Developer/2000™ Installation Guide Client/Server

Release 1.6.1 for OpenVMS
Oracle7 Server Release 7.3.3

Sept. 1998
Part No. A65677-01

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Preface

This Developer/2000 User’s Guide describes how to install, configure, and use Developer/2000 tools on your OpenVMS system.

The topics covered in this preface are:

- Who should read this book
- Document conventions
- Using your Oracle documentation library
- Customer support Information
Who Should Read This Book?

If you install and maintain Developer/2000 tools on computers running an OpenVMS operating system, then this manual is for you. You might also be an Oracle database administrator (DBA) for your site.

In order to understand this manual, you should have fundamental knowledge of the OpenVMS system on which you are running the Developer/2000 tools. This book doesn’t attempt to document OpenVMS features unless they affect, or are affected by, Oracle products.
Conventions Used in This Guide

Syntax

**monospaced font**

Monospaced font is used to represent information displayed on a terminal or monitor or entered on a keyboard. For example, menu screens that are displayed during the Oracle7 installation procedure are represented in this guide with monospaced font.

**UPPERCASE**

UPPERCASE in monospaced font represents a command name or filename. Enter the text exactly as shown.

**UPPERCASE**

UPPERCASE words within the text refer to command names or filenames.

**<variable>**

<lowercase words> in monospaced font enclosed by angle brackets represent a variable on the command line. Substitute an appropriate value.

**[variable]**

[lowercase words] in monospaced font enclosed by square brackets represent an optional variable on the command line. Substitute an appropriate value.

**<variable>**

<lowercase words> enclosed by angle brackets within the text refer to variable names.

**[variable]**

[lowercase words] enclosed by square brackets within the text refer to optional variable names.

**italics**

Italics are used to indicate a title of a book or document or to represent variables.

Special Icons

**Additional Information:** The book symbol highlights a reference to another Oracle guide or manual.

**Warning:** The warning symbol highlights text that warns you of actions that could be particularly damaging or fatal to your system.

**Suggestion:** The suggestion symbol highlights recommendations and hints.

**Attention:** The attention symbol highlights important information.
Other Conventions

“Oracle Server” and “Oracle7” refer to the relational database server product from Oracle Corporation. “Oracle” refers to the corporation itself.

“OpenVMS” refers to Alpha OpenVMS.

ORACLE_HOME on OpenVMS

One of the main differences between an OpenVMS Oracle product and those ported to other platforms is the use of the environmental directory variable ORACLE_HOME. On OpenVMS platforms, the directory ORA_ROOT:[000000] is used instead of the ORACLE_HOME variable. ORA_ROOT is an OpenVMS rooted logical. Therefore, you should substitute ORA_ROOT:[000000] on OpenVMS systems where ORACLE_HOME is used in generic documentation.

Using Your Oracle Documentation Library

The information contained in this manual is operating system specific and is supplementary to the Oracle7 for Alpha OpenVMS installation, administration, and user documentation.


Oracle7 Server Generic documentation

- Tool-specific README and DOC files in the product directories (e.g. ORA_ROOT:[FORMS45.DOC]README.FORMS45)
- Any product-specific documentation included in the distribution kit
  - Oracle7 Server Administrator’s Guide
  - Oracle7 Server Application Developer’s Guide
  - Oracle7 Server Concepts Manual
  - Oracle7 Parallel Server Administrator’s Guide
  - Oracle7 Server Utilities User’s Guide
  - Oracle7 Server Migration Guide
  - Oracle7 Server Messages and Codes Manual
  - SQL Language Reference Manual
Oracle7 for Alpha OpenVMS

- *Oracle7 for Alpha OpenVMS Administrator’s Guide*
- *Oracle7 for Alpha OpenVMS Installation Guide*
- *Oracle7 for Alpha OpenVMS User’s Guide*

Oracle Terminal


For information about the X Window System and Motif, refer to the following sources:

X Window System

- *X Window System Toolkit, Prentice Hall/Allyn & Bacon, 1990*

Motif

Customer Support Information

(Please copy this page and distribute within your organization as necessary.)

For Oracle Worldwide Support Services (WWS), contact your local number. (The hours are detailed in your support contract.) ____________________________

Please prepare the following information before you call, using this page as a checklist:

☐ your Customer Support Identification (CSI) number if applicable, or full contact details, including any special project information ____________________________

☐ the complete version numbers of the Oracle7 Server and associated products (for example, Oracle7 Server version 7.3.2.3.2 or Oracle Forms version 4.5.6.3.2) Note: The version numbers for products can be obtained from the file ORA_UTIL:PRODUCTS.TXT ____________________________

☐ the hardware type on which the problem occurs (for example, Digital Alpha) ______________

☐ the operating system name and version number (for example, OpenVMS 7.1) ______________

☐ details of error codes and associated descriptions. Please write these down as they occur, since they are critical in helping WWS to quickly resolve your problem. ____________________________

☐ a full description of the issue, including:

  ☐ What – What happened? For example, the command used and result obtained.

  ☐ When – When did it happen? For example, time of day, or after a certain command, or after an O/S upgrade.

  ☐ Where – Where did it happen? For example, on a particular system or within a certain procedure or table.

  ☐ Extent – What is the extent of the problem? For example, production system unavailable, or moderate impact but increasing with time, or minimal impact and stable.

Note: Keep in mind what did not happen, as well as what did happen. This type of information can help WWS to more quickly resolve your problem.

☐ Keep copies of any trace files, core dumps, and redo log files recorded at or near the time of the incident, since WWS will need these to further investigate your problem.

For installation-related problems please have the following information available:

☐ error returned by the installation procedure and / or OpenVMS ____________________________
Your Comments Are Welcome

We value and appreciate your comments as an Oracle user and reader of the manuals. As we write, revise, and evaluate our documentation, your opinions are the most important input we receive. At the back of our printed manuals is a Reader’s Comment Form, which we encourage you to use to tell us what you like and dislike about this manual or other Oracle manuals. If the form is not available, please use the following address or FAX number, or call us at 415–506–7000.

Enterprise Platforms Engineering
Publications Manager
Oracle Corporation
500 Oracle Parkway
M/S 1OP5
Redwood Shores, CA  94065
Phone:  (650) 506–7000
FAX:  (650) 506–7303
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What is Developer/2000?

This chapter describes provides a general description of Developer/2000, including:

- An overview of Developer/2000
- Client-Only and Server-Based Installation Options
- Developer/2000 Documentation
- Developer/2000 Supported Features
- Integrated Tools Demonstrations
- Issues and Restrictions
What is Developer/2000?

Developer/2000 is an integrated set of database tools supporting multiple operating systems, user interfaces, and data sources. These tools are built on top of a layer called Oracle Toolkit that provides a uniform programming interface to the underlying user interface. Oracle Toolkit makes it possible to create applications that run against multiple user interfaces, such as Motif or Windows, while retaining the full native look and feel of the interface.

In addition, the Developer/2000 products are shipped with a common set of libraries and resources called GUICORE23, which provide a consistent look and feel to Developer/2000 products across multiple platforms.

Developer/2000 tools are built using standard application programming interfaces (APIs) allowing organizations to supplement the Developer/2000 product set with tools from other vendors.

Developer/2000 achieves portability across graphical user interfaces through a unique software library called the Adaptable User Interface Toolkit. This technology eliminates the need for a separate version of each Developer/2000 tool for each GUI environment.

Installing Developer/2000 involves the following steps:

- Satisfy Prerequisites: Make sure that the local system satisfies the hardware, software, memory, and disk space requirements for the products you want to install.
- Check the OpenVMS Environment: Make sure that the OpenVMS environment is properly set up for the products you want to install.
- Install: Use the Oracle Installer to install the Oracle software.
- Create User Exits: This is optional


**Additional Information:** See also the Developer/2000 Installation Guide for the Web, Release 1.6.1.
The Developer/2000 Tools

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Version Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Procedure</td>
<td>1.5</td>
<td>Use Oracle Procedure Builder to create, edit, and debug PL/SQL code.</td>
</tr>
<tr>
<td>Builder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>2.5</td>
<td>Use Oracle Graphics to create multimedia graphical displays dynamically linked to a database. With Developer/2000 for the Web, your Web</td>
</tr>
<tr>
<td></td>
<td></td>
<td>publications can be enhanced with data–driven graphic displays.</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>4.5</td>
<td>Use Oracle Forms to build interactive applications that access Oracle7 Server data. With Developer/2000 for the Web, you can deploy Forms on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the Web, as well as in Motif and character mode.</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>2.5</td>
<td>Use Oracle Reports to build and generate reports that access Oracle7 Server data. With Developer/2000 for the Web, you can deploy Reports on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the Web, as well as in Motif and character mode.</td>
</tr>
</tbody>
</table>
Client-Only and Server-Based Installation Options

You will need to decide the type of installation you want to perform. The installation type that you choose will determine the installation tasks required for you to properly complete your choice of installation. These tasks are described later in this document.

**Suggestion:** Oracle Corporation recommends conducting a client-only installation whenever possible. Client-only installations simplify administration and upgrades.

Client-Only Installation

In a client-only installation, the tools are installed in an ORA_ROOT:000000 directory separate from the ORA_ROOT:000000 directory that contains the database server. You use SQL*Net to access your remote database server.


You must install the tools for each installation, however, you need to install the database objects only once for each server.

**Note:** See Appendix C for details on how to perform a Developer/2000 client-only installation.
Client-Only Configuration

The following figure illustrates a configuration in which Developer/2000 is installed on client machines connecting to the database server with SQL*Net.

![Client-Only Installation Diagram]

**Figure 1 – 1  Client-Only Installation**

*Note:* You can perform a client-only installation on the same machine as the Oracle7 Server, as long as you use a different `ORA_ROOT:[000000]`.
Server-Based Installation

In a server-based installation, Developer/2000 and the Oracle7 Server are installed in the same ORA_ROOT:[000000] directory. The Developer/2000 tools connect to the local database.

Server-Based Configuration

The following figure illustrates a configuration in which the Oracle7 Server and Developer/2000 are installed in the same ORA_ROOT:[000000] directory.

![Diagram showing server-based installation](image)

Figure 1 – 2 Server-Based Installation

Server-Based Restriction

You must upgrade to Oracle7 Server release 7.3.3 to perform a server-based installation.

⚠️ **Warning:** If you install Developer/2000 in the same ORA_ROOT:[000000] directory where a release prior to 7.3.3 of the Oracle7 Server resides, you will overwrite common component product layers. You will be unable to relink the Oracle7 Server and you may be unable to use the database.
Consequently, Oracle Corporation does not support this configuration. Relinking problems may also occur for server-based installations of Developer/2000 with any Oracle7 Server release subsequent to 7.3.3.

Oracle Corporation recommends client-only installations for Developer/2000. Oracle Applications customers may be required to install Developer/2000 in a server-based configuration on OpenVMS platforms. For only these customers, Oracle supports installation on top of several Oracle servers. Customers who are not installing Developer/2000 for Oracle Applications must install Developer/2000 in a client-only configuration.

For the latest certification information, visit Oracle’s Web-based support service, Oracle MetaLink, at http://support.oracle.com or contact Oracle Worldwide Customer Support.

If you are upgrading from a previous release of Developer/2000, you can install Release 1.6.1 over the existing Developer/2000 installed product set as long as you follow the server-based restriction listed above.

Client-Only and Server-Based Issues

Consider the following issues when deciding on a client-only or a server-based installation.

Client-Only Installations

Advantages of client-only configurations:

- You do not need to upgrade the database and Developer/2000 simultaneously. There is no possibility of having an unsupported configuration.
- Performance is generally enhanced if Developer/2000 is running on local workstations. This reduces the load on the servers.

Server-Based Installations

Advantages of server-based configurations:

- Server-based installations save disk space.
- Because Developer/2000 and the Oracle7 Server share some of the same libraries, the system administrator does not need to duplicate and maintain the shared configuration files.
Developer/2000 Documentation

Context-Sensitive Online Help

Developer/2000 provides a context-sensitive online help system. Access online help by selecting Contents from the Help menu.

For example, if you are in a Reports property sheet and need information about a current setting, select Help–Contents. A window containing one or more pages of information about that setting is displayed. If the page shown extends beyond the window, use [Scroll Down] to display the rest of the page. When you have finished reading help files, select Quit.

Cue Cards

Beginning with Developer/2000 release 1.3 on OpenVMS, cue cards are available to provide step-by-step instructions on common tasks.

To access cue cards, select the Help pull-down menu, then select Cue Cards.

Developer/2000 Product Documentation

This document provides operating system–specific information for Developer/2000 on OpenVMS and supplements the user guides and reference manuals for each product.

Note: Beginning with Oracle7 Version 7.3.2, online documents are distributed in HTML format and may be viewed using an HTML browser on OpenVMS (or another system in your environment if you prefer.) Oracle has successfully tested viewing of the HTML files using Enhanced Mosaic V2.10. Note that Enhanced Mosaic V2.10 is bundled with Motif 1.2–4.
Developer/2000 Supported Features

Character Mode and Motif

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Character Mode</th>
<th>Motif</th>
<th>Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Procedure Builder 1.5</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Oracle Graphics 2.5</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Forms 4.5</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Reports 2.5</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1 – 1 Motif and Character Mode Developer/2000 Tools

**Note:** None of the Developer/2000 tools have a character mode designer.

**Note:** Web interfaces are only available in the Developer/2000 for the Web release, not in the Developer/2000 Client/Server release.

**Note:** Developer/2000 does not have a character mode designer, and there is no character mode runtime component for Graphics. The designer component of all Developer/2000 products and the runtime component of Graphics supports only the Motif graphical user interface.

Developer/2000 Tools and Multimedia Features

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Supported Multimedia Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Graphics 2.5</td>
<td>Image</td>
</tr>
<tr>
<td>Oracle Forms 4.5</td>
<td>Image</td>
</tr>
<tr>
<td>Oracle Reports 2.5</td>
<td>Image</td>
</tr>
</tbody>
</table>

Table 1 – 2 Supported Multimedia Features

**Additional Information:** See the generic Developer/2000 tools documentation for detailed information about how a specific tool incorporates multimedia features.

Image File Formats

- TIFF
- BMP
- CALS
- PCX
- PICT
- CGM
• JFIF (JPEG file interchange format)

NLS Support

Developer/2000 release 1.6.1 on OpenVMS supports single-byte languages and full multi-byte functionality.

Developer/2000 Directory Structure

The following figure describes the directory structure for the Oracle Developer/2000 products.

Issues and Restrictions

Server-Based Installations

Oracle does not support server-based installations of Developer/2000 release 1.6.1 with Oracle7 Server releases earlier than 7.3.3.
Client–Only versus Server Installs

In a server–based installation, Developer/2000 and the Oracle Database Server are installed in the same ORACLE_HOME directory. Starting with Developer/2000 Release 1.6.1, Oracle Corporation no longer supports server–installs of Developer/2000. Only client–only installs are supported. The only exception to this is for Oracle Applications customers who may be required to install Developer/2000 on top of a pre–existing Oracle database installation.

These Applications customers must adhere to the Applications/RDBMS/Developer/2000 combination certified and supported by Oracle Applications.

For the latest certification information, see Oracle’s Web–based support service, Oracle MetaLink at http://support.oracle.com or contact Oracle WorldWide Customer Support.

National Language Support for Developer/2000

Message and resource files are available in the following languages in the Motif component of Release 1.6.1:

- American English
- Arabic
- Brazilian Portuguese
- Canadian French
- Czech
- Danish
- Finnish
- French
- German
- Greek
- Hebrew
- Hungarian
- Italian
- Japanese
- Korean
- Latin American Spanish
• Norwegian
• Polish
• Simplified Chinese
• Slovak
• Slovenian
• Spanish
• Swedish
• Traditional Chinese
• Turkish

Arabic Language Support

The current Developer/2000 products do not support Arabic languages on Motif.

Hebrew Language Support

Hebrew is supported on visual mode displays for Forms.
This chapter lists hardware and software requirements, which apply to both server–based and client–only installations on OpenVMS operating systems.

- System requirements
- Disk space requirements
- Software requirements
- Developer/2000 product–specific requirements
System Requirements

<table>
<thead>
<tr>
<th>System</th>
<th>Distribution Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>CD–ROM</td>
</tr>
</tbody>
</table>

Disk Space Requirements

The saveset files use the following blocks:

- BOOT.BCK, 126
- FORMS45.BCK, 155169
- GRAPHICS25.BCK, 111321
- GUICORE23.BCK, 150255
- PROCBUILDER.BCK, 43407
- REPORTS25.BCK, 212751
- Total of files: 673029 blocks

Software Requirements

OpenVMS Software

<table>
<thead>
<tr>
<th>Product</th>
<th>Version Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA</td>
<td></td>
</tr>
<tr>
<td>OpenVMS</td>
<td>7.0, 7.1</td>
</tr>
<tr>
<td>Motif</td>
<td>1.2–4</td>
</tr>
</tbody>
</table>

Server Requirements

<table>
<thead>
<tr>
<th>Product</th>
<th>Version Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle7 Server</td>
<td>7.3.3</td>
</tr>
</tbody>
</table>

For information about installing the Oracle7 Server and setting the required OpenVMS system parameters, refer to the *Oracle7 for Alpha OpenVMS Installation Guide*. 

Developer/2000™ Installation Guide Client/Server
Developer/2000 Product-Specific Requirements

Account Quotas

<table>
<thead>
<tr>
<th>Quota</th>
<th>Minimum Recommended Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSQUOTA</td>
<td>10240</td>
</tr>
<tr>
<td>WSEXTENT*</td>
<td>maximum possible</td>
</tr>
<tr>
<td>PGFLQUOTA**</td>
<td>50000</td>
</tr>
</tbody>
</table>

* This is the same as the OpenVMS SYSGEN parameter WSMAX.

** This is the minimum recommended value above the recommended PGFLQUOTA required for running Oracle7.

Additional Information: For more information about setting these parameters, refer to the VMS Guide to System Management or call Compaq’s Support Hotline.
Chapter 3

Setting the Environment

This chapter describes the recommended tasks for setting up your OpenVMS environment for the Developer/2000 installation. The following tasks are covered in this chapter:

- Task 1: Verify System Configuration Requirements
- Task 2: Decide Whether to Install or Upgrade Database Objects
- Task 3: Set Up the tnsnames.ora File (Client-Only)

Attention: Before proceeding further, you must decide whether to conduct a client-only or server-based installation. For more information, see the “Client-Only and Server-Based Installation Options” section on page 1 – 4.
Task 1: Verify System Configuration Requirements

Ensure that your system meets the operating system, user interface, and hardware requirements to install Developer/2000.

Additional Information: See also Chapter 2, “Requirements”, for a list of system requirements.

SQL*Net v1 is not available in Developer/2000 release 1.3. SQL*Net v2 is included in this release. If you are running SQL*Net v1, you must configure your network and migrate SQL*Net v1 applications to SQL*Net v2.

Additional Information: Refer to the “How to Migrate to SQL*Net V2” chapter in the SQL*Net V1 to V2 Migration Guide.

Task 2: Decide Whether to Install or Upgrade Database Objects

Note: This task applies to a client-only installation. Skip this task if you are not conducting a client-only installation, or if you decided not to install or upgrade the database objects.

Database objects are tables, views, and sequences that Developer/2000 uses to store Developer/2000 objects, such as Forms applications.

You must create the database objects once on each database where you are storing Developer/2000 objects. If you are not storing Developer/2000 objects in your databases, you do not need to install the database objects. If you have already installed the database objects on your database, do not install them again.

If you are upgrading your Developer/2000 release, you may need to upgrade the database objects as well.

Enter the following to see if the database objects already exist for the products you want to install in the database on the Server:

```
$ sqlplus system/manager
SQL> SELECT table_name
2    FROM dba_tables
3   WHERE table_name LIKE 'table';
```
If these tables already exist, you can find them in the SYSTEM account in the database. The tables are as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphics</td>
<td>GO%</td>
</tr>
<tr>
<td>Forms</td>
<td>FRM45%</td>
</tr>
<tr>
<td>Reports</td>
<td>SRW2%</td>
</tr>
</tbody>
</table>

Table 3–1 Database Tables

If these tables do not exist, you need to create them.

Task 3: Set Up the tnsnames.ora File (Client-Only)

If you are conducting a client-only installation, you must set up the tnsnames.ora file before you run the Installer. The tnsnames.ora file contains details of the remote databases available to the Developer/2000 products installed in a client-only configuration.

The template tnsnames.ora file contains the following:

```sql
alias = 
(DESCRIPTION =
 (ADDRESS =
   (PROTOCOL = tcp
    (HOST = hostname
     (PORT = service_number
      )
   )
  )
 (CONNECT_DATA =
   (SID = ORACLE_SID)
 )
 )
)
```

If you have the Oracle Network Manager, you can use it to update the file. Otherwise, you need to update the file with the following information:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Replace with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>alias</td>
<td>The aliased name of the service being described.</td>
</tr>
<tr>
<td>hostname</td>
<td>The name of the remote host where the database resides.</td>
</tr>
</tbody>
</table>
Replace with:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Replace with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>service_number</td>
<td>The port number on which the SQL*NET v2 listener process listens for data packets on the remote host where the database resides.</td>
</tr>
<tr>
<td>ORACLE_SID</td>
<td>The value of the system identifier (sid).</td>
</tr>
</tbody>
</table>

Table 3 – 2 tnsnames.ora File Values

Place your tnsnames.ora file under your ORA_ROOT:[NETWORK.ADMIN] directory.

Task 4: Set Required Logicals

If you are conducting a client-only installation, you must set up the tnsnames.ora file before you run the Installer. The tnsnames.ora file contains details of the remote databases available to the Developer/2000 products installed in a client-only configuration.

Set TNS_ADMIN (Client –Only)

If you are conducting a client–only installation, you need to set the TNS_ADMIN logical to point to the directory where your tnsnames.ora file resides (usually in ORA_ROOT:[NETWORK.ADMIN] directory.)

$ define tns_admin <device>:[<dir>]

Set ORA_DFLT_HOSTSTR (Client–Only)

If you are conducting a client–only installation and are installing database objects, you need to set the ORA_DFLT_HOSTSTR logical

$ define ora_dflt_hoststr <alias>
Chapter 4

Installing Developer/2000

This chapter describes how to install the Developer/2000 products. It includes the following topics:

- What you need to know to install Developer/2000
- How to install Developer/2000
- How to upgrade from previous versions of the Developer/2000
What You Need to Know

Saveset Names

<table>
<thead>
<tr>
<th>Product</th>
<th>Saveset Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUICORE23</td>
<td>GUICORE23.BCK</td>
</tr>
<tr>
<td>Oracle Procedure Builder</td>
<td>PROCBUILDER.BCK</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>GRAPHICS25.BCK</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>FORMS45.BCK</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>REPORTS25.BCK</td>
</tr>
</tbody>
</table>

For more information about savesets, refer to the Oracle7 for Alpha OpenVMS Installation Guide.

README Files

These README files contain the latest information not included in this guide, such as bug fixes, new features, and restrictions for this release.

The README files for each product are in the ORA_ROOT\<product>.DOC directory for that product. For example, the README files for Oracle Reports are in the ORA_ROOT\REPORTS25.DOC subdirectory.

<table>
<thead>
<tr>
<th>Product</th>
<th>README File</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUICORE23</td>
<td>README.GUICORE23 README.GUICORE23_VMS</td>
</tr>
<tr>
<td>Oracle Procedure Builder</td>
<td>README.PROCBUILDER README.PROCBUILDER_VMS</td>
</tr>
<tr>
<td>Oracle Graphics25</td>
<td>README.GRAPHICS25 README.GRAPHICS25_VMS</td>
</tr>
<tr>
<td>Oracle Forms45</td>
<td>README.FORMS45 README.FORMS45_VMS</td>
</tr>
<tr>
<td>Oracle Reports25</td>
<td>README.REPORTS25 README.REPORTS25_VMS</td>
</tr>
</tbody>
</table>

Attention: The README.<product> file contains generic information. The README.<product>_VMS file contains OpenVMS specific information.
Known Problems

Warning Messages During Installation

While installing this product, you may see some warning messages displayed while creating system and demo tables. This occurs when these scripts try to drop tables that do not exist. These warning messages can safely be ignored.

Running Out of Space When Saving an Application

When saving applications to the database, you may find your application hanging or producing an error if you run out of database space. If this occurs, add more space to your database and save it again. For a list of product-specific known problems, refer to the README file included with the Developer/2000 product and to the section in this guide specific to that product.

Display Not Set Up Correctly

If your display is not set up correctly when you try to start up Oracle Graphics or Oracle Procedure Builder, the product will not start and you will be returned to the operating system prompt.

If your display is not set up correctly when you try to start up Oracle Procedure Builder, the product will not start and you will be returned to the operating system prompt.

If your display is not set up correctly when you try to start up Oracle Forms or Oracle Reports, you will receive an error message:

If your display is not set up correctly when you try to start up Oracle Forms or Oracle Reports, you will receive an error message:

<table>
<thead>
<tr>
<th>Product</th>
<th>Error Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Forms</td>
<td>FRM-10039: Unable to start up the Oracle Forms Designer.</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>REP-3000: Internal error starting Oracle Toolkit.</td>
</tr>
</tbody>
</table>

The display is usually described using the DECWSDISPLAY logical or by using the SET DISPLAY command. To verify that your display has been set up correctly, enter the SHOW DISPLAY command as follows:

$ SHOW DISPLAY

Note: Refer to Page 5 – 16 of this manual for instructions on setting up display.
Oracle Reports Only: Warning When Starting Oracle Reports

You may encounter the following warning when trying to start up the product:

\texttt{REP-0004: Warning - Unable to open user preference file.}

If you do not have a \texttt{PREFS.ORA} file in your \texttt{SYS$LOGIN} directory, copy it there now using the following command:

\texttt{$\text{COPY ORA_ROOT:}\{\text{guicore23.ADMIN}\}\text{PREFS.ORA SYS$LOGIN}$}

---

Installing Developer/2000 Tools

\textbf{Warning:} If you have existing versions of the Developer/2000 or Cooperative Development Environment (CDE) tools on your system, follow the instructions in “Upgrading from Previous Versions.” If you do not follow these instructions, you may loose existing data in your database.

The following steps apply to server-based installations. For client-only installations, see Appendix C, “How to Perform a Developer/2000 Client-Only Installation.”

\begin{enumerate}
  \item \textbf{Step 1} Set default to the ORA_INSTALL directory

  \texttt{$\text{set default ORA_INSTALL}$}

  Mount the media.

  \item \textbf{Step 2} Restore the BOOT.BCK save-set using the BACKUP command:

  Mount the media.

  \texttt{$\text{backup/log: }<\text{ddcc}>:[<\text{dir}>]\text{boot.bck/save-set - [ ]/new_version/owner_uic=parent}$}

  Where \texttt{<ddcc>} is the CD-ROM device.

  \item \textbf{Step 3} Run ORACLEINS

  \item \textbf{Step 4} Load and build GUICORE23.

  \item \textbf{Step 5} Initialize the GUICORE23 database tables.

  Initialize the GUICORE23 database tables by choosing the Build or Upgrade Database Tables option on the Main Menu of the ORACLEINS installation procedure during installation.
Note: SQL*Plus must be installed on your system prior to installing the GUICORE23 demo and database tables.

Step 6  Load and build Oracle Procedure Builder.

Note: You must install GUICORE23 before installing Oracle Procedure Builder.

Step 7  Initialize the Oracle Procedure Builder database tables.

Step 8  Load and build Oracle Graphics.

Note: You must install Oracle Graphics before installing Oracle Forms or Oracle Reports or both.

Step 9  Initialize the Oracle Graphics database tables.

Step 10  Install the other Developer/2000 products using ORACLEINS.

---

Upgrading from Previous Versions

Note: You can manually upgrade the Oracle Forms database tables by following the steps in Section 8.2 of the README.FORMS45 file. If you choose to do this manual upgrade, do not use the Oracle Forms database install.

⚠️ Warning: Once you save a module in the Oracle Forms 4.5 Designer, you cannot reopen it in the Oracle Forms 4.0 Designer. Consequently, if you plan to test Oracle Forms 4.5 with modules you developed in Oracle Forms 4.0, be sure that you back up all of your .FMB, .MMB, and .PLL files before opening them in Oracle Forms 4.5.

Step 1  Backup any information that has been saved in the database.

For each Developer/2000 product you plan to install, you should backup the following information from the database to a flat file on your operating system.

<table>
<thead>
<tr>
<th>Before you install:</th>
<th>You should backup:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Procedure Builder</td>
<td>PL/SQL libraries</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>Graphs</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>Forms, menus, PL/SQL libraries</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>Reports, PL/SQL libraries</td>
</tr>
</tbody>
</table>
Step 2  Install GUICORE23.

Step 3  Load and build GUICORE23.

Step 4  Upgrade the GUICORE23 database tables.

Upgrade the GUICORE23 database tables by choosing the Build or Upgrade Database Tables option on the Main Menu of the ORACLEINS installation procedure during installation.

Note: SQL*Plus must be installed on your system prior to installing the GUICORE23 demo and database tables.

Step 5  Load and build Oracle Procedure Builder.

Note that there is no upgrade for Oracle Procedure Builder.

Step 6  Initialize the Oracle Procedure Builder database tables.

Step 7  Install Oracle Graphics.

Step 8  Load and build Oracle Graphics.

Step 9  Initialize the Oracle Graphics database tables.

Step 10 Install the other Developer/2000 products using ORACLEINS.

Step 11 Reload your backed up data into the database.

You can now access your existing data using the new versions of the Developer/2000 tools.
After You Install Developer/2000

This chapter describes the tasks you should perform after installing Developer/2000. It includes the following topics:

- Installing online documentation
- Verifying your installation
- Post-installation checklist
- Setting printer configuration files
- Setting up the character mode environment
- Setting up the Motif environment
- Enabling use of other languages
- Running the Developer/2000 Integrated Demo
Installing Online Documentation

Online documentation installation and usage instructions are as follows:

1. Create a directory for DEV2000DOC. It can be any directory with enough space to hold the savesets (550 blocks).
   
   $ CREATE/DIRECTORY <disk_device>:[DEV2000DOC]

2. Move to the root of the DEV2000DOC directory:
   
   $ SET DEFAULT <disk_device>:[DEV2000DOC]

3. Mount the Product media.

   Additional Information: Refer to your Oracle7 for Alpha OpenVMS Installation Guide (Chapter 3) for mounting instructions for your media.

4. Restore the DEV2000DOC.BCK saveset from the Product media DEV2000DOC directory, by entering the following command:

   $ BACKUP/LOG <ddcn>:[DEV2000DOC]DEV2000DOC.BCK/SAVE_SET-[*...]/NEW_VERSION/BY_OWNER=PARENT

   where:

   <ddcn>: is the CD–ROM device.

   Note: To add Developer/2000 documentation to your current ORACLEDOC directory, enter the following:

   $ COPY <DEVICE>:[DEV2000DOC...]*.* -<DEVICE>:[ORACLEDOC...]*.*

   Make sure the index.html file shipped with Developer/2000 replaces the previous index.html file in your ORACLEDOC directory.

5. To view the Oracle documentation, invoke your HTML browser and open the following URL:

   - If the index is installed on DEV2000DOC, type:
     
     FILE://<disk_device>/DEV2000DOC/INDEX.HTML

   - If the index is installed on ORACLEDOC, type:
     
     FILE://<disk_device>/ORACLEDOC/INDEX.HTML

   It is important to remember that the online documents reside on two different CD–ROMs:

   - The operating system–specific online documentation is on the Product Installation CD–ROM.
• The online documentation for Oracle products is on the Product Documentation Library CD-ROM.

Verifying Your Installation

If you cannot start up Developer/2000, try using DEBUG_SLFIND to direct error messages to a file of your choice. To do this, set DEBUG_SLFIND to `sys$output`, or another filename. For example,

```
$ define debug_slfind sys$output
```

Post–Installation Checklist

<table>
<thead>
<tr>
<th>POST–INSTALLATION CHECKLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Set printer configuration files.</td>
</tr>
<tr>
<td>☐ Set up the character mode environment.</td>
</tr>
<tr>
<td>☐ Set up the Motif environment.</td>
</tr>
<tr>
<td>☐ Enable use of other languages.</td>
</tr>
</tbody>
</table>
Task 1: Set Printer Configuration Files

Step 1: Locate and Install PPD and AFM Files for Your Printers

This task provides instructions for choosing an appropriate PostScript Printer Definition (PPD) file for your printer.

Oracle Toolkit uses the PPD files to determine different fonts available on a PostScript printer, since the Toolkit cannot communicate directly with a printer on OpenVMS networks. Each PPD file provides paper sizes, available fonts, and default resolution for a particular printer. If this file lists a PostScript font, a corresponding Adobe Font Metrics (AFM) file must exist in the ORA_ROOT:[GUICORE23.ADMIN.AFM] directory since that file is used by the Toolkit to calculate font metrics.

Each AFM file lists the following information about one font: font attributes such as style, weight, width, and character set; whether the font is fixed pitch or proportional; and the size of each character.

Oracle provides PPD and AFM files for some common printers and fonts. If you cannot find the appropriate file for your printer, you can obtain PPD and AFM files from your printer vendor or from Adobe. You can also use the default printer definition file, default.ppd.

1. To find the PPD file for your printer, enter:
   
   ```$ set default ORA_ROOT:[GUICORE23.ADMIN.PPD]
   $ search  *.ppd  printer_model_name```

2. To determine the fonts that are listed in the PPD file, enter:
   
   ```$ search  *.ppd Font```

3. To check whether all the necessary fonts are in the ORA_ROOT:[GUICORE23.ADMIN.AFM] directory, enter:
   
   ```$ set default ORA_ROOT:[GUICORE23.ADMIN.AFM]
   $ dir```

   **See Also:** See your printer documentation to determine the fonts you need for your printer.

Changing the Default PPD File

You can also specify a PPD file by creating a default.ppd that is a copy of another PPD file to better reflect the local default printer. When an invalid PPD file is specified for the current printer, for example when an incorrect file is specified or no file is specified, the Oracle Toolkit uses default.ppd.
Modifying the PPD Files

Do not modify the PPD files unless you want to add fonts to the printer, and you want these changes reflected in Oracle applications.

If you add fonts to your printer, you should also add entries for these fonts to the printer’s PPD file.

The format for a font entry is as follows:

*Font font_name: encoding “version” charset

where:

- **font_name** specifies the Adobe font name as specified in PostScript.
- **encoding** specifies the PostScript encoding name.
- **version** specifies the font’s version number.
- **charset** specifies the Adobe character set name.

Step 2: Update the UIPRINT.TXT File

To set up default printers for Developer/2000 products, you need to update the `ORA_ROOT:[GUICORE23.ADMIN]UIPRINT.TXT` file with entries for each of your printers. Using this file enables you to get correct paper sizes and correct printer resolution. Toolkit application users can now set their print job to use various paper sizes available on the selected printer.

Oracle Toolkit uses the `UIPRINT.TXT` file to display the list of printers available on your system. Each printer is defined by a line in the `UIPRINT.TXT` file containing five fields separated by colons.

For each of your printers, enter the following line into the `UIPRINT.TXT` file:

`printer:printer_driver:Toolkit_driver:printer_desc:printer_desc_file`

where:

- **printer** contains the name of the printer, as used with PRINT command. This parameter also specifies the default printer if both ORACLE_PRINTER and PRINTER are not set on your system.
printer_driver specifies the type of print driver used for the printer. The Toolkit currently supports the PostScript, ASCII and PCL5 selections for the printer driver.

Toolkit_driver specifies the version of the printer driver that should be used by the Toolkit. Currently, the Toolkit supports 1 for ASCII or Level 1 PostScript or 2 for Level 2 PostScript printers.

printer_descr contains a free-format description of the printer. It could show, for example, location and speed of the printer to make the user’s choice easier.

printer_descr_file specifies the printer definition file to be used with the printer. The format of this file is dependent on the driver specified for the printer. At present, the Toolkit only supports Adobe’s PPD file format.

Attention: The first entry in this file must be valid.

Step 3: Update the UIFONT.ALI File (if necessary)

The file UIFONT.ALI contains alias mappings from one Toolkit font to another, and is used to map unavailable fonts to substitutes. For example, the “Arial” font is found only on Microsoft Windows and is mapped to “Helvetica” on OpenVMS.

The UIFONT.ALI file resides in the ORA_ROOT:[GUICORE23.ADMIN] directory. If you wish to use another directory, see the following section.

Additional Information: See the comments in the UIFONT.ALI file for more information. This file is updated for each new release.

Set the TK23_FONTALIAS logical

Oracle Toolkit first looks for UIFONT.ALI in the location specified by TK23_FONTALIAS. If TK23_FONTALIAS is not set, or if UIFONT.ALI is not found in the specified location, then the Toolkit looks for UIFONT.ALI in the ORA_ROOT:[GUICORE23.ADMIN] directory.

To define the TK23_FONTALIAS logical, enter:

$ DEFINE TK23_FONTALIAS uifont_ali_pathname
Modify the **UIFONT.ALI** file

If you wish to modify the **UIFONT.ALI** file, make sure that the general structure of each line is as follows:

```
new font=existing font
```

where *new_font* is a font that you wish to add, and *existing_font* is a font that already exists on your printer.

The specific format of each line in **UIFONT.ALI** is as follows:

```
face.size.style.weight.width.charset = face.size.style.weight.width.charset
```

where the values are separated by periods (.) and:

- **face** specifies the face name of the font which the Toolkit uses for printing. Commonly used font faces include Palatino, Helvetica, Courier, and Times.
- **size** specifies the size of the font in points.
- **style** specifies the choice of style options, which are `PLAIN`, `ITALIC`, `OBLIQUE`, `UNDERLINE`, `OUTLINE`, `SHADOW`, `INVERTED`, and `OVERSTRIKE`.
- **weight** specifies the choice of weight options, which are `ULTRALIGHT`, `EXTRALIGHT`, `LIGHT`, `DEMILIGHT`, `MEDIUM`, `DEMIBOLD`, `BOLD`, `EXTRABOLD`, and `ULTRABOLD`.
- **width** specifies the choice of width options, which are `ULTRADENSE`, `EXTRADENSE`, `DENSE`, `SEMIDENSE`, `NORMAL`, `SEMIEXPAND`, `EXPAND`, `EXTRAEXPAND`, and `ULTRAEXPAND`.
- **charset** specifies the name of a character set. This option is not supported in the current release.

The following rules apply:

- Each element must be separated from the next by a period (`.`).
- Styles may be combined; you can use plus (`+`) to delimit parts of a style. For example, `Helvetica.12.Italic+Overstrike` maps any Helvetica 12-point that has both Italic and Overstrike styles to a 12-point, Bold, Italic Helvetica font.
• Use quotes to enclose element names that contain a space. For example,

“Avant Garde”.12.Italic+Overstrike = –
Helvetica.12.Italic.Bold

maps any Avant Garde font that has both Italic and Overstrike styles to a 12-point, bold, italic Helvetica font.

• Use the correct number of periods as placeholders if you choose not to define certain elements. Trailing dots may be truncated. For example, in the following statement the two sides are equivalent even though the size is not specified on the left-hand side:

Arial..Italic+Overstrike = –
Helvetica.12.Italic.Bold

This example maps any Arial that has both Italic and Overstrike styles to a 12-point, bold, italic Helvetica font.

• Each font line may be continued to the next line by using the hyphen (–).

Step 4: Specify a Default Printer

To specify a default printer, set TK23_PRINTER to the desired printer. For example:

$ DEFINE TK23_PRINTER your_printer

The Developer/2000 tools determine your default printer by searching for values of the following logicals in the given order:

1. TK23_PRINTER
2. ORACLE_PRINTER
3. SYS$PRINT
4. the first entry in your UIPRINT.TXT file

To specify a default printer, set TK23_PRINTER to the applicable printer. For example,

$ define TK23_PRINTER your_printer

Attention: The default printer must be specified in one of these ways, or printing is disabled.
Information on Printing to Hewlett-Packard (HP) PCL Printers

Printing to HP PCL printers is fully supported, in addition to PostScript and ASCII. Similar to PPD files for PostScript printers, HPD or HP glue files provide information on what fonts are available for an HP PCL printer. Many HP glue files are provided under $ORA_ROOT:[GUICORE23.ADMIN.HPD]. HP’s AutoFont Support Installer (available on PCs) generates these files automatically. Documentation for their file format is available in HP’s PCL5 Developer’s Guide.

As with PostScript’s AFM files, every HP font must have an associated TFM file; TFM files must be provided by the font vendor, and new fonts must be added to the glue file for your printer when installed. The TFM files are located under $ORA_ROOT:[GUICORE23.ADMIN.TFM].

For any new font, you must specify these fields in the glue file:

```
FONT=(fontname)
```

(fontname) is a descriptive name for the font.

```
/ftm=(tfm–filename)
```

(tfm–filename) is the base filename for the TFM file.

You can also specify these fields in the glue file, after the “FONT=” file, if the TFM file is not specific enough:

```
/ptsize={size {size ...}}
```

If the font is a bitmapped font, but is listed in the TFM file as a scalable font, you can limit the point sizes used by listing all acceptable sizes.

```
/symset={symset {symset ...}}
```

This field limits the supported symbol sets to those listed on the field. See the HP PCL documentation for a list of recognized symbol sets.

Developer/2000 also supports the ‘default paper’ field for printing to PCL format. This field can be used to set the default paper to be used by the Toolkit. The format of this field is:

```
defaultpaper=<papername>
```

For example, defaultpaper=A4 will set the default paper to A4.

The paper name is case-sensitive. If the user specifies this field more than once, the final default paper field’s paper name is used as the default paper. If the user has specified a default paper and the paper name is not supported by the printer, then the default paper setting is ignored and the default paper is set to LETTER. Also, if the paper name
specified in this field is incorrect, then the default paper is set to LETTER.

**Step 5: Test Printing Capabilities and Fix Any Errors**

1. Test printing capability by starting up any Developer/2000 tool and print.
2. Select a printer from the Choose Printer dialog.
   The Choose Printer dialog lists printers available on your system, giving the type and a full description of each. Oracle Toolkit obtains this list from the `ORA_ROOT:[GUICORE23.ADMIN]UIPRINT.TXT` file. You can choose a printer from the list of available printers.

   Alternatively, you can specify a new printer and its type. To choose a new printer, enter its name, or choose a corresponding type from the Choose Printer dialog containing the different drivers supported by Oracle Toolkit. The Toolkit checks to see if the name corresponds to a valid printer. If the printer is valid, Oracle Toolkit allows the user to associate a PPD file with the printer through a file dialog.

---

**Task 2: Set Up the Character Mode User Environment**

- Determine your terminal resources
- Set the ORACLE_TERM logical
- Create and edit terminal files

**Step 1: Determine Your Terminal Resources**

Check the value of the ORACLE_TERM logical by entering the following:

```bash
$ SHOW LOGICAL ORACLE_TERM
```

Refer to Table 5–1 for a list of valid terminals.

**Warning:** If you do not properly set ORACLE_TERM, the Developer/2000 character mode tools cannot start up.
If ORACLE_TERM is already set to a supported device

You do not need to set ORACLE_TERM and you are finished setting your terminal resources.

If ORACLE_TERM is not set or is set incorrectly

If ORACLE_TERM is not set correctly, go right to Step 2.

Step 2: Set ORACLE_TERM

Set the ORACLE_TERM logical to point to the appropriate terminal device name before you begin using the Developer/2000 tools. This should be done for each user after installation.

$ DEFINE ORACLE_TERM device_name

Supported Terminals

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Terminal</th>
<th>Terminal File Names Used by Oracle Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>vt100</td>
<td>DEC vt100 terminal (or emulator, including xterm)</td>
<td>TK2CVT100.RES</td>
</tr>
<tr>
<td>vt220</td>
<td>DEC vt220 terminal (or emulator, including xterm)</td>
<td>TK2CVT220.RES</td>
</tr>
</tbody>
</table>

Table 5 – 1 Supported Terminals for Character Mode Developer/2000 Tools

Many of Developer/2000 tools require their own terminal files, such as FMRCANSI.RES to be used with TK2CANSI.RES for Oracle Forms. Check the tool-specific chapters for a list of these files. For these Developer/2000 tools to work, both files must exist.

Terminal files are located in the ORA_ROOT:[GUICORE23.ADMIN.TERMINAL.US] directory.

Step 3: Create and Edit Terminal Files

Overview of Terminal Files

The character mode Developer/2000 tools specify their resources, which are collections of related data, in Oracle Terminal files. These terminal files describe the interaction between a specific terminal, or class of terminals, and the Developer/2000 tools. For example, the character mode implementations of Oracle Forms, Oracle Reports, and Oracle Terminal use the following terminal files for a VT100 terminal type:
**Table 5 – 2 Terminal Files for Oracle Developer/2000 Tools**

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Terminal File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Forms 4.5</td>
<td><code>ORA_ROOT:[FORMS45.ADMIN TERMINAL US]FMRCVT100.RES</code></td>
</tr>
<tr>
<td>Oracle Reports 2.5</td>
<td><code>ORA_ROOT:[REPORTS25.ADMIN TERMINAL US]RWCVT100.RES</code></td>
</tr>
<tr>
<td>Oracle Terminal 2.1</td>
<td><code>ORA_ROOT:[GUICORE23.ADMIN TERMINAL US]TK2CVT100.RES</code></td>
</tr>
</tbody>
</table>

**Format of Terminal Filenames**

The format of terminal filenames is as follows:

```
product user_interface ORACLE_TERM.RES
```

where:

- **product** specifies the product name (such as TK2 for Toolkit v2, FMR for Oracle Forms, RW for Oracle Reports)
- **user_interface** specifies the Toolkit user interface name (such as C for character mode, M for Motif)
- **ORACLE_TERM** specifies the device name that is specified by the ORACLE_TERM logical (such as, VT100). Device names for all supported terminals are listed in the “Supported Terminals” section earlier in this chapter. You need only supply this in character mode.

For example, FMRCVT100.RES is the name of the character mode Oracle Forms terminal file using a VT100 terminal.

**Create and Edit Terminal Files with Oracle Terminal**

Oracle Terminal is the suggested method of creating and editing terminal files. Use the following instructions to modify terminal files using Oracle Terminal.

1. Choose a terminal file from the “Supported Terminals” section earlier in this chapter.
   
   Try to choose one that is as similar as possible to the one you want to create.

2. Make a copy of the terminal file that you chose.
   
   ```
   $ COPY supported_terminal_file new_terminal_file
   ```

3.Invoke Oracle Terminal.
The following executable invokes the character mode version of Oracle Terminal, which you can use to create and edit character mode terminal files:

$ T23DES

4. Once inside Oracle Terminal, you need to edit the device and key binding sections of the terminal file.

Additional Information: For more information on editing terminal files using Oracle Terminal, see Appendix E, “Using Oracle Terminal” and the Oracle Developer/2000 Oracle Terminal 2.0 User’s Guide.

5. Set ORACLE_TERM to the terminal file you just created.

See “Step 2: Set ORACLE_TERM” on page 5 – 11 for complete instructions.

Create and Edit Terminal Files with RESPRINT23, RESPARSE23, and OTGEN23

Use the following instructions to modify an existing terminal file using RESPRINT23, RESPARSE23, and OTGEN23. Together, these programs represent an unsupported alternative to Oracle Terminal.

Following each step, you can find example commands that you can enter if MYTERM were the unsupported terminal and you chose the VT100 terminal file TK2CVT100.RES to copy and modify.

1. From the “Supported Terminals” list, choose a terminal file that is as similar as possible to the one you want to create.

2. Make a copy of the terminal file that you chose.

In the example that follows these instructions, MYTERM is the unsupported terminal for which you are creating a terminal file. Assume that the supported terminal file with which you start is TK2CVT100.RES. This means that you would enter the following command for the example:

$ COPY TK2CVT100.RES TK2CMYTERM.RES

To create FMRCMYTERM.RES, RWCMYTERM.RES, and DBACMYTERM.RES terminal files, you need the following command:

$ COPY product-nameCVT100.RES product-nameCMYTERM.RES

The Toolkit terminal file, TK2CMYTERM.RES is used along with each corresponding product terminal file to specify the resources.

3. Using RESPRINT23, convert your binary terminal file to ASCII.
The resulting ASCII files are TK2CMYTERM.PRN and product-nameCMYTERM.PRN.

4. Edit your terminal files as appropriate for your terminal.

Look at the TERMDEF and BINDINGS sections of the terminal files and edit as necessary. In addition, all references to “VT100” should be changed to “myterm”.

5. Using RESPARSE23, convert your ASCII terminal file back to binary.

$ RESPARSE23 TK2CMYTERM.PRN
$ RESPARSE23 prod CMYTERM.PRN

The resulting binary files are TK2CMYTERM.RES and product-nameCMYTERM.RES.

6. Run OTGEN23 on the edited binary terminal files.

For Oracle Forms terminal files enter:

$ SET DEFAULT ORA_ROOT:[FORMS4.5.ADMIN.TERMINAL.US]
$ OTGEN23 FMRCMYTERM.RES MYTERM SQLFORMS RUNFORM
$ OTGEN23 –L FMRCMYTERM.RES MYTERM TK2 TK2

For Oracle Reports terminal files enter:

$ SET DEFAULT ORA_ROOT:[REPORTS2.5.ADMIN.TERMINAL.US]
$ OTGEN23 –L RWCMYTERM.RES MYTERM TK2 TK2
$ OTGEN23 RWCMYTERM.RES MYTERM SRW SRW

For Oracle Terminal terminal files enter:

$ SET DEFAULT ORA_ROOT:[GUICORE2.3.ADMIN.TERMINAL.US]
$ OTGEN23 –L TK2CMYTERM.RES MYTERM TK2 TK2

Running OTGEN23 creates the key binding data, btlist or bindtable, that tells Developer/2000 applications what function, (such as CANCEL or NEXT_SCREEN) is associated with which key on your terminal keyboard.

**Step 4: Relocate Key Definition File**

When installation is complete, the X11 key symbol file XKeysymDB is in the ORA_ROOT:[GUICORE2.3.ADMIN] directory. You must move the XKEYSYMDB file to the SYS$COMMON:[SYSLIB] directory on
every machine on which Developer/2000 is running. To move the file, perform the following steps:

1. As the **system** user, change to the **ORA_ROOT:[GUICORE23.ADMIN]** directory.
   
   ```
   $ set default ORA_ROOT:[GUICORE23.ADMIN]
   ```

2. Set up the **XKEYSYMDB** file of your choice.
   
   If you already have this file, decide whether to use the new file as is, or to merge it with the old file. If you decide to use the new file, you may want to rename the old file to preserve it.
   
   - To preserve the old file, enter the following (this step is optional):
     
     ```
     $ set default sys$common:[syslib]
     $ rename DECW$XKeysymDB.DAT DECW$XKeysymDB.OLD
     ```
   
   - To install only the new file, enter the following:
     
     ```
     $ set default ORA_ROOT:[GUICORE23.ADMIN]
     $ copy XKeysymDB sys$common:[syslib]DECW$XKeysymDB.DAT
     ```
   
   - To merge the new file with the existing file, add the old material you want to keep into the new file using your system editor.
     
     **Note:** The **XKEYSYMDB** file is read by the application code at startup time. If the file cannot be found or if the file is found and does not contain all of the relevant OSF **keysym** values, some function keys may not function properly. In this case you may receive warning messages similar to the following:
     
     ```
     Warning: translation table syntax error: Unknown
     keysym
     name: osfUp
     Warning: ...found while parsing ' <Key>osfUp:
     ManagerGadgetTraverseUp ()'
     ```

3. Exit the **system** user account.

   Oracle Motif applications running in an X11R4 environment do not have the capability of locating National Language Support (NLS) data files. Except for this limitation, Oracle Motif applications running in an X11R4 environment have the same capability as applications running in an X11R5 environment.
Task 3: Set Up the Motif Environment

- Set the display device.
- Set the display security
- Understand the resource files
- Edit the TK2MOTIF file
- Customize key mappings

Step 1: Set The Display Device

The SET DISPLAY command tells the application which X server to use to display its windows. Use the following syntax to set the display with the SET DISPLAY command:

```
$ SET DISPLAY/CREATE/NODE=<nodename>/TRANSPORT={DECNET|TCP/IP}
```

For example, if your workstation is called EUROPA and you want it to access the server over Decnet, you would issue the following command from EUROPA:

```
$ SET DISPLAY/CREATE/NODE=EUROPA/TRANSPORT=DECNET
```

When you specify the /CREATE qualifier, the default transport is DECnet.

**Note:** Make sure that you are authorized to redirect output to the display that you have specified.

Then, issue the SHOW DISPLAY command to verify that the SET DISPLAY command worked:

```
$ SHOW DISPLAY
```

You should see output similar to the following:

```
Device: WSA267: [super]
Node: EUROPA
Transport: DECNET
Server: 0
Screen: 0
```

Step 2: Control Display Access with Motif Window Manager

Most X servers prevent users on other machines from displaying windows on your screen unless you explicitly give them permission. This is done by means of an access file `DECW$SMB_SECURITY.DAT` in your login directory. The Motif Windows Manager allows you to interactively grant or deny systems access to the server.
Step 3: Set the Security Features

You can authorize other users or yourself to log in from another system and use DECwindows applications on your workstation. To authorize other users to use your workstation display, proceed as follows:

- Choose Security... from the Session Manager’s Option menu. The Session Manager displays the Security Options dialog box.
- Type the node name, the user name, and the method of transport of the user you want to authorize.
- Click on the Add button. The user name is added to the Authorized Users box.
- Click on Apply or OK.

Step 4: Understand the Resource Files

Oracle tools using the Motif interface use two types of resource files: Motif resource files and Oracle Toolkit resource files.

Purpose

The purpose of these resource files is threefold.

- They simplify the customization of applications designed for one interface (such as Microsoft Windows) to run with another interface (such as Motif).
- They are used to adapt applications for different screens and keyboards. For example, you can provide a mapping between keyboard keys and application functions (PF2 for Execute Query). This makes the application more easily portable between systems with different keyboard capabilities.
- They allow users to set preferences such as fonts and colors. This is done by defining logical attributes (combinations of color, font, and background pattern) for displaying elements of the application’s interface. This makes it easier to adapt the application to systems with different screen resolutions and color capabilities.

To understand the function of these resource files, it is helpful to know a little about the structure of Oracle tools for Motif. Oracle tools are built on top of a layer called the Toolkit, which provides a uniform programming interface to the objects in the underlying user interface (Motif, Microsoft Windows, or the Macintosh Toolbox).

The interface which the Toolkit presents to the user of an Oracle Motif application is in turn made up of familiar Motif “widgets,” push buttons, toggle buttons, scrollbars, menus, and text fields. You never encounter the abstract Toolkit objects, only the Motif widgets with which they are built. Only when you want to change the attributes of some element of the interface will you need to know how these elements are organized.
This section explains why both Motif resource files and Oracle Toolkit resource files are necessary for Oracle tools using the Motif interface.

Resources in the TK2MOTIF files are directed at actual Motif widgets. There are literally dozens of resources that may be set for each type of Motif widget. Most of these resources should not be modified; however, you may want to experiment with the color and font resources.

**Additional Information:** OSF/Motif Programmer’s Reference.

**Additional Information:** Appendix C of this manual.

Resources in the .RES files describe the attributes of Oracle Toolkit objects. In many cases, but not always, there is a direct correspondence between an attribute of a Toolkit object, and a resource of an underlying Motif widget. In these cases, the Toolkit attribute takes precedence. For example, most Toolkit controls (or “views”) have an attribute, `bgcolor`, which determines the background color of the control. If this is set in the .RES file, the value set overrides any setting of the `background` resource for the corresponding widget class in the TK2MOTIF file.

In some cases, a widget resource may have no Toolkit counterpart. For example, the Toolkit provides no means of setting the font in an alert dialog box. If you wanted to have your alerts get extra attention from the user by displaying their warning messages in a 24 point boldface font, you could put the following in your TK2MOTIF file:

```
TK2MOTIF*alert*fontList:*-*-medium-b-normal-*240-*
```

### Motif Resource Files

<table>
<thead>
<tr>
<th>Motif Resource File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORA_ROOT:[GUICORE23.ADMIN]TK2MOTIF.&lt;EXT&gt;</td>
<td>These files contain resource settings for all Developer/2000 tools based on Oracle Toolkit.</td>
</tr>
<tr>
<td>SYS$LOGIN:TK2MOTIF.&lt;EXT&gt;</td>
<td>This file contains resource settings customized for the individual user. (SYS$LOGIN is a user’s directory.)</td>
</tr>
</tbody>
</table>

Each of these files may have one of the following filename extensions:

- The `.BW` extension is for monochrome (black and white) display.
- The `.GRAY` extension is for grayscale displays.
The .RGB extension is for color displays.

The files under ORA_GUICORE23 are provided by Oracle and are usually not modified by users, except possibly by a system administrator, because these resource settings affect all users of the system. If you want to customize these resources, copy one of these files to a file named TK2MOTIF.<EXT> in your SYSSLOGIN directory and edit it there.

Oracle Terminal Resource Files

Oracle Terminal resource files have names ending with the suffix .RES. An Oracle Terminal file is a special type of Toolkit resource file. The name and location of the Oracle Terminal resource file depends on the product.

See Appendix E “Using Oracle Terminal” for the names of the resource files for the various products.

Step 5: Edit the TK2MOTIF File

The TK2MOTIF.<EXT> file contains important information and comments. Please read the comments carefully before modifying the file. You should also have a thorough understanding of the X Window System and OSF/Motif resources before you make any changes to this file.

Refer to the chapter “Setting Resources” in the X Window System User’s Guide (Motif version) for information on a particular widget. Refer to the OSF/Motif Programmer’s Guide for detailed descriptions and examples, and to the OSF/Motif Programmer’s Reference for syntax details.

Private vs. Public Resource Settings

The specifications in a user’s SYSSLOGIN:TK2MOTIF.<EXT> file override the specifications in the file ORA_ROOT:[GUICORE23.ADMIN]TK2MOTIF.<EXT>.

For example, consider a situation in which the file ORA_ROOT:[GUICORE23.ADMIN]TK2MOTIF.RGB contains the following:

TK2Motif*fontList: -*helvetica-medium-r-normal-*120*
TK2Motif*drawn.background: lightblue
TK2Motif*pushb.background: salmon

while a user’s SYSSLOGIN:TK2MOTIF.RGB file contains:

forms45*pushb.background: steelblue
forms45*fontList: -*times-medium-r-normal-*120-*1

In this case, buttons in an Oracle Forms window will appear in Times font with a steel blue background, surrounded by a light blue drawn
The Helvetica font setting and salmon pushbutton background for the TK2MOTIF application class will be ignored.

In other words, a private TK2MOTIF.<EXT> file (that is, one that is located in a user’s SYSSLOGIN directory) will override a public one.

The exact algorithm that determines the precedence of conflicting resource settings is complicated and beyond the scope of this manual.

Additional Information: Refer to the X Window System User’s Guide for a thorough discussion.

Examples

The following examples show how to use Oracle Toolkit and Motif resources to achieve different results.

Example 1

To set the font for the labels in all top menus to a 12 point Helvetica font, first make sure that this font is supplied on your system (using xlsfonts or xfontsel). Then make an entry like the following in the TK2MOTIF file:

```
TK2Motif*menubar*fontList:
-**-helvetica-medium-r-normal--*120-**=1
```

Example 2

To set the background and foreground colors in all Alert boxes, first check the RGB.TXT file for the list of possible colors. (This file resides in the X system install area.) If you prefer orange and yellow, and these colors are available, enter the following lines in your TK2MOTIF file:

```
TK2Motif*alert*background: orange
TK2Motif*alert*foreground: yellow
```

Example 3

With any X resource, you can restrict values to apply only to widgets belonging to a particular hierarchy. For example, you can set the scroll bar trough color to red when the scroll bar is part of a file dialog window, but black anywhere else, by entering the following lines in your TK2MOTIF file:

```
TK2Motif*scrollBar*troughColor: black
TK2Motif*filedialog*scrollBar*troughColor: red
```
Step 6: Customize Key Mappings

The Oracle Toolkit/Motif key mappings are stored in the Oracle Terminal resource file. You can customize a key map using the Oracle Terminal interactive interface.

If you want to change the default key definitions, you must take the following points into consideration:

- Motif and Oracle key definitions may overlap.
  
  Many OSF/Motif widgets have internal translation tables that map particular function keys to particular widget actions. For example, the TAB key is mapped to the Next Field action.

  When these actions overlap with the functions of Oracle Toolkit Motif tools (as is the case with the TAB key), both mappings must agree. Do not override such mappings.

- Motif has reserved key mappings.

  There are some key mappings that are reserved for OSF/Motif. Do not override these key mappings. Reserved key mappings are listed in Appendix C of this manual.

In other words, do not override any reserved key mappings, including those that Motif has in common with Oracle.

Additional Information: Refer to the Oracle Terminal User’s Guide for information on using this interface.

For information about reserved key mappings, see Appendix C “Keyboard Mappings.”

Task 4: Enable Use of Other Languages

- Set the NLS_LANG parameter.
- Set TK2MOTIF*fontmapCs in the TK2MOTIF file

Step 1: Set NLS_LANG

Developer/2000 tools applications use NLS_LANG to determine which language messages to use. To set NLS_LANG, enter the following command:

$ DEFINE NLS_LANG LANGUAGE_TERRITORY,CHARACTER_SET

Beginning with Developer/2000 Release 1.3.2, languages using multi-byte characters are supported on Motif platforms.
The following table provides values supported by Developer/2000 products, arranged by language, for NLS_LANG:

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>Territory Name</th>
<th>territory Value</th>
<th>character Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>american</td>
<td>United States</td>
<td>america</td>
<td>us7ascii</td>
</tr>
<tr>
<td>Dutch</td>
<td>dutch</td>
<td>The Netherlands</td>
<td>“the netherlands”</td>
<td>we8dec</td>
</tr>
<tr>
<td>French</td>
<td>french</td>
<td>France</td>
<td>france</td>
<td>we8dec</td>
</tr>
<tr>
<td>German</td>
<td>german</td>
<td>Germany</td>
<td>germany</td>
<td>we8dec</td>
</tr>
<tr>
<td>Italian</td>
<td>italian</td>
<td>Italy</td>
<td>italy</td>
<td>we8dec</td>
</tr>
<tr>
<td>Japanese</td>
<td>japanese</td>
<td>Japan</td>
<td>japan</td>
<td>ja16euc</td>
</tr>
<tr>
<td>Korean</td>
<td>korean</td>
<td>Korea</td>
<td>korea</td>
<td>ko16ksc5601</td>
</tr>
<tr>
<td>Spanish</td>
<td>spanish</td>
<td>Spain</td>
<td>spain</td>
<td>we8dec</td>
</tr>
<tr>
<td>Traditional Chinese</td>
<td>&quot;traditional chinese&quot;</td>
<td>China</td>
<td>zht</td>
<td>zht32euc</td>
</tr>
</tbody>
</table>

Table 5 – 3 Settings for NLS_LANG

Note: The Reports resource files (files ending in .res) are not available in Spanish and French. The Reports message files (files ending in .ms8) are not available in French. The Forms resource and message files are not available in Spanish.

Arabic Language Support

The current Developer/2000 products do not support Arabic languages on Motif. There are no plans to support Arabic languages in the immediate future.

Hebrew Language Support

Hebrew is supported on visual mode displays for Forms.

Asian Language Support

Developer/2000 Release 1.3.2 is the first full production release that supports languages using multi-byte characters in Motif and character mode.

Step 2: Set TK2MOTIF*fontMapCs

This section explains how to add an entry to the ORA_ROOT:[GUICORE23.ADMIN]TK2MOTIF.<EXT> file so that the Toolkit can match Oracle character sets with X character sets. The
setting is called Tk2Motif\fontMapCs. Enter the following to set Tk2Motif\fontMapCs:

\texttt{Tk2Motif\fontMapCs: xset=oset}

where \texttt{xset} is the name of an X character set and \texttt{oset} is the name of an Oracle character set.

To get a list of all character sets available on your X Server, enter:

\texttt{$@DECW\$UTILS:decw$define_utils}
\texttt{$ Xlsfonts}

The Oracle character set is the last item in the \texttt{NLS\_LANG} setting. For example, for the Dutch language, the Oracle character set name is \texttt{we8dec}. See the previous task “Settings for NLS\_LANG” table, for other Oracle character set names.
This chapter explains how to administer and use the character mode and Motif versions of the Developer/2000 tools on your OpenVMS system. This chapter describes administration issues that are common to all Developer/2000 tools. Refer to each product chapter (the chapters following this one) for product-specific administration information.
Getting Online Help

To access online help at any point, select HELP. One or more pages of relevant information will appear. If the page shown extends beyond the window, use the scroll bars to display the rest of the page. After reading the information you need, select DISMISS to return to the Developer/2000 product you were using.

Edit Preferences

Tools Options is a menu item on the Tools menu. This menu item sets options for your session in Oracle Forms, Oracle Reports, or any of the Developer/2000 tools. Selecting this menu item displays the Tools Options dialog box, in which you specify, design, and run preferences.

Use the Save Preferences button to store the user preferences you defined using Tools Options. The preferences are merged with those that existed when you started the Developer/2000 tool, and are stored in the PREFS.ORA file in your SYS$LOGIN directory.

Source File Locations

If no directory is specified, your Developer/2000 tool searches for the product files in the following locations in this order:

1. the current directory
2. directories specified by the product–specific path logical:

<table>
<thead>
<tr>
<th>Product</th>
<th>Logical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Procedure Builder</td>
<td>ORA_PROCBUilder_ADMIN</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>ORA_GRAPHICS25_HELP</td>
</tr>
<tr>
<td></td>
<td>ORA_GRAPHICS25_ADMIN</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>FORMS45_PATH</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>REPORTS25_PATH</td>
</tr>
</tbody>
</table>

3. directories specified by ORACLE_PATH

   Note: Oracle Procedure builder does not use the ORACLE_PATH logical to determine its search path.
All Motif Windows are Moveable

Under Motif, all windows are moveable. This is true even if the user does not set the moveable hint in the windows property sheet.
This chapter explains how to administer the Motif version of Oracle Procedure Builder 1.5 on your OpenVMS system.

The topics covered in this chapter are:

- Product Documentation
- Administering Oracle Procedure Builder
- Starting Oracle Procedure Builder
Product Documentation

The information in this chapter supplements the information given in:

- *Oracle Procedure Builder Developer’s Guide*
- *PL/SQL User’s Guide and Reference*

README Files

The README.PROCBUILDER and the README.PROCBUILDER_VMS files are located in the ORA_ROOT:[procbuilder.doc] directory. These files outline administrative procedures and describe the latest known restrictions.

Executables

You can find the Oracle Procedure Builder executables in the ORA_ROOT:[PROCBUILDER] subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Operating System Independent Executable Name</th>
<th>OpenVMS Symbol for Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runtime</td>
<td>DE15DESM</td>
<td>DE15DESM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PLBILD15M</td>
</tr>
</tbody>
</table>

Table 7 – 1 Oracle Procedure Builder Executables

Starting Oracle Procedure Builder Designer

To start the Motif mode version of Oracle Procedure Builder Designer, enter:

```
$ DE15DESM filename
```

To start the line mode version of Oracle Procedure Builder Designer, enter:

```
$ DE15DESM MODE=LINE filename
```
This chapter explains how to administer Oracle Graphics Release 2.5 on your OpenVMS operating system.

The topics covered in this chapter are:

- Product Documentation
- Administering Oracle Graphics
- Using Oracle Graphics
Product Documentation

The information in this chapter supplements the information provided in:

- *Oracle Graphics Developer’s Guide*
- *Oracle Graphics Reference Manual*

README Files

The **README.GRAPHICS25** and the **README.GRAPHICS25_VMS** files are located in the **ORA_ROOT:[graphics25.doc]** directory. These files outline administrative procedures and describe the latest known restrictions.

Administering Graphics

Executables Files

The Graphics executables listed in the following table are installed in the **ORA_ROOT:[graphics25]** subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on OpenVMS</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designer</td>
<td>g25desm</td>
<td>g25desm oragraph25m</td>
</tr>
<tr>
<td>Runtime</td>
<td>g25runm</td>
<td>g25runm rungraph25m</td>
</tr>
<tr>
<td>Batch</td>
<td>g25batm</td>
<td>g25batm batgraph25m</td>
</tr>
</tbody>
</table>

Table 8 – 1 Graphics Executables

Edit Preferences

Tools Option is a selection on the Tools menu that sets options for your Graphics session. It displays the Tools Option dialog box, in which you specify, design, and run preferences.

When you enter an executable on the command line, it generally has the following form:

\$ executable_name keyword1=value1 keyword2=value2
Each keyword=value statement is called an argument. The keyword= portion of all arguments is not case-sensitive. However, the value portion of all arguments except userid, print, copies, close, and quit is case-sensitive.

Example

If you save a display as Untitled, and you want to see a runtime execution of the display, then enter:

$ g25runm openfile=Untitled

Using Oracle Graphics

Setting the GRAPHICS25_PATH Logical

The GRAPHICS25_PATH logical specifies where Graphics searches for files.

To set the GRAPHICS25_PATH logical, enter the following:

$ define GRAPHICS25_PATH path

Where path specifies the list of directories where your Graphics applications reside.

Starting Oracle Graphics Runtime

Oracle Graphics Runtime allows an end-user to run applications created in the designer. To start Oracle Graphics Runtime, enter:

$ g25runm userid/password filename

where filename is the name of your application. If you do not enter the name of a file, a main menu appears from which you can open a document.

Starting Oracle Graphics Designer

Oracle Graphics Designer allows the application developer to build dynamic graphical displays using charts, graphics, images, sounds, and PL/SQL programs to interpret database information.

To start the Oracle Graphics Designer, enter:

$ g25desm
Creating User Exits
Using Oracle Graphics 2.5

Use the following as a guideline to create user-exits. Many of the parameters indicated below may be dependent on the application for which the user exit is going to be used. For more information about creating user exits, refer to the section of the Oracle Graphics Reference Manual, called "User Exit Interface".

Note: All the demo files mentioned in this section are available in the directory ORA_ROOT:[GRAPHICS25.SAMPLE]

Requirements
You need to verify that the following is installed and running on your system before creating user exits:

- Oracle7 Server and Oracle Graphics
- Oracle Precompiler, if there is a data interchange between Graphics and the user-exit code

Procedure
Complete the following steps to create user exits:

**Step 1. Create an object file IAPXTB.OBJ.**

Simply add entries to the sample source file, IAPXTB.C, for each user exit you want to create, as shown below:

```c
externdef exitr iapxtb[] = { /* Holds exit routine pointers */
  "UE_OK",     ue_ok, XITCC,
  "UE_ERR",    ue_err, XITCC,
  "UE_MB",     ue_mb, XITCC,
  "UE_EMP_PLAN", ue_emp_plan, XITCC,
  (char *) 0, 0, 0 /* zero entry marks the end */    };
```

The first item in the entry is the name you will use in Oracle Graphics to reference the user exit routine (i.e. UE_OK). The second item is the actual name of the user exit routine (i.e. ue_ok). The last item, XITCC, indicates that the user exit is called using C. For other languages, you will want to replace the last item, XITCC, with one of the following specifications:

- XITCOB /* COBOL */
- XITFOR /* FORTRAN */
- XITPLI /* PL/I */
- XITPAS /* PASCAL */
- XITAda /* ADA */

Compile IAPXTB.C to generate IAPXTB.OBJ.
Step 2. Write your user exit code, and compile.

Refer to sample user exits in TESTEXIT.PC and follow the same guidelines for your code.

If you need to interchange data between your user exit code and Oracle Graphics, use Oracle Pro*C (Required for TESTEXIT.PC).

Precompile the source to generate a `.C` file as follows:

```
$ proc iname=TESTEXIT.PC maxopencursors=50 ireclen=180
    oreclen=180 ltype=none include=ora_precomp:
```

This will create the file TESTEXIT.C.

Compile the generated C file, TESTEXIT.C, to get an object file, TESTEXIT.OBJ.

If you are using any other standard language, compile it as you would normally to get an object file.

Step 3. Define appropriate symbols and create a new executable.

Set up the symbol, GRAPHICS25_USEREXITS. For example:

```
$ GRAPHICS25_USEREXITS = "TESTEXIT"
```

Set up the symbol, GRAPHICS25_XTB. For example:

```
$ GRAPHICS25_XTB = "IAPXTB"
```

Copy the user exits you have created, i.e. TESTEXIT.OBJ and IAPXTB.OBJ to ORA_ROOT:[GRAPHICS25.olb]. This copy may require write privilege to ORA_ROOT:[GRAPHICS25.olb].

Now execute the link script to generate a new executable that includes these user exits. Executing the command below may require write privilege to ORA_ROOT:[GRAPHICS25].

```
$ @ORA_GRAPHICS25:1GRAPHICS25 G25RUNM
```

This generates G25RUNMX.EXE (bit-map) if GRAPHICS25_USEREXITS is not null.

To build G25DESMX.EXE, use G25DESM instead of G25RUNM. The same applies to G25BATMX.EXE where you should use G25BATM instead of G25RUNM.

The symbols G25DESMX, G25RUNX and G25BATX are defined to run these executables.
Chapter 9

Using Oracle Forms

This chapter explains how to administer and use the character mode and Motif versions of Oracle Forms 4.5 on your OpenVMS system.

The topics covered in this chapter are:

- Product documentation
- Administering Oracle Forms
- Using Oracle Forms
Product Documentation

For information on the general use of Oracle Forms, see the following documents:

- Oracle Forms Developer’s Guide
- Oracle Forms Advanced Techniques
- Oracle Forms Reference Manual, Volume 1
- Oracle Forms Reference Manual, Volume 2
- Getting Started with Oracle Forms
- Oracle Forms Messages and Codes

README Files

The readme.forms45 and readme.forms45_vms files are located in the ORA_ROOT:[FORMS45.DOC] directory. These files, which outline administrative procedures and describe the latest known restrictions, serve as online supplements to the printed documentation.
Administering Oracle Forms

Executables

You can find the Oracle Forms executables in the ORA_ROOT:[FORMS45] subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Operating System Independent Name</th>
<th>OpenVMS Symbol for Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motif</td>
<td>Char Mode</td>
</tr>
<tr>
<td>Designer</td>
<td>F45DESM</td>
<td>n/a</td>
</tr>
<tr>
<td>Generator</td>
<td>F45GENM</td>
<td>F45GEN</td>
</tr>
<tr>
<td>Runform</td>
<td>F45RUNM</td>
<td>F45RUN</td>
</tr>
<tr>
<td>Runform with debugger</td>
<td>F45RUNMD</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 9–1 Oracle Forms Executables
Using Oracle Forms

Starting Oracle Forms Runtime

Oracle Forms Runtime allows you to run applications created in Oracle Forms Designer.

To start the Motif mode version of Oracle Forms Runtime, enter:

$ F45RUNM filename

To start the debug Motif version of Oracle Forms Runtime, enter:

$ F45RUNMD filename

where filename is the name of your application. If you do not enter the name of a file, a main menu appears from which you can open a form.

Additional Information: Refer to the Oracle Forms Developer’s Guide for more information on the debug runtime.

To start the character mode version of Oracle Forms Runtime, enter:

$ F45RUN filename

where filename is the name of your form.

Starting Oracle Forms Designer

Oracle Forms Designer allows the application developer to build dynamic forms applications using graphs, reports, images, and PL/SQL programs to interpret database information. To start Oracle Forms Designer, enter:

$ F45DESM
Linking User Exits

To link user exits, perform the following steps:

1. Change your default directory to the directory containing demo files and scripts for Oracle Forms:

   $ SET DEFAULT ORA_ROOT:[FORMS45.DEMO.SAMPLE]

   This directory contains the source file UE_XTB.C.

2. Edit UE_XTB.C to customize it for your user exits.
   
   2.1 First, declare your user exits above the following structure:

   iapxtb[]

   Use the same format for each declaration as that used by UXSQL. For example, to declare the user exit MYEXIT, use the following line:

   extern int myexit ( );

   2.2 Next, below iapxtb[], add an entry for each user exit you declared.

   The entry for each user exit should follow the same format as the UXSQL entry. For a complete description of the arguments, read the file IFUXIT.H.

3. Compile UE_XTB.C after you’ve finished editing it.

4. Copy the resulting object file—UE_XTB.OBJ—and the object file containing your user exits to the following directory:

   ORA_FORMS45_OLB

5. Define the symbol FORMS45_USEREXITS to point to the two object files.

   $ FORMS45_USEREXITS := "UE_XTB,<YOUROBJFILE>"

   Notice that there is no white space between the object files; the only separator is a comma.

6. Run ORACLEINS to relink Oracle Forms Version 4.5 with your user exits.

You can use this procedure to link user exits in any common programming language for which Oracle has a precompiler (C, COBOL, FORTRAN, etc.) as long as you meet the following conditions:

- the user exit has been written to work in a multi-lingual environment
- you have a C compiler, so that you can perform Step 3.
Demonstration Files and Applications

Demonstration files are located in the ORA_ROOT:[FORMS45.DEMO] directory. To properly display the demonstrations, the following settings are recommended in the Tk2Motif.rgb file:

Tk2Motif*pushb.defaultButtonShadowThickness: 0
Tk2Motif*pushb.shadowThickness: 2
Tk2Motif*pushb.highlightThickness: 1
Tk2Motif*expandNonDefaultButtons: True

You must set the following environment variables to properly generate and run the Forms demonstrations.

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK23_ICON</td>
<td>ORA_ROOT:[FORMS45.DEMO.ICONS]</td>
</tr>
<tr>
<td>FORMS45_PATH</td>
<td>ORA_ROOT:[FORMS45.DEMO.START] | ORA_ROOT:[FORMS45.DEMO.PLSQLLIB]</td>
</tr>
<tr>
<td>FORMS45_UNKNOWN</td>
<td>Points to the directory where your Tk2Motif.rgb file resides.</td>
</tr>
</tbody>
</table>

Table 9–2 Required Environment Variables

Synchronization Demonstration

This demonstration highlights the automatic synchronization of multiple layouts of the same data. You can change the data in any of the layouts, and corresponding values are mirrored without writing a single line of code.

The file included is sync.fmb.

To run the demonstration, perform the following steps:

1. Go to the proper directory:
   
   $ set default ora_root:[forms45.demo.sync]

2. Generate the synchronization module by entering:
   
   $ f45genm sync scott/tiger

3. Run the demonstration by entering:
   
   $ f45runm sync scott/tiger
MDI Demonstration

This demonstration illustrates multiple forms operating in a Multiple Document Interface (MDI) framework.

The files included are mdi.fmb, mdi1.fmb, mdi2.fmb, and mdi3.fmb.

To run the demonstration, perform the following steps:

1. Generate the MDI module by entering:
   $$\text{set default ora_root:}\{\text{forms45.demo.mdi}\}$$
   $$\text{f45genm mdi scott/tiger}$$
   $$\text{f45genm mdi1 scott/tiger}$$
   $$\text{f45genm mdi2 scott/tiger}$$
   $$\text{f45genm mdi3 scott/tiger}$$

2. Run the demonstration by entering:
   $$\text{f45runm mdi scott/tiger}$$

Toolbar Demonstration

This demonstration illustrates the use of an iconic toolbar and how you can use it to navigate through the data in a form. In addition, this demonstration uses the current row attribute to highlight the current row of a multi-record block, if the block contains data.

The files included are toolbar.fmb and toolbar.pll.

To run this demonstration, perform the following steps:

1. Generate the hint and toolbar libraries by entering:
   $$\text{set default ORA_ROOT:}\{\text{FORMS45.DEMO.PLSQLLIB}\}$$
   $$\text{f45genm hint.pll scott/tiger module_type=library}$$
   $$\text{f45genm toolbar.pll scott/tiger module_type=library}$$

2. Generate the toolbar module by entering:
   $$\text{set default ora_root:}\{\text{forms45.demo.toolbar}\}$$
   $$\text{f45genm toolbar.pll scott/tiger}$$

3. Run the demonstration by entering:
   $$\text{f45runm toolbar scott/tiger}$$

Drag Demonstration

This demonstration gives an example of how to implement drag and drop in an application using the EMP/DEPT tables. The application is based on a library called drag.pll, which provides generic code on how to drag one or multiple objects in an application.
The files included are \texttt{drag.fmb} and \texttt{drag.pll}.

To run this demonstration, perform the following steps:

1. Generate the drag and generic libraries by entering:
   \begin{verbatim}
   $ set default ORA_ROOT:[FORMS45.DEMO.PLSQLLIB]
   $ f45genm drag.pll scott/tiger module_type=library
   $ f45genm generic.pll scott/tiger module_type=library
   \end{verbatim}

1. Generate the drag module by entering:
   \begin{verbatim}
   $ set default ora_root:[forms45.demo.drag]
   $ f45genm drag scott/tiger
   \end{verbatim}

2. Run the demonstration by entering:
   \begin{verbatim}
   $ f45runm drag scott/tiger
   \end{verbatim}

Oracle Chess Demonstration

The files included are: \texttt{chess.fmb}, \texttt{chess.mmb}, \texttt{chess.pll}, \texttt{chess.sql}, \texttt{king.ico}, \texttt{queen.ico}, \texttt{bishop.ico}, \texttt{knight.ico}, \texttt{rook.ico}, \texttt{pawn.ico}. To run this demonstration, perform the following steps:

1. Install the required tables by running the \texttt{chess.sql} script as \texttt{scott/tiger}.

2. Generate the chess module by entering:
   \begin{verbatim}
   $ set default ora_root:[forms45.demo.chess]
   $ f45genm chess scott/tiger
   $ f45genm chess scott/tiger module_type=menu
   \end{verbatim}

   The \texttt{TK23_ICON} or \texttt{ORACLE_ICON} environment variables must be set to the directory that includes the six icon files. The icon files reside in the \texttt{ORA_ROOT:[FORMS45.DEMO.ICONS]} directory.

3. Run the demonstration by entering:
   \begin{verbatim}
   $ f45runm chess scott/tiger
   \end{verbatim}

Game of 4othello Demonstration

The file included is \texttt{4othello.fmb}. To run this demonstration, perform the following steps:

1. Generate the \texttt{4othello} module by entering:
   \begin{verbatim}
   $ set default ora_root:[forms45.demo.4othello]
   $ f45genm 4othello scott/tiger
   \end{verbatim}

2. Run the demonstration by entering:
The files included in this application are $PECS.FMB$, $PECS.MMB$, $PECS.PLL$, $PECSBILD.SQL$, $PECSDROP.SQL$, $PECSGRNT.SQL$, $PECSRVKE.SQL$ and $PECSUPGR.SQL$. To set up the PECS application, you need to perform the following steps:

1. Build the PECS database tables and procedures using the provided scripts as follows:

   $\text{SET DEFAULT ORA_ROOT:}[\text{FORMS45.DEMO.PECS}]$
   $\text{SQLPLUS SYSTEM/}<$\text{PASSWORD}> @pecsbild.sql$
   SQL> \text{START PECSBILD.SQL}$
   SQL> \text{EXIT}$

2. Generate the PECS Assistant application by entering:

   $\text{f45genm PECS.PLL SYSTEM/}<$\text{PASSWORD}> MODULE_TYPE=LIBRARY$
   $\text{f45genm PECS.MMB SYSTEM/}<$\text{PASSWORD}> MODULE_TYPE=MENU$
   $\text{f45genm PECS.FMB SYSTEM/}<$\text{PASSWORD}>$

3. Also provided are scripts to maintain the PECS database tables. Use the following scripts:

   - $\text{PECSGRNT.SQL}$ to grant privileges to other users.
   - $\text{PECSRVKE.SQL}$ to revoke privileges to other users.
   - $\text{PECSDROP.SQL}$ to drop the PECS database tables, views, procedures and synonyms.
   - $\text{PECSUPGR.SQL}$ is not needed as the $\text{PECSBILD.SQL}$ script will build the tables and procedures with the upgrades from Forms Version 4.5.5.

**Additional Information:** *Forms 4.5 Advanced Techniques Manual*, Appendix C.
Using Oracle Reports

This chapter explains how to administer and use the character mode and Motif versions of Oracle Reports 2.5 on your OpenVMS system.

The topics covered in this chapter are:

- Product Documentation
- Administering Oracle Reports
- Using Oracle Reports
Product Documentation

The information in this chapter supplements the information given in:

- Reports Enhancements Manual
- Building Reports Manual
- Reports Reference Manual
- Reports Messages and Codes Manual
- Reports Runtime Manual
- Reports Migration Manual
- Reports Documentation Addendum

README Files

The README.REPORTS and README.REPORTS25_VMS files are located in the ORA_ROOT:[REPORTS25.DOC] directory. These files, which outlines administrative procedures and describe the latest known restrictions, serve as online supplements to the printed documentation.
Administering Oracle Reports

Executables

You can find the Oracle Reports executables in the ORA_ROOT:[REPORTS25] subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Operating System Independent Executable Name</th>
<th>OpenVMS Symbol for Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motif Char Mode</td>
<td>Motif Char Mode</td>
</tr>
<tr>
<td>Convert Reports</td>
<td>R25CONVM n/a</td>
<td>R25CONVM CONVREP25M</td>
</tr>
<tr>
<td>Move Reports and Printer Definitions</td>
<td>R25MREPM n/a</td>
<td>R25MREPM MOVEREP25M</td>
</tr>
<tr>
<td>Runtime</td>
<td>R25RUNM R25RUN</td>
<td>R25RUNM RUNREP25M</td>
</tr>
<tr>
<td>Designer</td>
<td>R25DESM n/a</td>
<td>R25DESM ORAREP25M</td>
</tr>
</tbody>
</table>

Table 10 – 1 Oracle Reports Executables
Report Doc Option

The Report Doc option, which is accessed from the Administration submenu of the File Menu, allows you to create a list of the settings of reports, if the reports are stored in the database. Report Doc is useful for keeping a record of all your reports and for debugging reports. If you want to perform Report Doc in batch mode, you can use RUNREP25M to run one of the three available reports on reports. The reports are located in the ORA_ROOT:[REPORTS25.ADMIN.REPORT] directory. The following examples show how to use Report Doc in batch mode with a report.

Motif portrait output:

```
$ DEFINE REPORTS25_PATH ORA_ROOT:[REPORTS25.ADMIN.REPORT]
$ RUNREP25M REPORT=SRWDOCPB.RDF USERID=USERNAME/PASSWORD –
    BATCH=YES DESTYPE=FILE DESNAME=SRWDOCPB.PS
```

Motif landscape output:

```
$ DEFINE REPORTS25_PATH ORA_ROOT:[REPORTS25.ADMIN.REPORT]
$ RUNREP25M REPORT=SRWDOCLB.RDF USERID=USERNAME/PASSWORD –
    BATCH=YES DESTYPE=FILE DESNAME=SRWDOCLB.PS
```
Call Interface

The following steps are required to build a program with calls to Oracle Reports 2.5 on OpenVMS

**Note:** The examples mentioned in the steps that follow are actual files created for a sample OCI demo, and are available to the user in the directory ORA_ROOT:[REPORTS25.OLB].

**Step 1. Review requirements.**

ORACLE7 RDBMS and Reports, are required to implement OCIs.

**Step 2. Write your program**

Write your program using one of the Oracle programmatic Interface host languages (Ada, C, Cobol, Fortran, Pascal, or PL/I). Include in your program one or more OCI procedure calls. For example, refer to the following files:

ORA_ROOT:[REPORTS25.OLB]rxociqa.c

**Step 3. Compile your program**

Compile your program using host language compiler on your system. For example:

$ cc rxociqa.c

Generates the object files rxociqa.obj. This demo OBJ is shipped with REPORTS25.

Use a similar command for your compiler to generate a `.obj` file.

**Step 4. Define appropriate symbols, and create a new executable.**

Set up the symbol REPORTS25_OCI to point to your `.obj` file(s). For this example use the following command:

$ REPORTS25_OCI = "rxociqa"

Copy the '*.obj' file to ORA_ROOT:[reports25.olb]. For example:

$ copy/log rxociqa.obj ORA_ROOT:[reports25.olb]

This copy requires write privilege to ORA_ROOT:[REPORTS25.OLB].

Now execute the link script to generate a new executable that will include the `.obj` file containing OCI calls. Executing the command below (for Reports runtime character example.) may require write privilege to ORA_ROOT:[reports25]:

$ @ORA_REPORTS25:1reports25 R25RUNO
This command generates R25RUNO.EXE if REPORTS25_OCI is not null.

Or you can execute the following command (for Reports runtime bit-map example.):

$ @ORA_REPORTS25:1reports25 R25RUNMO

This command generates R25RUNMO.EXE if REPORTS25_OCI is not null.

Or you can execute the following command (for Reports designer example.)

$ @ORA_REPORTS25:1reports25 R25DESMO

This command generates R25DESMO.EXE if REPORTS25_OCI is not null.

5. Create a new symbol to run your executable:

$ @ORA_REPORTS25:reports25user

This symbol defines the following appropriate symbol(s):

R25RUNO, if ORA_REPORTS25:r25runo.exe exists.
R25DESMO, if ORA_REPORTS25:r25desmo.exe exists.

6. Define REPORTS25_PATH:

Define REPORTS25_PATH to find the demo "*.rdf" used for this example:

$ define reports25_path ora_reports25_demo

7. Run the program using the new symbol created.

$ R25RUNO (-OR- $ R25RUNMO -OR- $ R25DESMO)

Note: The following files have been listed for completion sake only and are normally generated by following the steps given above:

- R25RUNO.EXE File generated by Linking.
- R25RUNMO.EXE File generated by Linking.
- R25DESMO.EXE File generated by Linking

Attention: This document is not a generally applicable document for using OCIs extensively as it only provides guidelines to making OCI calls. The information contained in this document is only a supplement to Chapter 15 Call Interface, of the Oracle Reports Reference Manual.
Filename Extensions

The files you create with Oracle Reports have the following extensions: .PLL, .PRT, .RDF, .REP, and .REX.

**Additional Information:** See the “Storage” chapter in the *Oracle Reports Reference Manual* for a description of each file extension.

Online Tools for Administration

Oracle Reports is shipped with several SQL scripts with which you can quickly perform certain database administration tasks.

**Additional Information:** See the “Administration” chapter in the *Oracle Reports Reference Manual* for a complete list.

Printer Definitions

These printer and terminal definitions are used for character mode reports.

**Additional Information:** See Appendix B “Printer and Terminal Definition” of the *Oracle Reports Reference Manual*.

The printer definition files are in the ORA_ROOT:[REPORTS25.ADMIN.PRINTER] directory.

The following set of printer definitions is shipped with your OpenVMS system:

- **bold.prt** - a generic printer file that supports bold attributes and 66x80 page size
- **dec.prt** - a generic printer file for most DEC printers; it supports 66x80 page sizes for the LN03, LPS40, LP05, and LA50 printers
- **dec180.prt** - same as **decland.prt**, but supports 66x180 page size
- **decland.prt** - a generic printer file that prints in landscape mode and supports 66x132 page sizes
- **decwide.prt** - same as **dec.prt**, but supports 66x132 page size
- **dflt.prt** - a generic printer file that ignores highlighting attributes and supports 66x80 page size
- **hpl.prt** - a generic printer file for the HP LaserJet printer that supports 66x80 page size
- **hplwide.prt** - same as **hpl.prt**, but supports 66x132 page sizes
<table>
<thead>
<tr>
<th>Printer File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>no_ff.prt</td>
<td>a generic printer file with no formfeed between pages and supports 66x80 page size</td>
</tr>
<tr>
<td>psl132.prt</td>
<td>character mode PostScript printer file that prints in landscape mode and supports 66x132 page size</td>
</tr>
<tr>
<td>ps1180.prt</td>
<td>character mode PostScript printer file that prints in landscape mode and supports 66x180 page size</td>
</tr>
<tr>
<td>ps2page.prt</td>
<td>character mode PostScript printer file that prints two 66x80 portrait pages on one landscape page</td>
</tr>
<tr>
<td>psland.prt</td>
<td>character mode PostScript printer file that prints in landscape mode and supports 66x80 page size</td>
</tr>
<tr>
<td>psp132.prt</td>
<td>character mode PostScript printer file that prints in portrait mode and supports 66x132 page size</td>
</tr>
<tr>
<td>psport.prt</td>
<td>PostScript printer file that prints in portrait mode and supports 66x80 page size</td>
</tr>
<tr>
<td>wide.prt</td>
<td>a generic printer file that ignores highlighting attributes and supports 66x132 page size</td>
</tr>
<tr>
<td>wide180.prt</td>
<td>same as wide.prt, but supports 66x180 page sizes</td>
</tr>
</tbody>
</table>

Modifying the Tk2Motif file

Enter the following in your Tk2Motif file to ensure proper font sizing regardless of the display resolution setting:

```
reports25*fontUseDpi: True
```

Specifying Printers and Queues

The script `ORA_ROOT:[REPORTS25.ADMIN.PRINTER]SPOOLCMD.COM` is called when you send a file to the printer.

Using Oracle Reports

Starting Oracle Reports Runtime

Oracle Reports Runtime allows you to run reports built in the Designer.

To start the Motif mode version of Oracle Reports Runtime, enter:

```
$ RUNREP25M filename
```
where filename is the name of your report. If you do not enter the name of a file, a main menu appears from which you can open a report.

To start the character mode version of Oracle Reports Runtime, enter:

`$ RUNREP25 filename`

where filename is the name of your report.

**Additional Information:** See the “Executables” chapter in the Oracle Reports Reference Manual for more information about options you can specify when starting Oracle Reports.

**Starting Oracle Reports Designer**

Oracle Reports Designer allows you to build reports for use with Oracle Reports. To start Oracle Reports Designer, enter:

`$ R25DES`M

**Printing Reports**

This section provides information about printing reports.

**Choosing a Printer**

To choose a printer from Oracle Reports:

1. Choose **File**—>**Choose Printer**... to display the Print Setup dialog box.

2. Select the printer and specify any other desired options. What you specify here overrides the DESNAME parameter.

   **Note:** Some options (for example, orientation) may not be available, depending on the printer you select.

3. Certain printers (especially PostScript printers) allow you to specify several more printer settings in the Options dialog box. If the printer you select supports more settings, choose **Options** to display the Options dialog box.

4. In the Options dialog box, set Margins to **None**, if possible. When you eliminate margins, Oracle Reports prints reports exactly as they appear on your screen.

   If you set Margins to **Default**, Oracle Reports prints to the “printable area” defined by your printer. Since the printable area is usually smaller than the size of the paper, your printed reports have larger
margins than your reports on screen. Additionally, the increased margin size may push part of your report off the paper.

Note: This step applies only to printers that support the Margins option.

5. Choose **OK** from the Options dialog box and the Print Setup dialog box to save your settings.

Sending Reports to a Printer

Before printing your report, you should select the appropriate printer and any applicable options.

To send reports to a printer:

1. Choose **File**—>**Print** or **File**—>**Run**. The Runtime Parameter Form is displayed.
   
   If you selected **File**—>**Print**, Printer is displayed as the Destination Type, unless you suppressed this option.
   
   If you selected **File**—>**Run**, the Destination Type was set to **Screen**. Change the Destination Type to **Printer**.

2. Choose **Run Report**. The Print dialog box is displayed.

3. Specify the Print Range and the number of copies and choose **Print**.

   Note: No bit–mapped printer definition files are shipped with Oracle Reports. Printer definition files are used with character-mode reports only.

Sending Reports to a File

Oracle Reports supports two methods for sending report output to files:

- the File Destination Type, available by selecting **File**—>**Run** or **File**—>**Print** within Oracle Reports
- the Print to File check box, in the Print dialog box

Before printing your report to a file, you should select the appropriate printer driver and any applicable options.

To print to file using a Destination Type of **File**, complete the steps below:

1. Choose the desired printer driver via **File**—>**Choose Printer**...

2. Choose **File**—>**Run** or **File**—>**Print**. The Runtime Parameter Form is displayed.

3. Select **File** for Destination Type.
4. Specify the complete path and filename in the Destination Name field, then choose Run Report.

If you do not specify a value for Destination Name, Oracle Reports uses the default name <report name>.LIS. If you do not specify a directory path, Oracle Reports saves the report output to the current directory.

5. The Print dialog box is displayed. Choose Save...

Creating ASCII Output

You can print reports to an ASCII file or a non-PostScript printer. To create ASCII output, complete the following steps:

1. (Optional) Choose File—>Choose Printer... to display the Print Setup dialog box, select Oracle Reports ASCII Driver, and choose OK. If you ensure that MODE=CHARACTER for the report, you can skip this step.

2. Choose File—>Print.

3. To print to a file, change the Destination Type to File, specify the name of the ASCII file in the Destination Name field, and choose Run Report.

   **Suggestion:** If you want to send the report output directly to the printer, first go to the Printers dialog in Control Panel. Select the Oracle Reports ASCII Driver and then select Connect. Choose the correct printer port for your machine and accept the dialogs. When running the report, change the Destination Type to Printer and choose Run Report. Then, choose Save... from the Print dialog box.
Creating User Exits Using Oracle Reports 2.5

Use the following as a guideline to create user-exits. Many of the parameters indicated below may be dependent on the application for which the user exit is going to be used. For more information about creating user exits, refer to Chapter 14 of the Oracle Reports Reference Manual, called "User Exit Interface".

Note: All the demo files mentioned in this section are available in the directory ORA_ROOT:[REPORTS25.DEMO.UE]

Requirements
You need to verify that the following is installed and running on your system before creating user exits:

- Oracle7 Server and Oracle Reports
- Oracle Precompiler, if there is a data interchange between Reports and the user-exit code
- the GENXTB executable
- an Alpha or VAX MACRO Assembler.

Procedure
Complete the following steps to create user exits:

**Step 1. Create an object file UE_XTB.OBJ.**

This step may be implemented in two different ways:

**Method 1** (Easier to implement than Method 2)

Simply add entries to the sample source file, UE_XTB.C, for each user exit you want to create, as shown below:

```c
extern def exit iapxtb[] = { /* Holds exit routine pointers */
    "UE_OK",      ue_ok, XITCC,
    "UE_ERR",     ue_err, XITCC,
    "UE_MB",      ue_mb,  XITCC,
    "UE_EMP_PLAN", ue_emp_plan, XITCC,
    (char *) 0, 0, 0 /* zero entry marks the end */ }
```

The first item in the entry is the name you will use in Oracle Reports to reference the user exit routine (i.e. UE_OK). The second item is the actual name of the user exit routine (i.e. ue_ok). The last item, XITCC, indicates that the user exit is called using C. For other languages, you will want to replace the last item, XITCC, with one of the following specifications:

- XITCOB /* COBOL */
- XITFOR /* FORTRAN */
Compile UE_XTB.C to generate UE_XTB.OBJ.

**Method 2**: Create an IAPXTB table.

The IAPXTB table is normally created during installation under the SYSTEM userid. If this has not been done, do the following:

```sql
$!
$! Type password here for SYSTEM in place of xxxxxx.
$! Create a public synonym IAPXTB for this table, and
$! grant select & update access to PUBLIC for this table.
$!
$ SQLPLUS SYSTEM/xxxxxx
SQL> @ORA_ROOT:[REPORTS25.ADMIN.SQL]SRW2AIAP.SQL
SQL> create public synonym iapxtb for system.iapxtb;
SQL> grant select,update on system.iapxtb to PUBLIC;
SQL> exit
```

Insert each user exit name into the IAPXTB table. Use either SQLPLUS or the GENXTB form to insert your user-exits into the IAPXTB table. For example, if you are using SQLPLUS:

```sql
$ sqlplus system/manager
SQL> insert into iapxtb values
  2 ('ue_ok','C','Demo user exit for Reports25.',sysdate,sysdate);
```

Generate a source file from the IAPXTB table, using GENXTB.
On OpenVMS, the source file generated is a MACRO file. For example:

```sql
$ genxtb scott/tiger UE_MAR.MAR
```

This will create the file UE_MAR.MAR.

Compile the macro file using Macro assembler.

The above steps will generate an object file similar to UE_XTB.OBJ. Refer to the *Oracle Reports Reference Manual* for details.

**Step 2. Write your user exit code, and compile.**

Refer to sample user exits in UE_SAMP.C and UE_SAMP1.PC and follow the same guidelines for your code.

If you need to interchange data between your user exit code and Oracle Reports, use Oracle Pro*C (Required for UE_SAMP1.PC).
Precompile the source to generate a `.C` file as follows:

```
$ proc iname=UE_SAMP1.PC maxopencursors=50 ireclen=180
    oreclen=180 ltype=none include=ora_precomp:
```

This will create the file `UE_SAMP1.C`.

Compile the generated C file, `UE_SAMP1.C`, to get an object file, `UE_SAMP1.OBJ`.

Compile the C file, `UE_SAMP.C`, to generate `UE_SAMP.OBJ`.

If you are using any other standard language, compile it as you would normally to get an object file.

**Step 3. Define appropriate symbols and create a new executable.**

Set up the symbol, `REPORTS25_USEREXITS`. For example:

```
$ REPORTS25_USEREXITS = "ue_samp,ue_samp1"
```

Set up the symbol, `REPORTS25_XTB`. For example:

```
$ REPORTS25_XTB = "ue_xtb"
```

Copy the user exits you have created, i.e. `UE_SAMP.OBJ`, `UE_SAMP1.OBJ` and `UE_XTB.OBJ` to `ORA_ROOT:[reports25.olb]`. This copy may require write privilege to `ORA_ROOT:[reports25.olb]`.

Now execute the link script to generate a new executable that includes these user exits. Executing the command below may require write privilege to `ORA_ROOT:[reports25]`.

```
$ @ORA_REPORTS25:lreports25 R25RUNMX
```

This generates `R25RUNMX.EXE` (bit-map) if `REPORTS25_USEREXITS` is not null.

Or enter the following command:

```
$ @ORA_REPORTS25:lreports25 R25RUNX
```

This generates `R25RUNX.EXE` (character) if `REPORTS25_USEREXITS` is not null.

**Step 4. Create a new symbol to run your executable.**

Enter the following command to define the appropriate symbol, i.e. `R25RUNMX` (bit-map) or `R25RUNX` (character)

```
$ @ORA_REPORTS25:reports25user
```

**Step 5. Create a Report Designer file which calls the user exit.**
For example: See USEREXIT.RDF in ORA_ROOT:[REPORTS25.DEMO.BITMAP]

**Step 6. Run the report using the new executable created in step 6 above.**

$ R25RUNMX userid=scott/tiger report=userexit.rdf
(bit-map)

Or:

$ R25RUNX userid=scott/tiger report=userexit.rdf
(character)

**Note:** The following files have been provided as an example:
- USRXIT.H Header file for defining user exit table structure.
- UE_XTB.C User exit table code in C language.
- UE_SAMP.H Header file for user exit function prototypes.
- UE_SAMP.C User exit code in C language.
- UE_SAMP1.PC User exit code in Oracle Pro*C language.
- USEREXIT.RDF Reports Designer file that calls the user exit.

The following files have been listed for completion sake only, and are normally generated by following the User Exit process given above:
- UE_XTB.OBJ File generated by Compiling.
- UE_SAMP1.C File generated by ProC pre-compiler.
- UE_SAMP1.OBJ File generated by Compiling.
- UE_SAMP.OBJ File generated by Compiling.
- R25RUNMX.EXE File generated by Linking (bit-map).
- R25RUNX.EXE File generated by Linking (character).

**Attention:** This document is not generally applicable for using user exits extensively as it only provides guidelines to creating user exits. The information contained in this document is only a supplement to Chapter 14 “User Exit Interface”, of the Oracle Reports Reference Manual.

**Demonstration Files and Applications**

Demonstration files are located under the ORA_ROOT:[REPORTS25.DEMO] directory. Install the demo tables using ORACLEINS.
Running the Oracle Reports Demonstration

For bitmap demonstrations, go to the ORA_ROOT:[REPORTS25.DEMO.BITMAP] subdirectory and enter the following command:

```
$ DEFINE REPORTS25_PATH ORA_ROOT:[REPORTS25.DEMO.REQFILES]
$ RUNREP25M REPORT_NAME USERID=SCOTT/TIGER
```

Additional demo files may be included in the ORA_ROOT:[REPORTS25.DEMO.CHAR] subdirectory. These are documented in the “Building Reports with Oracle Reports” manual.
This appendix describes configuration menus for the Developer/2000 products.

The configuration menu examples described in this appendix are dynamic and will probably change in the future. These examples are supplied as general reference for the type of decisions you might make when configuring the Developer/2000 tools during the installation procedure.
Configuring GUICORE23

Step 1  Enter the number for GUICORE23 on the Configuration Menu and press RETURN.

The list of available options appears.

<table>
<thead>
<tr>
<th>Option</th>
<th>Current Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>System or Group installation? [S/G] S</td>
</tr>
</tbody>
</table>

Enter (A)LL to select all options.
Enter (E)XIT to exit this menu with selected options.
Enter (Q)UIT to quit this menu with no action.

Enter the number of the option that you want to change:

Step 2  Change whichever options you like.

To change the option, just enter the number 1 at the bottom of the screen and press RETURN.

Step 3  Save any changes made to the configuration options.

To mark a product for rebuilding, type E to exit the menu screen.
To leave the screen without saving any of the changes you made, type Q press RETURN.

Step 4  Press E to exit the Configuration Menu

This returns you to the Software Installation and Upgrade Menu.
Configuring Oracle Procedure Builder

**Step 1**

Enter the number for Oracle Procedure Builder on the Configuration Menu and press RETURN.

The list of available options appears.

<table>
<thead>
<tr>
<th>Option</th>
<th>Current Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. System or Group installation? [S/G]</td>
<td>S</td>
</tr>
</tbody>
</table>

Enter (A)LL to select all options.
Enter (E)XIT to exit this menu with selected options.
Enter (Q)UIT to quit this menu with no action.

Enter the number of the option that you want to change:

**Step 2**

Change whichever options you like.

To change one of the options, just enter the number of the option that you want to change at the bottom of the screen and press RETURN.

**Step 3**

Save any changes made to the configuration options.

To mark a product for rebuilding, type E to exit the menu screen.
To leave the screen without saving any of the changes you made, type Q press RETURN.

**Step 4**

Press E to exit the Configuration Menu

This returns you to the Software Installation and Upgrade Menu
**Configuring Oracle Graphics**

**Step 1** Enter the number for Oracle Graphics on the Configuration Menu and press RETURN.

The list of available options appears.

<table>
<thead>
<tr>
<th>Option</th>
<th>Current Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. System or Group installation? [S/G]</td>
<td>S</td>
</tr>
</tbody>
</table>

Enter (A)LL to select all options.
Enter (E)XIT to exit this menu with selected options.
Enter (Q)UIT to quit this menu with no action.

Enter the number of the option that you want to change:

**Step 2** Change whichever options you like.

To change one of the options, just enter the number of the option that you want to change at the bottom of the screen and press RETURN.

**Step 3** Save any changes made to the configuration options.

To mark a product for rebuilding, type E to exit the menu screen.
To leave the screen without saving any of the changes you made, type Q press RETURN.

**Step 4** Press E to exit the Configuration Menu

This returns you to the Software Installation and Upgrade Menu
Configuring Oracle Forms

Step 1 Enter the number for Oracle Forms on the Configuration Menu and press RETURN.

The list of available options appears.

Option Current Value
1. System or Group installation? [S/G] S

Enter (A) LL to select all options.
Enter (E) XIT to exit this menu with selected options.
Enter (Q)UIT to quit this menu with no action.

Enter the number of the option that you want to change:

Step 2 Change whichever options you like.

To change one of the options, just enter the number of the option that you want to change at the bottom of the screen and press RETURN.

Step 3 Save any changes made to the configuration options.

To mark a product for rebuilding, type E to exit the menu screen. To leave the screen without saving any of the changes you made, type Q press RETURN.

Step 4 Press E to exit the Configuration Menu

This returns you to the Software Installation and Upgrade Menu
Configuring Oracle Reports

**Step 1** Enter the number for Oracle Reports on the Configuration Menu and press RETURN.

The list of available options appears.

<table>
<thead>
<tr>
<th>Option</th>
<th>Current Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>System or Group installation? [S/G] S</td>
</tr>
</tbody>
</table>

Enter (A)LL to select all options.
Enter (E)XIT to exit this menu with selected options.
Enter (Q)UIT to quit this menu with no action.

Enter the number of the option that you want to change:

**Step 2** Change whichever options you like.

To change one of the options, just enter the number of the option that you want to change at the bottom of the screen and press RETURN.

**Step 3** Save any changes made to the configuration options.

To mark a product for rebuilding, type E to exit the menu screen. To leave the screen without saving any of the changes you made, type Q press RETURN.

**Step 4** Press E to exit the Configuration Menu

This returns you to the Software Installation and Upgrade Menu
Descriptions of Configuration Options

**System or Group Installation? [S/G]**

**Purpose**
Specifies the set of users that can access the product.

**Valid Values**
To make the product available to everyone on the system, select the default value. To make the product available to only the members of the user group that includes the Oracle7 account, enter G.

**Default Value**
S

**Default Terminal File? [VT100/VT220/SUN4/SUN5]**

**Purpose**
Specifies the default terminal resource file to use when using Oracle Reports.

**Valid Values**
Choose any of the above options, based on the type of terminal you are using.

**Default Value**
VT100
This appendix describes the logicals you can set to configure your Developer/2000 environment.
# Developer/2000 Tools and their Logicals

<table>
<thead>
<tr>
<th>Logical</th>
<th>Oracle Procedure Builder</th>
<th>Oracle Graphics</th>
<th>Oracle Forms</th>
<th>Oracle Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAPHICS25_PATH</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TK23_ICON</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>FORMS45_PATH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORMS45_TERMINAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTS25_PATH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTS25_TERMINAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTS25_TMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORACLE_PATH</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORACLE_TEMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAPLSQLLOADPATH</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORACLE_TERM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Descriptions of Logicals

GRAPHICS25_PATH

The GRAPHICS25_PATH logical is used to locate external objects that you use in your graphics and charts. By default, this logical is undefined.

To define GRAPHICS25_PATH, enter the following:

$ DEFINE GRAPHICS25_PATH directory1 [,directory2,directory3]

FORMS45_PATH

The FORMS45_PATH logical is used to locate forms, menus, and library applications. By default, this logical is undefined.

To set the FORMS45_PATH logical, enter the following:

$ DEFINE FORMS45_PATH directory1 [,directory2,directory3]

FORMS45_TERMINAL

The FORMS45_TERMINAL logical is used to locate terminal definitions used in character-mode forms. By default, FORMS45_TERMINAL is undefined. Enter the following to set FORMS45_TERMINAL:

$ DEFINE FORMS45_TERMINAL directory1 [,directory2,directory3]

ORACLE_PATH

To set the ORACLE_PATH logical, enter the following:

$ DEFINE ORACLE_PATH directory1 [,directory2,directory3]

ORACLE_TERM

Refer to “Set Up the Character Mode Environment” on page 5–10 for information about setting ORACLE_TERM.

ORAPLSQLLOADPATH

If set, ORAPLSQLLOADPATH points to the directory or list of directories where the attached libraries reside.

$ DEFINE ORAPLSQLLOADPATH directory1 [,directory2,directory3]
REPORTS25_PATH

The REPORTS25_PATH logical is used to locate external objects that you use in your reports. By default, this logical is undefined.

To define REPORTS25_PATH, enter the following:

$ DEFINE REPORTS25_PATH directory1 [,directory2,directory3]

REPORTS25_TERMINAL

The REPORTS25_TERMINAL logical is used to locate terminal definitions used in character-mode reports. By default, REPORTS25_TERMINAL is undefined. Enter the following to set REPORTS25_TERMINAL:

$ DEFINE REPORTS25_TERMINAL directory1 - [,directory2,directory3]

REPORTS25_TMP

The REPORTS25_TMP logical determines the location where Oracle Reports creates temporary files. By default, REPORTS25_TMP is set to SYS$SCRATCH.

To set REPORTS25_TMP, enter the following:

$ DEFINE REPORTS25_TMP directory

TK23_ICON

If set, TK23_ICON points to the directory or list of directories where the icon buttons for the Oracle Toolkit reside.

$ DEFINE TK23_ICON directory1 [,directory2,directory3]
Performing a Client–Only Installation

This appendix describes how to perform a Developer/2000 Client–Only installation.

Additional Information: Please refer to the following manuals for more details:

Oracle7 for Alpha OpenVMS Installation Guide
Client–Only Installation

The following figure describes the directory structure for a client–only installation:

```
create directory <device>:[<dev2000_dir>]
set default <device>:[<dev2000_dir>]
```

The client–only installation of Developer/2000 is a two–step process:

1. Load and build the SQL*NET portion (NETCONFIG and UTIL) of the client–only installation, as well as the SQLPLUS product.

   Mount the media and use the backup command to restore the BOOT.BCK file for these three products:

   ```
   backup <ddcc>:[client_only]boot.bck/save_set -[]/new_version/by_owner=parent/log
   ```

   Where <ddcc> is the CD–ROM device.

   This BOOK.BCK file resides in the CLIENT_ONLY subdirectory on the CD–ROM.

   Run ORACLEINS.COM as follows:

   ```
   @ORACLEINS
   ```
Choose “Create a new ORACLE system” from the ORACLE Installation Startup Menu.

Enter the device name and the directory path (for example, <ddcc>:\[client_only\]) when asked for the ORA_SOURCE directory.

Load and build the following products:
- NETCONFIG
- UTIL
- SQLPLUS

Accept all default configuration options for every product except for NETCONFIG. Assuming that the following adapters are available, NETCONFIG configuration options should be changed to the following values:

<table>
<thead>
<tr>
<th>NetConfig Configuration Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option</td>
</tr>
<tr>
<td>1. System or Group installation? [S/G]</td>
</tr>
<tr>
<td>2. Install DECnet adapter? [Y/N]</td>
</tr>
<tr>
<td>3. Install TCP/IP adapter? [Y/N]</td>
</tr>
<tr>
<td>4. Build Oracle Names Server? [Y/N]</td>
</tr>
</tbody>
</table>

It is recommended that all of the products be loaded and built at the same time. ORACLEINS will automatically detect dependencies and build the products in the correct order.

**Note:** SQLPLUS is required if it is necessary to perform database administration of a remote database or load Developer/2000 and demo tables from the client side.

Exit ORACLEINS.

2. Load and build the Developer/2000 products.

Use the backup command to restore the BOOT.BCK file for these products:

```
$ set default ORA_INSTALL
$ backup/log <ddcc>:\{dev2000\}boot.bck/save_set - [/]new_version/by_owner=parent
$ oracleins
```

This BOOK.BCK file resides in the DEV2000 subdirectory on the CD-ROM.
Installation of the Developer/2000 products are dependent on other Developer/2000 products to be already built and loaded. The following list of dependencies of the Developer/2000 products should be installed in the following order:

• GUICORE23
• PROCBUILDER
• GRAPHICS25
• REPORTS25, FORMS45

For example, GUICORE23 must be loaded and built before Oracle PROCBUILDER can be built.

**Note:** Do NOT initialize or upgrade the database tables after loading and building the products. TNSNAMES.ORA must be set up before access to a remote database can proceed.

Exit ORACLEINS.

Set up `<device>\[<dev2000_dir>.network.admin\]TNSNAMES.ORA` to include all the aliases for the remote databases you wish to access.

The following is a sample TNSNAMES.ORA file:

```
alias =
  (DESCRIPTION =
   (ADDRESS =
    (PROTOCOL = TCP)
    (Host = hostname)
    (Port = service_number)
   )
   (CONNECT_DATA = (SID = ORACLE_SID)
  )
)
```

**Loading Tables to a Remote Database**

If you need to install the Developer/2000 system database tables or load the demo tables in a remote database, follow these steps:

1. Reset ORA_ROOT to point back to your Developer/2000 client–only installation:

   `$@<device>:\[<dev2000_dir>.util\]orauser.com`
Performing a Client-Only Installation

2. Define ora_dflt_hoststr with a valid connect string to access the remote database.

   $ define ora_dflt_hoststr <alias>

   **Warning:** Installation of these system database tables should be administered by an Oracle DBA. The SYSTEM account password is needed when the SQL scripts to build the database tables are executed.

   Unlike a server-based installation of Developer/2000, ORACLEINS cannot be used to initialize or upgrade the system database tables, or load the demo database tables from a client-only installation. Please refer to your ORA_ROOT:[<product>].ORA_<product>_.DATA.COM file for the SQL scripts you need to execute manually.

---

**Using Developer/2000 from a Client**

To start the first Developer/2000 session, perform the following steps:

1. Run ORAUSER.COM to set up the Developer/2000 symbols and logics for the client-only installation. This command procedure resides in the UTIL subdirectory of the client-only installation.
   
   `$@<device>:[<dev2000_dir>.util].ORAUSER.COM`

2. Define ORA_DFLT_HOSTSTR to a valid connect string for the remote database. Make sure that the connect string is included in your TNSNAMES.ORA file.

   `$ define ora_dflt_hoststr <alias>`

3. Set the display.

   `$ set display/create/node=<nodename>`

   Define any logics needed by the Developer/2000 products.
This appendix lists keys that have been reserved by Motif and/or DEC and therefore cannot be bound to other functions.
### Fixed on All Platforms

The following functions are fixed to the key listed on the right for all platforms on which Motif runs.

<table>
<thead>
<tr>
<th>Function</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
<td>[F1]</td>
</tr>
<tr>
<td>Menu</td>
<td>[F10]</td>
</tr>
<tr>
<td>Next Field</td>
<td>[TAB]</td>
</tr>
<tr>
<td>Prev Field</td>
<td>[SHIFT][TAB]</td>
</tr>
<tr>
<td>Exit/Cancel</td>
<td>[ESC]</td>
</tr>
</tbody>
</table>

### Fixed on DEC Platforms

The following functions are fixed to the key listed on the right for all DEC platforms.

**Note:** On DEC keyboards, the [ALT] key is labeled “Compose Character” and the [ESC] key is labeled “F11.”

<table>
<thead>
<tr>
<th>Function</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete Backwards</td>
<td>[DELETE]</td>
</tr>
<tr>
<td>Beginning of Line</td>
<td>[ALT][LEFT]</td>
</tr>
<tr>
<td>End of Line</td>
<td>[ALT][RIGHT]</td>
</tr>
<tr>
<td>Cut</td>
<td>[SHIFT][REMOVE]</td>
</tr>
<tr>
<td>Copy</td>
<td>[CTRL][INSERT]</td>
</tr>
<tr>
<td>Paste</td>
<td>[SHIFT][INSERT]</td>
</tr>
<tr>
<td>Undo</td>
<td>[ALT][DELETE]</td>
</tr>
<tr>
<td>Select</td>
<td>[SELECT]</td>
</tr>
<tr>
<td>Scroll Up</td>
<td>[PREVSCREEN]</td>
</tr>
<tr>
<td>Scroll Down</td>
<td>[NEXTSCREEN]</td>
</tr>
<tr>
<td>Help</td>
<td>[HELP]</td>
</tr>
<tr>
<td>Menu</td>
<td>[F10]</td>
</tr>
<tr>
<td>Next Field</td>
<td>[TAB]</td>
</tr>
<tr>
<td>Prev Field</td>
<td>[SHIFT][TAB]</td>
</tr>
<tr>
<td>Exit/Cancel</td>
<td>[ESC]</td>
</tr>
</tbody>
</table>
Reserved by Motif

The following key definitions are reserved by Motif on all DEC platforms and cannot be changed.

<table>
<thead>
<tr>
<th>KEY</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[F3]</td>
<td></td>
<td></td>
<td></td>
<td>LowerWindow</td>
</tr>
<tr>
<td>[F4]</td>
<td>Menu</td>
<td></td>
<td></td>
<td>CloseWindow</td>
</tr>
<tr>
<td>[F5]</td>
<td></td>
<td></td>
<td></td>
<td>RestoreWindow</td>
</tr>
<tr>
<td>[F7]</td>
<td></td>
<td></td>
<td></td>
<td>MoveWindow</td>
</tr>
<tr>
<td>[F8]</td>
<td>AddMode</td>
<td></td>
<td></td>
<td>ResizeWindow</td>
</tr>
<tr>
<td>[F9]</td>
<td></td>
<td></td>
<td></td>
<td>MinimizeWindow</td>
</tr>
<tr>
<td>[F10]</td>
<td>MenuBar</td>
<td></td>
<td></td>
<td>MaximizeWindow</td>
</tr>
<tr>
<td>[F11]</td>
<td>Exit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F14]</td>
<td>Primary-Paste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Help]</td>
<td>Help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Do]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F17]</td>
<td>Quick-Paste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F18]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F19]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F20]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[InsertHere]</td>
<td>Insert Paste Copy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Remove]</td>
<td>Delete Paste Copy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Select]</td>
<td>Select</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[PrevScreen]</td>
<td>Scroll Up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[NextScreen]</td>
<td>Scroll Down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NextField</td>
<td>Prev-Field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>------------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>[Tab]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[BS]</td>
<td>Back-space</td>
<td></td>
<td>Undo</td>
<td></td>
</tr>
<tr>
<td>[Enter]</td>
<td>Activate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Up]</td>
<td>Up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Down]</td>
<td>Down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Right]</td>
<td>Right</td>
<td></td>
<td>EndLine</td>
<td></td>
</tr>
<tr>
<td>[Left]</td>
<td>Left</td>
<td></td>
<td>BeginLine</td>
<td></td>
</tr>
</tbody>
</table>
This appendix describes various Oracle Toolkit objects and the Motif widgets from which the Oracle Toolkit objects are built. This information is presented for those users who want to change their Motif widgets by modifying the TK2Motif resource file. The following information is given for each widget:

- The instance name used when the widget was created
- Its widget class or subclass
- A description
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Tool</td>
<td>Oracle Tool</td>
<td>Tk2Motif/ApplicationShell</td>
</tr>
</tbody>
</table>
| **Description:** The root of the widget hierarchy for the tool; the widget from which all other widgets are descended. 

The instance name depends on the tool: `forms45`, `reports25`, etc. Note that the class name is Tk2Motif for all tools; thus a resource of the form `Tk2Motif*fontList` will apply to all Oracle ToolKit/Motif based tools, while one of the form `reports25*fontList` will apply to Oracle Reports only. |
| Window | window_shell | TopLevelShell |
|        | window_shell | TransientShell |
| **Description:** The topmost widget for application windows; it is a TopLevelShell for main windows, a TransientShell for dialogs and palettes. |
|        | window_topmgr | XmDrawingArea |
| **Description:** A container and geometry manager for the various possible subareas of a window (menubar, content view, horizontal and vertical scrollbar alleys). |
|        | window_hsa | XmDrawingArea |
|        | window_vsa | XmDrawingArea |
| **Description:** Horizontal and vertical scrollbar alleys; usually contain scrollbars. |
| Menu | menubar | XmRowColumn |
| **Description:** A window’s menubar |
|        | menu_item | XmCascadeButton |
|        | menu_item | XmPushButton |
|        | menu_item | XmToggleButtonGadget |
|        | menu_item | XmSeparatorGadget |
| **Description:** Various types of menu items; XmCascadeButton for menubar items and items with submenus; XmPushButton for simple items; XmToggleButtonGadget for checkbox and radio items; XmSeparatorGadget for separator lines. |
|        | popup_submenu | XmMenuShell |
| **Description:** Parent for a pulldown submenu |
|        | submenu | XmRowColumn |
| **Description:** Container for a pulldown submenu |

Table E – 1  Oracle ToolKit Objects and Motif Widgets
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawn View</td>
<td>All purpose scrollable container for other controls, and/or an area that can be painted by the application. Made of two or three widgets, depending on configuration:</td>
<td>drawn UiDrawnView/XmDrawingArea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description: Area in which shadow borders are drawn, if present; otherwise, clip window for canvas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description: Clip window for canvas; used when borders present only. Always completely obscured by canvas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description: Scrollable canvas.</td>
</tr>
<tr>
<td>Label</td>
<td>label XmLabel</td>
<td></td>
</tr>
<tr>
<td>Checkbox</td>
<td>checkbox XmToggleButton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: A nonexclusive two–state control; does not apply to checkboxes in menus.</td>
<td></td>
</tr>
<tr>
<td>Push Button</td>
<td>pushb XmPushButton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: A simple button, when not in a menu, an alert, a file dialog or color dialog.</td>
<td></td>
</tr>
<tr>
<td>Radio Button</td>
<td>radio XmToggleButton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: A two–state control, usually grouped with others so that only one can be selected at a time. Does not apply to radio buttons in menus.</td>
<td></td>
</tr>
<tr>
<td>Radio Button</td>
<td>radiog UiDrawnView</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>Description: A container for a group of mutually exclusive radio buttons.</td>
<td></td>
</tr>
<tr>
<td>Text Field</td>
<td>field XmTextField</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: A single line area for entering text.</td>
<td></td>
</tr>
<tr>
<td>Text Editor</td>
<td>tedit XmText</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: A (possibly) multiple–line area for entering and editing text.</td>
<td></td>
</tr>
<tr>
<td>Text List</td>
<td>A scrollable area which presents a list of choices to the user</td>
<td>uilListForm XmForm</td>
</tr>
<tr>
<td></td>
<td>Description: Container for managing the size of the visible area.</td>
<td>tlistSW XmScrolledWindow</td>
</tr>
<tr>
<td></td>
<td>Description: Container for scrolling the list.</td>
<td></td>
</tr>
</tbody>
</table>

Table E – 1  Oracle Toolkit Objects and Motif Widgets (continued)
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text List</td>
<td>tlistSW.HorScrollBar</td>
<td>XmScrollBar</td>
</tr>
<tr>
<td>(Continued)</td>
<td>tlistSW.VertScrollBar</td>
<td>XmScrollBar</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Scrollbars.</td>
<td></td>
</tr>
<tr>
<td>tlist</td>
<td>XmList</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>The list itself</td>
<td></td>
</tr>
<tr>
<td>Scroll Bar</td>
<td>scrollbar</td>
<td>XmScrollBar</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>A scrollbar that isn’t a part of a text list or file dialog.</td>
<td></td>
</tr>
<tr>
<td>Popup List</td>
<td>A popup menu that allows the user to select from a list of options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>poplist</td>
<td>XmRowColumn</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Container for the OptionButton and OptionLabel.</td>
<td></td>
</tr>
<tr>
<td>OptionButton</td>
<td>XmCascadeButtonGadget</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Pops up the menu, displays the current selection.</td>
<td></td>
</tr>
<tr>
<td>OptionLabel</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Not used.</td>
<td></td>
</tr>
<tr>
<td>popup_poplist_pulldown</td>
<td>XmMenuShell</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Parent for the popup menu.</td>
<td></td>
</tr>
<tr>
<td>poplist_pulldown</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Container for the menu items.</td>
<td></td>
</tr>
<tr>
<td>poplist_item</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>A menu item.</td>
<td></td>
</tr>
<tr>
<td>Scroll Box</td>
<td>scrollbar</td>
<td>XmForm</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Container/geometry manager for a scrollable view and scrollbars.</td>
<td></td>
</tr>
<tr>
<td>Alert</td>
<td>aalert_popup</td>
<td>XmDialogShell</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Topmost widget of alert window.</td>
<td></td>
</tr>
<tr>
<td>aalert</td>
<td>XmMessageBox</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Container for other widgets.</td>
<td></td>
</tr>
<tr>
<td>Symbol</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Iconic symbol dependent on alert type.</td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
</tbody>
</table>

Table E – 1  Oracle Toolkit Objects and Motif Widgets (continued)
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert (Continued)</td>
<td>Description: The warning text.</td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separator</td>
<td></td>
<td>XmSeparatorGadget</td>
</tr>
<tr>
<td>Description: Leftmost button.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancel</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Description: Second button, if present.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Description: Third button, if present.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File Dialog</td>
<td>A dialog window for selecting files</td>
<td></td>
</tr>
<tr>
<td>filedialog_popup</td>
<td></td>
<td>XmDialogShell</td>
</tr>
<tr>
<td>Description: Topmost widget of window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>filedialog</td>
<td></td>
<td>XmFileSelectionBox</td>
</tr>
<tr>
<td>Description: Container for widgets in window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Items</td>
<td></td>
<td>XmLabelGadget</td>
</tr>
<tr>
<td>Description: Label for file list.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ItemsListSW</td>
<td></td>
<td>XmScrolledWindow</td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ItemsListSW.VertScrollBar</td>
<td></td>
<td>XmScrollBar</td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ItemsListSW.HorScrollBar</td>
<td></td>
<td>XmScrollBar</td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ItemsList</td>
<td></td>
<td>XmList</td>
</tr>
<tr>
<td>Description: Scrolled list of files.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection</td>
<td></td>
<td>XmLabelGadget</td>
</tr>
<tr>
<td>Description: Label for text field showing current file selection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
<td>XmTextField</td>
</tr>
<tr>
<td>Description: Text field for showing/entering file selection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separator</td>
<td></td>
<td>XmSeparatorGadget</td>
</tr>
<tr>
<td>OK</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Apply</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Cancel</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Help</td>
<td></td>
<td>XmPushButtonGadget</td>
</tr>
<tr>
<td>Description: Buttons.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FilterLabel</td>
<td></td>
<td>XmLabelGadget</td>
</tr>
<tr>
<td>Description: Label for text field showing current filter pattern.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table E – 1  Oracle Toolkit Objects and Motif Widgets (continued)
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>File Dialog</strong> (Continued)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dir</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Label for directory list.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FilterText</td>
<td>XmTextField</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Text field for entering current filter pattern.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DirListSW</td>
<td>XmScrolledWindow</td>
<td></td>
</tr>
<tr>
<td>DirListSW.Vert</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>DirListSW.Hor</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>DirList</td>
<td>XmList</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Scrolled list of directories.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Color Dialog</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A dialog window for selecting and editing colors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colordialog_popup</td>
<td>XmDialogShell</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Topmost widget of the window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>colordialog</td>
<td>XmForm</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Geometry manager for all other widgets in window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame1</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>frame1.label</td>
<td>XmLabel</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Dialog message and frame.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame2</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>rc2</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>pb1</td>
<td>XmPushButton</td>
<td></td>
</tr>
<tr>
<td>pb2</td>
<td>XmPushButton</td>
<td></td>
</tr>
<tr>
<td><strong>Description:</strong> Buttons for displaying old/new colors, container and frame.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame3</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>rc3</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>red_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>red_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>red_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>green_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>green_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>green_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
</tbody>
</table>

Table E – 1  Oracle Toolkit Objects and Motif Widgets (continued)
<table>
<thead>
<tr>
<th>Object</th>
<th>Widgets</th>
<th>Class/Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>blue_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>blue_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>blue_sc.Scrollbar</td>
<td>XmScrollBar</td>
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</tr>
<tr>
<td>Description:</td>
<td>Red/Green/Blue scales, container and frame.</td>
<td></td>
</tr>
<tr>
<td>frame4</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>rc4</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>hue_sc</td>
<td>XmScale</td>
<td></td>
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<tr>
<td>hue_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>hue_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>saturation_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>saturation_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>saturation_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>value_sc</td>
<td>XmScale</td>
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<tr>
<td>value_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>value_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Hue/Saturation/Value scales, container and frame.</td>
<td></td>
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<tr>
<td>frame5</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>mb</td>
<td>XmMessageBox</td>
<td></td>
</tr>
<tr>
<td>mb.OK</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
<tr>
<td>mb.Cancel</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>OK/Cancel buttons, container and frame.</td>
<td></td>
</tr>
<tr>
<td>OK</td>
<td>XmPushButtonGadget</td>
<td></td>
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</tbody>
</table>

Table E – 1  Oracle Toolkit Objects and Motif Widgets (continued)
This chapter explains how to use the character-mode and Motif versions of Oracle Terminal on OpenVMS systems. The topics covered in this chapter are:

- What is Oracle Terminal?
- Product Documentation
- Administering Oracle Terminal
What is Oracle Terminal?

Oracle Terminal allows you to customize various resources used by the Developer/2000 tools. You can use Oracle Terminal to change such things as:

- the keys associated with specific functions of an Oracle product
- the fonts and colors used by an Oracle product
- terminal definitions and device-class information

Any Oracle product built with Oracle Terminal support—including all the Developer/2000 products—can be configured using Oracle Terminal.

Product Documentation

References

For information on installing Oracle Terminal, refer to the following guide:

*Oracle7 for Alpha OpenVMS Installation Guide*

For generic information on administering and using Oracle Terminal, refer to the *Oracle Developer/2000 Oracle Terminal 2.0 User’s Guide*.

For information on the differences between this version of Oracle Terminal for OpenVMS and the generic Oracle Terminal product, refer to the README.ORATERM23 file located in the following sub-directory:

ORAS_ROOT:[GMICORE23.DOC]
Administering Oracle Terminal

Executables

The Oracle Terminal executables are installed in the sub–directory ORA_ROOT:[GUICORE23].

The following table lists the OpenVMS symbol used to invoke each version (interface mode) of Oracle Terminal.

<table>
<thead>
<tr>
<th>Component</th>
<th>Interface Mode</th>
<th>OpenVMS Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Terminal</td>
<td>Character Mode</td>
<td>T23DES</td>
</tr>
<tr>
<td>Oracle Terminal</td>
<td>Motif</td>
<td>T23DESM</td>
</tr>
</tbody>
</table>

To edit the key bindings for a character–mode version of a product, you must use the character–mode version of Oracle Terminal. Similarly, to edit the resource file of a Motif version of a product, you must use the Motif version of Oracle Terminal.

For example, if you want to change key bindings for running Oracle Forms on your character–mode terminal, invoke Oracle Terminal using the following command:

$ T23DES FMRCVT220.RES

If, on the other hand, you want to change the key bindings for running Oracle Forms on a Motif system, invoke Oracle Terminal using this command:

$ T23DESM FMRM.RES

File Extensions

All files created by Oracle Terminal have the .RES extension. All such files are portable.

Resource File Locations

Each product’s resource files get placed in a different location, described in each product’s chapter in this manual.

The resource files for Oracle Terminal are in the following sub–directory:

ORA_ROOT:[GUICORE23ADMINRESOURCE]

By default, Oracle Terminal searches this sub–directory for its resource files.
Resource File Names

The following table lists the names of the resource files for all Developer/2000 products. Note that a different resource file exists for each interface mode.

<table>
<thead>
<tr>
<th>Product</th>
<th>Interface Mode</th>
<th>Resource File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Book V2.0</td>
<td>Motif</td>
<td>OBM.RES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBDM.RES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBKM.RES</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>Character–Mode</td>
<td>FMRCVT100.RES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FMRCVT220.RES</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>Motif</td>
<td>FMRM.RES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FMDBM.RES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ILVM.RES</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>Character–Mode</td>
<td>RWC.RES</td>
</tr>
<tr>
<td>Oracle Terminal</td>
<td>Character–Mode</td>
<td>OTC.RES</td>
</tr>
<tr>
<td></td>
<td>Motif</td>
<td>RWM.RES</td>
</tr>
</tbody>
</table>

**Note:** Character–mode resource files reside in the ORA_ROOT:[<product>.ADMIN.TERMINAL.<lang>] directory. Motif resource files reside in the ORA_ROOT:[<product>.ADMIN.RESOURCE.<lang>] directory. Note also that the <lang> extension refers to the country in which the Oracle tool is used. For example, the Motif resource file for Oracle Forms resides in the ORA_ROOT:[FORMS45.ADMIN.RESOURCE.US] directory when Oracle Forms is used in the United States. The US subdirectory is the only one included with this release of Developer/2000.
Using Oracle Terminal

Invoking Oracle Terminal

The general syntax for a command to invoke Oracle Terminal is:

$ <symbol> [resource_file_name]

For example, to start Oracle Terminal to edit the resource file for the character–mode version of Oracle Forms, enter the following command:

$ T23DES FMRCVT220.RES

Enabling Your Changes

To activate your changes to the resource files, it is not enough to save them once. Instead, use the following procedure:

1. Open the resource file.
   
   For example, if you want to change the key bindings for the Motif version of Oracle Forms, go to the ORA_ROOT:[FORMS45.ADMIN.RESOURCE.US] directory and enter the following command:

   $ T23DESM FMRM.RES

2. Change your key bindings as you want, using Functions -> Edit Keys.

3. While in the Key Binding Editor window, save your changes.

4. Activate the main window using the Windows menu.
   
   In this example, you would choose the FMRM.RES window.

5. Save again.


7. Save again.

Notice that in this procedure you have to save three times, each time in the appropriate context.

Saving Files

In Oracle Terminal, the “Save” command overwrites the contents of an existing file with the same name, and gives it the same version number. That is, if you edit a file called FMRCVT220.RES;1 and execute “Save,” Oracle Terminal will save your changes to a file it will call FMRCVT220.RES;1.

Therefore, if you want to keep a previous version of a file, you must create a backup under a different name. Do this either from the DCL prompt or through the “Save As” command in Oracle Terminal.
Note: When you choose “Save As” to save a file under a new name, you will get a message that the file already exists. Ignore this message.

Closing Files

After you close your last file, Oracle Terminal will look like it’s hung. To get out of Oracle Terminal and back to the operating–system prompt, press Ctrl–Y.
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