Neuron Data Elements Environment

Version 2.1

Installation Guide

Contents

1. Windows 95 or Windows NT

2. Solaris/SPARC

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Windows 95 or Windows NT

This chapter helps you install the Elements Environment and license the software for use. It provides the following information:

■ A description of the components of the Elements Environment

■ Information about the compatibility between the earlier releases and this release of the Elements Environment

■ System requirements

■ Licensing requirements

■ Instructions for installing the Elements Environment

■ Instructions for configuring the Elements Environment

■ Instructions for installing and using the Elements Environment documentation

About the Elements Environment 2.1 Kit

The Elements Environment 2.1 kit contains two CD-ROMs:

■ The Elements Environment Development and Deployment Kit, which contains the application

The Elements Environment provides two versions of the Elements libraries:

  – a debug version for development

  – a nondebug version for deployment

■ The Elements Environment Documentation Suite, which contains all the documentation for this release

You can begin by installing either of these CD-ROMs. Also, you can use these CD-ROMs to install the Elements Environment on Windows NT® and Windows 95™ depending on the license you have purchased.

Note: Make sure you follow the correct instructions for your platform.

This release includes upgrades to each of the Elements in the Elements Environment. Both the C and C++ library versions are available for all the Elements on various platforms.

In addition to significant packaging changes, each individual Element includes new features. For a complete list of upgrades to the Elements, see the following documents:

■ The *Elements Environment Getting Started Guide* in the `GETSTART` directory of the Documentation Suite CD-ROM

See "The Elements Environment Documentation CD-ROM" on page 1–16 for details.

■ The Release Notes in the `\ee21\doc` directory

See "Release Notes" on page 1–15 for a complete list of the files.

Components of the Elements Environment 2.1

The Elements Environment is a component-based development environment for assembling business-critical, distributed applications. The complete environment comprises the following software development tools:

■ The *Open Interface Element* lets you build portable graphical user interfaces (GUIs) that are independent of the windowing environment. It includes an extensive toolkit of reusable GUI objects, such as:
  – the Diagrammer
  – the Notebook
  – the Browser
  – the Toolbar
  – the TreeView

  It also has a robust GUI API library that provides full platform-independent implementation.

■ The *Data Access Element* lets you build database-access objects to access independent data sources including:
  – flat files
  – relational databases
  – data that reside in other applications.

  You can, then, map the elements of these data objects to the GUI objects of the application. You can reuse the objects that you create without modification between several supported data sources.

■ The *Intelligent Rules Element* (formerly known as the Smart Elements) lets you capture the data model and the business logic without the complexity of a procedural language. Rules-based applications can easily adapt to changes in the business environment. Thus, they bring significant added value to the other application components.

■ The *Distributed Messaging Element* lets you create network-distributed applications that remain scalable regardless of the changes in the underlying network infrastructure. It includes software routing agents to automatically communicate between distributed application modules. This allows you to develop complex, multi-tiered, distributed applications.

■ The *Web Element*, when incorporated into your application, allows your users to start a Web Browser from within your application. It provides an embeddable Web Browser and Web-link Navigator. In addition, it supports scriptable Applets, which allow you to convert your HTML documents into interactive applications for use within a business-wide Intranet.

Compatibility between Earlier Releases and This Release

This section provides information about compatibility between earlier releases and this release of the Elements Environment.

For detailed information about migrating from earlier releases to this release, see the migration documents on the Neuron Data Developer Network Web site:

```
https://nddn.neurondata.com
```

C and C++ Source-Code Files

Significant changes have been made to the Elements Environment C and C++ implementation. This may limit compatibility between applications developed with previous C and C++ releases of the Elements Environment and this release. For information about enabling compatibility for various Elements, see these files in the `\ee21\doc` directory:

■ `oi4x.txt`

■ `da2x.txt`

■ `ir4x.txt`

■ `dm1x.txt`

Makefiles

The makefile include files have changed for this release of the Elements Environment. You must update the makefiles for your platform, using the instructions in `ee2x.txt` in the `\ee21\doc` directory.

Note: The previous makefile definition files, `makedefs.inc` and `makerules.inc`, are supported in this release. However, they will **not** be supported in future releases.

.dat Files

The resource database files (`.dat`) developed with the previous releases are **not** compatible with the Elements Environment libraries in this release.

Run the rescomp utility to compile your `.rc` text files into a new `.dat` file. You can find the rescomp utility in the `\ee21\c\bin` or the `\ee21\cpp\bin` directory.

Knowledge-Base Files (Intelligent Rules Element Only)

The knowledge base syntax has changed in this release. Therefore, Compiled Knowledge Base (CKB) and Text Knowledge Base (TKB) files developed with previous releases are not compatible with the new Intelligent Rules Element.

To use your existing TKB files with this release of the Elements Environment, run the conversion utility `conv4gfx` found in the `\ee21\c\bin` or the `\ee21\cpp\bin`.

For nongraphical development environments, use the `conv4tkb` file located in the `\ee21\c\bin` or the `\ee21\cpp\bin`.

Script Files

The Elements Environment script language has changed significantly. The new Elements Environment OOScript has these limitations:

■ You cannot edit scripts within the script editor.
■ There are no widget-linking editors in the Data Access Element and the Intelligent Rules Element.

Applications developed with the earlier-release scripting language may not be fully compatible with this release. However, the Open Interface Element, the Data Access Element, and the Intelligent Rules Element provide backward compatibility:

■ To enable backward compatibility for the Open Interface Element, set the environment variable `ND_COMPAT_SCRIPT` to "True."
■ To enable backward compatibility for the Data Access Element, use one of these methods:
 – Set the `ND_DA_DBSCP` flag to 1 in `nd.h`, which is in the `\ee21\c\include` or `ee21\cpp\include` directory.
 – Set the `ND_DA_DBSCP` to "on" in the `dae.cfg`, which is in `\ee21\dat`.

 For more information, see the `da2x.txt` file in the `\ee21\doc` directory and the *Elements Environment Getting Started Guide.*

■ To enable backward compatibility for the Intelligent Rules Element, set the `ND_COMPAT_NOIR` environment variable to "True."

For more information, see the `ir4x.txt` file in the `\ee21\doc` directory.

System Requirements

You need the following hardware and software for installing the Elements Environment and developing applications using the Elements for the C and C++ languages:

■ A 486-based or higher computer
■ Microsoft Windows 95 4.0 or higher versions

   or:

   Microsoft Windows NT 3.5.1 or higher versions

   Note: The Win32 libraries are required for both.
■ Microsoft Visual C++ 4.0
■ If you want to automate your applications through the OLE Server, OLE 2.0 installed from Microsoft.

Requirements for Non-English Language Versions

If you have non-English versions of the Elements Environment 2.1, the operating system and windowing environment must correspond to the locale. Compilers are generally locale independent.

Note: For additional information regarding localization, see the *Elements Environment Getting Started Guide.*

Specific Requirements for the Data Access Element

For the Data Access Element, you have these additional software requirements:

Database	Client Version	Server Version	Libraries
ODBC	ODBC 3.0 and the appropriate ODBC driver See your ODBC documentation for driver requirements.	A version compatible with the ODBC driver used.	Does not apply.

Database	Client Version	Server Version	Libraries
Oracle	7.3.2 or higher	7.2 or higher	Pro*C
		Use 7.3.2 if you use new functions on the client side.	
Sybase	4.9.x or 10.x	4.9.x, 10.x, 11.x	Open Client DBLib
	Do **not** use Sybase 11.		

Note: The Japanese and Korean Elements Environment kits support only the Oracle database. For additional database support, contact Neuron Data.

If you are using Windows NT, you require a patch when using MS ODBC drivers. To get the patch, follow these guidelines:

1. Go to ftp.microsoft.com.

2. Change to the binary mode.

3. Download and expand the self-extracting file called `msjtwng.exe`.

4. Copy `msjt3020.dll` to the Windows NT system32 directory.

Licensing Requirements

To use the Elements Environment you must have the appropriate licenses from Neuron Data. You can buy licenses for all or specific Elements. You can use one of the following methods to license your copy of the Elements Environment:

■ Use the Sentinel hardware key and the license authorization file on a floppy diskette that you received with the Elements Environment kit. You must plug the hardware key in the parallel port of the computer, where you install the Elements Environment. To install the license authorization file, follow the instructions on the screen during installation.

For more information about the Sentinel hardware key, see "About the Sentinel Hardware Key" on page 1–7.

■ Use the Ethernet adapter card of your machine. You must receive authorization from Neuron Data to run the software.

For instructions on how to receive authorization from Neuron Data see "Licensing Your Software through an Ethernet Card" on page 1–21.

■ If you are evaluating the Elements Environment for purchase, use the **temporary** licence. The temporary license, which includes a 20-digit license code and expiration date, is provided on the license certificate included with the Elements Environment evaluation package. Provide these numbers when the installation program prompts you for them.

About the Sentinel Hardware Key

Starting with the Elements Environment 2.0 release, Neuron Data has a new hardware key that is different from the one used with earlier releases of the Elements Environment. If you are using the Sentinel hardware key to lock the license, read this description of the Elements Environment key's usage:

■ Use the new hardware key provided with this release and not an old one from a previous release.

   Note: The hardware key for Elements Environment 2.0 and Elements Environment 2.1 are the same.

■ The Sentinel hardware key you received is specific to a particular license.dat file. Therefore, the Sentinel hardware key and its corresponding license file on a floppy diskette are together in a package.

■ If you have a multiple-platform site license, you can find a separate Sentinel hardware key and floppy disk for each license in your software package. After installing the license file from the floppy disk, you must ensure that the 8-digit key ID that appears on the Sentinel key matches the number on the floppy diskette label.

■ You can install the Sentinel hardware key shipped with the software in the parallel port of any computer for the platform you have chosen. However, you can run only one copy of the software at a time.

■ The Sentinel key and license.dat file are specific to the Windows platform you are using. The Sentinel key for Windows 95 will not operate on Windows NT.

■ If you install the software on another computer, you must keep the Sentinel key, the license.dat file, and the nd.dat file together.

Warning: If you transfer the Sentinel key between computers without its corresponding license file the Elements Environment will not run.

Installation and Setup

The installation program lets you select the Elements in the Elements Environment that you want to install. You can install any combination of the Elements that you are licensed to use. You can install additional Elements

from the CD-ROM after obtaining the appropriate license from Neuron Data.

Note: If you are evaluating the software, you have the license to install all the Elements.

Warning: Install only the Elements that you are licensed to use. If you install Elements that you are not licensed to use, incorrect information will appear in the Elements Environment configuration file. Then, the Elements Environment will not run.

Tasks You Must Perform for Installing

To install the Elements Environment, you must perform the following tasks:

1. Install the Elements Environment application.

2. (Optional) Change the server registration.

3. If you want your application to use OLE automation through the Neuron Data's OLE servers, set up OLE automation.

4. If you are using Windows NT, install the Sentinel key driver.

Information You Must Provide during Installation

You must provide the following information, during installation:

■ The target directory if you want to change the default directory

■ A Program Folder name if you want to change the default folder

■ Elements that you want to install

  Note: You must have license for the Elements that you choose.

■ The license authorization diskette

■ The host ID number on the diskette

  Note: This number must match the number on the Sentinel key.

  If you are evaluating the software, the 20-digit license code and the expiration date.

Note: You must enter these numbers exactly as shown in your license certificate.

Installing the Elements Environment

You can install the Elements Environment from the CD-ROM drive on your computer or on a local area network. Before beginning the installation, make sure the CD-ROM drive has been configured for your operating system and is available to your windowing system as a logical drive.

Note: If you are using Windows NT, log on as the System Administrator to run the installation program. The installation program makes changes to the system environment and this provides the necessary privileges.

1. Insert the Elements Environment CD-ROM into the CD-ROM drive.

2. From Windows, select **Start** - **Run**

3. Click **Browse** to select `Setup.exe` in the CD-ROM drive.

4. Click **OK**.

5. Follow the instructions on the screen.

6. Click **Yes** when the installation program asks you if you want it to update your operating environment.

7. After the installation is complete, restart your computer to update the environment settings.

8. At the DOS prompt, initialize the `nd.dat` file by typing the following command:

   ```
   authfeat -a
   ```

9. To confirm that nd.dat is initialized properly, type the following command:

   ```
   authfeat -l
   ```

   This displays a list of all the Elements Environment products for which you are licensed.

10. Make sure `LM_LICENSE_FILE` is set as follows:

    ```
    set LM_LICENSE_FILE=C:\EE21\DAT\LICENSE.DAT
    ```

    Your pathname may vary, depending upon the location of the installed software.

11. If you are using a Sentinel hardware key, plug it into your computer's parallel port.

Registering Servers

The installation program automatically registers the Elements Environment servers. However, you can change the server registration later for your specific use.

To Change the Server Registration

From the **EE 2.1 C Tools** or **EE 2.1 C++ Tools** program groups, select the servers that you want to register or unregister.

You can also use these batch files located in the \ee21 directory:

■ To register servers, use regc.bat for C and regcpp.bat for C++.

■ To unregister servers, use unregc.bat for C and unregcpp.bat for C++.

Note: You can only be registered to one language at a time. If you change the language from C to C++ or from C++ to C, make sure that you unregister one language before you register the other.

OLE Server Installation and Setup

The Neuron Data Elements Environment installation program does **not** register the Neuron Data OLE Servers. If you want your application to use OLE automation via Neuron Data's OLE Servers, you can register the OLE Server by executing the supplied regc.bat or regcpp.bat file in the c:\ee21 directory.

Alternatively, double-click the register server icons in the **EE 2.1 C Tools** or **EE 2.1 C++ Tools** program group folders.

Later, if you want to move the OLE Servers, use the unregc.bat or unregcpp.bat file located in the c:\ee21 directory. This utility uninstalls and unregisters the servers. You must reregister the servers through the regc.bat or regcpp.bat utility. At that time, you must also correctly set the PATH and ND_PATH environment variables.

Installing the Sentinel Key Driver for Windows NT

If you are using Windows NT and the Sentinel hardware key, you must install the Neuron Data-supplied Sentinel driver for Windows NT to run the Elements Environment on Windows NT.

To Install the Sentinel Key Driver for Windows NT 3.5.1

1. With the Elements Environment Development and Deployment CD-ROM in the CD-ROM drive, double-click the **Control Panel** from the Main Group of the NT Program Managers.

2. Double-click the **Drivers** icon and click **ADD**.

3. Select **Unlisted or Updated Driver** and click **OK**.

4. Type the drive letter of the CD-ROM and the directory of the Sentinel driver and click **OK**.

   For example:

   ```
   G:\sentinel\win_nt
   ```

5. Choose **Sentinel for i386 Systems** from the list of drivers and click **OK**.

6. Shut down your computer and restart Windows NT.

To Install the Sentinel Key Driver on Windows NT 4.0

1. With the Elements Environment Development and Deployment CD-ROM in the CD-ROM drive, open the Windows NT Explorer.

2. Click the **CD-ROM** directory icon.

3. Click the **Sentinel** directory icon to open it.

4. Click the **Win_nt** directory icon to open it.

5. Double-click the `install.bat` file to run the installation.

6. From the "Sentinel Driver Setup Program" window, choose **Function - Install Sentinel Driver**.

7. In the Sentinel Install window, click **OK**.

8. Click **OK** when the set up program informs you that the Sentinel driver has been installed.

9. Shut down your computer and restart Windows NT.

Running the Elements Environment

The `ee` executable is the central executable for the Elements Environment, which replaces these executables from previous releases:

- openedit
- smartelt
- runscrpt

The Elements Environment executable `ee` reads the generated `ee21/dat/ee.cfg` file and dynamically loads the Elements specified in the configuration file. This approach eliminates the need to rebuild multiple executables with particular Data Access Element drivers linked.

After installing and licensing the application, you can start the Elements Environment without making further changes.

To Run the Elements Environment

■ Double-click the program icon in the Elements Environment Program Folder.

   or:

■ Enter the following command line at the command prompt:

   ```
   ee
   ```

You can also run the Elements Environment using an Element-specific configuration file, such as `oie.cfg`. For example,

■ To run the resource browser and GUI development toolkit, enter:

   ```
   ee -ND_DYNCONFIG=OIE
   ```

■ To run the `ee` executable as if it were the former runscrpt, enter:

   ```
   ee -ND_DYNCONFIG=runscrpt
   ```

See the *Elements Environment Getting Started Guide* for a description of `ee.cfg` as well as the Element-specific configuration files and how to customize them.

Verifying the Elements Environment Configuration

By default, the `ee` executable loads the `ee.cfg` configuration file located in the `\ee21\dat` directory. The installation program generates the `ee.cfg` and `runscrpt.cfg` configuration files, which contain the information needed to run the Elements in your environment.

The Elements Environment will not run if your configuration is incorrect, such as in the following situations:

■ If you have installed an Element for which you don't have the license. The `ee.cfg` and the `runscrpt.cfg` files will attempt to load the libraries for this Element when you try to start the Elements Environment with the `ee` command.

■ If a database switch is set to "on" in the ee.cfg file, but the database manager is not installed.

To Resolve the Configuration Problem

1. Run authfeat -l.

   It provides a list of Elements that you are licensed to use.

2. Verify that you have installed only the Elements for which you have the license.

3. Open the `ee.cfg` and the `runscrpt.cfg` files with a text editor.

4. Set the Elements for which you do not have the license to "off."

5. Set the database managers that are not installed to "off."

6. If necessary, set the environment variables for the databases to FALSE.

   On Windows 95, edit your autoexec.bat file.

   On Windows NT, use **Start** - **Settings** - **Control Panel** - **System** - **Environment**.

Customizing your Environment

After installing the Elements Environment, you can modify the settings of the configuration file `ee.cfg` or create different versions of it. You can also change the default settings for the Elements Environment by modifying the environment variables for your platform. For more information about the configuration file and environment variable options, see the `\sys_conf` directory in the Elements Environment Documentation CD-ROM.

See "The Elements Environment Documentation CD-ROM" on page 1–16 for installing and using the Elements Environment documentation.

Using Nondebug Libraries

By default, the installation program sets up the system to use the debug libraries intended for developing applications with the Elements Environment. To deploy the developed applications with the nondebug libraries, you must set the `PATH` variable to point to the nondebug libraries.

To Change the Library Configuration to Point to the Nondebug Libraries

1. On Windows95, open `autoexec.bat.`

2. Add the following lines:

   `c:\ee21\c\dll` if you are using the C development library
   `c:\ee21\cpp\dll` if you are using the C++ development library

3. On Windows NT, choose **Settings** - **Control Panel** - **System.**

4. Click the **Environment** tab page.

5. Enter these lines in the Variables box:

   `c:\ee21\c\dll` if you are using the C development library
   `c:\ee21\cpp\dll` if you are using the C++ development library

6. Click **OK**.

Kit Contents

After you install the Elements Environment, the libraries have the following organization:

`bugs`	Contains a list of known bugs and fixed bugs
`c / cpp`	C/C++ language libraries

`bin`	Contains the executables and the utilities
`build`	Contains the source to rebuild the Elements Environment executables
`dll`	Contains nondebug libraries to rebuild an application
`dlldbg`	Contains all the debug libraries to rebuild an application
`examples`	Contains the C/C++ examples for the Elements installed

`base`	Nongraphical examples
`da`	Examples using the Data Access Element
`gui`	Examples using the Open Interface Element
`intl`	Unicode examples (International)
`rules`	Examples using the Intelligent Rules Element
`web`	Examples using the Web Element
`dm`	Examples using the Distributed Messaging Element
`dmoi`	Examples using the Distributed Messaging Element and the Open Interface Element together
`dmrules`	Examples using the Distributed Messaging Element and the Intelligent Rules Element together

`lib`	Contains exported DLL functions
`include`	Contains C/C++ headers

`dat`	Contains all the Elements Environment .dat files and the configuration files for the locale installed
`enusasc`	English ASCII .dat file versions
`kokrksc`	Korean KSC .dat file
`jajpsjis`	Japanese Shift-JIS .dat file
`doc`	Contains all the release notes
`include`	Top level include files for build rules
`mkinc`	Contains the makefile definition include files
`script`	Contains all the script examples
`examples`	Contains all the scripting examples for the Elements installed
`da`	Examples using the Data Access Element
`rules`	Examples using the Intelligent Rules Element
`web`	Examples using the Web Element
`gui`	Examples using the Open Interface Element
`canna`	(Japanese only) support for canna input method for Nihongo characters

Release Notes

Release notes are text files that contain information about compatibility issues, platform-specific notes, and a list of fixed bugs for each Element. They are in the following subdirectories of the `\ee21\doc` directory:

`ee2x.txt`	Information about building applications in the Elements Environment and general notes about this release of the Elements Environment
`oi4x.txt`	Contains information about the Open Interface Element
`da2x.txt`	Contains information about the Data Access Element
`ir4x.txt`	Contains information about the Intelligent Rules Element
`io1x.txt`	Contains information about the Interoperable Objects Element

`web1x.txt`	Contains information about the Web Element
`dme1x.txt`	Contains information about the Distributed Messaging Element
`examples.txt`	Provides the roadmap to all the examples

Lists of known bugs and limitations for the Elements are in these subdirectories of `\ee21\bugs` directory for the following Elements:

`oi4xbugs.txt`	The Open Interface Element
`da2xbugs.txt`	The Data Access Element
`ir4xbugs.txt`	The Intelligent Rules Element
`io1xbugs.txt`	The Interoperable Objects Element
`we1xbugs.txt`	The Web Element

The headers files also contain a compatibility section that lists calls that are obsolete and calls available now for compatibility but will not be in the next release.

The Elements Environment Documentation CD-ROM

With this release, all the Elements Environment documentation is in the Adobe Acrobat portable document format (pdf) on the Documentation Suite CD-ROM. The documentation CD-ROM includes the Adobe Acrobat Readers currently available from Adobe.

You can also download the latest versions of the Acrobat Reader, without charge, from Adobe's World Wide Web site at *http://www.adobe.com*.

This section describes:

■ How to install the Adobe Acrobat Reader

■ How to use the Elements Environment documentation

■ The contents of the documentation CD-ROM

Installing the Adobe Acrobat Reader

Follow these steps to install the documentation:

1. Insert the Elements Environment Documentation Suite CD-ROM into your computer's CD-ROM drive.

2. From the **Start** menu, choose **Run**.

3. Enter the following command, where G is the logical drive letter for your CD-ROM, and click **OK**:

```
G:\acroread\win\Rdr_srch\16bit\setup.exe
```
or:
```
G:\acroread\win\Rdr_srch\32bit\setup.exe
```

4. Follow the instructions on your screen for installing the Acrobat Reader and licensing it.

5. Start the Acrobat Reader and open the ee_start.pdf from the CD-ROM to read the manuals online.

Copying the .pdf files to your hard disk drive

If you want, you can copy the .pdf files to your hard disk drive or to a network server from the document directories on the CD-ROM.

Make sure you include the **acrosrch** directory when you copy the Neuron Data product documentation files. This directory contains index files (.pdx) that Acrobat Reader needs to perform full-text searches on collections of .pdf files.

Warning: Do not change the directory structure when you copy these files.

Using the Acrobat Reader

To learn about the Adobe Acrobat Reader and the Adobe Search features, see these two .pdf documents provided by Adobe in the Acrobat3\Reader\Help directory:

■ The acroread.pdf file for important information about using the Adobe Acrobat Reader
■ The acrosrch.pdf file for important information about using the Acrobat Reader to perform searches across collections of .pdf files

For information about Adobe Acrobat Reader or technical support for the Adobe Acrobat Reader, call the following Adobe Acrobat Technical Support telephone number:

206-628-2757

Note: Neuron Data does not provide technical support for the Adobe Acrobat Reader.

Using the Documentation

You can use the Elements Environment documentation in .pdf format in the following ways:

- Start the Acrobat Reader and open the document files that you want, to read a manual online.
- Print the document exactly as you see it on the screen to make hard copy versions of the manuals.

Note: You can get copies of printed manuals of the Elements Environment from Neuron Data at an additional charge.

- Search for specific text in a document or across all the documents.

Searching for information

To locate information in the documents, you can use these Acrobat Reader search methods:

- Search for the next occurrence of a simple string within the currently open file
- Use the Boolean search feature that searches across a collection of .pdf files and returns a list of book titles with a match

To use the Boolean search feature, you need to load the search index (.pdx) files from the **acrosrch** directory of the Acrobat Reader. The **acrosrch** directory contains:

- A master.pdx file, which contains the index to the entire documentation set. You must load this file to search across all the .pdf files.
- A *.pdx file for individual product documentation for each Element. You must load the specific .pdx files for the product documentation of the Element to which you want to limit the search.

To start a search

1. Click the "Binocular with Document" icon from the toolbar of the Adobe Acrobat Reader.
2. In the Adobe Acrobat Search dialog box, click **Indexes**.
3. Select the indexes you want to use for the search or click **Add** to add index files.
4. Click **OK**.
5. In the Adobe Acrobat Search dialog box, enter the text you want to search.
6. Click **Search** to start the search.

If you searched for information within an open document, Adobe Acrobat Reader displays the matching text it finds within the document.

If you searched for information using a `master.pdx`, Adobe Acrobat Reader displays a list of documents in which the text was found.

Contents of the Documentation CD-ROM

The documentation CD-ROM contains the following directories:

ee_start.pdf	The root directory of the documentation CD-ROM. You can access all the other documentation from this directory.
getstart	Contains the *Elements Environment Getting Started Guide*.
sys_conf	Contains platform-specific documentation that helps you to set up the Elements Environment for a particular platform.
ooscript	Contains the complete documentation for the Elements Environment script language, OOScript.
app_svcs	Contains programming documentation for the Elements Environment C and C++ API that is common to all the Elements. The API described by these documents is known as the "Elements Application Services." The files in this directory all begin with the prefix "ea."
oie	Contains the complete documentation for the Open Interface Element. Separate programming and reference manuals are available for the C and C++ languages.
ire	Contains the complete documentation for the Intelligent Rules Element. Separate programming manuals are available for the C and C++ languages.
dae	Contains complete documentation for the Data Access Element. Separate programming manuals are available for the C and C++ languages.
dme	Contains the complete documentation for the Distributed Messaging Element. Programming and reference manuals are available only for C.
we	Contains the complete documentation for the Web Element. Separate programming manuals are available for the C and C++ languages.
acroread	Contains the platform-specific installation programs for the Acrobat Reader. It also contains the help file acroread.pdf that explains how to use .pdf files in the Acrobat Reader.
acrosrch	Contains index files (.pdx) that your Acrobat Reader can load to perform full-text searches on one or more documentation directories. It also contains the help file acrosrch.pdf that explains how to use the Acrobat Reader to perform searches across .pdf files.

Customer Technical Support Services

Neuron Data Customer Technical Support Services provides assistance in using the Elements Environment components and platforms for which you have a current support contract or evaluation agreement. Services include:

■ Technical support

■ Neuron Data Developers' Network Web site

■ Documentation updates

■ Training

■ Extended support services

Note: International users, check with your local distributors for similar local services.

Technical Support

Neuron Data Technical Support Services in Mountain View, California provides technical assistance to all North American customers.

If you are in North America, you can contact the Technical Support Services using these methods:

■ Call 415-943-2700.

■ Send a fax message to 415-943-2756.

■ Send an electronic mail message to support@neurondata.com.

If you are outside North America, contact your local Neuron Data office or distributor. For local telephone numbers, fax numbers, and e-mail addresses call the Neuron Data corporate office at 415-528-3450.

When you contact Neuron Data Technical Support, have the following information ready:

■ Your Product Support Identification Number (PSID) located on your packaging list

■ Your phone number, fax number, and e-mail address

■ Name of the Neuron Data product that you are using

■ Version numbers of the Neuron Data Elements

■ A detailed description of the problem with steps to reproduce it

■ Copies of relevant files so that we can investigate the problem

Documentation Updates

If you have a current technical support contract, you can find updates to the documentation available on the Neuron Data Developer's Network

(NDDN). The NDDN contains the most current version of all the .pdf files that appear on the Documentation CD-ROM. You can download the latest version by comparing the dates of the files.

You can access NDDN through the Neuron Data Web site at:

```
https://nddn.neurondata.com
```

Training

Neuron Data offers a wide range of training courses for Neuron Data products at your site or at Neuron Data's site.

For information about the Neuron Data training courses, in North America, contact the training department at 800-876-4900.

You can receive a quarterly schedule and syllabus of the courses through:
- The training department
- The Neuron Data Internet home page at:
  ```
  http://www.neurondata.com.
  ```

If you are outside North America, contact your Neuron Data local office or distributor for details on available courses and schedules.

Extended Support Services

In addition to technical support and training, Neuron Data offers extended support services, which include assistance in the following areas:
- Upgrading from earlier releases
- Installation
- Design review
- Quality assurance review
- Technology transfer
- Priority support services
- Customer priority maintenance releases (patches)
- Consulting

If you require additional information on any service, contact your Neuron Data sales representative.

Licensing Your Software through an Ethernet Card

If you have requested Neuron Data to lock your Elements Environment license to a particular computer's Ethernet adapter card, you can install the software only on the computer with the specific Ethernet adapter card. The

computer that contains the Ethernet card does not need to have a network connection for the license to work properly.

Note: If you are updating to the Elements Environment from Version 2.0 to Version 2.1 with Ethernet Card Licensing, you do **not** have to upgrade your license. However, if you have installed new elements you must upgrade your license.

Collecting Machine-Specific Information

If you want to lock the license to an Ethernet adapter card, you must obtain the authorization key from Neuron Data.

To obtain the authorization key, send the following information about the computer where you have installed the software to Neuron Data:

Note: Verify that the information you send is accurate and complete before you send it.

■   Company name and address
■   E-mail address

    Note: To receive response in the shortest time from Neuron Data Customer Service, communicate through e-mail. You will receive the authorization information in an e-mail message so that you can copy the information without having to retype anything.

■   The types of computer for each platform
■   The platform, whether Windows 95 or Windows NT, on which you installed the Elements Environment

    Note: If you require licenses for more than one type of platform, include the names of each platform or operating system. Neuron Data requires this information to prepare platform-specific license files.

■   Packing list number, which is a 10- or 11-digit number in the packing list you received with the product

    Note: The packing list number helps Neuron Data identify the Elements and the number of licenses for which you are to be authorized.

■   Ethernet adapter card MAC address

See "Obtaining the MAC Address of the Ethernet Card" on page 1–23.

Obtaining the MAC Address of the Ethernet Card

Note: To obtain the MAC address, you must have the NWLink IPX/SPX network driver from Microsoft installed on your PC.

1. At the command prompt of the computer where the Elements Environment is installed, enter the following command line:

    ```
    lmutil lmhostid
    ```
   You get a 12-digit hexadecimal number.

2. If the hexadecimal confirmation number is other than 0 or ffffffff, send the number as the MAC address to Neuron Data.

3. If the hexadecimal number is 0 or ffffffff, install the NWLink IPX/SPX network driver from Microsoft.

To Install NWLink IPX/SPX Network Driver on Windows 95

1. Choose **Start** - **Settings** - **Control Panel**.

2. Double-click the **Network** icon and click **ADD**.

3. Select **Protocol** and click **ADD** .

4. Choose **Microsoft** from the list on the left.

5. Choose **IPX/SPX-Compatible Protocol** from the list on the right.

6. Click **OK**.

7. In the Network Settings window, click **OK**.

8. In the confirmation dialog, click **OK**.

9. Shut down your computer and restart Windows 95.

To Install NWLink IPX/SPX Network Driver on Windows 95

1. Insert the Windows NT CD-ROM or diskette in the appropriate drive.

2. In the main window, double-click the **Control Panel**.

3. Choose **Network** - **Protocols** - **Add**.

4. Select the **NWLink IPX/SPX Compatible Transport** from the list.

5. Type the CD-ROM or disk drive letter and the subdirectory. For example:

    ```
    I:\i386
    ```

6. In the Network Settings window, click **OK**.

7. In the NWLink IPX/SPX Protocol Configuration window, click **OK**.

8. Shut down your computer and restart Windows NT.

Sending the Information to Neuron Data

After you have gathered the information you need to send to Neuron Data, send your site-specific information by e-mail to Neuron Data at:

`license@neurondata.com`

You will receive your authorization key codes by e-mail at the e-mail address you specify.

Note: For receiving the fastest response from Neuron Data, use e-mail to send your information.

If you cannot send the information by e-mail, provide your information using one of these methods:

■ Call Customer Service at these numbers between 9:00 a.m. and 5:00 p.m. Pacific time:
  – 800-876-4900 (North American customers only)
  – 415-528-3450
■ Fax the information to the Customer Service at:

  415-943-2754

If you are outside North America, contact the nearest Neuron Data office or your local distributor for additional support.

Receiving Authorization from Neuron Data

After receiving the license information from Neuron Data Customer Service, follow these guidelines and create the `license.dat` file:

Note: The `license.dat` file is used to acknowledge the software license.

■ Use the instructions accompanying your license authorization to create the `license.dat` file.
■ To avoid errors introduced by retyping license information, copy and paste the licensing information from the e-mail if you received the information in e-mail.
■ Do **not** mix Neuron Data products with those of other vendors using the FLEXlm licensing mechanism in the same license file. Create a separate license file for Neuron Data products.

2 *Solaris/SPARC*

This chapter helps you install the Elements Environment and license the software for use. It provides the following information:

- A description of the components of the Elements Environment
- Information about the compatibility between the earlier releases and this release of the Elements Environment
- System requirements
- Licensing requirements
- Instructions for installing the Elements Environment
- Instructions for configuring the Elements Environment
- Instructions for installing and using the Elements Environment documentation

About the Elements Environment 2.1 Kit

The Elements Environment 2.1 for Solaris™/SPARC® kit contains two CD-ROMs:

- The Elements Environment Development and Deployment Kit, which contains the application

  The Elements Environment provides two versions of the Elements libraries:
  - a debug version for development
  - a nondebug version for deployment

- The Elements Environment Documentation Suite, which contains all the documentation for this release

You can begin by installing either of these CD-ROMs.

This release includes upgrades to each of the Elements in the Elements Environment. Both the C and C++ library versions are available for all the Elements on various platforms.

In addition to significant packaging changes, each individual Element includes new features. For a complete list of upgrades to the Elements, see the following documents:

■ The *Elements Environment Getting Started Guide* in the GETSTART directory of the Documentation Suite CD-ROM

See "The Elements Environment Documentation CD-ROM" on page 2–16 for details.

■ The Release Notes in the $ND_HOME/doc directory

See "Release Notes" on page 2–15 for a complete list of the files.

Components of the Elements Environment 2.1

The Elements Environment is a component-based development environment for assembling business-critical, distributed applications. The complete environment comprises the following software development tools:

■ The *Open Interface Element* lets you build portable graphical user interfaces (GUIs) that are independent of the windowing environment. It includes an extensive toolkit of reusable GUI objects, such as:
  – the Diagrammer
  – the Notebook
  – the Browser
  – the Toolbar
  – the TreeView

It also has a robust GUI API library that provides full platform-independent implementation.

■ The *Data Access Element* lets you build database-access objects to access independent data sources including:
  – flat files
  – relational databases
  – data that reside in other applications.

You can, then, map the elements of these data objects to the GUI objects of the application. You can reuse the objects that you create without modification between several supported data sources.

■ The *Intelligent Rules Element* (formerly known as the Smart Elements) lets you capture the data model and the business logic without the complexity of a procedural language. Rules-based applications can easily adapt to changes in the business environment. Thus, they bring significant added value to the other application components.

■ The *Distributed Messaging Element* lets you create network-distributed applications that remain scalable regardless of the changes in the underlying network infrastructure. It includes software routing agents to automatically communicate between distributed application modules. This allows you to develop complex, multi-tiered, distributed applications.

■ The *Web Element*, when incorporated into your application, allows your users to start a Web Browser from within your application. It provides an embeddable Web Browser and Web-link Navigator. In addition, it supports scriptable Applets, which allow you to convert your HTML documents into interactive applications for use within a business-wide Intranet.

Compatibility between Earlier Releases and This Release

This section provides information about compatibility between earlier releases and this release of the Elements Environment.

For detailed information about migrating from earlier releases to this release, see the migration documents on the Neuron Data Developer Network Web site at:

```
https://nddn.neurondata.com
```

C and C++ Source-Code Files

Significant changes have been made to the Elements Environment C and C++ implementation. This may limit compatibility between applications developed with previous C and C++ releases of the Elements Environment and this release. For information about enabling compatibility for various Elements, see these files in the `/ee21/doc` directory:

Makefiles

The makefile include files have changed for this release of the Elements Environment. You must update the makefiles for your platform, using the instructions in `ee2x.txt` in the `/ee21/doc` directory.

Note: The previous makefile definition files, `makedefs.inc` and `makerules.inc`, are supported in this release. However, they will **not** be supported in future releases.

,dat Files

The resource database files (`.dat`) developed with the previous releases are **not** compatible with the Elements Environment libraries in this release.

Run the rescomp utility to compile your `.rc` text files into a new `.dat` file. You can find the rescomp utility in the `/ee21/c/bin` or the `/ee21/cpp/bin` directory.

Knowledge-Base Files (Intelligent Rules Element Only)

The knowledge base syntax has changed in this release. Therefore, Compiled Knowledge Base (CKB) and Text Knowledge Base (TKB) files developed with previous releases are not compatible with the new Intelligent Rules Element.

To use your existing TKB files with this release of the Elements Environment, run the conversion utility `conv4gfx` found in the `/ee21/c/bin` or the `/ee21/cpp/bin`.

For nongraphical development environments, use the `conv4tkb` file located in the `/ee21/c/bin` or the `/ee21/cpp/bin`.

Script Files

The Elements Environment script language has changed significantly. The new Elements Environment OOScript has these limitations:

■ You cannot edit scripts within the script editor.
■ There are no widget-linking editors in the Data Access Element and the Intelligent Rules Element.

Applications developed with the earlier-release scripting language may not be fully compatible with this release. However, the Open Interface Element, the Data Access Element, and the Intelligent Rules Element provide backward compatibility:

■ To enable backward compatibility for the Open Interface Element, set the environment variable `ND_COMPAT_SCRIPT` to "True."
■ To enable backward compatibility for the Data Access Element, use one of these methods:
  – Set the `ND_DA_DBSCP` flag to 1 in `nd.h`, which is in the `/ee21/c/include` or `/ee21/cpp/include` directory.
  – Set the `ND_DA_DBSCP` to "on" in the `dae.cfg`, which is in `/ee21/dat`.

For more information, see the `da2x.txt` file in the `/ee21/doc` directory and the *Elements Environment Getting Started Guide.*

■ To enable backward compatibility for the Intelligent Rules Element, set the `ND_COMPAT_NOIR` environment variable to "True."

For more information, see the `ir4x.txt` file in the `/ee21/doc` directory.

System Requirements

You need the following hardware and software for installing the Elements Environment and developing applications using the Elements for the C and C++ languages:

■ A SPARC station running Solaris 2.4 or 2.5
■ SunSoft, SunPro C 3.0.1, or SPARC Compiler C++ 4.0.1, Version 3.0.1
■ Open Windows 3.4

Requirements for Non-English Language Versions

If you have non-English versions of the Elements Environment 2.1, the operating system and windowing environment must correspond to the locale. Compilers are generally locale independent.

Currently Neuron Data supports only Solaris 2.4 J and 2.5 J (Japanese) and Solaris 2.4 (Korean.)

Note: For additional information regarding localization, see the *Elements Environment Getting Started Guide.*

Specific Requirements for the Data Access Element

For the Data Access Element, you have these additional software requirements:

Database	Client Version	Server Version	Libraries
Oracle	7.3.2 or higher	7.2 or higher	Pro*C
		Use 7.3.2 if you use new functions on the client side.	
Sybase	4.9.x or 10.x	4.9.x, 10.x, 11.x	Open Client DBLib
	Do **not** use Sybase 11.		

Note: The Japanese and Korean Elements Environment kits support only the Oracle database. For additional database support, contact Neuron Data.

Licensing Requirements

To use the Elements Environment you must have the appropriate licenses from Neuron Data. You can buy licenses for all or specific Elements. You must license your copy of the Elements Environment using one of these methods:

■ If you have purchased the software, send your site specific information to Neuron Data and receive authorization to run the software.

For instructions on how to receive authorization from Neuron Data see "Licensing Your Copy of the Elements Environment" on page 2–9.

■ If you are evaluating the Elements Environment for purchase, use the **temporary** licence. The temporary license, which includes a 20-digit license code and expiration date, is provided on the license certificate included with the Elements Environment evaluation package. Provide these numbers exactly as shown in your licensing certificate when the installation program prompts you for them.

Installation and Setup

The installation program lets you select the Elements in the Elements Environment that you want to install. You can install any combination of the Elements that you are licensed to use. You can install additional Elements from the CD-ROM after obtaining the appropriate license from Neuron Data.

Note: If you are evaluating the software, you have the license to install all the Elements.

Warning: Install only the Elements that you are licensed to use. If you install Elements that you are not licensed to use, incorrect information will appear in the Elements Environment configuration file. Then, the Elements Environment will not run.

To install and run the Elements Environment, perform these tasks:

1. Install the Elements Environment.

2. Source the `nd.csh` or `"."` `nd.sh`.

3. License your copy of the Elements.

Installing the Elements Environment

1. Insert the Elements Environment CD-ROM into the CD-ROM drive.

2. Log in to the user account that you will use to access the Elements Environment.

    ```
    login: user account name
    Password: <password for the account>
    ```

3. Change directory to the Elements Environment on the CD-ROM, by typing:

    ```
    % cd /cdrom/ee21
    ```

4. Choose a directory on your hard disk drive to install the Elements Environment. For example:

    ```
    % cd /mypath
    % mkdir ee21
    ```

    where *mypath* is the pathname of the file system in which you choose to install the Elements Environment.

    Note: Make sure that the directory does not contain a previous release of the Elements Environment.

5. Run the Elements Environment installation from the CD-ROM directory by typing the following command lines:

    ```
    1% cd /cdrom/ee21
    2% ndinstal
    ```

    The installation program prompts you for the location of the destination directory in which the Elements Environment files will reside.

6. Enter a home directory path name for the Elements Environment. For example:

    ```
    /mypath/ee21
    ```

7. In the Main menu of the installation program, select the Elements that you want to install and for which you have the licenses. To do this, enter the number corresponding to the option you want to change.

    The installation program displays the selected configuration menu for you to make specific selections.

8. Select any combination of Elements permitted by your license that you want to install.

9. When you are satisfied with the installation selections, return to the installation main menu and choose one of these options to complete the installation process:

   – **C**
   – **C++**
   – **Both**

   The installation program creates custom versions of the nd.sh and nd.csh files for your installation. These scripts set important environment variables necessary to use the Elements Environment.

10. After the installation is complete, restart your computer.

11. At the command prompt, initialize the nd.dat file by typing the following command:

    ```
    authfeat -a
    ```

12. To confirm that nd.dat is initialized properly, type the following command:

    ```
    authfeat -l
    ```

    This displays a list of all the Elements Environment products for which you are licensed.

Sourcing nd.csh or "." nd.sh

The Elements Environment supports shareable libraries. Therefore, before sourcing the misc/nd.csh file or "." nd.sh file, you must set LD_LIBRARY_PATH correctly.

If LD_LIBRARY_PATH is not set, the nd.csh and nd.sh scripts will attempt to set it for you. You must modify the file if your compiler or OpenWindows home directory is in a non-standard location.

If you want to connect to the Oracle Driver, set the ORACLE_HOME environment before you source the nd.csh file.

To Source nd.csh or "." nd.sh

Enter the appropriate commands to set the necessary environment variables:

■ If you are using C shell (csh) enter:

```
% cd /my_path/ee21
% source misc/nd.csh
% rehash
```

■   If you are using Korn or Bourne shell enter:

```
% cd /my_path/ee21
% . misc/nd.sh
```

This command sets the environment variable $ND_HOME to
/my_path/ee21.

Licensing Your Copy of the Elements Environment

If you have purchased the Elements Environment, you must collect certain
site-specific information and send it to Neuron Data. Neuron Data will send
you authorization to run the software along with instructions.

Note: If you are evaluating the Elements Environment, provide the 20-digit
license code and the expiration date on your license certificate, when
the installation program prompts you for them.

Collecting Site-specific Information

Collect the following information so that we can meet your specific site
requirements:

Note: Verify that the information you send is accurate and complete before
you send it.

■   Company name and address

■   E-mail address

Note: To receive response in the shortest time from Neuron
Data Customer Service, communicate through e-mail.
You will receive the authorization information in an
e-mail message so that you can copy the information
without having to retype anything.

■   The platforms on which you install the Elements Environment

Note: If you require licenses for more than one type of platform,
include the name of each platform or operating system.
Neuron Data requires this information to prepare
platform-specific license files.

■   Packing list number, which is a 10- or 11-digit number in the packing list
you received with the product

Note: The packing list number helps Neuron Data identify the
Elements and the number of licenses for which you are to
be authorized.

■ Computer's hostname

Note: From Motif or OpenWindows, obtain the hostname of the computer on which the Elements Environment software resides by typing:

```
hostname
```

■ Computer's hostid

Note: To obtain the hostid of the machine on which the Elements Environment software resides, at the prompt enter: `hostid`

Sending the Information to Neuron Data

After you gather the information you need to send to Neuron Data, send your site-specific information by e-mail to Neuron Data at:

```
license@neurondata.com
```

You will receive your authorization key codes by e-mail at the e-mail address you specify.

Note: To receive the fastest response from Neuron Data, use e-mail to send your information.

If you cannot send the information by e-mail, provide your information using one of these methods:

■ Call Customer Service at these numbers between 9:00 a.m. and 5:00 p.m. Pacific time:

800-876-4900 (North American customers only)

415-528-3450

■ Fax the information to the Customer Service at:

415-943-2754

If you are outside North America, contact the nearest Neuron Data office or your local distributor for additional support.

Receiving Authorization from Neuron Data

The information you receive from Neuron Data for authorization has the following keywords:

SERVER	This line has the unique 32-bit hostid for the machine. It also has your computer's name and port number, both of which you can edit to suit your needs.
DAEMON	This line shows the name of the authorization daemon and its path. The *daemon* is a process that runs in the background to check that users run only those programs for which they are authorized.
	Note: Check the pathname and ensure that it matches the location of the installed Elements Environment software.
INCREMENT	There will be up to two lines for each Element for which you have been authorized. Each line shows a unique code assigned to you for authorization.

Follow these guidelines and create the `license.dat` file:

Note: The `license.dat` file is used to acknowledge the software license.

■ Use the instructions accompanying your license authorization to create the license.dat file.

■ To avoid errors introduced by retyping license information, copy and paste the licensing information from the e-mail if you received the information in e-mail.

■ Do **not** mix Neuron Data products with those of other vendors using the FLEXlm licensing mechanism in the same license file. Create a separate license file for Neuron Data products.

Starting the License Daemon

The Elements Environment installation provides you with all the license administration tools that you need to run the Elements shown in your `license.dat` file. You can find these tools in these directories:

■ `$ND_HOME/c/bin`

■ `$ND_HOME/cpp/bin`

The Elements Environment uses two daemons:

■ `lmgrd`

■ `nd`

To start the daemon

Start `lmgrd` following the instructions that accompanies your license information.

Note: You cannot start the daemon for the Elements Environment directly. `lmgrd` reads the `license.dat` file and starts all the daemons listed there.

If `lmgrd` is already running on your machine for Neuron Data products, update the license Daemon for the Elements Environment with the `lmreread` command.

Running the Elements Environment

The `ee` executable is the central executable for the Elements Environment, which replaces these executables from previous releases:

■ `openedit`

■ `smartelt`

■ `runscrpt`

The Elements Environment executable `ee` reads the generated `$ND_HOME/ee21/dat/ee.cfg` file and dynamically loads those Elements specified in the configuration file. This approach eliminates the need to rebuild multiple executables with particular Data Access Element drivers linked.

After installing and licensing the application, you can start the Elements Environment without making further changes.

To run the Elements Environment

To run the Elements Environment, enter the following command:

```
% ee
```

You can also run the Elements Environment using an Element-specific configuration file, such as `oie.cfg`. For example,

■ To run the resource browser and GUI development toolkit, enter:

```
% ee -ND_DYNCONFIG=OIE
```

■ To run the `ee` executable as if it were the former runscrpt, enter:

```
% ee -ND_DYNCONFIG=runscrpt
```

See the *Elements Environment Getting Started Guide* for a description of `ee.cfg` as well as the Element-specific configuration files and how to customize them.

Verifying the Elements Environment Configuration

By default the `ee` executable loads the `ee.cfg` configuration file located in the `$ND_HOME/dat` directory. The installation program generates the `ee.cfg` and `runscrpt.cfg` configuration files, which contain the information needed to run the Elements in your environment.

The Elements Environment will not run if your configuration is incorrect, such as in the following situations:

■ If you have installed an Element for which you don't have the license. The `ee.cfg` and the `runscrpt.cfg` files will attempt to load the libraries for this Element when you try to start the Elements Environment with the `ee` command.

■ If a database switch is set to "on" in the ee.cfg file, but the database manager is not installed.

To resolve the configuration problem

1. Run `authfeat -l`.

   It provides a list of Elements that you are licensed to use.

2. Verify that you have installed only the Elements for which you have the license.

3. Open the `ee.cfg` and the `runscrpt.cfg` files with a text editor.

4. Set the Elements for which you do not have the license to "off."

5. Set the database managers that are not installed to "off."

Note: You can also resolve the configuration problem by running the Elements Environment with an Element-specific configuration file, such as `oie.cfg`, for which you have the license.

Customizing your Environment

After installing the Elements Environment, you can modify the settings of the configuration file `ee.cfg` or create different versions of it. You can also change the default settings for the Elements Environment by modifying the environment variables for your platform. For more information about the configuration file and environment variable options, see the `/cdrom/nddocs/sys_conf` directory in the Elements Environment Documentation CD-ROM.

See "The Elements Environment Documentation CD-ROM" on page 2–16 for installing and using the Elements Environment documentation.

Kit Contents

After you install the Elements Environment, the libraries have the following organization:

bugs   Contains a list of known bugs and fixed bugs

c / cpp   Contains libraries, includes, examples for C/C++ version

    bin   Contains the executables and the utilities

    build   Contains the source to rebuild the Elements Environment executables

    examples   Contains all C/C++ examples for the Elements installed

        base   Nongraphical examples

        da   Examples using the Data Access Element

        gui   Examples using the Open Interface Element

        intl   Unicode examples (International)

        rules   Examples using the Intelligent Rules Element

        web   Examples using the Web Element

        dm   Examples using the Distributed Messaging Element

        dmoi   Examples using the Distributed Messaging Element and the Open Interface Element together

        dmrules   Examples using the Distributed Messaging Element and the Intelligent Rules Element together

    include   Contains C/C++ headers

    install   Contains information for the installation program. Do not remove this.

    lib   Contains all the nondebug libraries to rebuild an application

    libdbg   Contains all the debug libraries to rebuild an application

dat   Contains all ND .dat files and the configuration files for the locale installed

    enusasc   English ASCII .dat file versions

    kokrksc   Korean KSC .dat file

    jajpeuc   Japanese J-EUC .dat files

`doc`	Contains all the release notes
`include`	Contains the makefile definition include files
`misc`	Contains the environment setup script, compatibility makefiles, and other utilities
`script`	Contains all the script examples

`examples`	Contains all scripting examples for the Elements installed

`da`	Examples using the Data Access Element
`rules`	Examples using the Intelligent Rules Element
`web`	Examples using the Web Element
`gui`	Examples using the Open Interface Element

Release Notes

Release notes are text files that contain information about compatibility issues, platform-specific notes, and a list of fixed bugs for each Element. They are in the following subdirectories of the `/$ND_HOME/doc` directory:

`ee2x.txt`	Information about building applications in the Elements Environment and general notes about this release of the Elements Environment
`oi4x.txt`	Contains information about the Open Interface Element
`da2x.txt`	Contains information about the Data Access Element
`ir4x.txt`	Contains information about the Intelligent Rules Element
`io1x.txt`	Contains information about the Interoperable Objects Element
`web1x.txt`	Contains information about the Web Element
`dme1x.txt`	Contains information about the Distributed Messaging Element
`examples.txt`	Provides the roadmap to all the examples

Lists of known bugs and limitations for the Elements are in these subdirectories of `$ND_HOME/bugs` directory for the following Elements:

`oi4xbugs.txt`	The Open Interface Element
`da2xbugs.txt`	The Data Access Element
`ir4xbugs.txt`	The Intelligent Rules Element
`io1xbugs.txt`	The Interoperable Objects Element
`we1xbugs.txt`	The Web Element

The headers files also contain a compatibility section that lists calls that are obsolete and calls available now for compatibility but will not be in the next release.

The Elements Environment Documentation CD-ROM

With this release, all the Elements Environment documentation is in the Adobe Acrobat portable document format (.pdf) on the Documentation CD-ROM. The documentation CD-ROM includes the Adobe Acrobat Readers currently available from Adobe.

You can also download the latest versions of the Acrobat Reader, without charge, from Adobe's World Wide Web site at:

`http://www.adobe.com`

This section describes:

- How to install the Adobe Acrobat Reader
- How to use the Elements Environment documentation
- The contents of the documentation CD-ROM

Installing the Adobe Acrobat Reader

Note: To install the Adobe Acrobat Reader software from the documentation CD-ROM, you must have access to the root directory on the workstation on which you install the Adobe Acrobat Reader.

If you are installing the software on your workstation using a CD-ROM drive on a different workstation, you need the root password for both the workstations.

1. Insert the Elements Environment Documentation Suite CD-ROM into the CD-ROM drive.

2. Verify that the CD-ROM has been recognized by the system and verify the contents of the CD-ROM by typing the list (`ls`) command in the shell window:

    ```
    % ls /cdrom
    cdrom0 nddocs
    ```

3. Log in to the root account as a superuser and go to the following directory using these command lines:

    ```
    % su root
    Password: <root_password>
    # cd /cdrom/nddocs/acroread/acrosol
    ```

4. Review the `instguid.txt` installation directions in this directory.

5. Run the installation script by entering:

    ```
    # ./install
    ```

6. Provide all the information that the installation script requests.

    After you provide all the information, installation begins. The screen will display information describing the installation process.

7. After the installation is complete, exit from the root account by entering:

    ```
    # exit
    ```

8. Start the Acrobat reader with the Neuron Data `ee_start.pdf` file.

    ```
    % <installdir>/bin/acroread \
    /cdrom/nddocs/ee_start/ee_start.pdf
    ```

Copying the .pdf Files to Your Hard Disk Drive

If you want, you can copy the .pdf files to your hard disk drive or to a network server from the document directories on the CD-ROM.

Make sure you include the **acrosrch** directory when you copy the Neuron Data product documentation files. This directory contains index files (.pdx) that Acrobat Reader needs to perform full-text searches on collections of .pdf files.

Warning: Do not change the directory structure when you copy these files.

Using the Acrobat Reader

To learn about the Adobe Acrobat Reader and the Adobe Search features, see these two .pdf documents provided by Adobe in the `acrobat3/reader/help` directory:

■ The `acroread.pdf` file for important information about using the Adobe Acrobat Reader

■   The `acrosrch.pdf` file for important information about using the
    Acrobat Reader to perform searches across collections of .pdf files

For information about Adobe Acrobat Reader or technical support for the
Adobe Acrobat Reader, call the following Adobe Acrobat Technical Support
telephone number:

206-628-2757

Note: Neuron Data does not provide technical support for the Adobe
        Acrobat Reader.

Using the Documentation

You can use the Elements Environment documentation in .pdf format in the
following ways:

■   Start the Acrobat Reader and open the document files that you want, to
    read a manual online.

■   Print the document exactly as you see it on the screen to make hard copy
    versions of the manuals.

Note: You can get copies of printed manuals of the Elements Environment
        from Neuron Data at an additional charge.

■   Search for specific text in a document or across all the documents.

Searching for Information

To locate information in the documents, you can use these Acrobat Reader
search methods:

■   Search for the next occurrence of a simple string within the currently
    open file

■   Use the Boolean search feature that searches across a collection of .pdf
    files and returns a list of book titles with a match

To use the Boolean search feature, you need to load the search index (.pdx)
files in the **acrosrch** directory of the Acrobat Reader. The **acrosrch** directory
contains:

■   A master.pdx file, which contains the index to the entire documentation
    set. You must load this file to search across all the .pdf files.

■   A *.pdx file for individual product documentation for each Element.
    You must load the specific .pdx files for the product documentation of
    the Element to which you want to limit the search.

To Start a Search

1. Click the "Binocular with Document" icon from the toolbar of the Adobe Acrobat Reader.

2. In the Adobe Acrobat Search dialog box, click **Indexes**.

3. Select the indexes you want to use for the search or click **Add** to add index files.

4. Click **OK**.

5. In the Adobe Acrobat Search dialog box, enter the text you want to search.

6. Click **Search** to start the search.

If you searched for information within an open document, Adobe Acrobat Reader displays the matching text it finds within the document.

If you searched for information using a `master.pdx`, Adobe Acrobat Reader displays a list of documents in which the text was found.

Contents of the Documentation CD-ROM

The documentation CD-ROM contains the following directories:

ee_start.pdf	The root directory of the documentation CD-ROM. You can access all the other documentation from this directory.
getstart	Contains the *Elements Environment Getting Started Guide*.
sys_conf	Contains platform-specific documentation that helps you to set up the Elements Environment for a particular platform.
ooscript	Contains the complete documentation for the Elements Environment script language, OOScript.
app_svcs	Contains programming documentation for the Elements Environment C and C++ API that is common to all the Elements. The API described by these documents is known as the "Elements Application Services." The files in this directory all begin with the prefix "ea."
oie	Contains the complete documentation for the Open Interface Element. Separate programming and reference manuals are available for the C and C++ languages.
ire	Contains the complete documentation for the Intelligent Rules Element. Separate programming manuals are available for the C and C++ languages.
dae	Contains complete documentation for the Data Access Element. Separate programming manuals are available for the C and C++ languages.

`dme`	Contains the complete documentation for the Distributed Messaging Element. Programming and reference manuals are available only for C.
`we`	Contains the complete documentation for the Web Element. Separate programming manuals are available for the C and C++ languages.
`acroread`	Contains the platform-specific installation programs for the Acrobat Reader. It also contains the help file `acroread.pdf` that explains how to use .pdf files in the Acrobat Reader.
`acrosrch`	Contains index files (.pdx) that your Acrobat Reader can load to perform full-text searches on one or more documentation directories. It also contains the help file `acrosrch.pdf` that explains how to use the Acrobat Reader to perform searches across .pdf files.

Customer Technical Support Services

Neuron Data Customer Technical Support Services provides assistance in using the Elements Environment components and platforms for which you have a current support contract or evaluation agreement. Services include:

■ Technical support

■ Neuron Data Developers' Network Web site

■ Documentation updates

■ Training

■ Extended support services

Note: International users, check with your local distributors for similar local services.

Technical Support

Neuron Data Technical Support Services in Mountain View, California provides technical assistance to all North American customers.

If you are in North America, you can contact the Technical Support Services using these methods:

■ Call 415-943-2700.

■ Send a fax message to 415-943-2756.

■ Send an electronic mail message to `support@neurondata.com`.

If you are outside North America, contact your local Neuron Data office or distributor. For local telephone numbers, fax numbers, and e-mail addresses call the Neuron Data corporate office at 415- 528-3450.

When you contact Neuron Data Technical Support, have the following information ready:

■ Your Product Support Identification Number (PSID) located on your packaging list

■ Your phone number, fax number, and e-mail address

■ Name of the Neuron Data product that you are using

■ Version numbers of the Neuron Data Elements

■ A detailed description of the problem with steps to reproduce it

■ Copies of relevant files so that we can investigate the problem

Documentation Updates

If you have a current technical support contract, you can find updates to the documentation available on the Neuron Data Developer's Network (NDDN). The NDDN contains the most current version of all the .pdf files that appear on the Documentation CD-ROM. You can download the latest version by comparing the dates of the files.

You can access NDDN through the Neuron Data Web site at:

```
https://nddn.neurondata.com
```

Training

Neuron Data offers a wide range of training courses for Neuron Data products at your site or at Neuron Data's site.

For information about the Neuron Data training courses, in North America, contact the training department at 800-876-4900.

You can receive a quarterly schedule and syllabus of the courses through:

■ The training department

■ The Neuron Data Internet home page at:
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http://www.neurondata.com.
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If you are outside North America, contact your Neuron Data local office or distributor for details on available courses and schedules.

Extended Support Services

In addition to technical support and training, Neuron Data offers extended support services, which include assistance in the following areas:

■ Upgrading from earlier releases

■ Installation

■ Design review

■ Quality assurance review

■ Technology transfer

■ Priority support services

■ Customer priority maintenance releases (patches)

■ Consulting

If you require additional information on any service, contact your Neuron Data sales representative.