

Oracle8 for Alpha OpenVMS

Installation Guide

Release 8.0.5

October 1999

Part No. A70025-01

This manual describes how to install and configure the Oracle8 Enterprise Edition and related Oracles products on Alpha OpenVMS.

ORACLE[®]

Oracle8 for Alpha OpenVMS Installation Guide, Release 8.0.5

Part No. A70025-01

Release 8.0.5

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Send Us Your Comments

Oracle8 for Alpha OpenVMS Installation Guide, Release 8.0.5

Part No. A70025-01

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the chapter, section, and page number (if available). You can send comments to us in the following ways:

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Oracle Corporation
500 Oracle Parkway, Mailstop 10p5
Redwood Shores, CA 94065
USA

If you would like a reply, please give your name, address, and telephone number below.

If you have problems with the software, please contact your local Oracle World Wide Support Center.

Preface

Had I been present at the creation, I would have given some useful hints for the better ordering of the universe.

Alfonso the Wise

Purpose

This guide provides instructions on how to install and configure Oracle8 Enterprise Edition and related Oracle products on Alpha OpenVMS systems. It supplements information found in the Oracle8 and Oracle8 Enterprise Edition Documentation Set.

Oracle8 and Oracle8 Enterprise Edition

Unless noted otherwise, features and functionality described in this document are common to both Oracle8 and Oracle8 Enterprise Edition.

Audience

This guide is written for system administrators or database administrators (DBAs), who install or upgrade Oracle products on Alpha OpenVMS systems. This guide assumes that you have a fundamental knowledge of the Alpha OpenVMS operating system; it does not document any features of Alpha OpenVMS except those that affect or are affected by Oracle8.

For the Latest Information

For the latest information about Alpha OpenVMS production releases of Oracle8 and related products, see the **README** files in the Oracle product directories.

Install Only Licensed Products

You are entitled to install and use only those products for which you have a current Oracle license agreement.

Document History

The following table shows a limited history of this document in reverse chronological order. The first entry (shown in **bold**) is this document.

Document	Product Release	Part Number	Date
<i>Oracle8 for Alpha Open VMS Installation Guide</i>	8.0.5 Production	A70025-01	October 1999
<i>Oracle8 for Alpha OpenVMS Installation Guide</i>	8.0.5 Production	A65680-01	December 1998
<i>Oracle8 for Alpha OpenVMS Installation Guide</i>	8.0.3 Production	A57922-01	February 1997
<i>Oracle7 for Alpha OpenVMS Installation Guide</i>	7.3.3 Production	A55205-01	January 1998
<i>Oracle7 for Alpha OpenVMS Installation Guide</i>	7.3.2.3.2 Production	A51202-01	March 1997
<i>Oracle7 for Alpha OpenVMS Installation Guide</i>	7.3.2 Production	A47134-2	September 1996
<i>Oracle7 for Alpha OpenVMS Installation Guide</i>	7.3.2 Limited Production	A47134-1	July 1996
<i>Oracle7 for Alpha OpenVMS Installation Guide</i>	7.1.5 Production	A34566-1	September 1995

How this Guide Is Organized

This guide has the following chapters:

Chapter 1, "Preparing for Installation"

This chapter specifies features that are new with Oracle8 for Alpha OpenVMS release 8.0.5. It identifies tasks you must perform before installing Oracle software. This chapter also describes how to set up the Oracle8 Enterprise Edition and client accounts on Alpha OpenVMS and specifies the restrictions, quotas, privileges, and process rights identifiers that must exist or be set.

Chapter 2, "Understanding CD-ROM Structure and Content"

This chapter describes the structure and content of the CD-ROMs.

Chapter 3, "Installing Oracle8 Enterprise Edition Bundle and Online Documentation"

This chapter explains how to install the Oracle8 Enterprise Edition bundle and online documentation.

Chapter 4, "Installing Other Product Bundles Into Your Server Environment"

This chapter describes how to install other product bundles into your Server environment.

Chapter 5, "Creating an Initial Instance and Building Database Tables"

This chapter describes how to use ORACLEINS to create an initial Oracle8 database and instance.

Chapter 6, "Managing the Oracle8 Enterprise Edition"

This chapter describes basic Oracle8 database administration procedures.

Chapter 7, "Maintaining the Oracle Products"

This chapter describes product installation maintenance procedures.

Appendix A, "Oracle8 Product Configuration"

This appendix describes configuration menus for selected Oracle products. The menus in this appendix are examples of screens that you see while running the ORACLEINS installation script.

Appendix B, "Alpha OpenVMS Account Quotas and Privileges"

This appendix describes Alpha OpenVMS account quotas and privileges for the Oracle8 database administrator account.

Appendix C, "Oracle 64-Bit Feature"

This appendix gives recommended settings for the 64-bit feature also known as Very Large Memory (VLM).

Conventions Used in this Guide

This section explains the following:

- Syntax
- Related Products and Documents

Syntax

This guide uses the following conventions:

Convention	Meaning
Monospace text	Represents command line text. Type this text exactly as shown.
< >	Text enclosed in angle brackets represents a variable. Substitute an appropriate value for the variable text. Do not type the brackets.
[]	Square brackets enclose optional items or indicate a function key. Do not type the brackets.
	A vertical bar represents an “or” option among several options. You must enter only one of the options. Do not type the vertical bar.
/directory	A slash before a directory name indicates that it is a subdirectory. The path name may be either uppercase or lowercase.
\$	Represents the OpenVMS command prompt. Your prompt may differ.
\	In examples of commands you type online, a backward slash at the end of a line signifies that you must type the entire command on one line. Do not type the backslash.

Special notes alert you to particular information within the body of the manual.

Additional Information:	Refers you to portions of this manual, another manual, or the online documentation. All references to other manuals refer to the most recent version of that manual, unless otherwise noted.
Attention:	Alerts you to important information that will help you use the system.
Note:	Highlights helpful hints and practical tips that can save time and make installation or other procedures easier.
Warning:	Warns of actions which, if not carried out properly, could be damaging or destructive to your operations.

Related Products and Documents

This section explains the following:

- Related Products
- Related Documents

Related Products

The following is a list of Oracle products, utilities, and options that are available with the Oracle8 Enterprise Edition release:

- Advanced replication option
- ConText option
- Data Partitioning
- DBJAVA (Java Database Connectivity)
- Distributed database option
- Heterogeneous Option
- Object Option
- Image Cartridge
- Intelligent Agent
- National Language Support or Multilingual Option
- Oracle Parallel Server
- Oracle Terminal
- Parallel query option
- Programmatic Interfaces (Oracle precompilers)
- Server Manager
- Spatial Data Option
- SQL*Net 8.0.5
- SQL*Plus
- Time Series Cartridge
- UTIL

- Visual Information Retrieval Data Cartridge

Note: The Advanced Replication, Object Support, Spatial Data, and Data Partitioning options are available only in the Oracle8 Enterprise Edition release. They are not included in the Oracle8 release.

Linking Restrictions

Products that are distributed with the Oracle7 Server must not be linked against the Oracle8 Enterprise Edition.

Installation Restrictions

You may not upgrade an Oracle 8.0.5.0 or earlier release to Oracle 8.0.5.1. The Oracle 8.0.5.1 savesets are not backward compatible with previous Oracle releases and can only be used for an Oracle 8.0.5.1 installation.

For information about known installation restrictions, see the README files found on the distribution media.

Related Documents

The documentation set includes the following guides:

- *Oracle8 for Alpha OpenVMS Installation Guide, Release 8.0.5* is this guide.
- *Oracle8 for Alpha OpenVMS Server and Tools Administrator's Guide, Release 8.0.5* describes how to administer Oracle8 and related products on Alpha OpenVMS, including optimizing, setting up users, starting up and shutting down, managing instances and databases, backing up and archiving, using logical names, and so on.
- *SQL*Net for Alpha OpenVMS Configuration and User's Guide, Release 8.0.5* describes how to configure and use SQL*Net.
- *Oracle8 for Alpha OpenVMS Release Notes, Release 8.0.5* explains particulars about the release, such as how to install online documentation, products not included, and known restrictions.

For more information about the Oracle8 Enterprise Edition, see the following generic documentation:

- *Oracle8 Server Administrator's Guide* contains detailed information about administering Oracle8.

- *Oracle8 Application Developer's Guide* contains specific information required to develop applications for Oracle8.
- *Oracle8 Server Concepts Manual* contains generic information about the Oracle8 Server and describes the available features and maintenance options.
- *Oracle8 Server Distributed Systems, Volume I: Distributed Data* describes how to use the distributed data option.
- *Oracle8 Server Distributed Systems, Volume II: Replicated Data* describes how to use the advanced replication option.
- *Oracle8 Server Messages* lists all of the messages and codes that Oracle can return.
- *Oracle8 Server Reference* describes the Oracle8 system data dictionary tables, initialization parameters, national language support features, and so on.
- *Oracle8 Server SQL Language Reference Manual* contains generic information about the Oracle8 SQL language.
- *Oracle8 Server Tuning* shows you how to diagnose performance problems and take corrective action.
- *Oracle8 Server Utilities Guide* describes the auxiliary utilities provided with the Oracle Server, such as SQL*Loader, the Import utility, and the Export utility.
- *Oracle8 Parallel Server Concepts and Administration Guide* describes the special features of Oracle8 running on a loosely-coupled system.
- *Oracle Server Manager User's Guide* describes how to use Server Manager.

The following Compaq manual has relevant information for using Oracle Parallel Server:

- OpenVMS Version 7.2 New Features Manual, section 4.11

Migrating from Oracle Version 6

Migrating directly from Oracle version 6 for OpenVMS to Oracle8 release 8.0.5 for Alpha OpenVMS is **not** supported. Use the Migration Utility to migrate from Oracle Version 6 for Alpha OpenVMS to Oracle7 Release 7.1.5 for Alpha OpenVMS. Upgrade the database to Oracle7 Release 7.3.3.4, or higher, and then use the Migration Utility provided with the Oracle8 Enterprise Edition to migrate from your upgraded Oracle7 release to Oracle8 release 8.0.5 for Alpha OpenVMS.

Oracle version 6 is not supported on Alpha OpenVMS 7.0 or 7.1. You can, however, perform a full export from a version 6 database and import it into 8.0.5.

For more information about migrating from Oracle version 7 to Oracle8, see the *Oracle8 Server Migration Guide*.

Related Documents for SQL*Net

The following Oracle manuals have relevant information for using SQL*Net:

- *SQL*Net for Alpha OpenVMS Configuration and User's Guide, Release 8.0.5*
- *Understanding SQL*Net*
- *Oracle Network Manager Administrator's Guide*
- *Oracle Names Administrator's Guide*

The following Compaq manual has relevant information for using SQL*Net:

- *TCP/IP Networking on OpenVMS Systems*

Customer Support Information

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

For Oracle Support Services (OSS), 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 release numbers of the Oracle8 Enterprise Edition and associated products (for example, Oracle8 Enterprise Edition release 8.0.5 or Oracle Forms release 4.5.6.3.2)
- The hardware type on which the problem occurs (for example, Compaq Alpha) _____
- The operating system name and release 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 OSS 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 OSS 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 OSS 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 Alpha 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, phone number, or FAX number.

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Publications Manager
Oracle Corporation
500 Oracle Parkway
Box 659105
Redwood Shores, CA 94065
Phone: (650) 506-7000
FAX: (650) 506-7361

Preparing for Installation

“Would you tell me, please, which way I ought to go from here?”

“That depends a good deal on where you want to get to,” said the Cat.

Lewis Carroll, Alice’s Adventures in Wonderland

This chapter describes the steps you must perform before installing your Oracle products and includes the following topics:

- New Features
- Installation Prerequisites
- Product Dependencies
- Configuration Restrictions
- SQL*Net Linking Options
- Installation Procedure Requirements
- Alpha OpenVMS SYSGEN Parameters
- Migrating Oracle7 OpenVMS to Oracle8 Alpha OpenVMS

New Features

Oracle8 Alpha OpenVMS release 8.0.5 has the following new features:

- DBJAVA (JDBC, Java Database Connectivity)
- Oracle Parallel Server

DBJAVA (JDBC, Java Database Connectivity)

DBJAVA allows Java programs to access the Oracle8 database.

Oracle Parallel Server

Oracle Parallel Server mode is now supported with the Oracle8 and Oracle8 Enterprise Edition Release 8.0.5.1 for Alpha OpenVMS 7.2 or higher.

Running with Parallel Server mode enabled requires Alpha OpenVMS version 7.2 or higher. This version of VMS provides the Intra Cluster Communications facility, which is used by Oracle Parallel Server mode as its communication channel. Please see the Alpha OpenVMS Version 7.2 New Features Manual, section 4.11, for more information on the Intra Cluster Communications (ICC) facility.

Parallel Server mode can be used on any cluster node, and can take advantage of any cluster communications media, including Memory Channel, FDDI, and Galaxy Shared Memory.

Oracle Parallel Server mode uses the Oracle Group Membership Services facility. Each node which runs an OPS database must also run the OGMS Daemon. Please see the Oracle8 Parallel Server Concepts and Administration guide, version 8.0.4 or later, for more information on Oracle GMS.

Please refer to the READMEVMSOPS.DOC in the ORA_RDBMS directory for detailed Parallel Server installation issues.

Installation Prerequisites

This section lists the requirements needed for installation:

- Time Requirements
- Hardware Requirements
- Disk Space Requirements
- Images
- Software Requirements

Time Requirements

Installation time varies depending on the number of products being installed and the type of hardware being used. Typical installation times are 1 to 3 hours.

Hardware Requirements

The hardware required to run Oracle8 for Alpha OpenVMS, release 8.0.5 is the following:

- Alpha system with a minimum of 96 MB of physical memory
- CD-ROM drive from which to load the Oracle8 Enterprise Edition software
- Sufficient disk space to load the Oracle products for which you are licensed

Disk Space Requirements

Please refer to either the Oracle8 Enterprise Edition Release 8.0.5 release notes or the READMEVMS.DOC in the RDBMS directory.

Images

Two shared images that are linked with client code are built and installed when you link the Oracle8 Enterprise Edition. The new shared images reduce the size of all Oracle client executable images (including precompiled user programs) by removing direct references to SQL*Net and other common routines.

The image names are in the form of: ORACLIENT_<imageid>.EXE and ORACLIENT64_<imageid>.EXE, where <imageid> is the identifier chosen during installation time.

When the image names are installed, they have the logical names: ORA_CLIENT_<imageid> and ORA_CLIENT64_<imageid>, where <imageid> is the identifier chosen during installation time.

The command procedure INSORACLE.COM installs these images along with the shared RDBMS image and defines logical names; REMORACLE.COM removes the images and deassigns logical names.

Software Requirements

This section describes the minimum software requirements.

Operating System

Alpha OpenVMS release 8.0.5.1 without the Parallel Server option requires Alpha OpenVMS 7.1 or 7.2. If you will be using the Parallel Server option then you must install Oracle8 under Alpha OpenVMS 7.2.

SQL*Net 8.0.5 Requirements

SQL*Net 8.0.5 on Alpha OpenVMS is developed and certified using Compaq's TCP/IP Services for OpenVMS (UCX). If you wish to use the TCP/IP protocol adapter for SQL*Net, you should have Version 4.2 or higher of TCP/IP Services for Alpha OpenVMS installed. TCP/IP protocol stacks from other vendors may work with Oracle, but customers use these products at their own risk. Any TCP/IP problems that can not be reproduced using TCP/IP Services for Alpha OpenVMS will simply be referred to the TCP/IP vendor.

Vendor-provided protocol services are usually upward-compatible, so that existing applications will continue to work without modification. Thus, later releases of TCP/IP are upward compatible with SQL*Net, provided that the vendor-specified Application Programming Interface (API) does not change with new releases.

Testing Network Configuration

Before installing SQL*Net on your system, verify that your network protocol is functioning properly and that your communications hardware and software are installed correctly.

To Test TCP/IP:

If you use the TCP/IP protocol, run the TCP/IP system test to verify that the communications hardware and software are working correctly. You can use either the TELNET or PING TCP/IP procedure to do this.

TELNET connects to the target system, and PING tests the remote host to see if it is responding. The following syntax is used for the commands where *<host_name>* is the server (defined in the HOSTS file) whose connection you want to test.

```
$ TELNET <host_name>
$ PING <host_name>
```

For example, if you enter the following line from an OpenVMS server, you should receive a “Username” prompt for logging onto the host HQVMS.

```
$ TELNET HQVMS
```

If you receive this prompt, the hardware and software are working. Use [CTRL-Z] to cancel the logon procedure and return to the DCL prompt. If you receive an error message, consult your vendor documentation or your vendor customer support service.

If you enter the following line, you should receive the message “HQVMS is alive,” usually within 20 seconds.

```
$ PING HQVMS
```

Note: TCP/IP can be installed without TELNET support. If TELNET does not work, consult your system administrator. TELNET does **not** need to be installed for Oracle products to work. Some TCP/IP vendors may not supply a PING command directly. For instance, if you are using Compaq TCP/IP Services for OpenVMS, you would first have to define PING as:

```
$ PING ::= UCX PING
```

before giving the `$ PING HQVMS` command previously specified

Alternatively, you can type:

```
$ UCX PING <host>
```

SQL*Net VMS Mailbox Driver

The SQL*Net VMS Mailbox driver is included in NETCONFIG. You do not need a SQL*Net license to use the VMS Mailbox driver.

Programmatic Interface Support

The following DEC compilers were used to certify the programmatic interfaces:

Programmatic Interfaces	Certification Release
Pro*C	DEC C release 5.76 DEC C++ release 5.6
Pro*COBOL	DEC COBOL release 2.5
Pro*FORTRAN	DEC FORTRAN release 7.1
SQL*Module	DEC ADA 3.4-2

Product Dependencies

Some Oracle products depend on other Oracle products to work properly. Use the following tables to determine the product dependencies. This section has the following subsections:

- Products That Require Other Products
- Important Compatibility Issues

Products That Require Other Products

In the following cases, you need to install the required product **before or at the same time** you install the product that requires it.

If you want to install	then you need to install
Any Oracle product	UTIL and NETCONFIG
Server Manager	UTIL and NETCONFIG
Oracle8 Enterprise Edition	UTIL, NETCONFIG, and Server Manager

Oracle recommends that you build the products **at the same time** in order to save time. You must also make sure to configure the product to include (or link against) the dependent product and vice versa.

Important Compatibility Issues

Warning: If you are upgrading to Oracle8 from Oracle7, ensure that you have no Oracle symbols and logicals defined prior to installing release 8.0.5. DO NOT run any Oracle7 ORAUSER_<dbname>.COM scripts as part of your login sequence. Failure to heed this warning will result in numerous problems, including undefined symbols and overwriting the Oracle7 code tree.

Review the compatibility issues given in this section:

- Oracle8 Enterprise Edition release 8.0.5 must be installed in a location separate from all other previous Oracle7 Server installations.
- If you are migrating from Oracle7, please read the migration documentation.
- Oracle products released for Oracle Server release 7.3.4 or earlier must not be linked against a release 8.0.5 installation. Contact your Sales Representative concerning releases of these products that have been certified with release 8.0.5.

Note: To install National Language Support (NLS), build all Oracle products first. Then install NLS. The product directories must exist before NLS message files can be copied into them.

Configuration Restrictions

This section lists restrictions for Alpha OpenVMS at this time.

Restrictions

The following areas have restrictions on Alpha OpenVMS:

- Copying Oracle Executables
- Posix

Copying Oracle Executables

Moving executables from one OpenVMS machine to another is not recommended due to the usage of shared libraries and the difficulty of ensuring valid referencing. Therefore, we recommend that you relink executables.

Posix

Oracle8 is not supported under the Posix shell on OpenVMS.

SQL*Net Linking Options

Oracle8 Enterprise Edition release 8.0.5 supports only two-task configurations.

- Version 2 TCP/IP Adapter
 - DEC TCP/IP (formerly UCX)

Guidelines

Keep the following guidelines in mind when linking SQL*Net:

- The version 2 Mailbox Adapter is always installed. It provides interprocess communications through OpenVMS Mailboxes. The Mailbox Adapter can be used to connect an Oracle tool and the Oracle Server but only if the tool and the Server are on the same OpenVMS system.
- SQL*Net TCP/IP configurations are available for both OpenVMS clients and servers.

The following table shows the range of use for SQL*Net drivers in client/server and distributed database configurations. This table assumes that clients in a client/server configuration run the Oracle tool and that servers run the Oracle database. For distributed database examples, the clients and servers both run an Oracle tool and the Oracle database.

	Client/Server		Distributed RDBMS	
	Client Tool	RDBMS Server	Client	Server
SQL*Net TCP/IP	Yes	Yes	Yes	Yes
SQL*Net OpenVMS Mailbox	Limited*	Limited*	Limited*	Limited*

*Only for communication between products on the same machine.

Installation Procedure Requirements

This section gives installation procedure requirements.

Oracle Server Database Administrator Account

Create an Alpha OpenVMS user account to administer the Oracle8 Enterprise Edition installation and maintenance, or modify your existing Oracle7 user account to meet the account quotas and privileges specified in this guide.

Setting up an Oracle8 account is the same as setting up any other Alpha OpenVMS user account. The following are the steps to set up an Oracle8 account:

1. Decide which values you will supply to create the account.
2. Run AUTHORIZE to add a record in the User Authorization File (UAF).
3. Use AUTHORIZE to set the following account requirements:
 - Account quotas
 - Account privileges
 - Process rights identifiers
4. Exit AUTHORIZE to complete the account setup.

Note: The Oracle8 account's use of Alpha OpenVMS resources affects other user processes. Before setting up an Oracle8 account, you should thoroughly understand the reasons for changing system resources at your site.

Additional Information: See Compaq's *VMS Authorize Utility Manual* for more information about running the AUTHORIZE utility

Deciding Account Information

To add an account, you must supply the following information:

- Account name
- Account password
- USER and GROUP numbers for the UIC (octal values)

- Login device and directory
- Owner

Although this guide refers to this account as the Oracle8 account, you can assign any name or number to the account with the UIC restrictions noted below.

The Oracle8 account will own the runtime libraries and executable images for every Oracle product. Therefore, the database administrator (DBA) should manage this account and install all Oracle products from it.

Oracle8 Account is NOT the SYS or SYSTEM Account

In the *Oracle8 Server Administrator's Guide*, the Oracle8 account is sometimes referred to as the DBA account. The Oracle8 account is not the same as the SYS or SYSTEM database usernames that are created for every database; it is an OpenVMS account name.

Oracle8 Account UIC Must Be Greater than MAXSYSGROUP

The UIC GROUP number of the Oracle8 account **must** be greater than the system parameter MAXSYSGROUP (which defaults to octal 10). GROUP numbers 1 through MAXSYSGROUP are reserved for use by the OpenVMS operating system itself. If the UIC GROUP number is not greater than the system parameter MAXSYSGROUP, the Oracle8 account cannot issue the following commands:

- STARTUP
- CREATE DATABASE/TABLESPACE
- ALTER DATABASE/TABLESPACE

If your Oracle8 account has a UIC group number that is less than MAXSYSGROUP, you **must** create a new account with a UIC group number higher than MAXSYSGROUP before you install Oracle8.

Finding MAXSYSGROUP

The following command gives the value of MAXSYSGROUP:

```
$ WRITE SYS$OUTPUT F$GETSYI ("MAXSYSGROUP")
```

Adding a Record in the User Authorization File (UAF)

Use the AUTHORIZE utility to create or modify records in the User Authorization File (UAF):

1. To run AUTHORIZE, enter:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
```

2. At the UAF prompt, enter the ADD command to create the user account from which you will install the product software:

```
UAF> ADD ORACLE8 /PASSWORD=ORACLE/UIC=[277,100]-
/DEVICE=<device>/DIRECTORY=[ORACLE8]/OWNER="ORACLE DBA"
```

In this example, the account name is ORACLE8. Note that the UIC GROUP number is 277. The UIC GROUP number must be larger than MAXSYSGROUP.

After adding the account, you must alter the account privileges and quotas. Although this can be done in any order, usually the account privileges are set before the account quotas.

For more information on using AUTHORIZE, see the chapter on “Managing User Accounts” in Compaq's *OpenVMS System Manager's Manual*.

Setting Account Privileges

The following privileges are required as **both** authorized and default privileges for the Oracle8 database administrator account:

Note: An exception is explained in “Security Issues with Multiple Databases.”

- CMKRNL
- IMPERSONATE
- LOG_IO
- NETMBX
- PFNMAP
- PRMGBL

- **PRMMBX**
- **SYSGBL**
- **SYSLCK**
- **SYSNAM**
- **SYSPRV**
- **TMPMBX**
- **WORLD**

Note: Appendix B has additional information explaining the meanings of the privileges.

Use the **AUTHORIZE** utility to set the account privileges for the Oracle8 database administrator's account.

At the **UAF** prompt, use the **MODIFY** command to add the required default and authorized privileges as follows:

```
UAF> MODIFY ORACLE8 -  
/PRIVILEGE=(CMKRNL,NETMBX,PFNMAP,PRMGBL,PRMMBX,SYSGBL, -  
  SYSNAM,TMPMBX,IMPERSONATE,LOG_IO,WORLD,SYSLCK, SYSPRV) -  
/DEFPRIVILEGE=(CMKRNL,NETMBX,PFNMAP,PRMGBL,PRMMBX,SYSGBL -  
  SYSNAM,TMPMBX,IMPERSONATE,LOG_IO,WORLD,SYSLCK, SYSPRV)
```

Setting Account Quotas

You use the **AUTHORIZE** utility to change account quotas to accommodate the requirements of your Oracle8 installation.

Modifying the Default Quotas

After adding a record with the default quotas, use the **MODIFY** command to alter the default values. The following example changes the Enqueue quota (**ENQLM**) from the default to 150:

```
UAF> MODIFY ORACLE8/ENQLM=150
```

Process Quotas

The following table lists the Oracle8 account quotas, their minimum recommended values, and their equivalent Alpha OpenVMS quota names as displayed by the DCL commands SHOW PROCESS/QUOTA and SHOW WORKING_SET.

Note: These quotas depend on the number of logfiles, the number of databases, the number of network connections, and other variables on your system. You might need to customize them.

Account Quotas	Minimum Value	Quota Name
ASTLM	250 (the default)	Asynchronous System Trap limit
BYTLM	150,000	Buffered I/O limit
ENQLM	2000 (the default)	Enqueue quota
FILLM	100	Open file quota
JTQUOTA	8192	Job table quota
MAXDETACH	0 (the default)	Max detached processes
MAXJOBS	0 (the default)	Max active jobs
PGFLQUOTA	250,000	Paging file quota
WSDEFAULT	2048	Working set default
WSEXTENT	8192	Working set extent
WSQUOTA	4096	Working set quota

Appendix B, "Alpha OpenVMS Account Quotas and Privileges" has additional information explaining the meanings of the quotas and how to determine their values.

Process Rights for Database Administrators

The Oracle Server Database Administrator account must be granted one or more process rights identifiers. These identifiers provide the ability to issue the CONNECT INTERNAL command that is required to perform database

administration functions. The following table displays the combinations of adding and granting rights identifiers to this account:

Adding...	and Granting...	Allows Control of...
ORA_DBA	ORA_DBA	Any database instance (provided it does not also have an ORA_<sid>_DBA identifier defined for it)
ORA_<sid>_DBA	ORA_<sid>_DBA	Database instance <sid> only
ORA_<sid>_DBA	ORA_DBA	All database instances except <sid>

For example, to grant the ORA_<sid>_DBA rights identifier to the Oracle8 account for an instance called TEST, issue the following command:

```
UAF> ADD/IDENTIFIER ORA_TEST_DBA
```

Then grant the rights identifier to the Oracle8 account as follows:

```
UAF> GRANT/IDENTIFIER ORA_TEST_DBA ORACLE8
```

If you add the ORA_TEST_DBA rights identifier, but grant only ORA_DBA to ORACLE8, the account would have insufficient privileges to administer the instance TEST.

The third line of the table shows that you can add and grant different identifiers, thereby restricting control of a particular instance while still granting control to other instances.

You can grant database maintenance privileges (for example, privileges to start up and shut down the database) to accounts in addition to the Oracle8 account. (However, as with the Oracle8 account, the user's UIC GROUP number must be greater than MAXSYSGROUP.) By granting the ORA_<sid>_DBA identifier, you can similarly restrict a user's privileges to an instance named <sid>.

Process Rights for SGA Protection

Releases of Alpha OpenVMS after release 7.3.2.3.0 feature a change in the way the software runs and accesses the SGA. Previous to release 7.3.2.3.2, the SGA was protected by allowing only processes running in supervisor mode to access it

directly. Starting with release 7.3.2.3.2, the SGA is protected by an Access Control List to accommodate the kernel remaining in user mode.

Before bringing up a database later than 7.3.2.3.0, add a rights identifier to the User Authorization File (UAF). Have your system manager follow these directions.

At the UAF> prompt, type:

```
UAF > ADD/IDENTIFIER/ATTRIBUTES=SUBSYSTEM ORA_SGA
```

Warning: DO NOT GRANT THE RIGHTS IDENTIFIER TO ANY USER. Oracle takes care of assigning it when it starts the database.

Process Rights for Intelligent Agent (OEMAGENT)

To install the Intelligent Agent, you **must** add the ORA_AGENT_ID identifier to your system before starting the install. Use the following:

```
UAF > ADD/IDENTIFIER ORA_AGENT_ID
```

All users that will submit jobs to the Intelligent Agent must have ORA_AGENT_ID. Use the following:

```
UAF > GRANT/IDENTIFIER ORA_AGENT_ID <user name>
```

Security Issues with Multiple Databases

If your site has several databases managed by different DBAs, you might not want to grant the CMKRNL privilege to every DBA's Oracle8 account. This privilege allows a DBA to activate any process rights identifiers and install shared images.

For security reasons, Oracle Corporation recommends that the OpenVMS system administrator handle these tasks. This person should be responsible for starting Oracle8 instances from a controlled account with a UIC group greater than MAXSYSGROUP. If this is not possible, at least one Oracle8 database administrator must have the CMKRNL privilege.

Completing Account Set Up

Exit the AUTHORIZE utility.

If the user account that you modified was logged on at the time, this user must log out and log back in before the changes take effect.

Verifying Privileges

Use the following command to verify that your account has the correct privileges and rights identifiers:

```
$ SHOW PROCESS/PRIVILEGE
```

Alpha OpenVMS SYSGEN Parameters

Please refer to the READMEVMS.DOC in the RDBMS directory for instructions on calculating MIN_GBLPAGES, MIN_GBLSECTIONS, and MIN_MAXBOBMEM.

Using the Reserved Memory Registry

Through its interface within the SYSMAN utility, the Reserved Memory Registry allows an Alpha OpenVMS system to be configured with large amounts of memory set aside for use within memory-resident global sections. The AUTOGEN utility considers the preallocated reserved memory when it tunes the system.

The advantages to reserving memory for an SGA are as follows:

- You can be certain that the memory is available and that the system is correctly tuned.
- The memory is reserved at boot time as contiguous aligned physical pages. This allows the system to optimize the mapping of the SGA.
- The memory is preallocated and zeroed. This results in faster SGA mapping and instance startup.

To reserve memory for an SGA, use the SYSMAN utility. The size qualifier is specified in megabytes. For example, to reserve memory for a 6 GB SGA for the SID named TEST, use the following commands:

```
$ MCR SYSMAN
SYSMAN> RESERVED_MEMORY ADD ORA_TEST_SGA/SIZE=6144/ALLOCATE/ZERO/PAGE
SYSMAN> EXIT
```

Note: 1 GB = 1024 MB

Then run AUTOGEN and reboot the system to allow AUTOGEN to adjust other system parameters for the reduced amount of memory available to the rest of the system.

Memory for multiple SGAs may be reserved. Any change to the name or size of a piece of reserved memory may require rebooting the system. During instance startup, Oracle compares the size of the reserved memory, if any, with the size of the SGA. If appropriate, one of the following messages will be included in the Alert log:

** Reserved memory size = <size> greater than
created SGA size = <size>**

** Please reduce reserved memory size to avoid wasting memory. **

** Memory was not reserved for the SGA. SGA size = <size>**

** There might be performance advantages to allocating memory for
the SGA in the VMS reserved memory registry. **

If memory is reserved for an SGA but not enough memory is reserved, the instance startup will fail. In this case, the amount of reserved memory should be adjusted, AUTOGEN should be run, and the system should be rebooted. For example, to expand the SGA to 6.5 GB for the TEST instance, use the following commands:

```
$ MCR SYSMAN
SYSMAN> RESERVED_MEMORY REMOVE ORA_TEST_SGA
SYSMAN> RESERVED_MEMORY ADD ORA_TEST_SGA/SIZE=6656/ALLOCATE/ZERO/PAGE
SYSMAN> EXIT
```

Then run AUTOGEN and reboot the system.

To avoid rebooting the system, SYSMAN can be used to free the memory reservation. Then you may start the instance. The risk is that the system may not have enough fluid pages to create the SGA. Also, the performance advantages of using reserved memory are not available.

Additional Information: For more information about the reserved memory registry, see *Compaq's Alpha OpenVMS Guide to 64-Bit Addressing and VLM Features*

Using AUTOGEN

Because SYSGEN parameters affect the entire operating system, your system administrator is the only person who should modify them. Of course at some sites, the DBA and system administrator may be the same person. In this section, we assume we are addressing the system administrator.

For setting or modifying SYSGEN parameters, OpenVMS provides the AUTOGEN utility. You can also use SYSGEN, but this is an older utility whose use is discouraged, except perhaps for checking current values. You must have SYSPRV or BYPASS privilege to run these utilities.

AUTOGEN provides a permanent way of setting parameters, and it documents all changes. AUTOGEN also lets you recalculate any parameters that depend on other parameters you might have changed. Remember to record parameter values before changing them, and determine beforehand what results you expect from your changes. If the expected changes do not occur, restore the old values before trying again.

1. Run the AUTOGEN utility with the SAVPARAMS parameter by entering the following:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS GETDATA
```

This step saves current parameters to a file named AGEN\$FEEDBACK.DAT.

2. If you haven't already done so, run AUTOGEN GETDATA to ensure that the file PARAMS.DAT has been generated.

```
$ @SYS$UPDATE:AUTOGEN GETDATA
```

3. Examine the parameter settings in the current PARAMS.DAT and if they are inappropriate, change them in the MODPARAMS.DAT file using the format `MIN_<parameter>=<value>` as in the following:

```
MIN_GBLSECTIONS=3000  
MIN_GBLPAGES=300000
```

The MIN prefix indicates that you are setting a lower limit for the specified parameter. To use the MIN prefix, identify the current value of the specified parameter (using SYSGEN) and the amount by which you want to increase the parameter. The sum of these two values is used for the `MIN_<parameter>` entry.

4. Run the AUTOGEN utility with the GENPARAMS and REBOOT parameters by entering the following:

```
$ @SYS$UPDATE:AUTOGEN GENPARAMS REBOOT
```

Warning: The REBOOT parameter in this example will cause the system to automatically reboot when the SYSGEN is complete.

This step generates new SYSGEN parameters in a file named SETPARAMS.DAT and runs the SYSGEN utility to set these parameter values as specified in this file.

See Also: For more information about using the AUTOGEN utility, see Compaq's *System Management Utilities Reference*.

Migrating Oracle7 OpenVMS to Oracle8 Alpha OpenVMS

This section guides you step-by-step, in order, through the processes involved in using the Oracle8 Migration Utility to migrate an Oracle7 database to Oracle8.

Warning: The Migrate Utility must be run on an Alpha OpenVMS machine running 7.1.x OpenVMS or higher and your database must be running Oracle Alpha OpenVMS version 7.3.3 or higher.

Warning: Before attempting migration of an Oracle7 database to Oracle8 for Alpha OpenVMS systems, first read Oracle8 Enterprise Edition Migration release 8.0.5 documentation carefully.

MIGRATE7.COM is provided to assist with your database migration. This script prompts you for information about your Oracle7 databases.

Note: If you are not using ORACLEINS to manage databases, you will need to perform the necessary modifications to your database scripts to point to 8.0.5 ORA_ROOT.

Migration on the Oracle7 Side

1. If you have DECnet installed, you may want to log the terminal session to capture the output from Step 9. Otherwise, the output scrolls by too fast to watch. For example:

```
$ SET HOST/LOG
```

2. Run the initialization script for the Oracle7 database that you are about to migrate. For example:

```
$ @DKA100:[V7.DB_<sid>]ORAUSER_<sid>
```

3. Make sure that you have run INSORACLE and that the database is shut down normally.
4. Install the Oracle8 Migration Utility.

The migration utility is built as part of your Oracle8 Enterprise Edition installation. Set up a symbol that points to this executable. For example:

```
$ MIG:="$DKA200:[V8.RDBMS]MIG.EXE"
```

5. Copy the Oracle8 release of the message files MIGUS.MSB and MIGRATE.BSQ into the Oracle7 RDBMS directory.

```
$ COPY DKA200:[V8.RDBMS]MIGUS.MSB DKA100:[V7.RDBMS]MIGUS.MSB  
$ COPY DKA200:[V8.RDBMS]MIGRATE.BSQ DKA100:[V7.RDBMS]MIGRATE.BSQ
```

6. Set up logical ORA_NLS33 to point to the Oracle8 release of the NLS files.

```
$ DEFINE ORA_NLS33 DKA200:[V8.OCOMMON.NLS]
```

7. Set up logical ORA_CNVFILE for use by the Migration Utility.

```
$ DEFINE/SYSTEM ORA_CNVFILE DKA100:[V7.DB_<sid>]CONV.DBF
```

8. If you are migrating an Oracle7 database for 7.3.2.x.x, define this logical for the Migration Utility to create a bequeath connection.

```
$ DEFINE ORA_BEQ_MIGRATE7 "yes"
```

9. Run the Oracle8 Migration Utility. This process will take approximately ten to fifteen minutes.
 - To start the Migration Utility at the system prompt, use the MIG command.
 - Check the results after running the Migration Utility. The Migration Utility generates informational messages (such as starting up or shutting down the database) and echoes its progress as it runs the MIGRATE.BSQ script (see Appendix B in *Oracle8 Server Migration*, “Migration Utility Messages”).
 - The Migration Utility creates a convert file, pointed to by the ORA_CNVFILE logical, that contains the information of the Oracle7 control file. The convert file is used by “ALTER DATABASE CONVERT” to create a new control file in Oracle8.

Migration on the Oracle8 Side

Before implementing Step 1, run ORAUSER.COM in the ORACE8 code tree's UTILS directory.

1. Adjust the INIT.ORA file for Oracle8:
 - Some Oracle7 initialization parameters are obsolete in Oracle8. You must remove all obsolete parameters from any initialization parameter file that starts an Oracle8 instance. Obsolete parameters may cause errors if used with an Oracle8 database. You must also alter any parameter that has syntax that has changed in Oracle8. Refer to Appendix D in *Oracle8 Server Migration*, “Oracle8 INIT.ORA Changes” for lists of new, changed, and obsolete parameters.

Warning: Verify that INITPS.ORA is not included in any parameter file.

 - The value of some Oracle initialization parameters should be adjusted from Oracle7 values to work with Oracle8. For example, COMPATIBLE should be adjusted to COMPATIBLE=8.0.0.0.0 or should not be set at all.
2. Remove or rename the database's control files. They are created automatically by the ALTER DATABASE CONVERT command.
3. Update installation files using the DCL script MIGRATE7.COM, which will modify the following files:

ORAUSER_<sid>.COM

```
ORA_RDBMS:ORA_RDBMS_SIDS.DAT
ORA_UTIL:DATABASE.TXT
ORA_UTIL:RDBMSDB_<ORA_SID>_<DATABASE_NAME>.FIG
```

4. Start the server manager, SVRMGR.

a. Connect to the Oracle8 database instance:

```
SVRMGR> CONNECT INTERNAL;
```

b. Start an Oracle8 database instance without mounting the new Oracle8 database:

```
SVRMGR> STARTUP NOMOUNT;
```

Warning: Starting in any other mode might corrupt the database.

c. Create a new Oracle8 database control file, and convert the file header of all online datafiles to Oracle8 format:

```
SVRMGR> ALTER DATABASE CONVERT;
```

d. Open the Oracle8 database:

```
SVRMGR> ALTER DATABASE OPEN RESETLOGS;
```

e. When the Oracle8 database is opened, all rollback segments that are online are converted to the new Oracle8 format. Set the system to spool results to a log file for later verification of success:

```
SVRMGR> SPOOL CATOUT.LOG
```

f. Run the Oracle8 database conversion script, CAT8000.SQL:

```
SVRMGR> @ORA_RDBMS_ADMIN:CAT8000.SQL
```

g. For Replication Systems, if the Oracle system has the Advanced Replication Option installed, you must also run the Oracle8 conversion script, CATREP8M.SQL:

```
SVRMGR> @ORA_RDBMS_ADMIN:CATREP8M.SQL
```

- h. Turn off the spooling of script results to the log file:

```
SVRMGR> SPOOL OFF
```

- i. Check the spool file (for this example, CATOUT.LOG) and verify that every package and procedure compiled successfully. Run SHUTDOWN on the Oracle8 database

```
SVRMGR> SHUTDOWN
```

Note: NORMAL or IMMEDIATE is okay. Do not use SHUTDOWN ABORT. Executing this clean shutdown flushes all caches, clears buffers, and performs other RDBMS housekeeping activities. These measures are an important final step to ensure the integrity and consistency of the newly migrated Oracle8 database.

The Oracle7 database has now been migrated to Oracle8 and is ready to be opened for use.

Understanding CD-ROM Structure and Content

Delay is preferable to error.

Thomas Jefferson, letter to George Washington

Unlike some prior releases, Oracle Server release 8.0.5 **MUST BE INSTALLED** in its own directory, separate from that of any prior release. There are two reasons for this requirement:

- Reduces the possibility of installing incompatible versions of products
- Eliminates the possibility of inheriting obsolete files left behind after previous installations

This chapter explains the following topics:

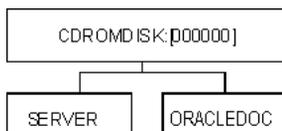
- CD-ROM Contents
- BOOT.BCK Saveset
- Product Savesets and README Files

CD-ROM Contents

The product CD-ROM root directory has a file called AAA_CD_ROM.CONTENTENTS. This file lists the contents of the CD-ROM.

The Oracle8 Enterprise Edition CD-ROM distribution contains several directories that contain various product bundles.

The following figure shows the directory structure of the Oracle8 CD-ROM disk:



Each product bundle (for example, [SERVER] and [ORACLEDOC]) directory contains Alpha OpenVMS BACKUP savesets for each product in the particular bundle.

For example, the [SERVER] product bundle contains the following savesets/products:

Saveset	Product
*AROPT.BCK	Advanced Replication Option
BOOT.BCK	{Used by ORACLEINS}
CTX.BCK	ConText Option
DBJAVA.BCK	JDBC (Java Database Connectivity)
DDBOPT.BCK	Distributed Database Option
*DPOPT.BCK	Data Partitioning Option
*HOOPT.BCK	Heterogeneous Option
NETCONFIG.BCK	SQL*Net Component
NLS.BCK	National Language Support or Multilingual Option
*OBJOPT.BCK	Object Option
OEMAGENT.BCK	Intelligent Agent
*ORDIMG.BCK	Image Cartridge
*ORDTS.BCK	Time Series Cartridge

Saveset	Product
*ORDVIR.BCK	Virage Cartridge
*PQOPT.BCK	Parallel Query Option
PROGINT.BCK	Oracle Precompilers
*PSOPT.BCK	Parallel Server Option
RDBMS.BCK	Oracle8 Server
*SDOPT.BCK	Spatial Data Option
SQLPLUS.BCK	SQL*Plus
SVRMGR.BCK	Server Manager
UTIL.BCK	Utility Component (such as common libraries, etc.)
* The saveset is available only with the Oracle8 Enterprise Edition.	

BOOT.BCK Saveset

Each product bundle, except ORACLEDOC, contains a BOOT.BCK saveset. The BOOT.BCK saveset is used to install the particular product bundle. Before you invoke the Oracle installation procedure (ORACLEINS.COM), you must use the Alpha OpenVMS BACKUP command to restore the BOOT.BCK saveset for the product bundle. Then invoke ORACLEINS to load, configure, and build products selected from the product bundle.

The BOOT.BCK saveset contains the following files:

- Installation command procedures, including ORACLEINS.COM
- PRODUCTS.TXT file, which lists all the products in this product bundle
- <product>.DEF files, which define the default configuration for each <product>
- <product>.CTL files, which determine product build dependencies

Product Savesets and README Files

Each product saveset contains various files (object files, object libraries, DCL command procedures, etc.) that are used to build the specific product. Each product saveset might also contain one or more README files that may contain last minute information not included in the installation documentation set.

Note: It is recommended that you review the contents of the README files before performing an Oracle installation.

Use the Alpha OpenVMS BACKUP command to extract the README files from each of the product savesets. For example, to extract the README files from the RDBMS product saveset into the current default directory, issue the following command:

```
$ BACKUP/LOG/SELECT=READ*.* -  
  <ddcn>:[SERVER]RDBMS.BCK/SAVE_SET [ ]
```

where <ddcn> is a valid CD-ROM device.

Installing Oracle8 Enterprise Edition Bundle and Online Documentation

All things are difficult before they are easy.

John Norley

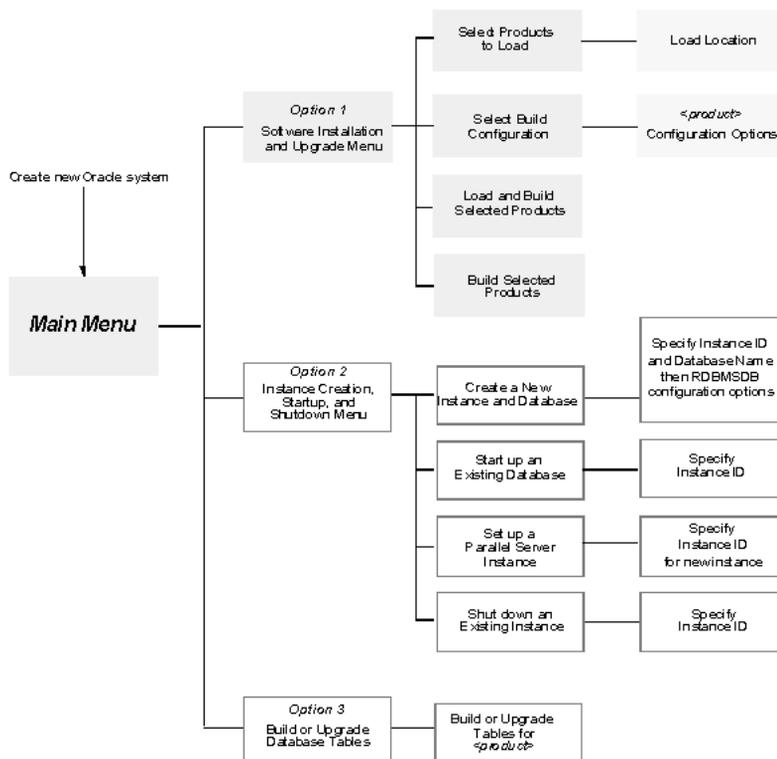
This chapter describes how to install the Oracle8 Enterprise Edition bundle.

Note: The examples given represent an *Oracle8 Enterprise Edition* installation. If you are installing Oracle8, you will have fewer product selections available to choose from. The Advanced Replication, Object Support, Spatial Data and Data Partitioning options are available only in the *Oracle8 Enterprise Edition* release. These are not listed or available in the *Oracle8* release.

The following steps are in the order that they need to be performed:

- Step 1. Logging Into the Oracle8 Database Administrator's Account.
- Step 2. Setting the Oracle Root Directory
- Step 3. Mounting the Oracle8 Enterprise Edition Distribution.
- Step 4. Restoring the Oracle8 Enterprise Edition BOOT.BCK.
- Step 5. Invoking ORACLEINS.
- Step 6. Selecting "Create a new ORACLE system"
- Step 7. Selecting Products to Load
- Step 8. Configuring Products
- Step 9. Loading and Building Configured Products
- Step 10. Installing Online Documentation

Figure 3-1 Installation



Step 1. Logging Into the Oracle8 Database Administrator's Account

Begin the installation of the Oracle8 Enterprise Edition by logging into the Oracle8 database administrator's account. For example:

Username: **ORACLE8**

Password: *<not displayed when entered>*

Step 2. Setting the Oracle Root Directory

Once you are logged in, your default directory is set to the device and directory defined in the SYSUAF entry for the **ORACLE8** user. If this directory is to become the ORACLE root directory (the directory under which the Oracle products will be installed), proceed to Step 3.

To place the ORACLE root directory in another directory or subdirectory, then issue an appropriate CREATE/DIRECTORY command. For example:

```
$ CREATE/DIRECTORY/OWNER=[ORACLE8] -  
  <disk_device>:[<directory>]
```

where:

[ORACLE8] is the owner of the directory

<disk_device> is a valid disk device

[<directory>] is a valid directory file specification

Warning: Make sure that you specify the "/OWNER" switch on the above CREATE/DIRECTORY command.

Note: The Oracle root directory may only be a top-level directory or one level below a top level directory.

Then set your default to this directory as follows:

```
$ SET DEFAULT <disk_device>:[<directory>]
```

Step 3. Mounting the Oracle8 Enterprise Edition Distribution

Mount the Oracle8 Enterprise Edition distribution on your CD-ROM device. For example:

```
$ MOUNT/OVERRIDE=IDENTIFICATION <ddcn>:
```

where:

<ddcn> is a valid CD-ROM device

Step 4. Restoring the Oracle8 Enterprise Edition BOOT.BCK

Use the following BACKUP command to restore the BOOT.BCK saveset for the Oracle8 Enterprise Edition product bundle on the CD-ROM to the current directory (which will become ORA_ROOT):

```
$ BACKUP/LOG <ddcn>:[SERVER]BOOT.BCK/SAVE_SET -  
[ ]/NEW_VERSION/BY_OWNER=PARENT
```

As the BOOT.BCK saveset is restored, you will see a listing of each file as it is restored. For example:

```
%BACKUP-S-CREATED, created DKA100:[ORACLE8]DDBOPT.CTL;1  
.  
.  
.  
%BACKUP-S-CREATED, created DKA100:[ORACLE8]UTIL.CTL;1  
%BACKUP-S-CREATED, created DKA100:[ORACLE8]UTIL.DEF;1
```

Step 5. Invoking ORACLEINS

From the Oracle8 root directory, invoke ORACLEINS:

```
$ @ORACLEINS
```

The ORACLE Installation Startup Menu appears:

```

                                ORACLE Installation Startup Menu

Options:

1) Create a new ORACLE system.

2) Upgrade your system from an ORACLE distribution tape.

3) Reconfigure existing products, manage the database,
   or load demo tables.

4) Exit.

Before attempting to upgrade, reconfigure, manage the database, or load
demo tables, please run ORA_UTIL:ORAUSER.COM or, if you created an
instance, ORA_DB:ORAUSER_<database name>.COM <SID> <setup_node>.

Choose an option please:

```

Step 6. Selecting “Create a new ORACLE system”

Follow these steps to select “Create a new ORACLE system.”

1. Select Option 1, “Create a new ORACLE system.”

A prompt similar to the following appears:

```

                                Create ORACLE from distribution media.
                                -----
ORACLE Installation Version 1.0.12.14 - Production on . . .
Copyright (c) 1999, Oracle Corporation, . . .
Root directory? ( DISK$DEV:[<dir>.<dir>] )

```

Note: You should only choose this option the first time you run ORACLEINS on a code tree.

2. Press [RETURN] since you are already in the root directory.

ORACLEINS assigns the specified directory to the logical name ORA_ROOT and displays the following prompt:

```

The root directory will be DISK$DEV:[<default_location>].
If you are loading products from savesets, enter the drive/directory where

```

Step 6. Selecting "Create a new ORACLE system"

the savesets are located (e.g. MUA0: or DISK\$A:[ORACLE.SAVE_SETS]). If you are loading from a remote device, do not include a username and password (you will be prompted instead).

If not loading savesets, press [RETURN].

Saveset location or [RETURN]:

3. The saveset location depends on your installation media.

If you load savesets from a remote location, specify the remote node, device, and directory path using the following format:

```
<remote_node>::<remote_device>:[<remote_directory_path>]
```

If you specify a remote load location, ORACLEINS warns you that it cannot verify that the remote device actually exists. It also asks you to specify a remote OpenVMS username and password. If you do not need to specify a username or password (for example, because OpenVMS proxies have been established), press [RETURN]. Otherwise, enter the username and password, separated by a space.

For example, if the remote location is owned by the OpenVMS user ORACLE, with password FRIDAY, then the following message appears:

```
WARNING: The saveset location that you specified is on a remote device. We
can only do minimal checking to see if the device is available.
Enter the remote VMS username and password needed to access this location,
or [RETURN] if one is not required: ORACLE FRIDAY
```

If you are loading savesets from a local disk or CD-ROM, enter the device name and the directory path and press [RETURN], for example, DKA400:[SERVER].

The logical name ORA_SOURCE is set to the saveset location you entered.

ORA_ROOT:[INSTALL] is created by ORACLEINS and is assigned the logical name ORA_INSTALL. The contents of the BOOT.BCK saveset are moved to the INSTALL subdirectory of the Oracle8 root directory.

The logical ORA_SOURCE now points to the default load location for product savesets. ORA_SOURCE has the following definition: DISK\$B:[<default_location>]

```
--- Doing some setup - please wait... ---
- Creating ORA_UTIL:ORAUSER.COM.
- Adding INSTALLUSER.COM to ORAUSER.COM.
- Linking INSDRV.EXE for Install version 1.0.12.14 on VMS 7.2
Press [RETURN] to continue:
```

4. Press [RETURN].

After the contents of the saveset have been moved, the Main Menu appears:

```

Main Menu
Oracle Product Installation and Upgrade
1. Software Installation and Upgrade Menu
2. Instance Creation, Startup, and Shutdown Menu
3. Build or Upgrade Database Tables Menu

Enter a number or (E)XIT to exit installation procedure:
```

Step 7. Selecting Products to Load

Follow these steps to select products to load.

1. Select Option 1, "Software Installation and Upgrade Menu."

The Software Installation and Upgrade Menu appears:

```

Software Installation and Upgrade Menu

1. Select Licensed Products to Load
2. Select Build Configuration Options
3. Load and Build Selected Licensed Products
4. Build Selected Licensed Products

Warning: You may not be licensed for all products
listed.

Enter a number or (E)xit to return to the Main Menu:
```

2. Select Option 1, "Select Licensed Products to Load."

A list of Oracle products appears. For example:

```

Select Licensed Products to Load for Installation or Upgrade
-----
Product Name      Status      Product Name      Status
1. AROPT          14. PQOPT
2. CTX            15. PROGINT
3. DBJAVA         16. PSOPT
4. DDBOPT        17. RDBMS
5. DPOPT          18. SDOPT
6. HOOPT          19. SQL*Plus
7. NETCONFIG      20. SVRMGR
8. NLS            21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDING
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to load:

```

3. Select the products for which you have a license.

If you are preparing a client only installation, you **must** select the following products to run Oracle8:

- NETCONFIG
- UTIL

In addition, if you are preparing a server for a client/server installation, you **must select** the following products:

- RDBMS

Note: When installing the 8.0.5 Server, ensure that a unique image identifier per software tree is chosen on the RDBMS configuration menu. See "Oracle8 Enterprise Edition" in Appendix A for a description of the configuration menu.

- Any of the server extensions for which you have a license, such as DDBOPT (distributed database option) or AROPT (advanced replication option)
- SVRMGR (Server Manager)

To fit all the product names on the screen, ORACLEINS displays the short, abbreviated names for some products. For example, it displays “SVRMGR” instead of “Server Manager”.

If you are not sure of the meaning of an abbreviation, consult Table 7-1, “Abbreviations for Loadable Products”.

For each product you selected, you are prompted to specify the location from where it is loaded with a message similar to the following:

```
Copy from ( ORA_SOURCE:NETCONFIG.BCK )
```

4. To accept the default, press [RETURN].

Accepting the default means you are loading the product savesets from the location you assigned to the ORA_SOURCE logical name.

To specify a different location, enter the correct location and the saveset name at the “Copy from” prompt, and press [RETURN].

The product you selected for loading is marked with **-load**.

Note: This step only *selects* which products are to be loaded. Only after you select Option 3 from the Software Installation and Upgrade Menu (“Load and Build Selected Licensed Products”) does ORACLEINS actually load the products you selected.

5. After locations for all licensed products are entered, enter E.

Select the products and return to the Software Installation and Upgrade Menu.

Step 8. Configuring Products

Follow these steps to configure products.

1. Configure all products.
 - If you are reconfiguring products that are already installed, you must access the configuration menu of each product selected in the “Select Licensed Products to Load” step, even if you accept only the defaults. Only those products whose configuration menus are accessed and products that depend on the selected ones will be built.

- If you are installing a product for the first time, access its configuration menu, even if you accept only the defaults.
- If you are installing the RDBMS for the first time, use the configuration menu to change its default image identifier if another Oracle Server on the system is using the default.

Note: Each image identifier should be unique per software tree. It can be set or changed in the RDBMS configuration menu. See “Oracle8 Enterprise Edition” in Appendix A for a description of the configuration menu.

To begin configuring the products you have loaded, **select Option 2, “Select Build Configuration Options.”**

2. Select the Configuration Options Menu.

The Select Configuration Options Menu appears below:

```
                Select Configuration Options
                _____
List of products available for installation or upgrade configuration:

1. AROPT                14. PQOPT
2. CTX                  15. PROGIN
3. DBJAVA               16. PSOPT
4. DDBOPT              17. RDBMS
5. DPOPT                18. SDOPT
6. HOOPT               19. SQL*Plus
7. NETCONFIG           20. SVRMGR
8. NLS                 21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:
```

3. Consider each configuration option carefully.
4. Enter the number of each product you need to configure.

Each product appears in turn with its default configuration options. For example, here is the Server Manager Configuration Menu:

```

SVRMGR Configuration Options
Option                               Current Values
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:

```

Note: Do not simply select the current values. The configuration options you select will have serious consequences in the way your Oracle system works. For more information about configuration options, see Appendix A, "Oracle8 Product Configuration".

5. To enter a new value, enter the number of the option you want to change and press [RETURN]:

Enter the number of the option that you want to change: 1

The following appears:

```

System or Group installation? [S/G]
Original Default: S
Current Value   : S
New Value      >

```

6. When the option is displayed at the bottom of the screen, enter the new value and press [RETURN].

The following appears:

Step 9. Loading and Building Configured Products

```
System or Group installation? [S/G]
Original Default: S
Current Value   : S
New Value      > G
```

7. To save any changes made to the configuration options and to mark a product for rebuilding, type E to exit the menu screen.

The Select Configuration Menu appears with **-rebuild** beside the products you selected.

```
                Select Configuration Options
                -----
List of products available for installation or upgrade configuration:

1. AROPT                14. PQOPT
2. CTX                  - rebuild  15. PROGINT
3. DEJAVA               16. PSOPT
4. DDBOPT               17. RDBMS                - rebuild
5. DPOPT                18. SDOPT
6. HOOPT                - rebuild  19. SQL*Plus
7. NETCONFIG            20. SVRMGR
8. NLS                  21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:
```

8. If needed, select another product to configure from the Configuration Menu.
9. When you have configured all products you want to install, enter E to exit to the Select Configuration Options menu and press [RETURN].

Step 9. Loading and Building Configured Products

After configuring the products, you are returned to the Software Installation and Upgrade Menu.

```
Software Installation and Upgrade Menu

1. Select Licensed Products to Load
2. Select Build Configuration Options
3. Load and Build Selected Licensed Products
4. Build Selected Licensed Products

Warning: You may not be licensed for all products
listed.
Enter a number or (E)xit to return to the Main Menu:
```

1. Select Option 3, "Load and Build Selected Licensed Products."

The system loads the products you selected and configured. This step takes several minutes. You will see several messages as the products are loaded.

You will eventually see a message similar to this one:

```
- Creating NETCONFIG directories.
- Loading NETCONFIG files into ORA_ROOT: [NETCONFIG].
%BACKUP-S_CREATED, created ORA_ROOT:[NETCONFIG]. . .
.
.
.
```

The products you requested have been loaded.

You have the following options:

1. Build the Oracle products loaded.
2. Return to the Software Installation and Upgrade Menu (to choose new configuration values or to load additional products from another tape or directory.)

Enter the number of option you want [2]:

2. The next step depends on your situation:

- If you have additional product bundles to load, press [RETURN].
- If you have additional products to load from a second CD-ROM, enter 2 and press [RETURN].

- If you decide to change the configuration options you just entered, then reconfigure the products.
- If you have no more products to load, enter 1 and press [RETURN].

All selected products are now built. You will see a message similar to this:

```
12 products have been successfully built.
```

Note: If you want to create known file entries for some of the linked products using the VMS INSTALL utility, run ORA_INSTALL:ORA_INSUTL.COM. Refer to the appropriate ORACLE for OpenVMS Administrator's Guide for details.

Press [RETURN] to continue:

3. Press [RETURN] to return to the Software Installation and Upgrade Menu.
4. Press E to return to the Main Menu.
5. Press E to return to the DCL prompt.

Step 10. Installing Online Documentation

Oracle8 release 8.0.5 includes online documentation for the following OpenVMS-specific guides:

- *Oracle8 for Alpha OpenVMS Installation Guide* (this manual)
- *Oracle8 for Alpha OpenVMS Server and Tools Administrator's Guide*
- *SQL*Net for Alpha OpenVMS Configuration and User's Guide*

Note: The *Getting Started with Oracle Online Documentation for OpenVMS* manual that was distributed with previous releases is **NOT APPLICABLE** to this release. All information about installing and viewing online documentation for release 8.0.5 is contained in this section only.

Beginning with Oracle7 release 7.3.2, online documents were distributed in HTML format and could 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.

Online documentation installation and usage instructions are as follows:

1. Create a root level directory named ORACLEDOC. The documentation will need approximately 2MB of disk space.

```
$ CREATE/DIRECTORY/OWNER=[ORACLE8] -
<disk_device>:[ORACLEDOC]/PROTECTION=WORLD:RE
where:
```

[ORACLE8] is the owner of the directory

<disk_device> is a valid disk device

2. Make ORACLEDOC your default directory.

```
$ SET DEFAULT <disk_device>:[ORACLEDOC]
```

3. Mount the **Product** media.

```
$ MOUNT/OVERRIDE=IDENTIFICATION <ddcn>:
```

where:

<ddcn> is a valid CD-ROM device.

4. Restore the ORACLEDOC.BCK saveset from the **Product** media ORACLEDOC directory.

```
$ BACKUP/LOG <ddcn>:[ORACLEDOC]ORACLEDOC.BCK/SAVE_SET -
[*...]/NEW_VERSION/BY_OWNER=PARENT/PROTECTION=WORLD:RE
```

where:

<ddcn>: is the CD-ROM device.

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

```
FILE: /<disk_device>/ORACLEDOC/PRODUCTS.HTM
```

Installing Other Product Bundles Into Your Server Environment

Since all creation is a whole, separateness is an illusion.

John Heider, *The Tao of Leadership*

This chapter describes, step-by-step, how to install other Oracle product bundles.

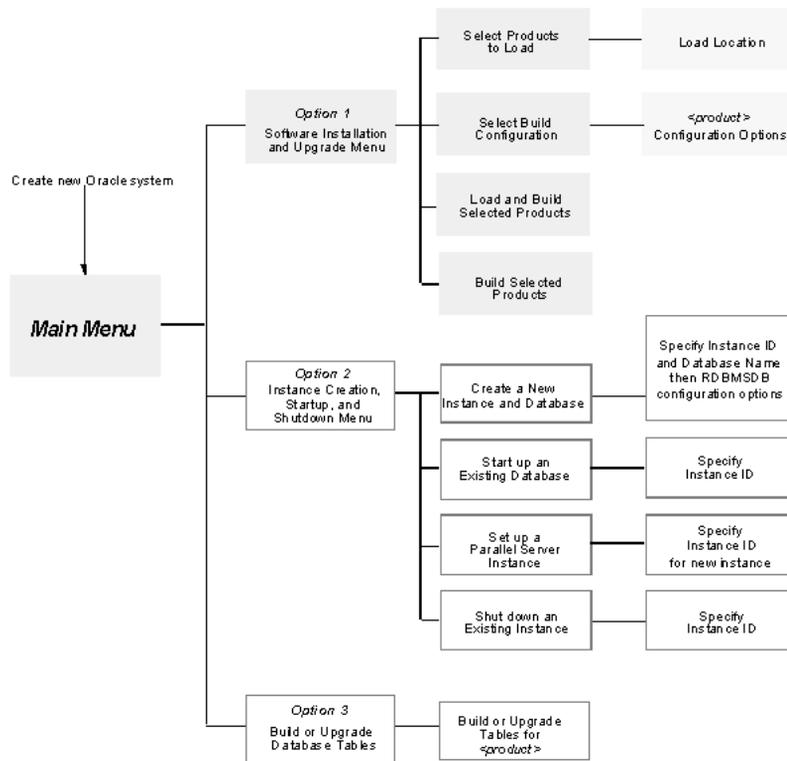
Note: The examples given represent an Oracle8 Enterprise Edition installation. If you are installing *Oracle8*, you will have fewer product selections available to choose from. The Advanced Replication, Object Support, Spatial Data, and Data Partitioning options are available only in the *Oracle8 Enterprise Edition* release. They are not listed or available in the *Oracle8* release.

The following steps are in the order that they need to be performed:

- Step 1. Mounting the Product Bundle CD-ROM
- Step 2. Restoring the Product Bundle BOOT.BCK
- Step 3. Invoking ORACLEINS
- Step 4. Selecting the Reconfiguration Menu Option
- Step 5. Selecting Products to Load
- Step 6. Configuring Products
- Step 7. Loading and Building Configured Products

Once the Oracle Server bundle has been loaded and configured, you can optionally choose to install other Oracle product bundles for which you are licensed, for example, Developer/2000, Advanced Networking Option, etc. These product bundles are found on the same CD-ROM distribution as the Oracle Server bundle or on separate CD-ROMs. When installing these products, install them to access the 8.0.5 Server via SQL*Net. Always refer to the product-specific installation guide first for product-specific installation information.

Figure 4-1 Installation



Step 1. Mounting the Product Bundle CD-ROM

Mount the CD-ROM containing the product bundle to be installed. For example:

```
$ MOUNT/OVERRIDE=IDENTIFICATION <ddcn>:
```

where:

<ddcn> is a valid CD-ROM device

Step 2. Restoring the Product Bundle BOOT.BCK

Restore the BOOT.BCK for the product bundle on the CD-ROM to the directory pointed to by the logical name ORA_INSTALL with the BACKUP command:

```
$ BACKUP/LOG <ddcn>:[<bundle>]BOOT.BCK/SAVE_SET -  
ORA_INSTALL:/NEW_VERSION/BY_OWNER=PARENT
```

As the BOOT.BCK saveset is restored, you will see a listing of each file as it is restored. For example:

```
%BACKUP-S-CREATED, created ORA_ROOT:[INSTALL]DDBOPT.CTL;  
.  
.  
.  
%BACKUP-S-CREATED, created ORA_ROOT:[INSTALL]UTIL.CTL;  
%BACKUP-S-CREATED, created ORA_ROOT:[INSTALL]UTIL.DEF;
```

Step 3. Invoking ORACLEINS

Invoke ORACLEINS as follows:

```
$ ORACLEINS
```

The ORACLE Installation Startup Menu appears:

```
ORACLE Installation Startup Menu

Options:

1) Create a new ORACLE system.

2) Upgrade your system from an ORACLE distribution tape.

3) Reconfigure existing products, manage the database,
   or load demo tables.

4) Exit.

Before attempting to upgrade, reconfigure, manage the database, or load
demo tables, please run ORA_UTIL:ORAUSER.COM or, if you created an
instance, ORA_DB:ORAUSER_<database name>.COM <SID> <setup_node>.

Choose an option please:
```

Step 4. Selecting the Reconfiguration Menu Option

Select Option 3, “Reconfigure existing products, manage the database, or load demo tables.”

You are prompted to specify the root directory and saveset location.

The following prompt appears:

```
ROOT DIRECTORY? (<default_location>)
```

Press [RETURN] to accept the current translation of ORA_ROOT.

ORACLEINS assigns the specified directory to the logical name ORA_ROOT and displays the following prompt:

If you are loading products from savesets, enter the drive/directory where the savesets are located (for example, MUA0: or DISKSA:[ORACLE.SAVESETS]).

If you are loading from a remote device, do not include a username and password (you will be prompted instead).

If not loading savesets, press [RETURN].

The saveset location depends on whether you are doing a remote or local installation:

- If you load savesets from a remote location, use the following format to specify the remote node, device, and directory path:

```
<remote_node>::<remote_device>:[<remote_directory_path>]
```

If you specify a remote load location, ORACLEINS warns you that it cannot verify that the remote device actually exists. It also asks you to specify a remote OpenVMS username and password. If you do not need to specify a username or password (because OpenVMS proxies have been established), press [RETURN]. Otherwise, enter the username and password, separated by a space.

For example, if the remote location is owned by the OpenVMS user ORACLE, with password FRIDAY, then the following message appears:

```
WARNING: The saveset location that you specified is on a remote device. We can
only do minimal checking to see if the device is available.
Enter the remote VMS username and password needed to access this location, or
[RETURN] if one is not required: ORACLE FRIDAY
```

- If you are loading savesets from CD-ROM or from disk, enter the device name and the directory path and press [RETURN], for example:

```
<device_name>:[<dir-name>]
```

The logical name ORA_SOURCE is set to the saveset location you entered.

The contents of the BOOT.BCK saveset are moved to the INSTALL subdirectory of the Oracle8 root directory.

After the contents of the saveset have been moved, the Main Menu appears:

```

Main Menu
Oracle Product Installation and Upgrade
1. Software Installation and Upgrade Menu
2. Instance Creation, Startup, and Shutdown Menu
3. Build or Upgrade Database Tables Menu

Enter a number or (E)XIT to exit installation procedure:
```

Step 5. Selecting Products to Load

Follow these steps to select products to load.

1. Select Option 1, "Software Installation and Upgrade Menu."

The Software Installation and Upgrade Menu appears:

```
Software Installation and Upgrade Menu

1. Select Licensed Products to Load
2. Select Build Configuration Options
3. Load and Build Selected Licensed Products
4. Build Selected Licensed Products

Warning: You may not be licensed for all products
listed.

Enter a number or (E)xit to return to the Main Menu:
```

2. Select Option 1, "Select Licensed Products to Load."

A list of Oracle products appears similar to the following:

```
Select Licensed Products to Load for Installation or Upgrade

Product Name      Status      Product Name      Status
-----
1. AROPT
2. CTX
3. DBJAVA
4. DDBOPT
5. DPOPT
6. HOOPT
7. NETCONFIG
8. NLS
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR
14. PQOPT
15. PROGINT
16. PSOPT
17. RDEMS
18. SDOPT
19. SQL*Plus
20. SVRMGR
21. UTIL

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

Enter the number of the product that you want to load:
```

3. Select the products that you want to add or upgrade.

If you are not sure of the meaning of an abbreviation, see Appendix A.

Note: If UTIL is listed, you should generally load it. Loading UTIL ensures compatibility among your products. However, do not load UTIL if it is a different version than the UTIL for the Oracle installation you are reconfiguring.

For each product you selected, you are prompted to specify the location from where it is loaded with a message similar to the following:

```
Copy from ( ORA_SOURCE:SQLPLUS.BCK )
```

4. To accept the default, press [RETURN].

To specify a different location, enter the correct location and the saveset name at the “Copy from” prompt, and press [RETURN].

The default assumes that you are loading the product savesets from the location that you assigned to the ORA_SOURCE logical name in the Installation Startup Menu.

The product you selected for loading is marked with **-load**.

5. After locations for all products are entered, enter **E** to select the products and return to the Software Installation and Upgrade Menu.

Step 6. Configuring Products

This section explains how to configure products.

Configure All Products Loaded

You must verify or select the configuration options for **all** products selected in the “Select Licensed Products to Load” step.

Note: You must access the configuration menu of each selected product even if you only accept the defaults. Only those products whose configuration menus are accessed are built.

If this is the last product bundle to be installed, you must **RESELECT NETCONFIG** to force all products to be linked.

To begin configuring the products you have loaded, **select Option 2, “Select Build Configuration Options.”**

Select Configuration Options Menu

The Select Configuration Options Menu appears below:

```

                                Select Configuration Options
                                -----
List of products available for installation or upgrade configuration:

1. AROPT                      14. PQOPT
2. CTX                        15. PROGINT
3. DBJAVA                     16. PSOPT
4. DDBOPT                     17. RDBMS
5. DPOPT                      18. SDOPT
6. HOOPT                      19. SQL*Plus
7. NETCONFIG                  20. SVRMGR
8. NLS                        21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:
```

1. Enter the number of each product you selected to load.

Each product appears in turn with its default configuration options or with the configuration options you chose previously. For example, here is the SQL*Plus Configuration Menu:

```
SQL*Plus Configuration Options
Option                               Current Values
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:
```

2. Consider each configuration option carefully and enter the value appropriate for your system.

Note: Do not simply select the current value. The configuration options you select will have serious consequences in the way your Oracle system works.

3. To enter a new value, enter the number of the option you want to change and press [RETURN].
4. When the option is displayed at the bottom of the screen, enter the new value and press [RETURN].
5. To save any changes made to the configuration options and to mark a product for rebuilding, type E to exit the menu screen.

The Select Configuration Menu appears with **-rebuild** beside the products you selected.

```

                                Select Configuration Options
                                -----
List of products available for installation or upgrade configuration:

1. AROPT                               14. PQOPT
2. CTX                                 - rebuild  15. PROGINT
3. DBJAVA                               16. PSOPT
4. DDBOPT                               17. RDBMS           - rebuild
5. DPOPT                                18. SDOPT
6. HOOPT                                 - rebuild  19. SQL*Plus
7. NETCONFIG                             20. SVRMGR
8. NLS                                   21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDING
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:

```

6. If needed, select another product to configure from the Configuration Menu.
7. When you have configured all products you want to install, enter E to exit to the Software Installation and Upgrade Menu menu and press [RETURN].

The Select configuration Menu appears with -rebuild beside the products you selected.

See Also: For more information about product configuration options, see Appendix A, "Oracle8 Product Configuration".

Step 7. Loading and Building Configured Products

After configuring the products, you are returned to the Software Installation and Upgrade Menu.

```
Software Installation and Upgrade Menu

1. Select Licensed Products to Load
2. Select Build Configuration Options
3. Load and Build Selected Licensed Products
4. Build Selected Licensed Products

Warning: You may not be licensed for all products
listed.

Enter a number or (E)xit to return to the Main Menu:
```

1. Select Option 3, "Load and Build Selected Licensed Products."

The system loads and builds the products you selected and configured. This step takes several minutes. You will see several messages as the products are loaded.

You will eventually see a message similar to this one:

```
The products you requested have been loaded.
```

```
You have the following options:
```

1. Build the Oracle products loaded.
2. Return to the Software Installation and Update Menu (to choose new configuration values or to load additional products from another tape or directory).

```
Enter the number of option you want [2]:
```

2. The next step depends on your situation:

- If you have additional product bundles to load, then load and configure the products from the next directory.
- If you decide to change the configuration options you just entered, then reconfigure and build the products.
- If you have no more products to load, enter 1 and press [RETURN].

All selected products are now built. You will see a message similar to this:

```
2 products have been successfully built.
```

Step 7. Loading and Building Configured Products

NOTE: If you want to create known file entries for some of the linked products using the VMS INSTALL utility, run ORA_INSTALL:ORA_INSUTL.COM. Refer to the appropriate ORACLE for OpenVMS Administrator's Guide for details.

Press [RETURN] to continue:

3. Enter (E)xit to return to the Main Menu.
4. Enter E to return to the DCL prompt.

Creating an Initial Instance and Building Database Tables

There is nothing permanent except change.

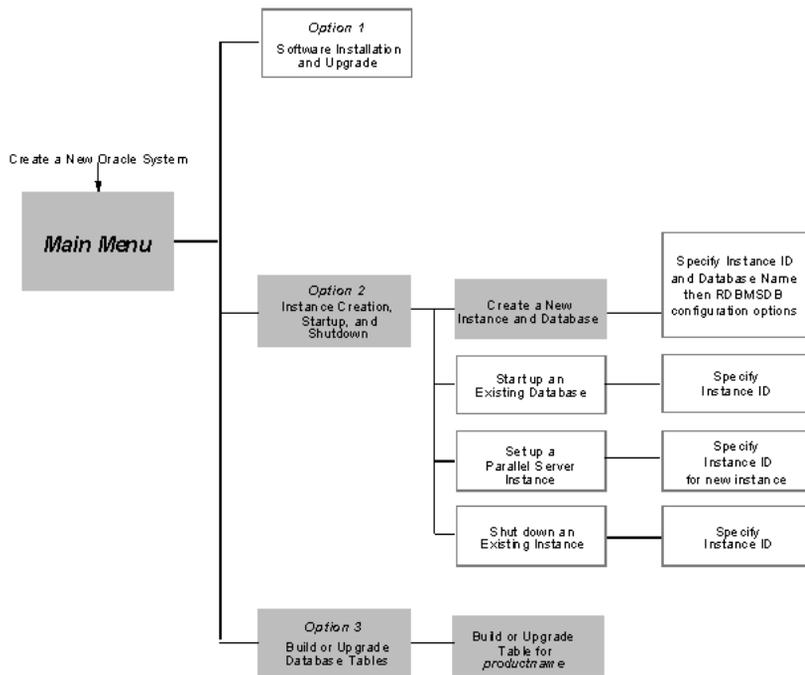
Heraclitus

This chapter describes how to use ORACLEINS to create an initial Oracle8 database and instance. It has the following topics:

- Creating an Initial Instance
- Building Database Tables

The following figure shows the ORACLEINS menu structure; the highlighted boxes indicate the steps taken in setting up the database.

Figure 5–1 Installation



Creating an Initial Instance

This section has the following topics:

- Configuring the Database
- Choosing a Default Language

Configuring the Database

1. From the Main Menu of ORACLEINS, select Option 2, “Instance Creation, Startup, and Shutdown Menu.”
2. Select Option 1, “Create a New Instance and Database,” from the Instance Creation, Startup, and Shutdown Menu.

You are prompted for the system identifier (SID) for the instance you are creating.

3. Enter a unique initial instance SID that has a maximum of six alphanumeric characters, the first of which must be an alphabetic character. The underscore character ("_") is also a valid character.

You are prompted for the database name.

4. Enter a unique database name of eight alphanumeric characters or less.

Note: Record the SID and database name. You will use them later.

The Oracle8 Enterprise Edition database configuration menu called the RDBMSDB Configuration Options Menu appears.

RDBMSDB Configuration Options	
Option	Current Value
1. System or Group Installation? [S/G]	S
2. Root directory for database administration directory (ORA_DB)?	ORA_ROOT:[000000]
3. Initial database file for SYSTEM Tablespace?	ORA_DB:ORA_SYSTEM.DBS
4. Initial size of SYSTEM Tablespace?	60M
5. Log File 1?	ORA_DB:ORA_LOG1.RDO
6. Log File 1 Size?	2000K
7. Log File 2?	ORA_DB:ORA_LOG2.RDO
8. Log File 2 Size?	2000K
9. Control File 1 Name?	ORA_DB:ORA_CONTROL1.CON
10. Control File 2 Name?	ORA_DB:ORA_CONTROL2.CON
11. Value for MAXDATAFILES (1..99999999)?	32
12. Value for MAXLOGFILES (2..254)?	32
13. Value for MAXINSTANCES (1..63)?	16
14. Value for MAXLOGMEMBERS (1..5)?	2
15. Value for MAXLOGHISTORY (0..5000)?	1600
16. Value for CHARACTER SET?	US7ASCII
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:	

5. Consider each configuration option carefully and enter the value appropriate for your system.

We recommend that you put your log files on drives separate from that on which your database files reside. This increases your ability to recover from media failure, and improves database performance.

In addition, verify that your log files are large enough for the expected level or intensity of database updates and that the MAX parameters are set with future expansion in mind. For issues regarding the default character set, see the next session on “Choosing a Default Language.”

Note: Do not simply select the current values. The configuration options you select will have serious consequences in the way your Oracle system works. For more information about the options, see Appendix A.

6. Enter **E** to exit the RDBMSDB Configuration Options menu and start database setup.

A message that lists the parameters you selected appears.

After ORACLEINS creates the database administration directory and scripts for managing the database, the following line appears:

```
Do you want to continue (Y/N)? [Y]
```

7. Enter [RETURN] to accept the default.

ORACLEINS creates and initializes a new Oracle8 database and starts the instance in exclusive mode..

Note: This operation can take a long time. The length of time depends on the size of your data files, the options you chose, and the speed of your machine.

When the initial database and instance creation is complete, what occurs next depends on whether errors are found.

- If no errors are found, the following occurs:

```
Looking for fatal errors in log file:
%SEARCH-I-NOMATCHES, no strings matched
Press [RETURN] to continue
```

Then, press [RETURN] to return to the Instance Creation, Startup, and Shutdown Menu, and enter **E** to return to the Main Menu.

- If a fatal error is found, look in the files `ORA_DB:CREATE_<dbname>.LOG`, `ORA_DB:CREATECAT_<dbname>.LOG` and/or `ORA_DUMP:<node>_<sid>_ALERT.LOG` for additional information or errors raised that led to the fatal error.

Choosing a Default Language

Before you choose a default language for the database, you need to understand the language requirements of your users. The character set used to create the database must be able to accommodate any possible user session translations needed by your users.

For instance, if you choose the default US7ASCII (a 7-bit character set), the database will not be able to store data entered in an 8-bit or multibyte language. However, if you choose an 8-bit or multibyte language, such as one in the list below, then your users will also be able to use an 8-bit European language or multibyte for their own session.

Additional Information: The following table lists some of the supported 8-bit character sets. Refer to Appendix A in the *Oracle8 for Alpha OpenVMS Server and Tools Administrator's Guide* for a complete list of supported character sets.

Some 8-Bit Character Sets Supported	Description
WE8EBCDIC37	EBCDIC Code Page 37 8-bit West European
WE8EBCDIC500	EBCDIC Code Page 500 8-bit West European
WE8ISO8859P1	ISO 8859-1 West European
WE8DEC	DEC 8-bit West European
WE8HP	HP LaserJet 8-bit West European
US8PC437	IBM-PC Code Page 437 8-bit American
WE8PC850	IBM-PC Code Page 850 8-bit West European
WE8MACROMAN8	Mac Extended ROMAN 8 8-bit West European

Building Database Tables

Follow these steps to build and upgrade the database tables.

1. From the ORACLEINS Main Menu, select Option 3, “Build or Upgrade Database Tables Menu.”
2. A list of Oracle products appears. Some of the products are distributed with demonstration files, online help, and system tables that are created after the product is installed.

If you want to “Build database tables for All products,” enter A, unless you are performing an installation for a client machine only.

If you do not want to build database tables for all products, enter a product number for each product for which you want to create database tables.

The following message appears for each product:

```
Do you want to Initialize or Upgrade the system tables? [I/U]
```

3. Enter I to initialize system tables.

The following query appears:

```
Do you want to create the demo tables? [Y/N]
```

4. If you want to create demo tables for this product, enter Y.
5. When all desired products have been selected, enter E to exit the Build or Upgrade Database Tables menu and to build the system and demo tables.

During this process you are prompted to enter information, such as Oracle usernames and passwords. **The default SYSTEM password is MANAGER. The default SYS password is CHANGE_ON_INSTALL.**

At the end of this process, you are prompted to press [RETURN].

During the building process, you may receive messages such as the following. These are normal messages and can be ignored.

```
No data to load for AROPT
No data to load for DDBOPT
ORA-942, table or view does not exist
ORA-1432, public synonym to be dropped does not exist
```

Managing the Oracle8 Enterprise Edition

And now I see with eye serene

The very pulse of the machine.

William Wordsworth, *She Was a Phantom of Delight*

This chapter gives post-installation notes on the following topics:

- Starting the Oracle8 Enterprise Edition
- Creating Additional Oracle Databases and Instances
- Shutting Down an Oracle Database/Instance

Starting the Oracle8 Enterprise Edition

Before you can start the Oracle8 Enterprise Edition, both an instance and a database must exist on your local system. If you did not install the Oracle8 Enterprise Edition, consult the person who did.

This section presents the following topics:

- Before Start Up
- Starting Oracle8 via ORACLEINS
- Starting Oracle8 via STARTUP Files
- Starting Oracle8 via Server Manager
- Starting Oracle8 Automatically

Before Start Up

Prior to starting up an Oracle database/instance, the Oracle shareable images must be installed. To install the Oracle shareable images, issue the following DCL commands:

1. Run ORAUSER.COM, specifying the full directory path. For example:

```
$ @<disk_device>:[ORACLE8.UTIL]ORAUSER.COM
```

where:

<disk_device>:[ORACLE8.UTIL] is the UTIL directory under the ORACLE root directory pointed to by the logical name ORA_ROOT.

You must perform steps 2 and 3 under the following conditions:

- After the ORACLE image has been removed, but before the Oracle8 Enterprise Edition is started
- After running the REMORACLE.COM command file (which de-installs the global sections loaded by INSORACLE.COM)
- Whenever the computer is booted.

WARNING: Running `INSORACLE.COM` might cause problems with any currently running instance that uses the shareable images that these command files install. Take this into account if you create an instance-specific automatic startup procedure that invokes the `INSORACLE` file.

2. Run the `ORA_RDBMS:INSORACLE.COM` file.

```
$INSORACLE
```

This file installs the shared global sections that make a shareable ORACLE image known to the system. The `ORACLE<image_id>.EXE` file must have proper protection when you run `INSORACLE`. The account where you run `INSORACLE.COM` must have `CMKRNL` privilege.

3. If you plan to install shared images, run the file `ORA_INSTALL:ORA_INSUTL.COM` to create `ORA_UTIL:INSUTILITY.COM`.

`INSUTILITY.COM` installs Oracle products other than the Oracle8 Enterprise Edition (such as Oracle Forms and SQL*Plus) in shared memory.

Starting Oracle8 via ORACLEINS

To start Oracle8 using `ORACLEINS`, do the following steps:

1. Run the database-specific `ORAUSER` file using the following syntax:

```
$ @ORA_DB:ORAUSER_<dbname> <sid> <setup_nodename>
```

2. Run `ORACLEINS`:

```
$ ORACLEINS
```

3. Select option 3, "Reconfigure existing products, manage the database, or load demo tables," from the Oracle Installation Startup Menu.
4. Press [RETURN] when prompted to specify the root directory.
5. Press [RETURN] when prompted to specify the device where you mounted the distribution medium.
6. Select option 2, "Instance Creation, Startup, and Shutdown Menu," from the Main Menu.

7. Select option 2, "Startup an Existing Instance," from the Instance Creation, Startup, and Shutdown Menu. The following message is displayed:

```
Currently known database SIDs:  
[list of known SIDs]  
Press [RETURN] to quit with no action.  
NOTE: The SID can be a maximum of 6 characters in length.  
What is the SID for the instance to startup?
```

8. Type the SID of the instance that you want to start and press [RETURN]. The instance identified by this SID is started and the database associated with this instance is opened in exclusive mode.

Starting Oracle8 via STARTUP Files

You can also use command files to start Oracle8. The file you execute depends on whether you are running in exclusive or in parallel mode.

Run one of the following STARTUP command files for the instance you want to start:

```
$ @ORA_DB:STARTUP_EXCLUSIVE_<dbname> <sid> <setup_nodename>
```

or

```
$ @ORA_DB:STARTUP_PARALLEL_<dbname> <sid> <setup_nodename>
```

These files are located in the database-specific directory identified by the logical name ORA_DB. When you start up the instance, be sure to specify the SID of the instance and its setup node.

Starting Oracle8 via Server Manager

You can also start an instance of Oracle8 using Server Manager. See the section, "Starting the Server," in this chapter for instructions about setting up Server Manager. Then, refer to the generic (platform-independent) Oracle Server documentation for instructions about using Server Manager.

You might choose to complete startup tasks separately when monitoring instance performance, for example, or you might want to start an instance and open a database after making some modifications.

Identifying the Current Instance

When starting up the Oracle8 Enterprise Edition, you start up the current instance. The current Oracle8 instance is identified by the value of the logical name ORA_SID. For example, if the value of ORA_SID is currently V805, the current instance is the instance with the SID V805. If you have not reassigned the ORA_SID logical name, the value of ORA_SID is the SID specified during installation. To change the current instance before starting the Oracle8 Enterprise Edition with Server Manager, you must reassign the value of ORA_SID.

If the ORA_SID is missing or incorrect, you receive the following error:

```
ORA-07582, spstp: ORA_SID has an illegal value
```

Specifying Startup Parameters

When the current Oracle8 instance is started, the SGA is created and initialized with the startup parameters set in the distributed parameter file, INIT.ORA, in the ORA_DB directory. When using Server Manager, you can use another startup file that sets different parameter values by including the PFILE option with the STARTUP command to identify an alternative parameter file. If the directory location of the alternative parameter file is not in the current directory, include it:

```
SVRMGR> STARTUP PFILE=ORA_DB:INIT2.ORA
```

Starting the Server

To start Oracle8, you must have the process rights identifier ORA_DBA or ORA_<sid>_DBA assigned to your user account in the OpenVMS rights database and you must run two .COM files that make the logical name assignments required to run Oracle8.

Before starting up Oracle8, run the ORAUSER_<dbname>.COM and the ORA_DB_<dbname>.COM files to set the desired instance.

After running the above .COM files, run Server Manager and execute the appropriate STARTUP command(s), as documented in the *Oracle8 Server Administrator's Guide*. You can issue the single Server Manager command, STARTUP, or execute the three separate Server Manager commands documented in the *Oracle8 Server Administrator's Guide* to start the Oracle8 Enterprise Edition.

The Server Manager command STARTUP starts the current ORACLE instance, creating the SGA in OpenVMS shared memory and creating the detached processes. It then mounts the database and opens it.

Starting Oracle8 Automatically

To start Oracle8 automatically whenever you start OpenVMS, submit the Oracle8 start procedure as a batch job from the system startup file. This batch job must:

- Execute the ORAUUSER.COM file to define the logical names and symbols referenced by Oracle8
- Run as the operating system DBA account user
- Run ORA_RDBMS:INSORACLE.COM to install the global sections required by Oracle8
- Execute one of the startup command files to start Oracle8:

```
$ @ORA_DB:STARTUP_EXCLUSIVE_<dbname>
```

- Run ORA_UTIL:INSUTILITY.COM if you previously ran ORA_INSTALL:ORA_INSUTL.COM to install Oracle products as shared images

Sample Startup File

A sample startup file that starts two Oracle8 systems automatically after a system reboot is shown below:

```
$! STARTORAV8.COM
$! This script shows how one might start two Oracle
$! database instances at system boot time.
$!-----
$! Get the name of the node.
$!
$! NODENAME = F$GETSYI("NODENAME")
$!
$! Acquire CMKRNL privilege to install ORACLE
$! IMAGES. Exit with error if you are not so
$! authorized.
$!
$! SET PROCESS/PRIVILEGES=CMKRNL
$! IF (F$PRIVILEGE("CMKRNL") .EQS. "FALSE") THEN EXIT 2
$!
$! Define symbols specific to this version of ORACLE
$! code by running the appropriate ORAUUSER.COM:
$!
$! @DISK$ORACLE:[ORACLE.V8.UTIL]ORAUUSER
$!
$! Install shared images:
$!
```

```

$ INSORACLE          ! Install shared ORACLE image
$!
$!      Start a database instance.
$!
$ INSTSID = "PROD1"      ! Define SID
$ DB_NAME = "PROD"      ! Define database name
$ GOSUB START_DATABASE
$!
$!      Start a second database instance.
$!
$ INSTSID = "PROD2"      ! Define sid
$ DB_NAME = "TEST"      ! Define database name
$ GOSUB START_DATABASE
$ EXIT
$!
$!      Invoke the database-specific startup script. Assumes
$!      that ORA_DB for each database is under ORA_ROOT.
$!      This need not be the case.
$!
$START_DATABASE:
$ @ORA_ROOT:[DB_'DB_NAME']STARTUP_EXCLUSIVE_'DB_NAME' -
'INSTSID' 'NODENAME'
$ RETURN

```

In this sample startup file, the systems share the same copy of Oracle8 code. The example assumes that the Oracle8 root directory is DISK\$ORACLE:[ORACLE.V8].

Run this file as a batch job under the Oracle8 account as part of the standard system startup procedure. Keep this file in the Oracle8 account login directory.

For example, if the Oracle8 account resides in DISK\$ORACLE:[ORACLE] and the startup script is named STARTORAV8.COM, then start this script at boot time by adding the following lines to SYSS\$MANAGER:SYSTARTUP_VMS.COM:

```

$ FILSPC = "DISK$ORACLE:[ORACLE]STARTORAV8"
$ SUBMIT-
/USER=ORACLE8
/AFTER="+00:05:00"
/LOG='FILSPC'.LOG
'FILSPC'

```

Creating Additional Oracle Databases and Instances

The only supported way of creating additional Oracle databases and instances is by using ORACLEINS.

The way to create additional Oracle databases is similar to when you created your initial database/instance.

For additional information, see Chapter 5.

Shutting Down an Oracle Database/Instance

The following three methods can be used to shut down an Oracle database instance:

- Shutting down Oracle8 via ORACLEINS
- Shutting down Oracle8 via SHUTDOWN file
- Shutting down Oracle8 via Server Manager

After all instances on a node have been shut down, you can deinstall the shareable images if desired by using REMORACLE.

Shutting Down Oracle8 via ORACLEINS

To shut down Oracle8 using ORACLEINS:

1. Using Server Manager, ensure that there are no open sessions.
2. Run the database-specific ORAUSER file:

```
$ @ORA_DB:ORAUSER_<dbname> <sid> <setup_nodename>
```

3. Run ORACLEINS:

```
$ ORACLEINS
```

4. Select option 3, "Reconfigure existing products, manage the database, or load demo tables," from the ORACLE Installation Startup Menu.
5. Press [RETURN] when prompted to specify the root directory.
6. Press [RETURN] when prompted to specify the location of the savesets.
7. Select option 2, "Instance Creation, Startup, and Shutdown Menu," from the Main Menu.

8. Select option 4, "Shutdown an Existing Instance," from the Instance Creation, Startup, and Shutdown Menu. The following message is displayed:

```

Currently known database SIDs:
[list of known SIDs]
Press [RETURN] to quit with no action.
NOTE: The SID can be a maximum of 6 characters in length.
What is the SID for the instance you want to shut down?

```

9. Type the SID of the instance that you want to stop and press [RETURN]. The ORACLEINS utility will now do an orderly shutdown of the specified instance.

Shutting Down Oracle8 via the SHUTDOWN File

To shut down the currently running ORACLE instance, use the following command file:

```
$ @ORA_DB:SHUTDOWN_<dbname>.COM <sid> <setup_nodename>
```

This file is located in the database-specific directory identified by the logical name ORA_DB. When you shut down the instance, be sure to specify the SID of the instance and its setup node.

Sample Shutdown File

A sample shutdown file that shuts down two Oracle8 systems automatically is shown below:

```

$!
$!  NAME:  STOPORAV8.COM
$!  Note that this script will hang if users are still

$!  connected to the databases unless you modify the
$!  shutdown scripts to issue SHUTDOWN IMMEDIATE commands.
$!-----
$!
$!  Get the name of the node:
$!
$ NODENAME = F$GETSYI("NODENAME")
$!
$!  Acquire CMKRNL privilege to remove the Oracle
$!  shareable images.  Exit with error if you are not so
$!  authorized.
$!

```

Shutting Down an Oracle Database/Instance

```
$ SET PROCESS/PRIVILEGES=CMKRNL
$ if (F$PRIVILEGE("CMKRNL") .EQS. "FALSE") THEN EXIT 2
$!
$!   Define symbols and logical names specific to this version
$!   of the Oracle code by running ORAUSER.COM
$!
$!
$ @DISK$ORACLE:[ORACLE.V8.UTIL]ORAUSER
$!
$!   Shut down a database instance
$!
$ INSTSID = "PROD1"           ! Define SID
$ DB_NAME = "PROD"           ! Define Database Name
$ GOSUB DO_SHUTDOWN
$!
$!   Shut down a second database instance
$!
$ INSTSID = "PROD2"           ! Define SID
$ DB_NAME = "TEST"           ! Define Database Name
$ GOSUB DO_SHUTDOWN
$!
$!
$!   De-install Oracle shareables
$!
$ REMORACLE
$ EXIT
$!
$ DO_SHUTDOWN:
$ @ORA_ROOT:[DB_'DB_NAME']SHUTDOWN_'DB_NAME' 'INSTSID' -
'NODENAME'
$ RETURN
```

Shutting Down Oracle8 via Server Manager

You can shut down an instance of Oracle8 using Server Manager. See the section, “Starting the Server,” in this chapter for instructions on setting up Server Manager. Refer to the generic (platform-independent) Oracle Server documentation for instructions about using Server Manager.

Deinstalling Shareable Images

After shutting down all Oracle8 instances on a node, and before relinking, deinstall the shareable images by entering the following statement:

```
$ REMORACLE
```

Maintaining the Oracle Products

Information can tell us everything. It has all the answers. But they are answers to questions we have not asked, and which doubtless don't even arise.

Jean Baudrillard, French semiologist. *Cool Memories, Chapter 5*

This chapter describes the following product installation maintenance procedures:

Note: The examples given represent an *Oracle8 Enterprise Edition* installation. If you are installing *Oracle8*, you will have fewer product selections available to choose from. The Advanced Replication, Object Support, Spatial Data, and Data Partitioning options are available only in the *Oracle8 Enterprise Edition* release. They are not listed or available in the *Oracle8* release.

- Installing a Client Only Tools Environment
- Reconfiguring Products
- Removing Products
- Adding or Upgrading Products
- Relinking the Oracle Code

Installing a Client Only Tools Environment

In a client only installation, Oracle and/or user applications connect to an Oracle8 Enterprise Edition (on the same node or another node) using one of the SQL*Net communication protocols. Applications communicate with another process (called a server process) over SQL*Net, which submits requests to the Oracle8 Enterprise Edition on behalf of the application. This server process then returns the results to the application over the same SQL*Net connection.

Implement the following steps to perform a client only installation:

1. Decide the following:
 - Which Oracle products (besides SQL*Net) are to be installed?
 - Which SQL*Net network protocol will the client use to communicate to the server machine (for example, TCP/IP)?
2. Once you have decided the Oracle products that you want to install, do the following:
 - Create the Oracle Server database administrator account and root directory, as described in Chapter 1.
 - Log onto the Oracle Server database administrator account and set your default directory as described in Chapter 1.
 - Mount your distribution media and restore the appropriate BOOT.BCK (if loading from CD-ROM, the first BOOT.BCK to restore is located in the [SERVER] directory). The BACKUP command to be used is:

```
$ BACKUP/LOG <ddcn>:[SERVER]BOOT.BCK/SAVE_SET -  
[ ]/NEW_VERSION/BY_OWNER=PARENT
```

where:

<ddcn> is the name of your CD-ROM device.

3. Invoke the Oracle Installation procedure by entering the following command:

```
$ @ORACLEINS
```

- Select Option 1, "Create a new Oracle system."
- When prompted for "Root directory?," press RETURN to accept the default.

- When prompted for the saveset location, enter the device name with the correct directory (for example, DKA100:[SERVER]).
- Select Option 1, “Software Installation and Upgrade Menu,” from the Main Menu.
- Select Option 1, “Select Products to Load.”

Select all the Oracle products that you want to install. From the Server Bundle, **YOU MUST SELECT NETCONFIG and UTIL.**

- Select Option 2, “Select Build Configuration Options”.
- Select Option 3, “Load and Build Selected Products.”

The Oracle installer now loads and builds the selected products.

4. If you need to load and build additional products from any other CD-ROM directories, do the following:
 - Restore the BOOT.BCK from that CD-ROM directory, by entering the following:

```
$ BACKUP/LOG <ddcn>: [ <bundle> ]BOOT.BCK/SAVE_SET -
ORA_INSTALL:/NEW_VERSION/BY_OWNER=PARENT
```

where:

<ddcn> is the name of your CD-ROM device.

- Invoke the Oracle Installation procedure by entering the following command:

```
$ ORACLEINS
```

- Select Option 3, “Reconfigure existing products, manage the database, or load the demo tables.”
- Follow the same instructions as in Step 3 above (starting with the step that begins with, “When prompted for 'Root directory?'...”).

Reconfiguring Products

Perform the following steps to change product configuration options or to relink products. Verify that your system has Oracle8 installed.

Note: If you are reconfiguring NETCONFIG or the RDBMS, shut down the instance and deinstall the shareable images before reconfiguring. See the section, “Shutting Down Oracle8 via Server Manager,” for more information

1. Run the ORAUSER file for your database by entering the following line:

```
$ @<database directory>:ORAUSER_<dbname>
```

2. If you plan to reconfigure or relink the Oracle8 Enterprise Edition or SQL*Net, you must shut down the database:

```
SVRMGR> SHUTDOWN NORMAL
```

3. Remove the shareable images.

```
$ REMORACLE
```

4. Run the installation script by entering the following line:

```
$ ORACLEINS
```

The ORACLE Installation Startup Menu appears as follows:

```
ORACLE Installation Startup Menu

Options:
1. Create a new ORACLE system.
2. Upgrade your system from an ORACLE distribution tape.
3. Reconfigure existing products, manage the database,
   or load the demo tables.
4. Exit.

Before attempting to upgrade, reconfigure, manage the database,
or load demo tables, please run ORA_UTIL:ORAUSER.COM or, if you
created an instance, ORA_DB:ORAUSER_<dbname>.COM <SID>

Choose an option please:
```

- From this menu, select Option 3, “Reconfigure existing products, manage the database, or load demo tables.” You are prompted to verify the root directory and supply a saveset location.

After you enter this information, the Main Menu appears as shown here:

```

Main Menu
Oracle Product Installation and Upgrade

1. Software Installation and Upgrade Menu
2. Instance Creation, Startup, and Shutdown Menu
3. Build or Upgrade Database Tables Menu

Enter a number or (E)XIT to exit installation procedure:
```

- Select Option 1 from the Main Menu. The Software Installation and Upgrade Menu appears as shown here:

```

Software Installation and Upgrade Menu

1. Select Licensed Products to Load
2. Select Build Configuration Options
3. Load and Build Selected Licensed Products
4. Build Selected Licensed Products

Warning: You may not be licensed for all products
listed.

Enter a number or (E)xit to return to the Main Menu:
```

7. To reconfigure software products, select Option 2 from the Software Installation and Upgrade Menu.

The Select Configuration Options Menu appears:

```

                                Select Configuration Options
                                -----
List of products available for installation or upgrade configuration:

1. AROPT                                14. PQOPT
2. CTX                                  15. PROGINT
3. DBJAVA                               16. PSOPT
4. DDBOPT                               17. RDBMS
5. DPOPT                                18. SDOPT
6. HOOPT                                19. SQL*Plus
7. NETCONFIG                            20. SVRMGR
8. NLS                                  21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:

```

- Modify the configuration options for each product as needed. For more information about individual product configuration options, see Appendix A, "Oracle8 Product Configuration"
 - Exit each configuration menu, then enter E to return to the Software Installation and Upgrade Menu.
8. To relink software products, select Option 4, "Build Selected Licensed Products," from the Software Installation and Upgrade Menu.
 9. Exit ORACLEINS and return to the DCL prompt. You have now completed reconfiguring or relinking your Oracle products. Note that if you previously shut down the database (to reconfigure or relink Oracle8 or SQL*Net), you will need to restart the database.
 10. If the product you have reconfigured has changed its executable name since the last installation, and you install the product into shared memory, you must run the following command procedure:

```
$ ORA_INSTALL:ORA_INSUTL.COM
```

Removing Products

To remove products, issue the following command:

```
$ @ORA_INSTALL:ORA_DEINST <product name>
```

where:

<product name> is the mnemonic used in the ORA_UTIL:PRODUCTS.TXT file.

For example, if you want to completely get rid of SQL*Plus, issue the following command:

```
$ @ORA_INSTALL:ORA_DEINST SQL*PLUS
```

Adding or Upgrading Products

This section applies to the following topics:

- Preparing to Add or Upgrade
- Starting Up an Instance
- Building or Upgrading Database Tables

Preparing to Add or Upgrade

Note: You may **not** upgrade an Oracle 8.0.5.0 or earlier release to Oracle 8.0.5.1. The Oracle 8.0.5.1 savesets are **not** backward compatible with previous Oracle releases and can only be used for an Oracle 8.0.5.1 installation.

Before you add or upgrade a product, perform the following steps:

1. Verify that your system has Oracle8 installed.
2. Log onto your Alpha OpenVMS machine.

3. Run the following ORAUSER file for your database:

```
$ @ORA_DB:ORAUSER_<dbname>
```

4. If you plan to upgrade any Oracle product tables, change the Oracle SYSTEM password to MANAGER.

Note: If you do not change the Oracle SYSTEM password to MANAGER, your installation may fail. Oracle installation scripts often assume the password is MANAGER. Alternatively, you can check for hardcoded user names and passwords in the Oracle scripts and change them to your own user names and passwords.

5. Back up the old code and database files (data, redo log, and control).
6. Mount the distribution media.
7. Restore the product's BOOT.BCK saveset into the ORA_ROOT:[INSTALL] directory. Refer to Chapter 4 for more information.

This saveset contains the updated PRODUCTS.TXT file used by the installation procedure to upgrade the products on the distribution media.

After completing these preliminary steps, you are ready to load and configure your Oracle products.

Adding or Upgrading a Product Summary

1. Start ORACLEINS.
2. From the Installation Startup Menu, select Option 3, "Reconfigure system, manage database, load demo tables."
3. From the Main Menu, select Option 1, "Software Installation and Upgrade Menu."
4. Select products to load.
5. Configure products.
6. Load and build selected products.
7. Exit and return to the Main Menu.
8. Start an instance.
9. Build or upgrade database tables menu.

Starting Up an Instance

If the database is running, go to the next section “Building or Upgrading Database Tables.”

If you previously shut down the database (to upgrade the Oracle8 Enterprise Edition or SQL*Net), you need to start it up again. From the Main Menu, select Option 2, “Instance Creation and Instance Startup Menu.” This brings up a submenu, from which you should select Option 2, “Startup an Existing Instance.” To restart your database, enter its instance ID when prompted to do so. Return to the Main Menu.

Building or Upgrading Database Tables

Before building database tables, you must have created the SCOTT account. This is created automatically when Building Database Tables for RDBMS.

From the Main Menu, select Option 3, “Build or Upgrade Database Tables Menu.”

1. Enter the item number of each product whose database tables you want to upgrade, or enter A for all products. Steps 2 and 3 must be completed for each product you choose.
2. When prompted to initialize or upgrade the system tables, enter U to upgrade existing products or I to initialize new products.
3. When prompted if you want to create demo tables, enter Y if you want to create them or N if you do not want to create them.

Press E to exit ORACLEINS and return to the DCL prompt. The upgrade procedure is now complete.

Relinking the Oracle Code

The Oracle code must be relinked under the following conditions:

- Change to operating system, for example upgrade
- Change to SQL*Net configuration
- Change to RDBMS configuration

Step 1. Shutdown the Given Database(s)

First verify that you are pointed to the right database instance. At the DCL prompt:

```
$ SHOW LOGICAL ORA_SID  
ORA_SID" = "V805" (LNM$JOB_TABLE)
```

Invoke SVRMGR and connect internal. Select from the view `V$PROCESS`. If no other processes are active and you are pointed to the right instance, shut down the given database.

Once the database is shut down, all Oracle background process will no longer exist. Type `SHOW SYSTEM` at the DCL prompt to verify.

Step 2. Remove Images

1. Type `REMOACLE` at the system prompt.

```
$ REMOACLE
```

Note: Generally no response is returned except for the return of the DCL prompt.

Step 3. Invoke the Oracle Installation Utility

1. Type `ORACLEINS` at the DCL prompt.

```
$ ORACLEINS
```

This yields the ORACLE Installation Startup Menu.

2. From this menu, choose option 3, "Reconfigure existing products, manage the database, and/or load the demo tables."
3. Press the return key until you reach the "Main Menu."
4. Choose option 1, "Software Installation and Upgrade Menu." This yields the menu, "Software Installation and Upgrade Menu."

5. Choose Option 2.

You are presented with a list of Oracle products that can be installed, upgraded, or reconfigured.

```

Select Configuration Options
-----
List of products available for installation or upgrade configuration:

1. AROPT                14. PQOPT
2. CTX                  15. PROGINT
3. DBJAVA               16. PSOPT
4. DDBOPT              17. RDBMS
5. DPOPT                18. SDOPT
6. HOOPT               19. SQL*Plus
7. NETCONFIG           20. SVRMGR
8. NLS                  21. UTIL
9. OBJOPT
10. OEMAGENT
11. ORDIMG
12. ORDTS
13. ORDVIR

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

Enter the number of the product that you want to configure:

```

6. Choose the number for NETCONFIG only.

The current configuration options for NETCONFIG are shown.

7. At the prompt, type E to exit this menu with selected options.

You are again presented with the list of products. Note, `-rebuild` appears next to NETCONFIG, for example:

8. Type E again to exit this menu with selected products.

You are returned to the Software Installation and Upgrade Menu and you are prompted to Enter a number or (E)XIT to return to the Main Menu.

9. Select option 4, "Build Selected Licensed Products".

If you install the tools into memory, invoke `ORA_UTIL:INSUTILITY.COM`. Invoke `ORA_DB:STARTUP_EXCLUSIVE_<dbname>.COM` or `ORA_DB:STARTUP_PARALLEL_<dbname>.COM`, as applicable.

Note: If you have an automatic startup Oracle script, you may run it instead

Oracle8 Product Configuration

Everything changes but change.

Zangwill

This appendix describes configuration menus for the Oracle8 Enterprise Edition and application development tools.

The configuration menu examples described in this appendix are dynamic and change frequently. These examples are supplied as general reference for the type of decisions you might make when configuring your products during the installation procedure. Therefore, the screen examples will not necessarily match the menus you will see when you run ORACLEINS.

This appendix contains the following sections:

- Identifying Products by Option Name
- Oracle8 Enterprise Edition, Oracle8 Enterprise Edition Options, NETCONFIG, RDBMS, and UTIL
- Other Oracle Products
- Oracle8 Database Configuration

Identifying Products by Option Name

To fit all the product names on the screen, ORACLEINS displays the short, abbreviated names for some products.

To find out which options you need to choose in order to install various product, see Table 7-1, "Abbreviations for Loadable Products"

Table 7-1 Abbreviations for Loadable Products

Choose...	If you want to install...
*AROPT	Advanced Replication Option
CTX	ConText Option
DBJAVA	JDBC, Java Database Connectivity
DDBOPT	Distributed Database Option
*DPOPT	Data Partitioning Option
*HOOPT	Heterogeneous Option
NETCONFIG	Any product
NLS	National Language Support or Multilingual Option
*OBJOPT	Object Option
OEMAGENT	Oracle Intelligent Agent (supports the Oracle Enterprise Manager)
*ORDIMG	Image Cartridge
*ORDTS	Time Series Cartridge
*ORDVIR	Virage Cartridge
*PQOPT	Parallel Query Option (Allows parallel query processing, index creation, and data loading. Installing this option does not automatically make queries parallel. You must explicitly alter tables that you wish to make parallel or use a parallel hint in your SQL statements.)
PROGINT	Any of the precompilers or other programmatic interfaces: Pro*C Pro*COBOL Pro*FORTRAN SQL*Module Ada

Choose...	If you want to install...
*PSOPT	Parallel Server Option
RDBMS	Oracle Server
*SDOPT	Spatial Data Option (requires 10 megabytes of free system table space to be installed. This happens automatically if you are creating a new 8.0.5 database. If you are upgrading a database created with release 7.1.5 or below, ensure that there are 10 megabytes of free space before installing the Spatial Data tables.)
SQL*Plus	SQL*Plus
SVRMGR	Oracle Server Manager
UTIL	Any product
* The product is available only with the Oracle8 Enterprise Edition.	

Oracle8 Enterprise Edition, Oracle8 Enterprise Edition Options, NETCONFIG, RDBMS, and UTIL

This section has the configuration menus for the following products:

- Oracle8 Enterprise Edition (RDBMS Configuration)
- AROPT (Advanced Replication Option)
- CTX (ConText Option)
- DBJAVA (JDBC, Java Database Connectivity)
- DDBOPT (Distributed Database Option)
- DPOPT (Data Partitioning Option)
- HOOPT (Heterogeneous Option)
- NETCONFIG
- OBJOPT (Object Option)
- OEMAGENT (Intelligent Agent)
- ORDIMG (Image Cartridge)
- ORDTS (Time Series Cartridge)
- ORDVIR (Virage Cartridge)

- PQOPT (Parallel Query Option)
- PSOPT (Parallel Server Option)
- RDBMSDB (Database Configuration)
- SDOPT (Spatial Data Option)
- SVRMGR (Server Manager)
- UTIL

Oracle8 Enterprise Edition (RDBMS Configuration)

RDBMS Configuration Options

Option	Current Value
1. System or Group Installation? [S/G]	S
2. ORACLE Image Identifier?	V805
3. Include Distributed Database options? [Y/N]	N
4. Include Parallel Query Option? [Y/N]	N
5. Include Advanced Replication Option? [Y/N]	N
6. Include Object Support Option? [Y/N]	N
7. Include Spatial Data Option? [Y/N]	N
8. Include Heterogeneous Option? [Y/N]	N
9. Include Data Partitioning Option? [Y/N]	N
10. Include Parallel Server Option? [Y/N]	N

Note: The Parallel Query, Advanced Replication, Object Support, Spatial Data, Heterogeneous, Data Partitioning, and Parallel Server options are available only in the *Oracle8 Enterprise Edition* release. They are not listed or available in the *Oracle8* release.

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access Oracle8.

Valid Values

To make Oracle8 available to everyone on the system, select the default value. To make Oracle8 available to only the members of the user group that include the Oracle8 account, enter G.

Default Value

S

Oracle Image Identifier?

Purpose

Identifies the Oracle8 code that you are now installing. The value that you choose here will replace *x* in the logical names `ORA_CLIENT_x` and `ORA_CLIENT64_x`, which identify the shareable Oracle8 images.

Do not use the default value (V805) if you have used this image identifier for another Oracle Server installed on your system. The Oracle image identifier must be unique for each installed area.

Valid Values

A maximum of six alphanumeric characters identify the Oracle8 system on the local machine, the cluster, and the network.

Default Value

V805

Include Distributed Database Option? [Y/N]

Includes distributed transactions and two-phase commit. The distributed database option can also provide remote procedure calls (RPC) and table snapshots. This option is required for remote procedure calls.

Y for yes or N for no.

Default Value

N

Include Parallel Query Option? [Y/N]

Purpose

Includes parallel query option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Include Advanced Replication Option? [Y/N]

Purpose

Includes Advanced Replication option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Include Object Support Option? [Y/N]

Purpose

Includes Object Support.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Include Spatial Data Option? [Y/N]

Purpose

Includes Spatial Data option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Note: The spacial data option requires an additional 10 MB of system table space

Include Heterogeneous Option? [Y/N]

Purpose

Includes Heterogeneous option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Include Data Partitioning Option? [Y/N]

Purpose

Includes Data Partitioning option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

Valid Values

Y for yes or N for no.

Default Value

N

Include Parallel Server Option? [Y/N]

Purpose

Includes the Oracle Parallel Server option.

Note: This option is available only in the Oracle8 Enterprise Edition release.

If you selected to load and build the Parallel Server option and select NO for this prompt then the files necessary to support the Parallel Server, including the Oracle Group Membership Services daemon, are built, but the server will have its 'product factoring' set so that parallel server is not available. In this case, the server will not attempt to make contact with the OGMS daemons when it is brought up. Also, saying "parallel_server=true" in the init.ora file is disallowed.

If at a later time, you select YES to this option for Parallel Server, and relink RDBMS, then Parallel Server will be available. In fact, the server will always connect to the OGMS daemons, which must be started on each node participating in an OPS cluster, regardless of whether you have put "parallel_server=true" in the init.ora file. You must use this statement, however, before trying to bring up a parallel instance.

Please refer to the READMEVMSOPS.DOC in the ORA_RDBMS directory for detailed Parallel Server installation issues.

Valid Values

Y for yes or N for no.

Default Value

N

AROPT (Advanced Replication Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

AROPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the Advanced Replication Option.

Valid Values

To make the Advanced Replication Option available to everyone on the system, accept the default value. To make the Advanced Replication Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition

Default Value

S

CTX (ConText Option)

CTX Configuration Options

Option	Current Value
1. System or Group Installation? [S/G]	S
2. Build the ConText load (ctxload) [Y/N]	Y
3. Build the ConText server (ctxsrv) [Y/N]	Y
4. Build the ConText server no Lexer (ctxsrvx) [Y/N]	N

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the ConText Option.

Valid Values

To make the ConText Option available to everyone on the system, accept the default value. To make the ConText Option available to only the members of the user group that include the Oracle8 account, enter `G`.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Build the ConText load (ctxload)? [Y/N]

Purpose

Controls the creation of the ConText loader.

Valid Values

To build the ConText loader, enter `Y`.

Default Value

Y

Build the ConText Server (ctxsrv)? [Y/N]

Purpose

Controls the creation of the ConText server executable.

Valid Values

To build this ConText executable, enter Y.

Default Value

Y

Build the ConText Server no Lexer (ctxsrvx)? [Y/N]

Purpose

Controls the creation of the version of the ConText server executable with the Linguistic services disabled.

Valid Values

To build this ConText executable, enter Y.

Default Value

Y

DBJAVA (JDBC, Java Database Connectivity)

DBJAVA Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the DBJAVA option.

Valid Values

To make the DBJAVA option available to everyone on the system, accept the default value. To make the distributed database option available to only the members of the user group that include the Oracle8 account, enter `G`.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

DDBOPT (Distributed Database Option)

DDBOPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the Distributed Database Option.

Valid Values

To make the Distributed Database Option available to everyone on the system, accept the default value. To make the Distributed Database Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

DPOPT (Data Partitioning Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

DPOPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the data partitioning option.

Valid Values

To make the data partitioning option available to everyone on the system, accept the default value. To make the distributed database option available to only the members of the user group that include the Oracle8 account, enter `G`.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

HOOPT (Heterogeneous Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

HOOPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can use the heterogeneous option.

To make the heterogeneous option available to everyone on the system, accept the default value. To make the heterogeneous option available only to the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

NETCONFIG

NETCONFIG is a component like UTIL, which is used by all Oracle products. It contains the SQL*Net 8.0.5 installation scripts, the SQL*Net common code used by SQL*Net and the drivers themselves (Mailbox and TCP/IP). It also contains the network utilities.

NETCONFIG Configuration Options

Option	Current Value
1. System or Group Installation? [S/G]	S
2. Install TCP/IP Adapter? [Y/N]	Y
3. Build Oracle Names Server? [Y/N]	N
4. Install ANO Encryption? [Y/N]	N
5. Install SecurID Authentication Adapter? [Y/N]	N
6. Install Kerberos5 Authentication Adapter? [Y/N]	N

System or Group Installation? [S/G]

Purpose

This option defines the set of users that can have access privileges to SQL*Net.

Valid Values

To make SQL*Net available to everyone on the system, accept the default value, `S`, for System. To make SQL*Net available to only the members of the user group that include the ORACLE account, enter `G` for Group.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Install TCP/IP Adapter? [Y/N]

Purpose

This option enables the SQL*Net version 2 TCP/IP adapter.

Valid Values

If you want to use the TCP/IP adapter with SQL*Net, accept the default value Y for yes. If you do not plan to use the TCP/IP adapter with SQL*Net, enter the value, N, for no.

Default Value

Y

Build Oracle Names Server? [Y/N]

Purpose

This option enables Oracle Names Server, the product that makes database link information available to all nodes throughout the network.

Valid Values

If you do not want to install and use Oracle Names, accept the default value, N, for no. Otherwise, choose Y.

Default Value

N

Install ANO Encryption? [Y/N]

Purpose

This option enables the Advanced Networking Option encryption and checksumming utilities.

Valid Values

If you do not want to use encryption and checksumming, accept the default value, N, for no. Otherwise enter Y.

Default Value

N

Install SecurID Authentication Adapter? [Y/N]

Purpose

This option enables ANO Authentication using the SecurID Adapter.

Valid Values

If you want to use Authentication with SecurID, enter Y.

Default Value

N

Install Kerberos 5 Authentication Adapter? [Y/N]

Purpose

This option enables the ANO Authentication using the Kerberos5 Adapter.

Valid Values

If you want to use the Authentication with Kerberos5, enter Y.

Default Value

N

OBJOPT (Object Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

OBJOPT Configuration Options

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

System or Group Installation? [S/G]

Specifies the set of users that can use the Object Option.

To make the Object Option available to everyone on the system, accept the default value. To make the Object Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

OEMAGENT (Intelligent Agent)

OEMAgent Configuration Options

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

System or Group Installation? [S/G]

Specifies the set of users who can use the OEM Intelligent Agent.

To make Intelligent Agent available to everyone on the system, accept the default value. To make Intelligent Agent available to only the members of the user group that include the Oracle8 account, enter G.

Note: Install and build OEMAGENT only if you use or plan to use the Oracle8 Enterprise Manager.

Default Value

S

ORDIMG (Image Cartridge)

Note: This option is available only in the Oracle8 Enterprise Edition release.

ORDIMG Configuration Options

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

System or Group Installation? [S/G]

Specifies the set of users that can use the Image Cartridge.

To make the Image Cartridge available to everyone on the system, accept the default value. To make the Image Cartridge available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

ORDTS (Time Series Cartridge)

Note: This option is available only in the Oracle8 Enterprise Edition release.

ORDTS Configuration Options

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

System or Group Installation? [S/G]

Specifies the set of users that can use the Time Series Cartridge.

To make the Time Series Cartridge available to everyone on the system, accept the default value. To make the Time Series Cartridge available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

ORDVIR (Virage Cartridge)

Note: This option is available only in the Oracle8 Enterprise Edition release.

ORDVIR Configuration Options

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

System or Group Installation? [S/G]

Specifies the set of users that can use the Virage Cartridge.

To make the Virage Cartridge available to everyone on the system, accept the default value. To make the Virage Cartridge available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

PQOPT (Parallel Query Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

PQOPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can use the Parallel Query Option.

Valid Values

To make the Parallel Query Option available to everyone on the system, accept the default value. To make the Parallel Query Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

PSOPT (Parallel Server Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

PSOPT Configuration Options

Option	Current Value
1. System or Group Installation? [S/G]	S
2. Install Oracle Group Membership Services? [Y/N]	Y
3. Directory for OGMS install?	SYSD\$COMMON:[SYSEXE]
4. Override previous OGMS installation? [Y/N]	N

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can use the Parallel Server Option.

Valid Values

To make the Parallel Server Option available to everyone on the system, accept the default value. To make the Parallel Server Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Install Oracle Group Membership Services? [Y/N]

For a complete discussion about this selection option, please refer to the READMEVMSOPS.DOC file in the ORA_RDBMS directory.

Directory for OGMS install?

For a complete discussion about this selection option, please refer to the READMEVMSOPS.DOC file in the ORA_RDBMS directory.

Override previous OGMS installation? [Y/N]

For a complete discussion about this selection option, please refer to the READMEVMSOPS.DOC file in the ORA_RDBMS directory.

SDOPT (Spatial Data Option)

Note: This option is available only in the Oracle8 Enterprise Edition release.

SDOPT Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users who can use the Spatial Data Option.

Valid Values

To make the Spatial Data Option available to everyone on the system, accept the default value. To make the Spatial Data Option available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

SVRMGR (Server Manager)

SVRMGR Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access Server Manager.

Valid Values

To make Server Manager available to everyone on the system, accept the default value. To make Server Manager available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

UTIL

The UTIL product is a component that contains libraries and files, such as LIBSQL.OLB, that are accessed by several products. You should install and configure UTIL for every Oracle product installation. The configuration option for the UTIL product is shown below with its standard value.

UTIL Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access the UTIL product.

Valid Values

To make the UTIL product available to everyone on the system, accept the default value. To make the UTIL product available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Other Oracle Products

This section includes the following products:

- NLS (National Language Support)
- PROGIN (Programmatic Interfaces)
- SQL*Plus

National Language Support or Multilingual Option

Some of the configuration options for National Language Support are shown below with their standard value. An explanation of the options follows.

Note: You must build all other Oracle products before building the NLS option. If you install the NLS option before building all the other Oracle products, the message files will not be installed.

Option	Current Value
1. System or Group Installation? [S/G]	S
2. Are you licensed to install the Multilingual Option [Y/N]	N
3. Install Arabic? [Y/N]	N
4. Install Brazillian Portuguese? [Y/N]	N
5. Install Czech? [Y/N]	N

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can use the Multilingual Option.

Valid Values

To make NLS available to everyone on the system, accept the default value. To make NLS available to only the members of the user group that include the Oracle7 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Are you licensed to install the Multilingual Option? [Y/N]

Purpose

Specifies whether you have purchased the right to install NLS.

Valid Values

To enable loading any of the languages on the menu, enter Y.

Default Value

N

Install <Language>? [Y/N]

Purpose

Specifies whether you want to install National Language Support for the language specified in the option.

Valid Values

To load NLS for the language in the option, enter Y.

Default Value

N

PROGINT (Programmatic Interfaces)

PROGINT Configuration Options

Option	Current Value
1. System or Group Installation? [S/G]	S
2. Build the PRO*C V8 Precompiler? [Y/N]	Y
3. Build the PRO*COBOL V1 Precompiler? [Y/N]	Y
4. Build the PRO*COBOL V8 Precompiler? [Y/N]	Y
5. Build the PRO*FORTRAN Precompiler? [Y/N]	Y
6. Build Object Type Translator? [Y/N]	Y
7. Build SQL*Module Ada Precompiler? [Y/N]	N

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access the Oracle8 Programmatic Interfaces.

Valid Values

To make the Oracle8 Programmatic Interfaces available to everyone on the system, accept the default value **S**. To make Oracle Programmatic Interfaces available to only the members of the user group that include the Oracle8 account, enter **G**.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value

S

Build PRO*C V8 Precompiler? [Y/N]

Purpose

Controls the creation of the PRO*C V8 precompiler.

Valid Values

To use the precompiler, enter **Y** for yes. If you do not want to use it, enter **N** for no.

Default Value

Y

Build PRO*COBOL V1 Precompiler? [Y/N]

Purpose

Controls the creation of the PRO*COBOL V1 precompiler.

Valid Values

To use the precompiler, enter Y for yes. If you do not want to use it, enter N for no.

Default Value

N

Build PRO*FORTRAN Precompiler? [Y/N]

Purpose

Controls the creation of the PRO*FORTRAN precompiler.

Valid Values

To use the precompiler, enter Y for yes. If you do not want to use it, enter N for no.

Default Value

N

Build Object Type Translator? [Y/N]

Purpose

Controls the creation of the Object Type Translator.

Note: The Object Type Translator is available only in the Oracle8 Enterprise Edition release. It is not available or listed in the Oracle8 release.

Valid Values

To use the Object Type Translator, enter Y for yes. If you do not want to use it, enter N for no.

Default Value

Y

Build SQL*Module Ada Precompiler? [Y/N]

Purpose

Controls the creation of the SQL*Module Ada precompiler.

Valid Values

To use the precompiler, enter Y for yes. If you do not want to use it, enter N for no.

Default Value

N

SQL*Plus

The configuration option for SQL*Plus is shown below with its standard values. An explanation of the option follows.

SQL*Plus Configuration Options

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

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access SQL*Plus.

Valid Values

To make SQL*Plus available to everyone on the system, accept the default value. To make SQL*Plus available to only the members of the user group that include the Oracle8 account, enter G.

Note: You must assign the same value here that you assigned for the Oracle8 Enterprise Edition.

Default Value
S

Oracle8 Database Configuration

This section includes information about the configuration menu for database creation.

RDBMSDB (Database Configuration)

RDBMSDB Configuration Options	
Option	Current Value
1. System or Group Installation? [S/G]	S
2. Root directory for database administration directory (ORA_DB)?	ORA_ROOT:[000000]
3. Initial database file for SYSTEM Tablespace?	ORA_DB:ORA_SYSTEM.DBS
4. Initial size of SYSTEM Tablespace?	60M
5. Log File 1?	ORA_DB:ORA_LOG1.RDO
6. Log File 1 Size?	2000K
7. Log File 2?	ORA_DB:ORA_LOG2.RDO
8. Log File 2 Size?	2000K
9. Control File 1 Name?	ORA_DB:ORA_CONTROL1.CON
10. Control File 2 Name?	ORA_DB:ORA_CONTROL2.CON
11. Value for MAXDATAFILES (1..999999999)?	32
12. Value for MAXLOGFILES (2..254)?	32
13. Value for MAXINSTANCES (1..63)?	16
14. Value for MAXLOGMEMBERS (1..5)?	2
15. Value for MAXLOGHISTORY (0..5000)?	1600
16. Value for CHARACTER SET?	US7ASCII

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:

System or Group Installation? [S/G]

Purpose

Specifies the set of users that can access the database.

Valid Values

To make the database available to everyone on the system, accept the default value, S, for System. To make the database available to only the members of the user group that include the Oracle8 account, enter G for Group.

Default Value

S

Root Directory for database administration directory (ORA_DB)?

Purpose

Specifies the directory under which the database administration directory is to reside. The ORA_DB logical name identifies the directory that contains the database administration files and optionally the database files.

Do not include the ORA_DB directory name in your specification. The install procedure will automatically create this directory in the location you specified with the format [*.DB_<dbname>*].

You can use this option to give an alternate location for the ORA_DB directory. Oracle Corporation recommends that you choose a directory that is not within the ORA_ROOT directory tree to make future database upgrades simpler.

Valid Values

Any currently accessible directory owned by the Oracle account.

Default Value

ORA_ROOT:[000000]

Initial database file for SYSTEM Tablespace?

Purpose

Specifies the name and directory location of the first database file that will be added to the SYSTEM tablespace for the new database. This file will hold the data dictionary and the initial rollback segment. You can create additional database files later.

Valid Values

Any valid OpenVMS filename.

Default Value

ORA_DB:ORA_SYSTEM.DBS

Initial size of SYSTEM Tablespace?

Purpose

Gives the size of the database file specified in the previous option.

Valid Values

The size you specify should be sufficient to hold the data dictionary, rollback segments, and all initial user data. You can enter the size in megabytes (M), kilobytes (K), or bytes.

Default Value

60M

Log File1?**Purpose**

Specifies the name and directory location of the first redo log file for this database.

Valid Values

Any valid OpenVMS filename.

Default Value

ORA_DB:ORA_LOG1.RDO

Log File 1 Size?**Purpose**

Specifies the size of the redo log file specified in the previous option.

Valid Values

50 K or larger.

Default Value

2000 K

Log File 2?**Purpose**

Specifies the name and directory location of the second redo log file for this database.

Valid Values

Any valid OpenVMS filename.

Default Value

ORA_DB:ORA_LOG2.RDO

Log File 2 Size?

Purpose

Specifies the size of the second redo log file specified in the previous option. This redo log does not need to be the same size as the first log file.

Valid Values

50 K or larger.

Default Value

2000 K

Control File 1 Name?

Purpose

Specifies the name and directory location of the first control file for this database. The control file will contain the database name, the name of the database files, and the names of the redo log files. The control file also stores archive history.

Valid Values

Any valid OpenVMS filename.

Default Value

ORA_DB:ORA_CONTROL1.CON

Control File 2 Name?

Purpose

Specifies the name and directory location of the second control file for this database. This control file will also contain the database name, the name of the database files, and the names of the redo log files. Oracle Corporation recommends that you maintain this file on a disk other than the one where the first control file resides. The control file also stores archive history.

Valid Values

Any valid OpenVMS filename.

Default Value

ORA_DB:ORA_CONTROL2.CON

Value for MAXDATAFILES (1...999999999)?**Purpose**

Sets the absolute maximum number of database files. The setting affects the size of the control file.

Valid Values

1 to 999999999

Default Value

32

Value for MAXLOGFILES (2...254)?**Purpose**

Sets the absolute maximum number of redo log groups. The total number of redo log files in the database, including multiplexed copies, cannot be greater than MAXLOGFILES times MAXLOGMEMBERS.

Valid Values

2 to 254. When using the Parallel Server technology you should set MAXLOGFILES to at least the maximum number of threads times the number of groups per thread.

Default Value

32

Value for MAXINSTANCES (1...63)?**Purpose**

Sets the maximum number of instances that can access any one database.

Valid Values

1 to 63

Default Value

16

Value for MAXLOGMEMBERS (1...5)?**Purpose**

Sets the maximum number of members (copies) per redo log group.

Valid Values

1 to 5

Default Value

2

Value for MAXLOGHISTORY (0...5000)?

Purpose

Sets the maximum number of redo log files that can be recorded in the archive history of the control file. The setting affects the size of the control file.

Valid Values

0 to 5000. You should set MAXLOGHISTORY to a large value, such as 1600.

Default Value

1600

Value for Character Set?

Purpose

Sets the character set for the database.

Valid Values

See to Appendix A of the *Oracle8 for Alpha OpenVMS Server and Tools Administrator's Guide* for a complete list of valid character sets.

Default Value

US7ASCII

Alpha OpenVMS Account Quotas and Privileges

What men value in this world is not rights but privileges.

H. L. Mencken, U.S. journalist

Minority Report: H.L. Mencken's Notebooks, no. 36 (1956)

This appendix describes the following account information for Alpha OpenVMS:

- Account Quota Descriptions
- Account Privilege Descriptions

Account Quota Descriptions

This section describes some of the account quotas that you may need to change for your Oracle8 account. Some descriptions include mathematical formulas to help you determine appropriate account quota values.

ASTLM

Asynchronous System Trap (AST) quota. If you are running in parallel mode, the ASTLM must be set to at least 24. Typically, this system parameter is set much higher.

BYTLM

Buffered I/O byte count quota. The maximum number of bytes that the Oracle8 account can use at one time for I/O buffering, mailboxes, and so on, is set by the BYTLM quota.

ENQLM

Enqueue quota. The maximum number of Alpha OpenVMS enqueues that the Oracle8 account can hold at one time is set by the ENQLM quota.

If an Oracle8 instance is started in exclusive mode, ENQLM must be at least 5.

FILLM

Open file quota. The maximum number of files per process that can be open at one time is set by the FILLM parameter. Calculate a minimum FILLM with the following formula:

$$3 + (\text{<no_of_logfile>}) * (\text{<no_of_member> per <logfile_group>}) \\ + (\text{<no_of_ctl_file>}) + (\text{<no_of_db_file>})$$

Oracle Corporation recommends a value of 100 for most installations; larger installations will require a larger value.

JTQUOTA

Job table quota. Determines the size of the job logical name table. Oracle Corporation recommends a minimum value of 8192. The default value is 1024.

MAXDETACH

Detached process quota. The number of detached processes per node that can be run at the same time in the Oracle8 accounts per node is set by the MAXDETACH quota. Calculate MAXDETACH with the following formula:

$\langle no_of_databases \rangle * \text{the following:}$
 $(9 + \langle no_of_threads \rangle) * (\langle no_of_lock_processes \rangle \text{ per thread} +$
 $\langle no_of_dispatchers \rangle \text{ per thread} +$
 $\langle no_of_multi_threaded_servers \rangle \text{ per thread} +$
 $\langle no_of_parallel_query_servers \rangle \text{ per thread})$

The default value of 0 allows Oracle8 to run an unlimited number of detached processes.

MAXJOBS

Active process quota. The maximum number of active processes that can be run by the Oracle8 account is set by the MAXJOBS quota. The value of MAXJOBS must be 0 or greater than MAXDETACH. A value of 0 allows Oracle8 to run an unlimited number of active processes. The default value is 0.

PGFLQUO

Paging file quota should be set to a minimum of 250,000.

Note: As of version 7.3.2.3.2, VLM_BACKING_STORAGE_FILE=TRUE is only supported with a private backing file. Therefore, it is not necessary to boost the page file quota when using this feature.

PRCLM

Subprocess quota.

WSDEFAULT

Working set default size quota. The default number of physical pages that Alpha OpenVMS will allocate to the Oracle8 account process is set by the WSDEFAULT quota. A minimum value of 2048 is recommended for the SGA created by the distributed INIT.ORA file.

WSEXTENT

Working set extent quota. The absolute limit of physical memory that Alpha OpenVMS allocates to the Oracle8 account process is set by the WSEXTENT quota.

WSEXTENT must be at least equal to the value of WSDEFAULT. A minimum value of 8192 is recommended for the SGA that is created by the distributed INIT.ORA file.

WSQUOTA

Working set quota. A minimum value of 4096 or greater is recommended. The WSQUOTA sets the following limits:

- Amount of physical memory the Oracle8 account can lock into its working set
- Amount of swap space that Alpha OpenVMS will allocate to the Oracle8 account process
- Amount of physical memory that Alpha OpenVMS allows the Oracle8 account process to consume when memory demand on the system is great

Account Privilege Descriptions

The following list defines the account privileges relevant to an Oracle user or administrator account.

ALTPRI

Allows Oracle8 to boost process priority when starting the database from low-priority batch queues.

CMKRNL

Allows Oracle8 to execute the OpenVMS service “Change Mode to Kernel” (\$CMKRNL). The Oracle8 account requires this privilege to access protected OpenVMS data structures and functions.

EXQUOTA

Allows Oracle8 to exceed disk quota.

IMPERSONATE

Allows Oracle8 to impersonate another user.

LOG_IO

Allows logical input/output.

NETMBX

Allows Oracle8 to create network mailboxes. NETMBX is required by network drivers configured for Oracle8 and SQL*Net

PFNMAP

Allows Oracle8 to install or replace certain system images by mapping to specific pages of physical memory or I/O device registers, no matter who is using the pages or registers.

PRMGBL

Allows Oracle8 to create permanent global sections.

PRMMBX

Allows creation of permanent mailboxes.

SYSGBL

Allows Oracle8 to create system global sections.

SYSLCK

Allows Oracle8 to lock system resources.

SYSNAM

Allows Oracle8 to insert and delete logical names in the SYSTEM logical name table. This privilege makes Oracle8 available to all users on the system.

SYSPRV

May access objects via system protection.

TMPMBX

Allows Oracle8 to create temporary mailboxes for interprocess communication. The number of mailboxes Oracle8 can create is limited by the Oracle8 account's BYTLM quota. TMPMBX is required by network drivers configured for Oracle8 and SQL*Net.

WORLD

Allows Oracle8 to affect other processes executed by users both within and outside the Oracle8 account's group.

Oracle 64-Bit Feature

Nothing to be fixed except your performance.

Noel Coward

This appendix introduces the 64-bit feature or Very Large Memory (VLM) and makes setting and other recommendations for this feature.

Topics covered in this appendix are:

- Introduction to the Oracle 64-bit Feature
- Suggested Parameter Settings
- Other Recommendations

Attention: The 64-bit feature is a standard feature of Oracle8 for Alpha OpenVMS and cannot be de-installed. 64-bit feature tuning is under constant revision. Therefore, this information will be updated as further tuning suggestions are realized.

Introduction to the Oracle 64-bit Feature

This section includes the following information:

- Introducing the Oracle 64-bit Feature
- Benefits of the Oracle 64-bit Feature
- Implementation of the Oracle 64-bit Feature on Alpha OpenVMS

Introducing the Oracle 64-bit Feature

The Oracle 64-bit feature provides the ability to support Very Large Memory (VLM) system configurations with large amounts of RAM.

Benefits of the Oracle 64-bit Feature

The primary benefit of the 64-bit feature is "performance", because many operations can now run at memory speed instead of disk speed. With larger amounts of data in memory, the database issues fewer calls to disk, thus eliminating the delay of disk I/O.

Oracle's 64-bit feature also provides the advantage of "scalability", to support larger number of users and larger amounts of data. The system does not need to swap data in and out of memory to process all of the transaction requests and can more effectively accommodate requests for larger amounts of data.

The 64-bit feature can benefit both query-intensive (DSS) and read-write (OLTP) transactions. For DSS, the database feature provides particular advantage for index builds, full table scans, ad hoc queries, and multi-way joins. For OLTP, the feature provides the ability to support very large tables, large amounts of data, and large numbers of users.

Implementation of the Oracle 64-bit Feature on Alpha OpenVMS

Starting with release 7.3.2.3.2, Alpha OpenVMS supported the Very Large Memory (VLM) 64-bit feature. The Alpha OpenVMS operating system has native 64-bit memory addressing, which allows Oracle8 to implement the 64-bit feature. The need to estimate the maximum System Global Area (SGA) at installation time is now eliminated and process startup times are faster. The Server no longer includes an SGAPAD.

By default, SGA creation uses the new support in the Alpha OpenVMS version 7.1 operating system that allows the creation of global sections that are not backed by any file. These global sections are not pageable and do not require a backing file.

Suggested Parameter Settings

1. Big Oracle Blocks (BOB) provide the ability to support larger I/O transfers between memory and disk. BOB complements large SGA configurations, because BOB allows the system to move data faster between memory and disk. With VLM configurations, system performance depends directly on the ability of the system to move database blocks into the SGA as efficiently as possible. Without the benefits of improved data transfer, performance can decline.

For a pure decision support system (DSS) application, you may wish to choose a large value (such as 32K) for DB_BLOCK_SIZE. For an OLTP type of application, choose a lower value (such as, 2K or 4K). The larger the DB_BLOCK_SIZE, the more serious the impact on single-row lookups.

2. Choose DB_BLOCK_BUFFERS based on the size of the Oracle buffer cache that will provide the best possible cache hit ratio without affecting memory requirements of other Oracle and system processes.

For example, for a 3 GB buffer cache, with DB_BLOCK_SIZE=8192, set DB_BLOCK_BUFFERS=400000.

3. To enable Cost Based Optimizer (CBO), set:

```
optimizer_mode = choose
```

To use CBO, make sure all the tables and indexes are analyzed so that the statistics are up-to-date. Use the SQL*Plus commands "analyze ...estimate" for large tables and "analyze index ... compute statistics" for indexes.

Note: When no statistics are gathered or available, the Rule-based Optimizer (RBO) is used.

Note: Ensure the query does not use the rule hint (/*+ rule */). Otherwise the CBO will be disabled.

4. Set the SORT_AREA_SIZE parameter with care. SORT_AREA_SIZE is the space used in Program Global Area (PGA) for each sort executed by each Oracle process. If the value is too high, the PGA will use excessive memory when sorting. The default value (64K) is usually sufficient.

Check statistics, such as V\$SYSSTAT, to see if the number of sorts to disk is high compared to in-memory sorts. If it is, then increase the value of SORT_AREA_SIZE.

5. The `CACHE_SIZE_THRESHOLD` parameter controls the space used in the buffer cache exclusively for table scans. If most queries require table scans, increase the `CACHE_SIZE_THRESHOLD` parameter value. The maximum value is 50% of `DB_BLOCK_BUFFERS`, and the default is 10% of `DB_BLOCK_BUFFERS`. See the section "Other Recommendations".

Other Recommendations

Check the size in number of rows of the tables involved in the query, and translate this size into total number of blocks. Based on the query, try to fit as many of the hard hit table blocks in `DB_BLOCK_BUFFERS`.

For example, if there are four tables involved in the query, but columns from one of the tables are used repeatedly in the "where" clause in joins, "in", etc.; try to fit as many blocks from this table as possible into the cache to see if `DB_BLOCK_BUFFERS` can be increased. To ensure the hard hit tables are cached and stay in the most recently used (MRU) end of the cache, perform either of the following steps:

- Type (using `SVRMGR` or `SQLPLUS`),

```
alter table <tablename> cache  
or
```

- At the time of creation,

```
create table <tablename> ... cache
```

If there are enough buffers to accommodate all blocks from all tables involved in the query, use the alter command to cache all the blocks. The purpose is to cache most blocks into memory to ensure that I/O to disks is eliminated or remains low. Pay special attention to the `CACHE_SIZE_THRESHOLD` parameter as described in the section above, "Suggested Parameter Settings."

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