directories for eAM Full Installation

Directory	Files
udataobj/codepage	00819x00037 00819x00285 00819x00297 00819x00860 00819x00284 00819x00500 00819x00273 00819x00278 00819x01047 00912x00870 none tuxedo
eLink/sna/simpapp	app.env BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE DMCONFIG dminit.scr Makefile MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl mirrorsrv.c ntenv.bat README toupclt.c TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG EXPIMSSV.c IMPIMSSV.cbl simpims.c BEAWTOR.asm

CRM Installation for a Distributed Configuration

When installing the CRM in a distributed configuration, verify that the following CRM component files are installed on the remote system.

All directories are relative to the specified installation directory. Also included are the ATMI platform libraries that accompany the distributed CRM.

Solaris

Verify that the following files are installed for the CRM Installation:

Table 2-7 Solaris Installation Files and Directories for CRM Installation

Directory	Files
bin	CRMLOGS SNACRM crmdown crmlkon crmlkoff bealogo.gif solaris.env

Table 2-7 Solaris Installation Files and Directories for CRM Installation

Directory	Files
lib	fmb.def libctxmess_12.so libctxdebugs_12.so libctxos_12.so libctxprim_12.so libctxplat_12.so libcsxappc.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxsun91.so *or* libcsxsp62.so *from Tuxedo distribution media* libbuft.so.60 libgp.so.60 (40 bit) libgpnet.so.60 libfml.so.60 libfml32.so.60 libtux.so.60 libtux2.so.60

AIX

Verify that the following files are installed for the CRM Installation:

Table 2-8 AIX Installation Files and Directories for CRM Installation

Directory	Files
bin	CRMLOGS SNACRM crmdown crmlkon crmlkoff bealogo.gif aix.env

Table 2-8 AIX Installation Files and Directories for CRM Installation

Directory	Files
lib	fmb.def libctxmess_12.so libctxdebugs_12.so libctxos_12.so libctxprim_12.so libctxplat_12.so libcsxappc.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxibm60.so *from Tuxedo distribution media* libbuft.a libgp.a (40 bit) libgpnet.a libfml.a libfml32.a libtux.a libtux2.a

HP-UX

Verify that the following files are installed for the CRM Installation:

Table 2-9 HP-UX Installation Files and Directories for CRM Installation

Directory	Files
bin	CRMLOGS SNACRM crmdown crmlkon crmlkoff bealogo.gif hupx.env

Table 2-9 HP-UX Installation Files and Directories for CRM Installation

Directory	Files
lib	fmb.def libctxmess_12.sl libctxdebugs_12.sl libctxos_12.sl libctxprim_12.sl libctxplat_12.sl libcsxappc.sl libcsxxfm.sl libcsxxmw.sl libcsxgpw.sl libcsxcrm.sl libcsxxcrm.sl libcsxscrm.sl libcsxhp60.sl *from Tuxedo distribution media* libbuft.sl libgp.sl (40 bit) libgpnet.sl libfml.sl libfml32.sl libtux.sl libtux2.sl

OS/390 UNIX

Verify that the following files are installed for the CRM Installation:.

Table 2-10 OS/390 UNIX Installation Files and Directories for CRM Installation

Directory	Files
bin	CRMLOGS SNACRM crmlkoff crmlkon crmdown uss.env

Table 2-10 OS/390 UNIX Installation Files and Directories for CRM Installation

Directory	Files
lib	fmb.def ctxmess_12.dll ctxdebugs_12.dll ctxos_12.dll ctxprim_12.dll ctxplat_12.dll csxappc.dll csxxfm.dll csxxmw.dll csxgpw.dll csxcrm.dll csxxcrm.dll csxscrm.dll csxvtm28.dll *From Tuxedo distribution media* libbuft.dll libgp.dll (40 bit) libgpnet.dll libfml.dll libfml32.dll libtux.dll libtux2.dll

OS/390 MVS

Verify that the following files are installed for the CRM Installation:.

Table 2-11 OS/390 MVS Installation Files and Directories for CRM Installation

Directory	Files
misc	README dsupload.jcl install.jcl uncmprss.jcl

Table 2-11 OS/390 MVS Installation Files and Directories for CRM Installation

Directory	Files
load library	CP CRMLOGS SNACRM CRMLKON CRMLKOFF CRMDOWN CSXAPPC CSXFM CSXXMW CSXGPW CSXCRM CSXXCRM CSXSCRM CSXVTM28 MESS DEBUGS OS PRIM PLAT
data library	FMB ENV
sample library	SNACRM CRMLOGS CRMLKON CRMLKOFF CRMDOWN

Windows NT

Verify that the following files are installed for the CRM Installation:

Table 2-12 Windows NT Installation Files and Directories for CRM Installation

Directory	Files
bin	bealogo.gif crmdown.exe crmlkoff.exe crmlkon.exe CRMLOGS.exe csxappc.dll csxcrm.dll csxgpw.dll csxibm60.dll csxscrm.dll csxxfm.dll ctxdebugs_12.dll ctxmess_12.dll ctxos_12.dll ctxprim_12.dll ctxplat_12.dll jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509 ntenv.bat SNACRM.exe from Tuxedo distribution media libgp.dll (40 bit) libbuft.dll libgpnet.dll libfml.dll libfml32.dll libtux.dll libtux2.dll
lib	fmb.def

eAM Gateway Installation for a Distributed Configuration

When installing the eAM Gateway in a distributed configuration, verify that the following eAM Gateway component files are installed on the remote system.

Solaris

Verify that the following files are installed for the eAM Gateway Installation:

Table 2-13 Solaris Installation Files and Directories for eAM Gateway Installation

Directory	Files
bin	GWSNAX lic.sh
eLink/sna/simpapp	BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE BEAWTOR.asm DMCONFIG EXPIMSSV.c IMPIMSSV.cbl MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl Makefile README TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG app.env dminit.scr mirrorsrv.c simpims.c solaris.env toupclt.c

Table 2-13 Solaris Installation Files and Directories for eAM Gateway Installation

Directory	Files
lib	fmb.def libcsxcrm.so libctxcp_12.so libctxdebugs_12.so libctxmess_12.so libctxos_12.so libctxplat_12.so libctxprim_12.so libgws.so
locale/C	LIBGWS.text LIBGWS_CAT
udataobj/ codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo

AIX

Verify that the following files are installed for the eAM Gateway Installation:

Table 2-14 AIX Installation Files and Directories for eAM Gateway Installation

Directory	Files
bin	GWSNAX lic.sh

Table 2-14 AIX Installation Files and Directories for eAM Gateway Installation

Directory	Files
eLink/sna/simpapp	BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE BEAWTOR.asm DMCONFIG EXPIMSSV.c IMPIMSSV.cbl MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl Makefile README TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG app.env dminit.scr aix.env mirrorsrv.c simpims.c toupclt.c
lib	fmb.def libcsxcrm.so libctxcp_12.so libctxdebugs_12.so libctxmess_12.so libctxos_12.so libctxplat_12.so libctxprim_12.so libgws.so
locale/C	LIBGWS.text LIBGWS_CAT

Table 2-14 AIX Installation Files and Directories for eAM Gateway Installation

Directory	Files
udataobj/codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo

HP-UX

Verify that the following files are installed for the eAM Gateway Installation:

Table 2-15 HP-UX Installation Files and Directories for eAM Gateway Installation

Directory	Files
bin	GWSNAX lic.sh

Table 2-15 HP-UX Installation Files and Directories for eAM Gateway Installation

Directory	Files
eLink/sna/simpapp	BEACONN.RDO BEASNA.RDO BEASNA.RDO.VSE BEAWTOR.asm DMCONFIG EXPIMSSV.c IMPIMSSV.cbl MIRRDPLC.c MIRRDPLC.c.VSE MIRRDPLC.cbl MIRRDTPC.c MIRRDTPC.cbl Makefile README TOUPDPLS.c TOUPDPLS.c.VSE TOUPDPLS.cbl TOUPDTPS.c TOUPDTPS.c.VSE TOUPDTPS.cbl TOUPDTPS.cbl.VSE UBBCONFIG app.env dminit.scr hpux.env mirrorsrv.c simpims.c toupclt.c
lib	fmb.def libcsxcrm.sl libctxcp_12.sl libctxdebugs_12.sl libctxmess_12.sl libctxos_12.sl libctxplat_12.sl libctxprim_12.sl libgws.sl
locale/C	LIBGWS.text LIBGWS_CAT

Table 2-15 HP-UX Installation Files and Directories for eAM Gateway Installation

Directory	Files
udataobj/codepage	00819x00037 00819x00273 00819x00278 00819x00284 00819x00285 00819x00297 00819x00500 00819x00860 00819x01047 00912x00870 none tuxedo

Windows NT

Verify that the following files are installed for the eAM Gateway Installation:

Table 2-16 Windows NT Installation Files and Directories for eAM Gateway Installation

Directory	Files
bin	csxcrm.dll gws.dll ctxdebugs_12.dll ctxmess_12.dll ctxos_12.dll ctxprim_12.dll ctxplat_12.dll ctxcp_12.dll GWSNAX.exe from Tuxedo distribution media libbuft.dll libgp.dll (40 bit) libgpnet.dll libfml.dll libfml32.dll libtux.dll libtux2.dll
lib	fmb.def

Using the License Key

You must enter the license key for eLink software to enable the connection capabilities for your system. As a prerequisite, the ATMI platform software must be installed and operational with its license key file available. To enable the eLink license key, you must append the license key file provided with the product software to the ATMI platform license key file.

Warning: Do not alter any parameters within sections of the license key files. Doing so will invalidate the license and may disable your product software.

Perform the following steps to use the license key.

1. With the text editor of your choice, open the license key file in the `udataobj/lic.txt` sub-directory located in the ATMI platform directory. An example of this file follows:

Listing 2-5 Example of BEA License Key File

```
[TUXEDO 6.5]
LICENSEE=BEA Professional Services
SERIAL=1000000104
ORDERID=0
USERS=20
TYPE=SDK
WEBGUI=separate
WSCOMPRESSION=separate
EXPRIATION=1998-12-31
SIGNATURE=MC0CFDu2oiQyE31LAsF07IS3AfN42i75AhUA3v6TdZgRotoQPH5h8fn
nCRARREs=
```

2. Append the eLink license key file `elinkeAM40.pl` to the ATMI platform license key file. An example of the eLink license key file enabling sync-level 0 and sync-level 1 capabilities follows:

Listing 2-6 Example of eLink License Key File

```
[eLink_SNA v3]
LICENSEE=*** BEA SYSTEMS ***
SERIAL=8882327878
ORDERID=29489283983
EXPIRATION=1999-12-31
SIGNATURE=MCwCFBEXZHIrSei+vTJBHWslqC2lN19vAhQaHx8+/HIkXqrOZbGz6TI
yRvQLRw==
```

3. Save the file and exit the text editor. Your license key is now in effect.

Glossary

A

Access Control Lists (ACL)

A Tuxedo security feature that controls client access to services by means of lists that are automatically checked each time a service is requested.

ACID Properties

The essential characteristic of transaction processing systems:
Atomicity: All changes that a transaction makes to a database are made permanent, or else are nullified.
Consistency: A successful transaction transforms a database from a previous valid state to a new valid state.
Isolation: Changes that a transaction makes to a database are not visible to other operations until the transaction completes its work.
Durability: Changes that a transaction makes to a database survive future system or media failures.

Application

A BEA Tuxedo System/T *application* is bounded by the environment described in a single `TUXCONFIG` file. In /Domain, a BEA Tuxedo System/T application can communicate with another application via a domain gateway group.

Application Domain

When used alone, the term *Domain* can mean a number of things. In order to avoid confusion, the term *application domain* is used to refer to a BEA Tuxedo application bounded by the configuration of a `tmconfig` file. This application domain can be restricted to a single platform or shared memory (SHM) environment, or it can be scaled across multiple machines in a multiple processor (MP) environment.

Application Programming Interface (API)

1) The verbs and environment that exist at the application level to support a par-

ticular system software product. 2) A set of code that enables a developer to initiate and complete client/server requests within an application. 3) A set of calling conventions that define how to invoke a service. A set of well-defined programming interfaces (entry points, calling parameters, and return values) by which one software program utilizes the services of another

Application Program-to-Program Communication (APPC)

An interface to LU6.2 services; provides a set of primitives to conduct conversations in LU6.2 sessions.

C

Client

A program designed to request information from a server.

CNOS

CNOS are service programs implemented as part of an LU6.2. The CNOS programs negotiate session limits between the two communication LU.

Common Programming Interface for Communications (CPI-C)

An interface to LU6.2 services. It is a simpler set of primitives than the APPC interface and is intended for use in program-to-program communications.

Customer Information Control System/Enterprise System Architecture (CICS/ESA)

An operating environment devised by IBM that provides a foundation upon which to write customer applications programs. Several facilities useful for programming are supplied by the CICS environment, including basic mapping services (BMS), transient data queues (TD), temporary storage files (TS), memory services, etc. Customer applications are built as separate transaction programs, and are invoked as transactional tasks. CICS/ESA is a trademark of International Business Machines (IBM), Inc.

D

Distributed Program Link (DPL)

Function of CICS ISC that supports LINK requests between CICS regions, and is similar to a BEA Tuxedo request/response.

Distributed Transaction Processing (DTP)

A CICS intercommunication in which processing is distributed among transactions that communicate synchronously over intersystem or inter-region links. It is roughly equivalent to BEA Tuxedo conversations.

E

ESA

(ESA) Enterprise Systems Architecture is the conceptual structure and functional behavior of the latest range of IBM mainframe computers. ESA/370 is the fourth step in an evolution of which the first three steps were System/360, System/370, and System/370 extended architecture (370-XA).

F

Field Manipulation Language (FML)

A set of C language functions for defining and manipulating storage structures called field buffers. Cooperating processes can send and receive data in fielded buffers.

FML Buffer

A buffer of self-describing data items accessed through the Field Manipulation Language (FML) API.

I

Inbound

A generic term referring to request message direction relative to the server or a response message direction relative to the client.

Information Management System (IMS)

A database manager used by CICS/ESA to allow access to data. IMS provides for the arrangement of data in an hierarchical structure and a common access approach in application programs that manipulate IMS databases.

InterSystem Communications (ISC)

Communication between separate systems by means of SNA networking facilities or by means of the application-to-application facilities. ISC links CICS systems to other systems and may be used for communication between user applications or to transparently execute CICS functions on a remote CICS system.

L

Logical Unit (LU)

In SNA, a port through which a user gains access to the services of a network. Also, see System Network Architecture (SNA).

LU6.2

LU6.2 is a particular SNA logical unit that identifies a specific set of services for program to program communication. Services include syncpoint, mapping of buffers into records, message confirmation, and security.

M

MODENAME

`MODENAME` is a configuration parameter that names a set of characteristics for a group of BEA eLink Java Adapter for Mainframe sessions. In the CICS region, the mode is defined in VTAM and referenced in CICS and the `DMCONFIG` file.

mirror task

CICS/ESA task that services incoming requests that specify a *mirror transaction* (CSMI, CSM1, CSM2, CSM3, CSM5, CPMI, CVMI, or a user-defined mirror transaction identifier).

mirror transaction

CICS/ESA transaction that recreates a request that is function shipped from one system to another, issues the request on the second system, and passes the acquired data back to the first system.

Mirror Transaction Identifier Support

BEA eLink Java Adapter for Mainframe feature which enables BEA Tuxedo clients to invoke host CICS/ESA programs and, conversely, CICS/ESA client programs to invoke BEA Tuxedo services. Based on the IBM CICS/ESA mirror transaction.

Multiple Virtual Storage (MVS)

An operating system for processing systems consisting of one or more mainframe processors.

O

Outbound

A generic term referring to request message direction relative to the client or response message direction relative to the server.

P

PU 2.1

PU 2.1 is an SNA server that provides client programs with access to an SNA network. The PU 2.1 Server's functions include managing the physical connections, providing SNA node device emulation, servicing Logical Units, communicating with client programs, and controlling and monitoring the local SNA resources.

R

Resource Definition Online (RDO)

The recommended method of defining resources to CICS/ESA. Resource definitions are created interactively by a CEDA transaction, or by the DFHCSDUP utility. Both methods store definition in the CICS/ESA system definition data set (CSD). At CICS initialization, CSD definitions are selectively installed as CICS system tables controlled by a user-supplied list of definitions. CEDA-defined resource definitions can be installed while CICS is active and used immediately.

S

Server

A computer or program that is dedicated to providing information in response to external requests.

Session

When two LU bind with each other, that is, when they have successfully negotiated how they will communicate, they are said to be in *session*. SNA has fixed limits on the number of sessions configured for an LU type.

SNA Communication Resource Manager (SNACRM)

A process that provides all of the sync-level two logic for an SNA domain gateway and directly communicates with the PU2.1 server.

Stack

Platform vendor-supplied software that provides connectivity to an SNA network.

Synchronization Level (sync level)

The level of synchronization (0, 1, or 2) established for an APPC session between intercommunicating CICS/ESA transactions. Level 0 gives no synchronization support, level 1 allows the exchange of private synchronization requests, and level 2 gives full CICS/ESA synchronization support, with backout of all updates to recoverable resources if failure occurs.

System Network Architecture (SNA)

A seven-layer networking protocol. Each layer of the protocol has a set of associated data communication services. The services of the uppermost layer are embodied in a Logical Unit (LU). Each LU type defined in SNA has its own specific set of services available to an end user for communicating. The end user may be a terminal device, or an application program. The SNA structure enables the end user to operate independently, unaffected by the specific facilities used for information exchange.

T

Transaction

1) A complete unit of work that transforms a database from one consistent state to another. In DTP, a transaction can include multiple units of work performed on one or more systems.

2) A logical construct through which applications perform work on shared resources (e.g., databases). The work done on behalf of the transaction conforms to the four ACID properties: atomicity, consistency, isolation, and durability.

Transaction Processing (TP)

A form of immediate data processing in which user requests are entered directly to the terminal and on-line programs satisfy the requests; for example, by updating database files and displaying output messages.

V

Virtual Telecommunications Access Method (VTAM)

A set of programs that control communication across a network between terminals and application programs.