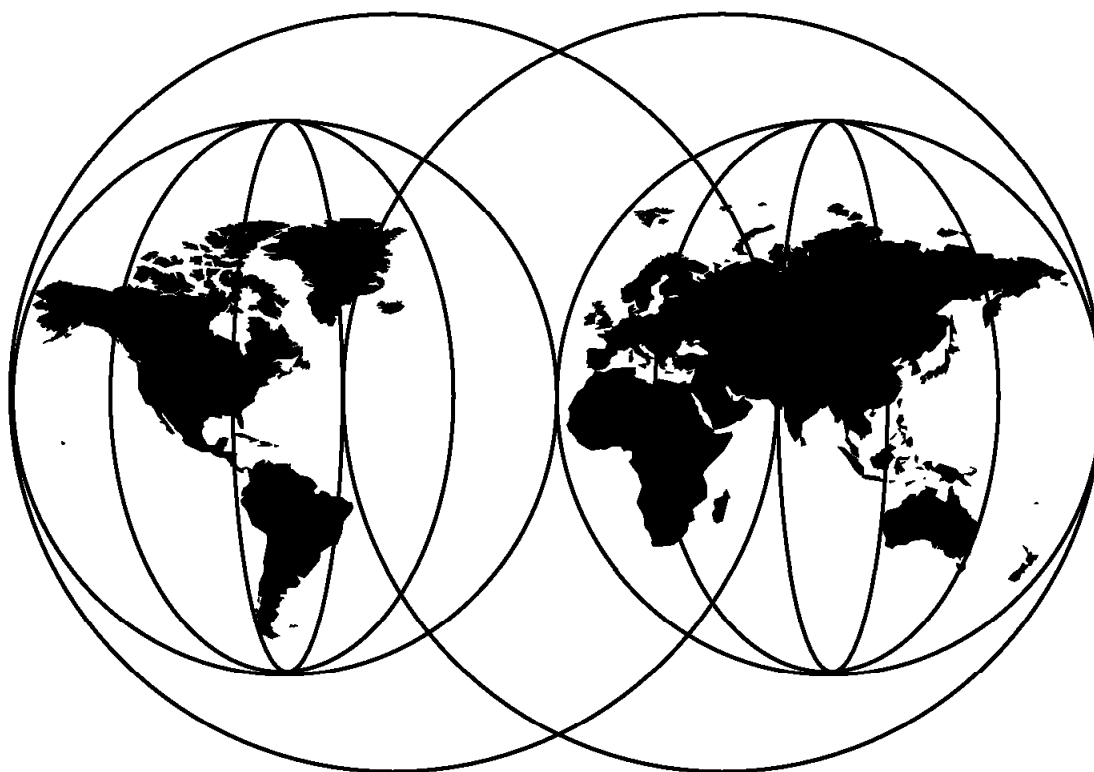




# Oracle Applications for OS/390 Installation Guide

*Kathryn Arrell, Alain Atge, Lou Doran, Dennis Dutcavich,  
Michel Gayraud, Karen Penman, Dana Sismanian*



**International Technical Support Organization**

<http://www.redbooks.ibm.com>





International Technical Support Organization

SG24-4980-01

**Oracle Applications for OS/390  
Installation Guide**

December 1998

**Take Note!**

Before using this information and the product it supports, be sure to read the general information in Appendix C, "Special Notices" on page 157.

**Second Edition (December 1998)**

This edition applies to Oracle Applications Release 10.7 with both SmartClients and NCA Clients for use with Oracle Server 7.3.3.5 and OS/390 V2R5.

Comments may be addressed to:  
IBM Corporation, International Technical Support Organization  
Dept. HYJ Mail Station P099  
522 South Road  
Poughkeepsie, New York 12601-5400

When you send information to IBM, you grant IBM a non-exclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1997, 1998. All rights reserved.**

Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

---

# Contents

<b>Figures</b> .....	ix
<b>Preface</b> .....	xi
The Team That Wrote This Redbook .....	xi
Comments Welcome .....	xii
<b>Chapter 1. Overview of Oracle Products</b> .....	1
1.1 Oracle RDBMS .....	1
1.1.1 Oracle and OS/390 Address Space .....	2
1.2 Oracle Development Tools .....	3
1.3 Oracle Gateway Products .....	4
1.4 Oracle Applications SmartClient Architecture for OS/390 .....	5
1.4.1 Oracle Support Server Functions .....	6
1.4.2 The SmartClient .....	7
1.5 Character-mode Architecture .....	8
1.6 Oracle Web-Enabled Application Architecture .....	9
1.7 Network Computing Architecture .....	11
1.7.1 Oracle Applications with NCA .....	11
1.7.2 Summary .....	12
<hr/>	
<b>Part 1. Installing Oracle Applications with SmartClient</b> .....	13
<b>Chapter 2. Installation Overview</b> .....	15
2.1 Introduction .....	15
2.2 Planning the Installation .....	15
2.2.1 Hardware and Software .....	15
2.2.2 PTFs from IBM .....	16
2.2.3 Patches from Oracle .....	16
2.2.4 Required Skills .....	16
2.3 Tasks to Be Performed during the Installation .....	17
2.3.1 Backup Milestones .....	18
<b>Chapter 3. Installing the Oracle Database on OS/390</b> .....	19
3.1 Pre-Installation Steps .....	19
3.2 Unload the Oracle Installation JCL from the Distribution Tape .....	21
3.3 Create the ISPF Libraries Used by the Installation .....	21
3.4 Execute ISPF and Invoke the Oracle Customization Process .....	22
3.5 Generate and Run the Customization Job .....	25
3.6 Run the Generated Installation Jobs .....	25
3.7 Edit the PARMLIB Members and Startup Procedure .....	26
3.8 Initialize the Oracle Database .....	28
3.9 Run the Remaining Generated Installation Jobs .....	28
3.10 Run the Installation Verification Programs .....	29
3.11 Installing Patchset 5.2 .....	29
<b>Chapter 4. Configuring and Starting SQL*Net</b> .....	31
4.1 Configuring the TNS Subsystem .....	31
4.2 Configuring SQL*Net for OS/390 Servers .....	32
4.3 Start SQL*Net .....	33
<b>Chapter 5. Installing Oracle Clients</b> .....	37

5.1	Creating Clients	37
5.1.1	OS/390 TSO Clients	37
5.1.2	SQL*Plus Client on Windows 95	39
5.1.3	Oracle Enterprise Manager (OEM) on Windows95	39
<b>Chapter 6. Installing the Oracle Server on AIX</b>		<b>41</b>
6.1	Pre-Installation Steps	41
6.2	Installation	41
6.3	Oracle Patch Installation	42
6.4	Installing Patches for 7.3.3.5	42
<b>Chapter 7. Installing the Oracle Applications for SmartClient</b>		<b>45</b>
7.1	Pre-Installation Steps	45
7.2	Installing Prerequisite Products	48
7.3	Starting the Application Installation	49
7.4	Restart of the Oracle Application Installation	52
<b>Chapter 8. Loading the Oracle Demo Database for SmartClient</b>		<b>55</b>
8.1	Specify an Additional Subsystem on OS/390	55
8.2	Create a New Database Instance on OS/390	55
8.3	Adjust the SQL*Net Configuration	55
<b>Chapter 9. Installing the SmartClient on the PC</b>		<b>57</b>
9.1	Installing Oracle Applications on the Client	57
9.2	Applying the Server Updates	58
9.3	Post-Installation Tasks	58
9.4	Configuration Files on the Client	58
<b>Chapter 10. Configuring the Cooperative Processor on AIX</b>		<b>61</b>
<b>Chapter 11. Hints and Tips for Oracle Database and SmartClient</b>		<b>67</b>
11.1	AIX-Related Hints and Tips	67
11.1.1	Start the Oracle Concurrent Manager	67
11.1.2	Shutdown AIX	67
11.1.3	Increase AIX Paging Space	67
11.1.4	Add a New DASD	68
11.2	OS/390-Related Hints and Tips	69
11.2.1	IPL OS/390	69
11.2.2	Shutdown OS/390	69
11.2.3	Auxiliary Storage Shortage	70
11.2.4	Initialize a DASD Volume	71
11.3	Oracle Database-Related Hints and Tips	72
11.3.1	Start the Oracle Database Instances	72
11.3.2	Stop the Oracle Database Instances	74
11.4	Oracle Applications-Related Hints and Tips	75
11.4.1	Compatibility Setting	75
11.4.2	Selecting Number of Workers	75
11.4.3	Error during Autoinstall	76
11.4.4	Wrong Default Password during Restart	76
11.4.5	Password Encryption Patch	76
11.4.6	INITORA Settings	77
11.5	TCP/IP-Related Hints and Tips	78
11.5.1	TCP/IP Data Set Names	78
11.5.2	TCP/IP Client Profile	78
11.5.3	TCP/IP Site Table	79

11.5.4 TCP/IP Server Profile	80
11.5.5 TCP/IP - SQL*Net Connection	81
11.6 SQL*Net-Related Hints and Tips	82
11.6.1 Start the Oracle TNS Subsystem	82
11.6.2 Stop the Oracle TNS Subsystem	82
11.6.3 Change the Default TCP/IP Name	83
11.6.4 Check the Listener on OS/390	83
11.6.5 Check the Listener on AIX	84
11.7 Cooperative Processor Configuration Files	85
11.7.1 TNSNAMES.ORA	85
11.7.2 LISTENER.ORA	86
11.8 SMP/E-Related Hints and Tips	88
11.8.1 Choosing SMP/E or Non-SMP/E Installation	88
11.8.2 First Job Step Did Not Work in Step 8	88
11.8.3 Program IEV90 Not Found	88
11.8.4 Long Job Times	90
11.8.5 Condition Codes 4 or 8	90
11.8.6 VSAM PTF Required for OS/390 Release 3	90
11.8.7 Other Considerations	90
11.9 SmartClient PC Configuration Files	91
11.9.1 ORACLE.INI	91
11.9.2 OACONFIG.ORA	93
11.9.3 TNSNAMES.ORA	96

---

## **Part 2. Installing Oracle Applications with NCA Client** . . . . . 99

<b>Chapter 12. Installation Overview</b>	101
12.1 Planning the Migration	101
12.1.1 Hardware Requirements	101
12.1.2 Software Requirements	101
12.1.3 Documentation	102
12.2 Strategy and Steps of Implementation	102
12.3 Hardware Environment	103
<b>Chapter 13. Installing the Oracle Application Server</b>	105
13.1 Install the Libraries for Oracle Server Engine for AIX	105
13.1.1 Install Oracle RDBMS 7.3.3.1	105
13.1.2 Apply 7.3.3.5.2 Upgrade Patch	106
13.1.3 Oracle Application Server	106
13.2 Installing the Oracle Developer Server	107
13.3 Install Oracle Applications 10.7 NCA Forms and Libraries	108
13.4 Setup the NCA Server and Environment	109
13.4.1 User's Oracle Environment	109
<b>Chapter 14. Oracle Application Server NLS Update</b>	113
14.1 Oracle Applications 10.7 NCA NLS Forms and Libraries	113
14.2 Web Server NLS Setup	113
14.2.1 Web Server NLS Setup	113
14.3 Troubleshooting	115
<b>Chapter 15. Performing the Administration Tasks</b>	119
15.1 Switch Off NLS Languages	119
15.1.1 The FR NLS Environment	119
15.1.2 The US NLS Environment	119

15.2 Manage the Concurrent Managers	119
15.2.1 The FR NLS Environment	119
15.2.2 The US NLS Environment	120
15.3 View the log and report Files	120
15.3.1 The SmartClient Environment	120
15.3.2 The NCA Environment	121
<b>Chapter 16. Migrating 10.7 SmartClient to 10.7 NCA</b>	<b>125</b>
16.1 Migrating from the Existing Oracle Environment	125
16.1.1 Data Base Server Migration from 7.3.2 to 7.3.3.1	125
16.1.2 Installing Patchset 5.2	126
16.1.3 Support Server Migration	127
16.1.4 Install or Upgrade to RDBMS 7.3.3.1	127
16.1.5 Apply 7.3.3.5.1 Upgrade Patch	128
16.2 Patches That We Installed	129
16.2.1 Interoperability Patch OS/390	129
16.2.2 Compatibility Patches	129
16.2.3 NLS Patches for the Support Server	130
16.2.4 Web Server Patches	130
16.2.5 Web Server Patches for NLS for French Language	130
16.2.6 Additional Patches Applied	131
16.2.7 Table Notes	132
<b>Chapter 17. Installing the NCA Client</b>	<b>135</b>
17.1 Installing the Java Development Kit (JDK)	135
17.2 Installing JDK	135
17.3 Creating an Icon	135
17.4 Installing the Oracle Applications Certificate	136
<b>Appendix A. Examples of Files We Used</b>	<b>137</b>
A.1 Starting and Stopping Processes	137
A.2 Copying Oracle Application Server (Cloning)	137
A.3 System Configuration	138
A.3.1 APPLSYS_US.env	138
A.3.2 APPLSYS_FR.env	143
A.3.3 Listener.ora file - Applications Support Server	147
A.3.4 Tnsnames.ora file - Applications Support Server	148
A.3.5 Example of .profile Files	148
A.3.6 Example of .bat File	151
A.3.7 Filesystem Size Guidelines	152
<b>Appendix B. How to Clone the OS/390 Oracle Database Server</b>	<b>153</b>
B.1 Set up the Database Parameters	153
B.2 Generate a Backup Control File	153
B.3 Create the Control File for the Migration Database	156
<b>Appendix C. Special Notices</b>	<b>157</b>
<b>Appendix D. Related Publications</b>	<b>161</b>
D.1 International Technical Support Organization Publications	161
D.2 Redbooks on CD-ROMs	161
D.3 Oracle Publications	161
<b>How to Get ITSO Redbooks</b>	<b>163</b>
IBM Redbook Fax Order Form	164



<b>List of Abbreviations</b> . . . . .	165
<b>Index</b> . . . . .	167
<b>ITSO Redbook Evaluation</b> . . . . .	169



---

## Figures

1.	Connection to Oracle Database	2
2.	Oracle Transparent and Procedural Gateways	4
3.	SmartClient Architecture of Oracle Applications for OS/390	5
4.	Support Server	6
5.	Character-Based Architecture	8
6.	Oracle Self Service Web Application Architecture	9
7.	NCA Architecture	11
8.	Add the Oracle Subsystem Names	20
9.	APF-Authorize an Oracle Library Dynamically	20
10.	APF-Authorize an Oracle Library Statically	21
11.	JCL to Install the Customization Dialog	22
12.	The Oracle Installation Dialog	23
13.	The Oracle Primary Option Menu	24
14.	Oracle Product Selection	24
15.	Oracle Server Options	25
16.	Oracle PARMLIB: Initial Database Build Options	26
17.	Oracle PARMLIB: Database Instance Initialization	26
18.	Oracle PARMLIB: MPM Initialization	27
19.	Oracle PARMLIB: Normal Startup	27
20.	Oracle Startup Procedure	28
21.	Oracle Startup Procedure - Continued	29
22.	TSO Procedure	30
23.	JCL to Start the TNS Subsystem	31
24.	TNS Environment	32
25.	TNS Connect Descriptor	33
26.	SQL*Net Diagnostic Parameter	33
27.	Oracle PARMLIB: MPM Initialization with SQL*Net Start	34
28.	Console Output at TNS Start	34
29.	Console Output at MPM Start	35
30.	TSO Logon Procedure	37
31.	TSO Logon Procedure for SQL*Net Client Access	38
32.	TNSNAMES Including Local Databases	38
33.	INITORA Settings	45
34.	Database Size Settings	46
35.	APPLMGR's Profile	47
36.	The TWO_TASK Parameter	47
37.	The TNSNAMES File on AIX	47
38.	Oracle Applications Unload	48
39.	Autoinstall: Dialog Start	49
40.	Autoinstall: Main Menu	50
41.	Autoinstall: Product Selection	50
42.	Autoinstall: Database Parameter Selection	51
43.	AutoInstall: Choose Overall Tasks and Their Parameters	51
44.	AD Controller Menu	52
45.	Show Worker Status	53
46.	Demo Database MPMPARM	56
47.	MPMTNS with Two Connect Descriptors	56
48.	TNSPING on AIX	56
49.	Listener Parameter File /etc/listener.ora	61
50.	Automatic Start of Listener at IPL Time	62
51.	Script to Start the Concurrent Manager	62

52.	Concurrent Manager Log File . . . . .	63
53.	Concurrent Manager Processes . . . . .	64
54.	Stop Concurrent Manager . . . . .	64
55.	Deactivated Concurrent Manager Processes . . . . .	64
56.	Increase AIX Paging Space . . . . .	67
57.	JCL to Allocate a Page Data Set . . . . .	70
58.	JCL to Initialize a Volume on OS/390 . . . . .	71
59.	MPM Start Console Messages . . . . .	73
60.	MPM Stop Console Messages . . . . .	74
61.	Wrong Compatibility Setting . . . . .	75
62.	Autoinstall Bug . . . . .	76
63.	Adadmin Bug . . . . .	76
64.	INITORA Settings for the Demo Database . . . . .	77
65.	Our TCP/IP Client Profile . . . . .	78
66.	Our TCP/IP Local Hosts File . . . . .	79
67.	MAKESITE Command . . . . .	79
68.	Our TCP/IP Server Profile . . . . .	80
69.	TNS Start Console Messages . . . . .	82
70.	TNS Stop Console Messages . . . . .	82
71.	Change Default TCP/IP Name with ZAP . . . . .	83
72.	Check TNS on OS/390 . . . . .	83
73.	Check the Listener on AIX . . . . .	84
74.	ORAOPT SMP/E Settings . . . . .	89

---

## Preface

This redbook is an installation guide that provides an overview on how to install Oracle Applications Release 10.7 for OS/390. This overview is based on the experiences gained by installing systems at the ITSO Center in Poughkeepsie and at the New Technology Center in Montpellier.

This redbook guides you through the installation process, with hints and tips we learned while doing the installation on OS/390. It assumes you have access to all the necessary Oracle documentation; it does not replace this documentation.

This redbook addresses three audiences: IBM field personnel, Oracle field personnel, and our joint customers who will be installing Oracle Applications for OS/390.

It describes how Oracle Applications for OS/390 are architected to run on S/390, and further information can be found in Oracle Applications for OS/390 Presentation Guide, SG24-2084.

---

## The Team That Wrote This Redbook

This redbook was produced by a team of specialists from around the world working at the International Technical Support Organization Poughkeepsie Center.

**Kathryn Arrell** is a ERP Specialist at the International Technical Support Organization, Poughkeepsie Center.

**Alain Atge** is a S/390 Specialist with the EMEA New Technology Center in Montpellier. He works in the ERP Business Segment and provides technical presales support for Oracle Applications on OS/390.

**Lou Doran** works in the North America ERP Solutions Center providing presales support for Oracle Applications on OS/390.

**Dennis Dutcavich** is a Software Engineer with the S/390 division. He works in the ERP Business Segment and provides technical marketing support for Oracle Applications on OS/390.

**Michel Gayraud** is a Specialist System Engineer in France. He has worked at IBM since 1982. He has 8 years experience as marketing representative in large MVS accounts and 3 years as a networking specialist in the IBM Networking division. He currently works in the Oracle Joint Solution Center in Montpellier.

**Karen Penman** is an Oracle Application Technical Specialist with IGS Oracle Applications Service Line in IBM UK.

**Dana Sismanian** is an Oracle Migration Specialist with Oracle France.

The authors of the first edition of this redbook were:

Friedrich Brosch  
Martin Bruegger  
Bob Dahle

Peter Gran  
Yukinori Shibata  
Jeff Wiese

Thanks to the following people for their invaluable contributions to this project:

Francois Briant  
IBM Montpellier

Patrice Treinen  
Oracle Corporation

Vasilis Karras  
Bob Haimowitz  
IBM ITSO Poughkeepsie

---

## Comments Welcome

### **Your comments are important to us!**

We want our redbooks to be as helpful as possible. Please send us your comments about this or other redbooks in one of the following ways:

- Fax the evaluation form found in "ITSO Redbook Evaluation" on page 169 to the fax number shown on the form.
- Use the online evaluation form found at <http://www.redbooks.ibm.com/>
- Send your comments in an Internet note to [redbook@us.ibm.com](mailto:redbook@us.ibm.com)

---

## Chapter 1. Overview of Oracle Products

This chapter describes the Oracle products that are associated with Oracle Applications for S/390:

- Oracle Relational Database Management System (RDBMS)
- Oracle Tools
- Oracle Gateway Products
- Oracle Applications Architectures
  - SmartClient
  - Web Self-Service Applications
  - Network Computing Architecture (NCA)

Oracle Applications also run in character mode. There is a brief discussion of this architecture. It should be noted that this architecture is supported in Release 10.7, but will not be supported in Release 11.0 of the ERP Applications.

Oracle Applications are designed to work in an integrated manner with the Oracle Database. The applications do not have to integrate with other databases, so they can be tightly coupled with the Oracle database functions. Figure 3 on page 5 shows the SmartClient Architecture of Oracle Applications for OS/390.

---

### 1.1 Oracle RDBMS

Oracle's RDBMS has run on OS/390 since 1986. The current version is 7.3.3.6 (as of December, 1998). Oracle8 will be available for OS/390 in 1999. No special software features or PRPQs are required for OS/390 to run the Oracle database.

TCP/IP is required on OS/390. The reason is that Oracle only provides a TCP/IP protocol agent for TCP/IP on the client side when installing the Oracle Applications and using either the SmartClient or NCA architecture. The TCP/IP feature of Communication Server for OS/390 provides one TCP/IP protocol stack that supports both OS/390 native applications and OS/390 UNIX System Services (USS, formerly OpenEdition) applications. At the time of writing, Oracle Applications do not use the UNIX System Services for OS/390. None of the Oracle utilities such as SQL\*Loader or SQL\*Plus have been ported to USS. However, UNIX users can access the Oracle database using either SQL\*Net or cross-memory services in OS/390.

**Note:** Oracle RDBMS supports TCP/IP for OS/390 from several vendors. With the NCA client you could use LU6.2 instead of TCP/IP between the database and the Oracle Application Server.

The Oracle7 RDBMS for OS/390 is a set of closely integrated components, utilities, and tools that work together to provide you with efficient and effective data management.

When Oracle develops code for their database servers, tools, and applications, they develop generic code for all platforms. More than 90% of Oracle is generic code. The remainder is a "glue" between the generic code and the services that

the platform provides. There are no special OS/390 features or services required.

Oracle Parallel Server (OPS) is available on OS/390 as well as the Oracle Parallel Query feature. OPS has an Oracle distributed lock manager that ensures data integrity. Oracle ERP Applications are not parallel-enabled. One reason to consider using OPS is to have a hot standby system running to provide high availability. The data would be available for the second system to take over if necessary. You should consult with an Oracle Parallel Specialist to determine your requirements to run Oracle Parallel Server.

### 1.1.1 Oracle and OS/390 Address Space

Figure 1 is a high-level view of the Oracle Database architecture on OS/390.

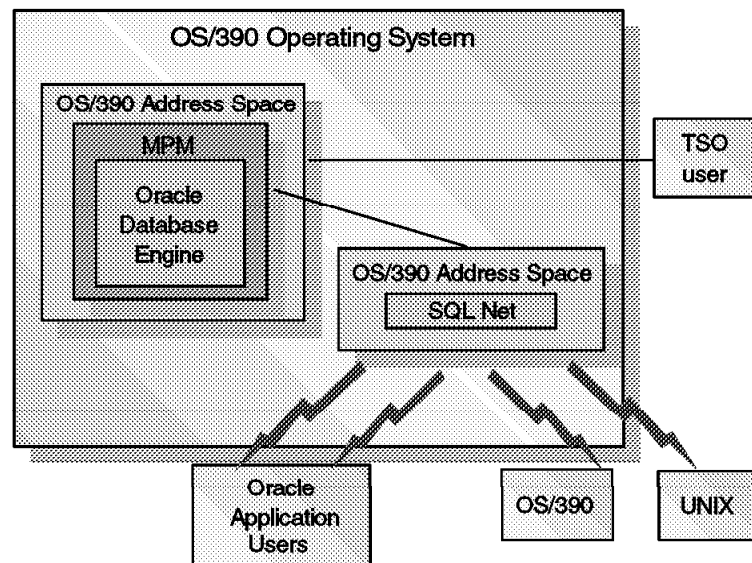


Figure 1. Connection to Oracle Database. For host-based clients, you could be running CICS or IMS and/or batch in their own address spaces.

There are two distinct subsystems (address spaces) required:

- SQL\*Net for communications to users and databases on other systems.
- The Oracle database instance.

Oracle's default names for the address spaces are multiprocessing monitor (MPM) and Transparent Network Substrate (TNS). You may select names for both subsystems that are appropriate for your installation.

MPM provides the interface for the Oracle server to OS/390. MPM is the OS/390-specific component of Oracle that provides a formal OS/390 subsystem environment for Oracle. MPM provides operational control over the Oracle database engine through commands and information displays.

The database engine and MPM are referred to collectively as Oracle7 for OS/390. The subsystem provides the following services for Oracle users:

- Access to data
- Data integrity
- Space management
- Interpretation and execution of all SQL requests



- Management of user sessions and transactions

One address space is dedicated to an Oracle Database instance, which consists of the system and user processes, shared global memory, an I/O buffer pool, and the private memory allocated for each client user.

The other address space (TNS) is dedicated to SQL\*NET, which manages the Oracle Database connection with client users and other Oracle Databases.

Both address spaces communicate by way of the OS/390 cross-memory services. It is possible to have more than one Oracle Database instance up and running at the same time. The setup of the SQL\*NET address space is flexible. You can configure one SQL\*NET address space for more than one Oracle Database instance.

Oracle7 for OS/390 runs as a started task in its own address space on OS/390. Other address spaces are able to access the Oracle Database engine using cross-memory services. For example, if a user wants to use Oracle's interactive SQL tool, SQL\*Plus, they can start the application in TSO and interactively work with the Oracle Database. In addition to TSO, batch is supported. This would, for example, allow a COBOL batch program to access the Oracle Database.

CICS and IMS/TM are also supported client interfaces to Oracle for OS/390. The UNIX System Services for OS/390 (Open Edition) environment is also supported. It is important to note that any valid Oracle client environment can access Oracle for OS/390 by using SQL\*Net. Both SQL\*Net TCP/IP and APPC/LU6.2 are supported for Oracle Database access. However, when you are using the SmartClient to access Oracle Applications, your only choice is TCP/IP.

SQL\*Net provides the user with a direct connection to the Oracle Database, as shown in Figure 1 on page 2. SQL\*Net enables the hardware platforms to communicate with each other regardless of their physical location or communication protocol. The client uses SQL commands to access data or remote procedure calls to invoke stored procedures on the server to access data.

SQL\*NET provides all Oracle products with a common programming interface for communications, that is used for establishing a connection and maintaining the data transmission, including platform code conversion.

---

## 1.2 Oracle Development Tools

To assist in the tailoring and development of applications, Oracle provides the following development tools:

- *Developer* - Oracle Forms, Oracle Reports, Graphics
- *Designer* - Process Modeller, Systems Modeller, Forms Generator, Reports Generator
- *Discoverer* - Browser, Data Query
- *Oracle Enterprise Manager* - A tool for managing your Oracle databases.

All of these products can be used to develop applications for OS/390. Tools that need access to Oracle on OS/390 use SQL\*Net to connect to the database.

The following is an overview of the Oracle tools that can be used to develop Oracle applications for OS/390;

- *Oracle's Enterprise Manager* is a tool that can help you monitor the database. There are several tools available in OEM to assist in tuning, operating and capacity planning for the database. A new intelligent agent is available to execute event-driven applications from OEM. There are also products from third-party vendors to monitor and manage the database or to query the data.
- *Oracle Developer* is a GUI application development environment for Oracle database applications. Developer empowers organizations with the ability to rapidly build sophisticated systems that scale from workgroup to enterprise. The Oracle ERP Application suite was developed using Developer. It is well-suited to tailoring or adding your own functions to the ERP Applications.
- *Designer* supports the modelling of complex systems with business process reengineering (BPR) analysis, and provides tools to create diagrams. Designer uses Entity-Relationship models to design databases and to aid in designing applications.
- *Oracle Discoverer 3.0* is part of Oracle's suite of Decision Support Systems tools. It is the follow-on product to Discoverer.

### 1.3 Oracle Gateway Products

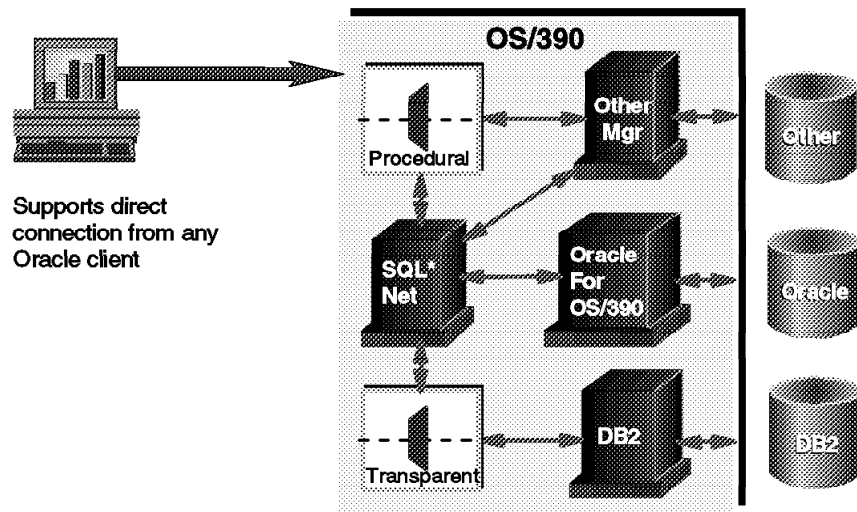


Figure 2. Oracle Transparent and Procedural Gateways

Oracle's Transparent Gateways provide access to all types of data stored outside Oracle Databases. Whether you require data from other data management systems for conversion, or as a permanent interface to unique systems, the gateway product provides an integrated effective method of ensuring transparent access for Oracle data.

Following are brief descriptions of the Oracle Gateway products:

- *Oracle Transparent Gateways* simplify access to information by making all data appear as if it were in a single, local, relational database. The Oracle Transparent Gateways give your applications transparent SQL access to virtually any data. Since the gateways are tightly integrated with the Oracle Database, they can access heterogeneous data stores with complete

transparency, while exploiting the facilities of the database. The Transparent Gateways require no special programming.

- *Oracle Procedural Gateways* leverage existing transactions by allowing you to invoke them from Oracle applications. You can continue to execute those transactions using traditional applications in addition to your Oracle Applications. These transactions can access or update heterogeneous data, perform calculations for a calling application, or launch processes such as print jobs.

---

## 1.4 Oracle Applications SmartClient Architecture for OS/390

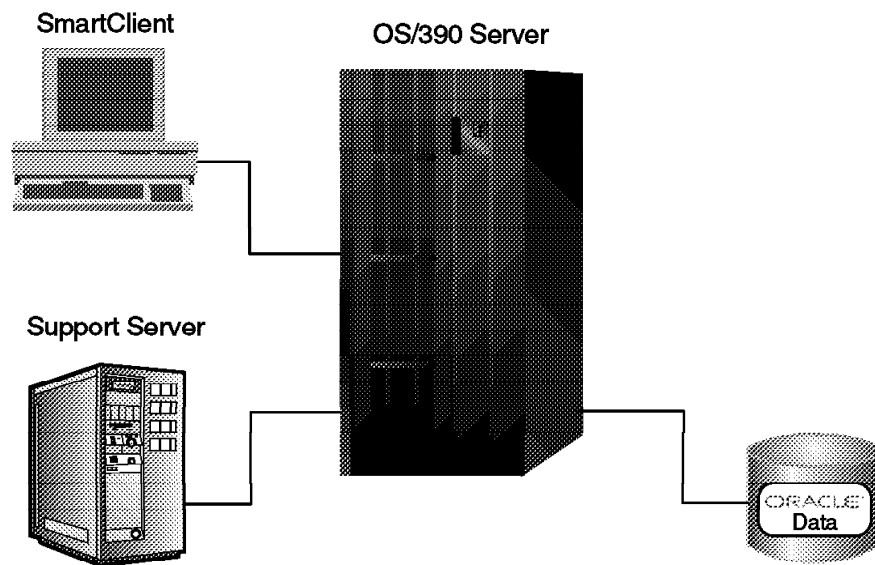


Figure 3. SmartClient Architecture of Oracle Applications for OS/390

Oracle Applications solution for S/390 is a client/server system that is implemented on three hardware platforms:

- The S/390 - Database Server
- RS/6000 - Support Server (or any UNIX or NT server)
- PC - Client

The Oracle Applications client handles the presentation and application logic for the user interface, which directly connects to Oracle Database, residing in OS/390.

The OS/390 Oracle server stores the application data and executes the stored procedures. The stored procedures are the business logic.

Application logic runs on the three platforms and the proportion of these three types of application logic are normally 10 percent on the client, 70 percent on stored procedures and 20 percent on background processing on the Support Server.

## 1.4.1 Oracle Support Server Functions

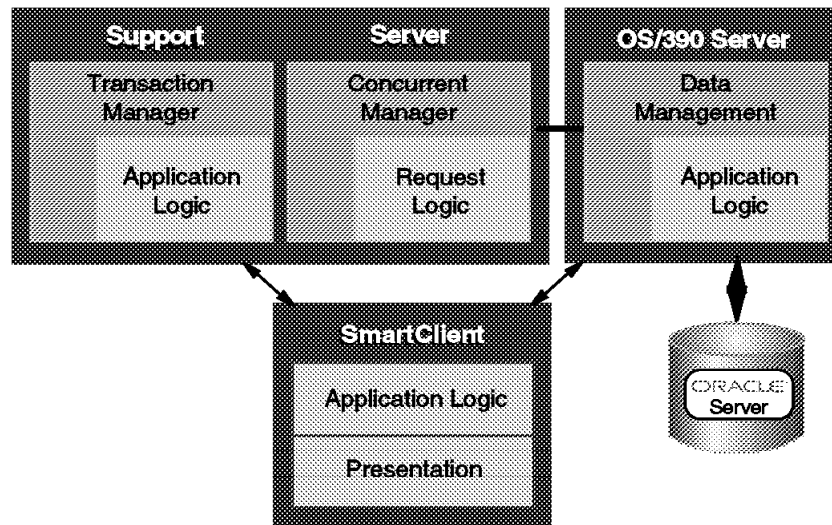


Figure 4. Support Server

Oracle Applications Support Server provides two functions.

1. *Concurrent Manager* schedules and executes the background processing such as the General Ledger posting or Depreciation runs.
2. *Oracle Reports Engine* accesses the data from the database, analyzes it and puts it into specified formats for the end users.

The Concurrent Managers can run on any UNIX or Windows NT system that Oracle supports. They do not run on S/390.

SQL\*NET supports communication between the three platforms by means of the remote procedure call (RPC) protocol and by sending SQL statements using TCP/IP.

In addition to the processing described, there is a Transaction Manager function that handles some application logic processing for three of the Oracle Applications. Certain functions of Order Entry (OE), Inventory (INV), and Work in Process (WIP) require some of the interactive application logic to be executed on the Support Server. In these cases, the Oracle Applications client is connected to the Support Server through TCP/IP.

The flow of Concurrent Manager is:

1. The user requests a task to be run.
2. The request is put in a table in the database on OS/390.
3. The Concurrent Manager has a number of target processes running and if there is a concurrent process (CP) available, it takes the task from the concurrent request (CR) and executes it.
4. The status of the request is indicated in the request table. Requests have four possible phases: pending, running, completed, or inactive.

Concurrent Managers provide for excellent flexibility as they are highly configurable. They can be configured to handle specific functions or individual reports. They can also be configured to begin the execution of batch work

automatically during batch windows. Concurrent Managers are not restricted to a single Support Server. Multiple Support Servers might be used for high availability or may be needed for extremely heavy batch workloads. The Concurrent Managers can then be installed across all the Support Servers installed.

## 1.4.2 The SmartClient

The client runs on a PC using Windows 95, or Windows 3.1. OS/2 is not supported.

The application logic is optimized for performance. The user interface logic resides on the client. Most of the business logic and the data-intensive logic run on the database server.

In the SmartClient deployment, the user interface logic and some application logic is on the PC at the user's desk. This reduces network traffic. The SmartClient has a graphical user interface (GUI) that runs on Windows clients.

From the standpoint of usability, load balancing and maintainability, it is reasonable to divide the application logic onto separate platforms, putting the data-intensive logic onto the database server and the user interface logic on the client PC. However, this approach creates a problem if two components working together as one application frequently request data back and forth through the network. Oracle has solved this problem by using the RDBMS functionality of its Stored Procedure and PL/SQL. Having some application logic on the SmartClient reduces the amount of data traffic on the network by, for example, making one procedure call to the database server which can then perform a series of SQLs embedded in the application logic at the server and return the final result to the calling client.

## 1.5 Character-mode Architecture

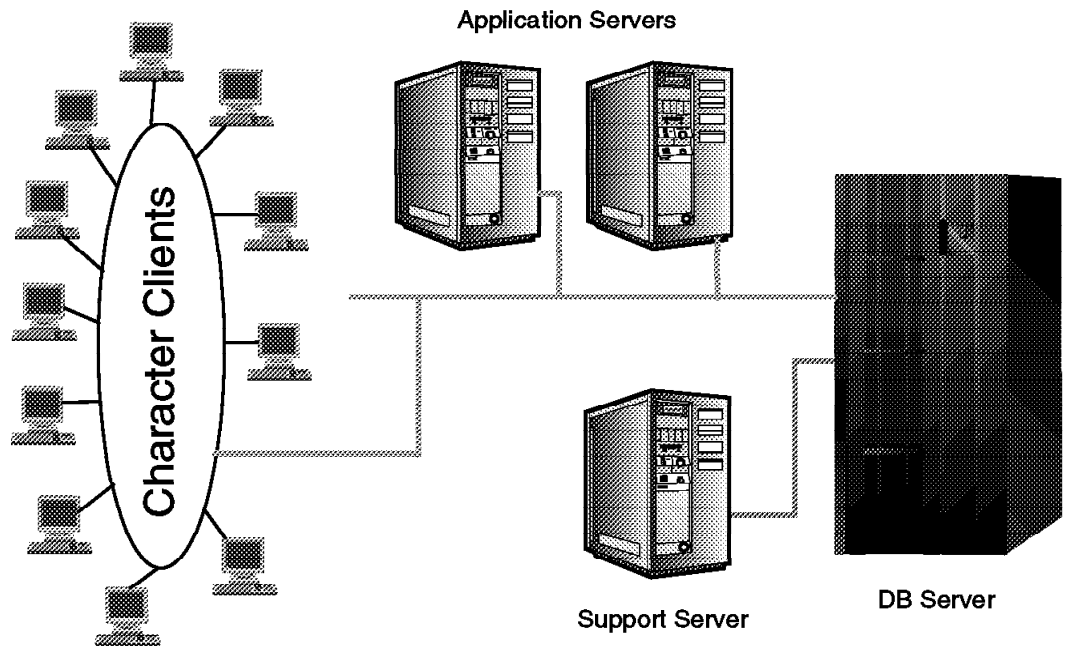


Figure 5. Character-Based Architecture

Character-mode operations are similar to 3270 applications. Oracle Applications were originally designed with this architecture. The SmartClient was introduced with Release 10.6 of the applications. Character-mode applications require three physical tiers, with an application server as the middle tier.

Character-mode terminals can be intermixed with SmartClient and NCA clients. However, Oracle has stated that character-mode terminals will not be supported beyond Release 10.7 of the applications server.

## 1.6 Oracle Web-Enabled Application Architecture

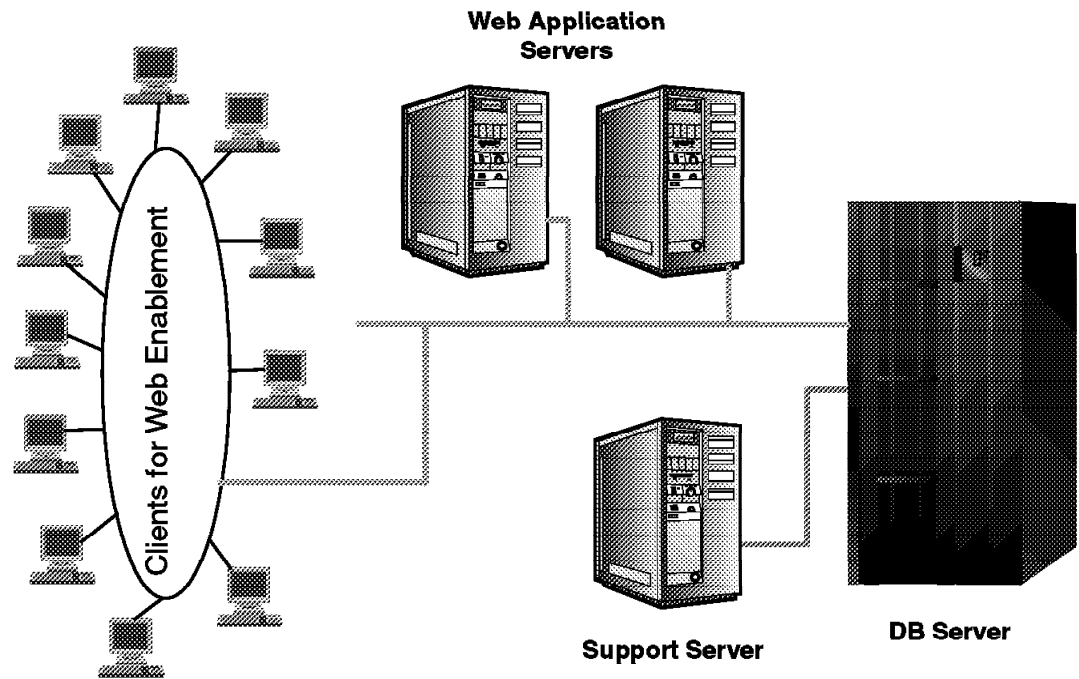


Figure 6. Oracle Self-Service Web Application Architecture

The three self-service Web-designed applications available are:

- Web Employees
- Web Suppliers
- Web Customers

These applications have the following characteristics:

- They are newly designed from the ground up for Web users.
- They are self-service products.
- They require minimal training for users.
- They enable users to obtain or send information at any time.

These applications are designed to be used by someone with minimal training on the application. They can be used, for example, by a supplier to place an order for equipment at 8:00 a.m. EST to a company on the West Coast before it has even opened for business.

Following is an example of some of the self-service tasks the user can do:

<b>Web Employees</b>	Enter requisitions, enter Human Resources (HR) data, enter expense reports, manage assets, access project information
<b>Web Suppliers</b>	Manage inventory, assure quality, confirm payments
<b>Web Customers</b>	Browse your catalog, enter orders, track delivery, review price and inventory availability

These three Web-designed applications are available for the S/390. The Web Applications are provided through Oracle's ERP Application suite. The user

interface is through the Oracle Application Server. The Oracle Application Server is in beta on OS/390. However, it will not support the Oracle Web-deployed Applications or the full NCA architecture on OS/390 after it is generally available on OS/390. You would need to have a copy of the Oracle Application Server running on a separate box or on the Support Server.

These three applications should not be confused with the Web deployed applications. To allow for a network station or a PC with a browser to use the entire suite of the Oracle's ERP Applications, you will also need the Developer Forms Server, as well as the Oracle Application Server. The self-service applications are dynamic HTML cartridges in the database, whereas the Web-deployed applications are Java applets. See 1.7, "Network Computing Architecture" on page 11 for more information.

This is a complete shift away from the professional and clerical model that most companies currently have, to a self-service model where employees, customers, and suppliers can do much more directly, by themselves. Employees and customers will be able to submit queries and orders directly, thus eliminating a level of clerical interaction.

This huge change can enable you to transform your business operations. These applications are specifically designed for broad new user communities on the Web. They are simple and very easy to use, do not require training, and do not require any Oracle software on the client PC; they need just a standard Web browser.



## 1.7 Network Computing Architecture

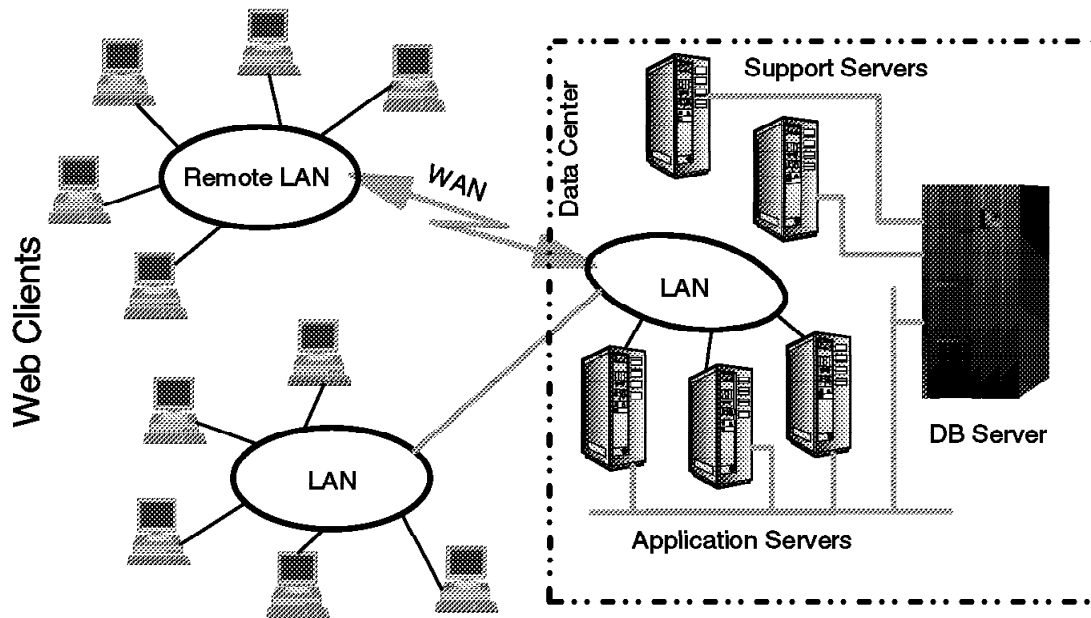


Figure 7. NCA Architecture

Companies are rapidly embracing the Internet because of its low-cost, high-bandwidth networks, and simple easy-to-deploy Web technology. Internet use is quickly expanding from a platform for document browsing to use in core business applications.

Object technology promises to bring a new level of programming productivity to the IS world by allowing developers to package software capabilities into more manageable and useful pieces.

With network facilities in the picture, objects become distributed objects that can operate across different operating systems, networks, languages, and hardware.

Today, most mission-critical systems run on client/server and mainframe systems because of the robust services they provide, including security, transactions, messaging and data access. Ideally, companies would be able to leverage the best of each environment to deploy robust Internet applications while protecting their significant investments in client/server technology and existing legacy systems.

Oracle's Network Computing Architecture addresses these requirements, providing a unifying, standards-based architecture that encompasses client/server, Web and distributed objects.

### 1.7.1 Oracle Applications with NCA

Oracle Applications consists of four functional components: presentation layer, user interface logic, background processes including reporting and scheduling, and the database server, which includes a significant amount of applications logic in stored procedures and database triggers.

Oracle Applications cooperate across the enterprise to allow the most effective use of company resources. The Oracle Applications architecture places application logic on the platform for which it is best suited; the graphical presentation facilities reside on client computers and data-oriented processing resides on the OS/390 server. Coupled with the OS/390 server is a UNIX- or NT-based processor that services batch reporting, EDI, facsimile, and printing.

As Oracle delivers Applications with the Network Computing Architecture, the user interface logic can be moved from desktop computers, where software is expensive to distribute and maintain, to applications servers on the network.

At runtime, a Java applet is downloaded from an application server to an end-user's Web browser. The applet creates the user interface display according to messages it receives from the application server. The applet can display any screen in the applications; it is not specific to any one screen. The communication between the user interface and the application server is engineered to be network-efficient, providing fast response times to end users. Many user interactions, such as typing data into a field, are handled by the applet itself, with no network involvement. Other interactions, including some field validations, result in a single round trip between the applet and the application server. When data-intensive processing is required, the application sever contacts a back-end database server running the database.

With Network Computing Architecture (NCA) designed by Oracle, Oracle Applications can be deployed on any PC, network computer, or other desktop on which Java is available. They allow customers with hundreds or even thousands of users to reduce the traditionally high costs and complexity of implementing, maintaining and upgrading enterprise applications.

## 1.7.2 Summary

Oracle Applications with the Network Computing Architecture provide an enterprise application solution that met the following architecture goals:

- Centralized application software administration

To deploy Oracle Applications, administrators install application software only on servers in their data centers, not on any client machines. They can install as many application servers as they need to handle user load, adding servers as load increases.

- Universal access from zero-administration desktop clients

Only a downloaded presentation layer runs on the desktop and that layer is 100% JAVA.

- Efficient operation on a global wide area network (WAN)

To achieve this goal, Oracle uses an intelligent Java applet on the desktop to manage the presentation interface. The downloaded applet and the Forms Runtime Engine are part of the Oracle Developer Server which runs on the Application server platform. These components of the Developer Server communicate using an optimized message protocol, minimizing network round trips and bandwidth consumption.

---

## **Part 1. Installing Oracle Applications with SmartClient**

This part of this redbook describes all the steps involved in installing the Oracle database and the Oracle Applications 10.7 with SmartClient.



---

## Chapter 2. Installation Overview

This redbook describes the process for installing Oracle Database Server and Oracle Applications for S/390. It is designed to help you through the installation process. Note that since this redbook describes the experiences, hints and tips gained while installing a demonstration system, you also need all the current Oracle installation documentation.

We have updated this redbook based more installation experiences. We installed the Oracle Applications using Oracle7 Release 7.3.3 and OS/390 Release 2.5. It will be identified where information is particular to OS/390 Release 2.5.

The installation steps we followed are based on the Oracle publications that are shipped with the software media.

---

### 2.1 Introduction

This chapter is an overview of the steps that are required for installing Oracle Database and Oracle Applications on OS/390 using the SmartClient architecture. It is based on experiences gained at the ITSO and the S/390 Briefing Center in Poughkeepsie. The steps described take an installation to the point where it is ready for the Oracle Applications specialist to implement the applications.

---

### 2.2 Planning the Installation

Prior to the installation, you should take some time to understand the sequence of events, in order to make the installation process as smooth as possible. It is important to ensure that you have all the required hardware, software, documentation, patches from Oracle, and skills available to complete the installation. It is *highly recommended* that you have an Oracle Consultant working with you on the installation. You should have the latest Oracle Release Notes as well. At the time we did our installation, the release notes for 7.3.3 were A64013-01.

#### 2.2.1 Hardware and Software

We used the following hardware and software:

- OS/390 Release 2.5 We installed the database on one node of a Parallel Sysplex.
  - Network connection via token ring
- AIX Release 4.1.4 on an RS/6000
  - TCP/IP
  - Network connection via token ring
  - 5 GB disk space
  - C compiler
- Windows 3.1 or Windows 95 on a PC
  - 1 GB disk space was recommended to install Oracle SmartClient, but the total space required depends on which applications you will be installing.
  - Network connection via token ring.

**Note:** Oracle Applications will run on any supported version of MVS or OS/390, but OS/390 Release 2 or above is required for Year 2000 support.

## 2.2.2 PTFs from IBM

- For OS/390 Release 1.3 we needed PTF UW36603.
- For OS/390 Release 2.5 you must install PTF U18966 for TCP/IP.

## 2.2.3 Patches from Oracle

It is very important that you find out which patches are required and at which point in time in the installation process you will need them.

At the time of writing, we used the following patches:

- OS/390 Server V7.3.3
  - Patch set 5.2
  - 457151 (TNTI not required with SQL\*Net 2.3.3 and above)
- Support Server (all operating systems)
  - 479803 (ADPATCH)
  - 504807 (AOL)
  - 664046 (FSG, security rules)
  - 555964 (Project Accounting)
  - 650599 (Project Accounting)
  - 674292 (EASYLINK)

If your Support Server is running any version of UNIX, you will also need to apply the Applications Release 10.7 and Database Release 7.3.3 interoperability patch, part number A51766-10.

These patches are described in the Oracle Release notes. The patches are available from Oracle Worldwide Support Services and cannot be ordered from inventory.

Some Oracle patches will be sent with the software. These are described in the read.me files. Other patches will have to be obtained through Oracle Support; you can get this information from the Oracle Release notes.

## 2.2.4 Required Skills

AIX knowledge  
OS/390 knowledge  
PC knowledge  
Network knowledge for TCP/IP  
An Oracle DBA who knows:  
    SQL\*Net, TCP/IP or SNA, AIX, OS/390  
An Oracle Applications system administrator  
    to continue the setup of the applications

Again, as recommended above, you should consider having an Oracle Consultant working with you during your installation as he or she has access to the latest information and can share and transfer the skills gained from previous installation experiences.

---

## 2.3 Tasks to Be Performed during the Installation

The installation process for Oracle Applications for OS/390 involves several steps. Activities have to be performed on the S/390, on the RS/6000, and on the PC client.

The three platforms must be set up with an operating system and have TCP/IP customized so they can all ping each other.

### 1. Installing the Oracle Database on OS/390:

Media:

Two 3480, or two 4 mm tapes with Oracle Server 7.3.3.

We followed the instructions given in Chapter 5 of *Oracle7 Release 7.3 for OS/390 Installation Guide* for the installation of a system without SMP/E.

During the implementation of Oracle Applications, you will need to install several instances. The additional instances will be used for processes such as development, test, education and/or QA. Additional instances can be created by invoking the **07@INST** screen on the **Oracle Product Install Menu**. You will not have to go through the entire process of loading the tapes again.

Then we followed Chapter 9 for the SQL customization. TCP/IP must be configured correctly.

**Note:** If you wish to use SMP/E, follow the steps given in Chapter 6 of that same publication. Be aware that normal database maintenance cannot be applied using SMP/e.

### 2. Installing Oracle Server on AIX, including SQL\*Net:

Media:

CD for Oracle 7 Server Version 7.3.2.0 for IBM RS/6000 AIX 3.2.5, AIX 4, A44475

CD for Oracle 7 Server Patch for Version 7.3.2.3, for AIX-based systems, A48026

Note: You do not need to create the Oracle Server Database on AIX, but you do need to install the RDBMS libraries. Select Oracle 7 Server, Forms 2.3, Forms 3, SQL\*Net, and SQL\*Plus from these CDs on AIX. At this point you must install Forms and CRT as well.

### 3. Installing Reports on AIX:

Media:

CD - Oracle Developer/2000 Release 1.3.2 for AIX-based systems, A48556

Note: At this point you should make a backup of both the OS/390 and the AIX system. The next step has many jobs to run and you can normally restart the process if you have a problem. However, if you must restart the process completely you will have to go back to step 1, so it would be convenient to have a complete backup to restore.

### 4. Installing Oracle Applications on AIX:

Media:

CD - Oracle Applications Release 10.7 for AIX-based systems, A51959, A51960, A51961, A51062

We followed Chapter 3 and 4 in *Oracle Applications Release 10.7 for UNIX Installation Manual*. The autoinstall process in Chapter 4 consists of running 5300 job steps to upload the application-stored procedures to the S/390 database. This can take several hours to run. You may have to correct errors and restart the process.

5. Installing the SmartClient on the PC:

Media:

Four CDs - Oracle Applications 10SC Productions 16, A50825 Client/Server patches: client side patches plus server-side updates

We followed Chapters 3, 4, and 5 in *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*. Chapter 2 provides guidelines on TCP/IP customization for SQL\*Net Communication.

6. Other steps we performed:

- Global Demo Database installation: another Oracle database instance, separate from the database installed in step 1. The Global Demo Database can be ordered on tape which contains a complete set of VSAM files with the password encryption already completed. The tape must be ordered through Oracle.
- Installed Oracle Enterprise Manager on a Win95 client
- Installed patches for Oracle Applications on OS/390
- Installed the Oracle Client software

Media: CD - Oracle Software Client Version 7.3.3 for Windows NT, Windows 95, and Windows 3.1, A48949

7. Steps we did not perform:

- Installing the Multiorg Patch A50844. We did not do this step as it is only necessary if you upgrade from a previous version where you ran the Multiorg programs.

Media: CD - Oracle Applications Release 10.7 Multiorg Patch Generic

- Installing the documentation

Media: CD - Oracle Applications On-line Documentation Library Release 10.7

- Installing the Workflow and Desktop Integrated Products

Media: CD - Oracle Workflow, A50837  
CD - Desktop Integration Products, A50834

- Installing the Global Demonstration Product

Media: CD - Global Demo Product

- Installing the interactive presentations

Media: CD - Oracle Warehouse, Oracle Applications

### 2.3.1 Backup Milestones

You should do backups at the following points in time so that you will not have to repeat the previous steps in case you encounter a problem:

- After step 1, back up OS/390.
- After step 3, back up AIX.
- After step 4, back up OS/390 and AIX.



---

## Chapter 3. Installing the Oracle Database on OS/390

This chapter describes the various steps needed and the experiences encountered during the installation of the Oracle Database on OS/390.

We followed the steps for installation without SMP/E given in Chapter 5 in *Oracle7 Release 7.3 for OS/390 Installation Guide*. For SMP/E considerations, see 11.8.1, "Choosing SMP/E or Non-SMP/E Installation" on page 88.

To perform this installation, we assume that you are familiar with OS/390, JCL, TSO, that you can work with ISPF, and that you know SDSF and basic OS/390 operator commands.

We further assume that you have a running OS/390 system and a spare DASD volume for the installation.

There is normally no difficulty in acquiring an additional volume under OS/390: you initialize a free volume and set it online.

There are up to 15 installation steps, depending on your selection of Oracle products.

---

### 3.1 Pre-Installation Steps

We added the Oracle subsystem names via ISPF. You need to specify two subsystems:

- MPM for the Oracle OS/390 server
- TNS for the Oracle SQL\*Net

For this installation we chose MPM2 as the subsystem name. We also used MPM2 as the high-level qualifier for our data sets with ORACLE as the second-level qualifier. References to MPM2.ORACLE are specific to our installation. You may choose different names. Names must be one to four characters and begin with a letter. A good naming strategy would put the Oracle executables in one library and the data files (VSAM files) in another library. The executables can be shared between instances and are release sensitive. The data files are instance specific. Considering this, you might put the executables in ORAN.ORAV733 (members) and put the data files in MPM2.SYSTEM.DBF.(the data file name). The installation panels provide you with this flexibility.

Later a third database was created from the Global Demo Database installation tape. The Global Demo Database defaults to the subsystem name GDDB and creates the appropriate libraries as part of the installation.

Recent MVS releases and OS/390 allow you to add subsystem names dynamically via either an operator command under SDSF, or on the system console, as shown in Figure 8 on page 20. Adding a subsystem name dynamically might save you an IPL.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PARMLIB(IEFSSN04) - 01.07                Columns 00001 00072
*****  ***** Top of Data *****
000100 JES2,,,PRIMARY                                JOB ENTRY SUBSYSTEM
-----
001000 SUBSYS SUBNAME(VMCF)                          /* TCPIP */
001000     SYSINIT(VPXSSI)
001000     SYSPARM('WTSC&SYSCLONE')
001100 SUBSYS SUBNAME(MPM2)                          /* ORACLE SUBSSTEM NAME */
001200 SUBSYS SUBNAME(TNS)                          /* ORACLE SQL*NET */
*****  ***** Bottom of Data *****

Display Filter View Print Options Help
-----
SDSF SYSLOG 176.101 P390 P390 05/30/1997 LINE 14,695 COLUMNS 51 130
COMMAND INPUT ==> /setssi add,s=mpm                SCROLL == => PAGE
290 SETSSI ADD,S=MPM2

Display Filter View Print Options Help
-----
SDSF SYSLOG 176.101 P390 P390 05/30/1997 LINE 14,695 COLUMNS 51 130
COMMAND INPUT ==> /setssi add,s=tns                SCROLL == => PAGE
290 SETSSI ADD,S=TNS

```

Figure 8. Add the Oracle Subsystem Names

The next pre-installation step is to authorize the Oracle AUTHLOAD library. You first specify the data set name and volume of the library, and then activate this authorization. You again have the choice of accomplishing this dynamically, as shown in Figure 9, or via an IPL of your system.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PARMLIB(PROG00) - 01.15                Columns 00001 00072
*****  ***** Top of Data *****
000100 APF FORMAT(DYNAMIC)
-----
003000 APF ADD DSNAME(MPM2.ORACLE.AUTHLOAD) VOLUME(ORACLE)
*****  ***** Bottom of Data *****

Display Filter View Print Options Help
-----
SDSF SYSLOG 176.101 P390 P390 05/30/1997 LINE 14,695 COLUMNS 51 130
COMMAND INPUT ==> /set prog=0                      SCROLL ==> PAGE

Display Filter View Print Options Help
-----
SDSF SYSLOG 176.101 P390 P390 05/30/1997 LINE 15,025 COMMAND ISSUED
RESPONSE=P390     CSV410I APF FORMAT IS NOW DYNAMIC
090 CSV410I DATA SET MPM.ORAV73A.AUTHLOAD ON VOLUME ORACLE ADDED TO APF LIST

```

Figure 9. APF-Authorize an Oracle Library Dynamically

Make sure you have the dynamic APF-authorization set in your IEASYSxx PARMLIB member so that the Oracle library stays authorized after the next IPL. You do this with the entry PROG=xx in your IEASYSxx PARMLIB member.

You may also authorize the Oracle AUTHLOAD library via updating the IEAAPFxx member of your PARMLIB. In this case, you should verify that your IEASYSxx PARMLIB member points to the right IEAAPFxx member, as shown in Figure 10 on page 21.

Note, however, that static authorization can only be activated via an IPL of your system.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PARMLIB(IEAAPF00) - 01.00          Columns 00001
*****  ***** Top of Data *****
000001 CICS.SDFHAUTH                               P390DX,
-----  - - - - - 8 Line(s) not Displayed
000010 MPM2.ORACLE.AUTHLOAD                       ORACLE
*****  ***** Bottom of Data *****

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PARMLIB(IEASYS00) - 01.18          Columns 00001
*****  ***** Top of Data *****
-----  - - - - - 30 Line(s) not Displayed
002810 APF=00,                                     IEAAPF00 APF LIST
-----  - - - - - 11 Line(s) not Displayed
004000 VRREGN=64                                  DEFAULT REAL-STORAGE REGION SIZE
*****  ***** Bottom of Data *****

```

Figure 10. APF-Authorize an Oracle Library Staticly

### 3.2 Unload the Oracle Installation JCL from the Distribution Tape

Loading the Oracle installation JCL from the distribution tape creates your installation library, reads one data set off the installation tape, and stores it as the first member in this library under the default name OSPIJA00.

### 3.3 Create the ISPF Libraries Used by the Installation

You have to edit the previously created sample job (member OSPIJA00) before you submit it for execution:

- The JOB card information probably will not conform to your installation.
- Choose an appropriate INDEX parameter; this will be the high-level qualifier of all Oracle data sets.
- Tape unit and volume serial number have to be set (TPUNIT, TPVOL); this is your installation input tape.
- DASD unit and volume serial number have to be set (PDASD, PDVOL); this is the volume on which Oracle allocates its data set.
- The device type for allocation of the temporary data set (TDASD) has to be specified.
- The DCBxxxx parameter points to your current ISPF libraries. Oracle will create its own ISPF libraries with the same DCB characteristics as the corresponding ISPF libraries on your system.

Oracle still uses the old names for the ISPF/PDF libraries, so you should make sure you change those (unless you defined the old names as alias names for the new names, as many installations do).

You can issue the TSO command

```
LISTALC STATUS
```

from the TSO command line to determine the correct allocations.

If you do not want to have all Oracle data sets in your master catalog, you should first do the following:

- Define a USERCATALOG for Oracle
- Define an ALIAS (using your first or only part of the INDEX parameter) that points to the new catalog.

After editing, our OSPIJA00 member looked like this:

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.INSTLIB(OSPIJA00) - 01.00          Columns 00001 00072
*****  ***** Top of Data *****
000001 //MPM2CLIS JOB (0000,ORA),'ORAIPO INSTALLATION',
000002 //              REGION=1024K,NOTIFY=P390,
000003 //              CLASS=A,MSGCLASS=X
000004 //ORAI SPF PROC INDEX='MPM2.ORACLE',
000005 //              TPUNIT=560,
000006 //              TPVOL=OS9605,
000007 //              PDASD=3390,
000008 //              PDVOL=ORACLE,
000009 //              TDASD=SYSDA,
000010 //              DCBPLIB='ISP.SISPPENU',
000011 //              DCBSLIB='ISP.SISPSENU',
000012 //              DCBMLIB='ISP.SISPMENU',
000013 //              DCBCLIB='ISP.SISPCLIB'
000014 // *
-----
*****  ***** Bottom of Data *****
- - - - - 97 Line(s) not Displayed
```

Figure 11. JCL to Install the Customization Dialog

After this job finishes successfully, you can invoke the Oracle installation dialog.

---

### 3.4 Execute ISPF and Invoke the Oracle Customization Process

While the database can be installed with SMP/e, there is no real advantage to using SMP/E. Normal maintenance is not installed with SMP/E. Maintenance is generally installed by concatenating modules, replacing modules or applying ZAPs provided by Oracle.

You invoke the installation dialog as in Figure 12 on page 23:

```

Menu List Mode Functions Utilities Help
-----
                          ISPF Command Shell
Enter TSO or Workstation commands below:

====> ex 'MPM2.ORACLE.ISPCLIB(07IPO01)'

Please enter the first and second level data set name qualifiers
for the ISPF data sets you have copied from the tape.

Example: If your ISPF Clist data set name is ORA1.ORAV71A.ISPCLIB,
then you would enter ORA1.ORAV71A without quotes or an ending period.
MPM.ORAV73A

You entered MPM.ORAV73A as the data set prefix for your ISPF files.
If this is correct enter C to continue, otherwise you will have
to reenter this information:
C

Is this going to be an SMP/E install? Please answer Y or N.
N

```

Figure 12 (Part 1 of 2). The Oracle Installation Dialog

```

07@PRIM ----- ORACLE PRODUCTS FOR MVS INSTALLATION ---- Row 1 to 2 of 2
                          ORACLE PRODUCT INSTALL MENU          USERID  - PETER
OPTION ==>                SELECT PRODUCT SET                   DATE    - 97/06/03
                                                                TIME    - 06:22

Select only one product set to install, make your selection by placing
any non-blank character next to it.

You must enter a different first and second level qualifier(s)
for each selected product set that appears on this panel.

      Product Set          Target data set
      Description          Name Qualifiers
-----
S   Oracle7 Server        MPM.ORAV73A
-   Oracle for MVS Client

```

Figure 12 (Part 2 of 2). The Oracle Installation Dialog

When you run O7IPO01 you create an Oracle ISPF data set environment profile library, tso\_userid.O7ISPF.ISPFPROF. There are some interesting things kept here:

- High-level qualifier for data sets.
- Was this an SMP/E install? Forces all other installs to be the same.
- The volume IDs of the tapes that need to be mounted.
- The level of the database, for example, Version 7.

Eventually you arrive at the Oracle primary option menu, as shown in Figure 13 on page 24. This installation step describes all the panels you have to go through when you select **Option 1, Define Primary ORACLE PRODUCTS Installation Parameters** on this menu.

```

07@INST ----- ORACLE PRODUCTS FOR MVS INSTALLATION -----
OPTION ==>          ORACLE PRIMARY OPTION MENU          USERID - PETER
                                     DATE - 97/06/03
                                     TIME - 08:01
                                     TERMINAL - 3278

  1 Primary      - Define Primary ORACLE PRODUCTS -
                  Installation Parameters.
  2 Generate (P) - Generate Installation Job "*****".
  3 Secondary    - Define Secondary ORACLE SERVER Installation
                  Parameters.
  4 Generate (S) - Generate Installation Job "*****".
  5 Reset all Product and Language selections.
  X EXIT        - Exit ORACLE Install Dialog facility.

                  (P) Primary ORACLE PRODUCTS process.
                  (S) Secondary ORACLE SERVER Subsystem process.

Enter END command to terminate ORACLE Install Dialog facility.

```

Figure 13. The Oracle Primary Option Menu

All steps in the parameter definition process are rather self-explanatory; Figure 14 shows you which products we selected and Figure 15 on page 25 shows you how we set our server options.

```

07PRODS ----- ORACLE PRODUCTS FOR MVS INSTALLATION -- Row 1 to 15 of 15
                                     USERID - PETER
Enter S to select a product, otherwise leave it blank. DATE - 97/06/03
Enter C to continue. Press END to return the previous panel. TIME - 16:17

Select Product
S Oracle7 Server
- Access Manager for CICS
- Access Manager for IMS/TM
- Oracle Precompilers
- Oracle Reports Version 2.0
- SQL*Forms Version 2.3
- SQL*Forms Version 3.0
S SQL*Loader
- SQL*Menu Version 4.1
- SQL*Menu Version 5.0
S SQL*Net Version 2
S SQL*Plus and Help Files
- SQL*Report
- SQL*ReportWriter V1.1
- SQL*TextRetrieval
***** Bottom of data *****

```

Figure 14. Oracle Product Selection

```

07PTIP30 ----- ORACLE PRODUCTS FOR MVS INSTALLATION -----
COMMAND ==>          SELECT ORACLE SERVER OPTIONS

Enter C to continue. Re-enter parameters to change.

1 ORACLE PARALLEL QUERY OPTION  ==> Y  Enter 'y' for parallel query
                                option else 'n'
2 ORACLE DISTRIBUTED OPTION      ==> Y  Enter 'y' for distributed
                                option else 'n'
3 ADVANCED REPLICATION OPTION    ==> N  Enter 'y' for replication
                                option else 'n'
4 SPATIAL DATA OPTION           ==> N  Enter 'y' for spatial data
                                option else 'n'

```

Figure 15. Oracle Server Options

---

### 3.5 Generate and Run the Customization Job

After you complete the installation parameter settings, return to the Oracle primary option menu and select **Option 2, Generate Installation Job**. This process puts member O7PIJA01 into your installation library.

You have to run this customization job. It will put a series of installation and verification jobs into your installation library. In addition, it creates the members that will be copied to the Oracle parameter library by the installation.

---

### 3.6 Run the Generated Installation Jobs

Submit the following series of installation jobs:

- ORPIJD00**    Allocate and load runtime libraries from tape
- ORPIJE00**    Allocate database, control, and redo log clusters
- ORPIJF00**    Copy the PGMDESCC clist to your Oracle ISPF clist library
- ORPIJF01**    Create MPM parameters and Oracle proclib members
- ORPIJF05**    Copy procedure ORASQLV7 to your proclib
- ORPIJF06**    Create Oracle precompiler procedures
- ORPIJF13**    Copy NLS modules

You only need to run ORPIJF06 if you selected the precompilers on the product selection screen 07PRODS. Keep this in mind if you will be using the Oracle Precompiler or Oracle OCI interface: you will need to go to Oracle support and get the beta release 2.2 of the precompiler. The database comes with release 1.2, which is very down-level. If you need the OCI headers, you will need to call Oracle support. The headers were not shipped with the database.

### 3.7 Edit the PARMLIB Members and Startup Procedure

The initial MPM PARMLIB members are shown in Figure 16 through Figure 19 on page 27. Note: We added the line CHARACTER SET W8EBCDIC37C to be sure the correct character set is used during database creation.

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(CREATE) - 01.00          Columns 00001 00072
***** ***** Top of Data *****
000001 SET ECHO ON
000002 CONNECT INTERNAL
000003 STARTUP PFILE=/DD/INITORA NOMOUNT
000004 CREATE DATABASE MPM MAXDATAFILES 256
000005 CHARACTER SET W8EBCDIC37C
000006 LOGFILE '/DSN/MPM.ORAV73A.LOG2' ,
000007         '/DSN/MPM.ORAV73A.LOG1'
000008 DATAFILE '/DD/DB1';
000009 CREATE TABLESPACE USER2 DATAFILE '/DD/DB2';
000010 CREATE ROLLBACK SEGMENT S1 TABLESPACE SYSTEM;
000011 CREATE ROLLBACK SEGMENT S2 TABLESPACE SYSTEM;
000012 CREATE ROLLBACK SEGMENT S3 TABLESPACE SYSTEM;
000013 CREATE ROLLBACK SEGMENT S4 TABLESPACE SYSTEM;
***** ***** Bottom of Data *****
```

Figure 16. Oracle PARMLIB: Initial Database Build Options

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(INITORA) - 01.02          Columns 00001 00072
***** ***** Top of Data *****
000001 CONTROL_FILES = "/DD/CONTROL2"
000002 CONTROL_FILES = "/DD/CONTROL1"
000003 SHARED_POOL_SIZE = 4000000
000004 DB_BLOCK_BUFFERS = 500
000005 DB_FILES = 256
000006 DB_NAME = MPM
000007 LOG_BUFFER = 65536
000008 LOG_CHECKPOINT_INTERVAL = 3000
000009 OPEN_CURSORS = 120
000010 ROLLBACK_SEGMENTS = (S1,S2,S3,S4)
000011 TRANSACTIONS = 55
000012 SESSIONS = 55
000013 PROCESSES = 50
000014 DML_LOCKS = 220
000015 COMPATIBLE = 7.0.16
***** ***** Bottom of Data *****
```

Figure 17. Oracle PARMLIB: Database Instance Initialization



```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(MPMPARM) - 01.04          Columns 00001 00072
*****  ***** Top of Data *****
000001 LANGUAGE='AMERICAN_AMERICA.WE8EBCDIC37C'
000002 SSNAME='MPM'
000003 COMCHAR='_'
000004 SERVER_OPTS=(PARQ,DIST)
000005 KERNEL='ORACODE'
000006 USERS=50
000007 CONBUF=13
000008 STACKSIZE=256000
000009 TRACESIZE=32767
000010 TRACEDS="MPM2.ORACLE.TRACE** "
000011 PRIVUSER=P390
000012 SSCOMMENT='VER(VERSION7)'
000013 UPPERCASE
*****  ***** Bottom of Data *****

```

Figure 18. Oracle PARMLIB: MPM Initialization

**Note:** You must use the "37C" character set for Oracle Applications on OS/390. The default is "1047" and must be changed. Using the incorrect character set can lead to degraded performance with your installation. If this is an upgrade and "1047" was already in use, please contact Oracle Support for assistance in changing character sets. This only affects the Oracle ERP suite of applications.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(STARTUP) - 01.02          Columns 00001 00072
*****  ***** Top of Data *****
000001 SET ECHO ON
000002 CONNECT INTERNAL
000003 STARTUP PFILE=/DD/INITORA NOMOUNT
000004 ALTER DATABASE MPM MOUNT;
000005 ALTER DATABASE OPEN;
*****  ***** Bottom of Data *****

```

Figure 19. Oracle PARMLIB: Normal Startup

Our startup procedure initially looked like this:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PROCLIB(ORAMP) - 01.01                Columns 00001 00072
*****  ***** Top of Data *****
000001 //ORAMP  PROC SYSOUT='SYSOUT=X', JES SYSOUT CLASS.
000002 //          VINDE=' MPM2' ,
000003 //          INDEX=' MPM2' ,
000004 //          LIBV=' ORACLE' ,
000005 //          START=STARTUP
000006 // *
000007 //IEFPROC EXEC PGM=MPM,PARM='>/OPER/' , REGION=OM,
000010 //          DYNAMNBR=40,
000012 //          TIME=1440
000013 //STEPLIB DD DISP=SHR,DSN=&INDEX..&LIBV..AUTHLOAD
000014 //SYSDUMP DD SYSOUT=*
000015 //SYSOUT DD &SYSOUT,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO=1)
000017 //SYSERR DD SYSOUT=*,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO=1)
000019 //ORA$LIB DD DISP=SHR,DSN=&INDEX..&LIBV..AUTHLOAD
000023 //SQLBSQ  DD DISP=SHR,DSN=&INDEX..&LIBV..SQL (SQLBSQ)
000025 //SYSPRINT DD DISP=SHR,DSN=&INDEX..&LIBV..MPMALRT
000026 //INITORA  DD DISP=SHR,DSN=&INDEX..&LIBV..PARMLIB (INITORA)
000027 //DBAINIT  DD DISP=SHR,DSN=&INDEX..&LIBV..PARMLIB (DBAINIT)
000028 //STARTUP  DD DISP=SHR,DSN=&INDEX..&LIBV..PARMLIB (&START)
000029 //ORARDR  DD SYSOUT=(A,INTRDR)
000030 //SYSIN    DD DISP=SHR,DSN=&INDEX..&LIBV..PARMLIB (MPMPARM)
000031 //          DD DISP=SHR,DSN=&INDEX..&LIBV..PARMLIB (SQLDBA)
000032 //DB1      DD DISP=SHR,DSN=MPM1.ORACLE.SYSTEM.DB1
000033 //DB2      DD DISP=SHR,DSN=MPM1.ORACLE.USER2.DB2
000035 //CONTROL2 DD DISP=SHR,DSN=&VINDE..ORACLE.CONTROL2
000037 //CONTROL1 DD DISP=SHR,DSN=&VINDE..ORACLE.CONTROL1
000039 // *
*****  ***** Bottom of Data *****

```

Figure 20. Oracle Startup Procedure

Note, on line 000007 of the startup proc, above the parameter R=0M. This must be set as indicated so that Oracle can get the amount of virtual memory it needs. You should review the *Oracle System Administration Guide*, Section 8 on memory requirements.

### 3.8 Initialize the Oracle Database

Now you are ready to initialize the Oracle database instance. You can enter the following command on the system console or under SDSF:

```
S ORAMP.MPM,START=CREATE
```

or you can run the generated job ORPIJG00 from your installation library.

### 3.9 Run the Remaining Generated Installation Jobs

Submit the rest of your installation jobs:

- ORPIJH00** Initialize the Oracle database dictionary
- ORPIJI00** Initialize the help tables
- ORPIJJ00** Create user and demonstration tables

---

### 3.10 Run the Installation Verification Programs

Verify that your installation was successful by running the following programs:

- ORIVJA01** Database engine install verification
- ORIVJA04** SQL\*Plus install verification

---

### 3.11 Installing Patchset 5.2

The patch tape was ordered from Oracle Support. The patches can also be obtained via FTP from an Oracle FTP site as well. The patch consists of the following PDSs;

- ORACLE FIXTAPE V73352 AUTHLOAD
- ORACLE FIXTAPE V73352 CMDLOAD
- ORACLE FIXTAPE V73352 SQL
- ORACLE FIXTAPE V73352 README

There are several interesting files in the README dataset. You should read NOTES because it contains known problems and restrictions. Also read BUGS, as it contains a list of all the bugs fixed by this patch tape.

The process to install the patch is located in the INSTALL member of the README dataset;

1. Concatenate the new AUTHLOAD ahead of the 7.3.3.1 AUTHLOAD in the STEPLIB and ORA\$LIB of your Oracle JCL.

```
EDIT      SYS1.PROCLIB(ORAMPM2) - 01.09                Columns 00001
Command ==>                                         Scroll ==>
***** ***** Top of Data *****
-----Lines Not Shown-----
000027 //STEPLIB DD DSN=DAV.FIXTAPE.B522863B.AUTHLOAD,DISP=SHR
000028 //      DD DSN=DAV.FIXTAPE.B712461.AUTHLOAD,DISP=SHR
000029 //      DD DSN=&INDEX..&LIBV..V73352.AUTHLOAD,DISP=SHR
000030 //      DD DSN=&INDEX..&LIBV..AUTHLOAD,DISP=SHR
000031 //SYSMDUMP DD SYSOUT=*
000032 //SYSOUT DD &SYSOUT,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO=1
000033 //SYSERR DD SYSOUT=*,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO=
000034 //ORA$LIB DD DSN=&INDEX..&LIBV..V73352.AUTHLOAD,DISP=SHR
000035 //SQLBSQ DD DSN=&INDEX..&LIBV..V73352.SQL(SQLBSQ),DISP=SHR
000036 // *QLBSQ DD DSN=&INDEX..&LIBV..SQL(SQLBSQ),DISP=SHR
-----Lines Not Shown-----
***** *****Bottom of Data *****
```

Figure 21. Oracle Startup Procedure - Continued

2. Concatenate the new CMDLOAD ahead of the 7.3.3.1 CMDLOAD in the STEPLIB and ORA\$LIB of any client JCL or TSOPROCs.

```

EDIT          SYS1.PROCLIB(ORAACCN) - 01.09          Columns 00001
Command ==>                                       Scroll ==>
***** ***** Top of Data *****
-----Lines Not Shown-----
000003 //      DYNAMNBR=150,TIME=1440
000004 //STEPLIB DD  DSN=MPM2.ORACLE.V73352.COMDLOAD,DISP=SHR
000005 //          DD  DSN=MPM2.ORACLE.COMDLOAD,DISP=SHR
000006 //SYSPROC DD  DSN=SYS1.OS390.CLIST,DISP=SHR
000007 //SYSHELP DD  DSN=SYS1.HELP,DISP=SHR
000008 //ADMPC   DD  DSN=GDDM.SADMPCF,DISP=SHR
-----Lines Not Shown-----
***** *****Bottom of Data *****

```

Figure 22. TSO Procedure

3. Replace any reference to the 7.3.3.1 SQL library with the new one:
 

**Note:** The AUTHLOAD/CMDLOAD are partial libraries and require the base 7.3.3.1 libraries also. The SQL library is a complete replacement to the base version.
4. Restart Oracle and check that the copyright messages show the RDBMS as 7.3.3.5.2 and PLSQL as 2.3.3.5.0. The MPM version should be 1.1.08.00.25.
5. Connect to the database via SVRMGRL as SYS and run the following scripts from the new SQL library:
  - catalog
  - catproc
  - catexp
6. If you are using the replication option you should also then run the following scripts:
  - catdefrt
  - catrepc
  - catdefer

If there are any problems with these, they can be reverted by running the original versions of the scripts from the 7.3.3.1 SQL library.

---

## Chapter 4. Configuring and Starting SQL\*Net

We configured SQL\*Net by following the instructions given in Chapter 9 of *Oracle7 Release 7.3 for OS/390 Installation Guide*.

We chose TCP/IP for our network software. You should be sure that your network is functioning, because SQL\*Net will not check or debug the underlying network. From OS/390 you can only verify your network connections via ping from OS/390 to AIX and vice versa. You can also use TNSPING from the TSO command line.

The default port number (as shipped in the supplied Oracle server sample definitions) is 1521. You may want to verify that no other application or service is using this port number on your system. If this port number is in use, choose another port for your Oracle server.

Include the following line in your TCP/IP profile data set or member in your port definitions:

```
1521 TCP TNS                ; Oracle
```

This is not required for SQL\*Net to function and to allow clients to log in to the database. However, the ports listed in the MPMTNS member (listener file) and the TNSNAMES.ORA file in the client must be the same. Therefore, it is good practice and helpful for other TCP/IP-related work to add the listener port to your TCP/IP profile data set or member in your port definitions. For additional hints and tips concerning TCP/IP, refer to 11.5, "TCP/IP-Related Hints and Tips" on page 78.

---

### 4.1 Configuring the TNS Subsystem

We edited member TNSPROC from the Oracle NET2.SAMPLIB and copied it under the name ORATNS to our PROCLIB, as shown in Figure 23.

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      SYS1.PROCLIB(ORATNS) - 01.05                Columns 00001 00072
*****  ***** Top of Data *****
000001 //TNS      PROC INDEX=MPM2,
000002 //          LIBV=ORACLE,
000003 //          P=' CCHAR=@ SSN=TNS HPNS TCPSTK=TCPIPOE,
000004 //          R=OM,
000005 //          SYSOUT=' SYSOUT=X'
000006 //IEFPROC  EXEC PGM=TNSMAIN,REGION=&R,TIME=1440,
000007 //          PARM='&P'
000008 //STEPLIB  DD DSN=&INDEX..&LIBV..AUTHLOAD,DISP=SHR
000010 //ORA$ENV  DD DSN=&INDEX..&LIBV..NET2.SAMPLIB(TNSENV),DISP=SHR
000011 //SYSOUT   DD &SYSOUT,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO=
000012 //SYSERR   DD SYSOUT=*,DCB=(LRECL=133,BLKSIZE=137,RECFM=VB,BUFNO
000013 //SYSPRINT  DD SYSOUT=*
000014 //SYSIN    DD DUMMY
*****  ***** Bottom of Data *****
```

Figure 23. JCL to Start the TNS Subsystem

Be sure that you change at least the P parameter to  
P=' CCHAR=@ SSN=TNS HPNS TCPSTK=*name*' ,

where *name* is the name of the started task for TCP/IP. This is new with OS/390 Release 2.5. At OS/390 Rel 2.4 and below, you must specify which TCP/IP you are using, such as IBMTCP for the IBM TCP/IP VMCF product. If you are below OS/390 Release 2.5, you will also have to zap your system for the name of the TCP/IP started task. See 11.5, “TCP/IP-Related Hints and Tips” on page 78.

The member in your Oracle NET2.SAMPLIB data set will only contain the communication character definition:

```
P='CCHAR=@, ...'
```

You can include a HOSTNAME DD statement in this procedure pointing to the name of your TCP/IP host. Installations with multiple TCP/IP protocol stacks will require this additional DD statement for each stack. The HOSTNAME information can be found in one of two places: either in the member pointed to by the DD SYSTCPD statement in the start proc for the TCPIP started task—in our case, this was:

```
TCPIPVS.SC04.TCPIP.DATA
```

or in the IEFSSNxx member in the PARMLIB (see Figure 8 on page 20).

Prior to OS/390 Release 2.5, the entry in the IEFSSNxx member might look more like the following:

```
VMCF,MVPXSSI,WTSC04
```

where VMCF is the stack name, MVPXSSI is the initialization routine and WTSC04 is the HOSTNAME.

By default, SQL\*Net will use your normal HOSTS.SITEINFO data set. If need be, you can use a TCPHOSTS DD statement.

For additional hints and tips concerning TCP/IP, refer to 11.5, “TCP/IP-Related Hints and Tips” on page 78.

We authorized the AUTHLOAD library and specified the subsystem name earlier (see 3.1, “Pre-Installation Steps” on page 19).

Our TNS environment contained only one line, as shown in Figure 24.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.NET2.SAMPLIB(TNSENV) - 01.00      Columns 00001 00072
*****  ***** Top of Data *****
000001 LANGUAGE='AMERICAN_AMERICA.WE8EBCDIC37C'
*****  ***** Bottom of Data *****

```

Figure 24. TNS Environment

## 4.2 Configuring SQL\*Net for OS/390 Servers

Add the following MPMTNS DD statement to your Oracle start procedure (see Figure 20 on page 28):

```
//MPMTNS DD DISP=SHR,DSN=MPM2.ORACLE.PARMLIB(MPMTNS)
```

The MPMTNS DD statement refers to our TNS connect descriptor shown in Figure 25 on page 33:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(MPMTNS) - 01.03          Columns 00001 00072
*****  ***** Top of Data *****
000001 MPM = (DESCRIPTION =
000002         (ADDRESS_LIST=
000003         (ADDRESS=
000004           (PROTOCOL=TCP)
000005           (HOST=WTSCPLX1)
000006           (PORT=1521)
000007         )
000008       )
000009     )
*****  ***** Bottom of Data *****

```

Figure 25. TNS Connect Descriptor

You may include a SQLNET DD statement, for example  
 //SQLNET DD DISP=SHR,DSN=MPM2.ORACLE.PARMLIB(SQLNET),  
 pointing to your diagnostic parameter settings, as shown in Figure 26.

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(SQLNET) - 01.01          Columns 00001 00072
*****  ***** Top of Data *****
000001 automatic_ipc=off
000002 sqltrace=off
000003 # trace_level_server=off
000004 # trace_dataset_server=off
000005 # trace_directory_server=off
000006 # trace_level_client=off
000007 # trace_dataset_client=off
000008 # trace_directory_client=off
*****  ***** Bottom of Data *****

```

Figure 26. SQL\*Net Diagnostic Parameter

If you set any trace options on, be sure to include the corresponding output data sets:

```

//MPMTNSLG DD SYSOUT=*
//MPMTNSTC DD SYSOUT=*
//SQLNETLG DD SYSOUT=*
//SQLNETTC DD SYSOUT=*

```

We ran without these output data sets and without the SQLNET DD statement, and did not encounter any error messages.

### 4.3 Start SQL\*Net

We did not configure Oracle Names, since we were not using this product. Oracle recommends the use of Oracle Names for installations with many nodes (200 and above).

We had to change the TCP/IP name in SQL\*Net, however, because our name was not the default TCP/IP name. See 11.6.3, "Change the Default TCP/IP Name" on page 83 for further information.

Now you can start SQL\*Net via operator commands on the system console or under SDSF, as follows:

```
S ORATNS.TNS
MPM START NET.MPMTNS
```

The first command starts the TNS subsystem. The second command starts the SQL\*Net master task. This is the SQL\*Net master task that listens for incoming requests.

To automate the SQL\*Net start, we included the following statement, where the "-" is the COMCHAR selected on line 000003:

```
-START NET.MPMTNS
```

in our MPMPARM member:

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(MPMPARM) - 01.04          Columns 00001 00072
*****  ***** Top of Data *****
000001 LANGUAGE=' AMERICAN_AMERICA.WE8EBCDIC37C'
000002 SSNAME=' MPM2'
000003 COMCHAR=' -'
000004 SERVER_OPTS=(PARQ,DIST)
000005 KERNEL=' ORACODE'
000006 USERS=50
000007 CONBUF=13
000008 STACKSIZE=256000
000009 TRACE SIZE=32767
000010 TRACEDS="MPM2.ORACLE.TRACE** "
000011 PRIVUSER=P390
000012 SSCOMMENT=' VER(VERSION7)'
000013 -START NET.MPMTNS
*****  ***** Bottom of Data *****
```

Figure 27. Oracle PARMLIB: MPM Initialization with SQL\*Net Start

When you start TNS, you should see the following console output:

```
IEF403I ORATNS - STARTED - TIME=09.18.43
TXM00001I TNS subsystem initialization in progress, version 2.3.2.1.50
Aug 27 1996 - Production
TXM00002I TGV is at 5417400
TXM00004I Reused LX number 10496 (x2900)
TXM00005I Subsystem command character is '@'
TXM00002I SSVT is at D6D8D8
TXM00006I TNS subsystem initialization complete
TXM00100I TCP/IP networking task initializing
TXM11672I IBM TCP/IP Networking Task (TNTI) version 2.3.2.1.50 Aug 27
1996 - Production
TXM11673I IBM TCP/IP interface initialized for WTSCPLX1 (9.0.12.230)
```

Figure 28. Console Output at TNS Start



When you then start MPM, you should see the following console output:

```
IEF403I ORAMP - STARTED - TIME=09.22.29
MPM MPM002I MPM INITIALIZING
#MPM217I *****
#MPM258I * MPM VERSION      1.1.07.00.00
#MPM259I * MPM LINK EDIT DATE:11/04/96 TIME:11:09:29
#MPM217I *****
#MPM085I 50 USERS, EACH 259K PRIVATE AREA (18K PGA), TOTAL OF 13966K
BYTES
#MPM151I LXRES: PC NUMBER 11008 (X00002B00) ASSIGNED TO MPM
#MPM223I MPM BUILT ESA CROSS MEMORY ENTRY TABLE
#MPM160I ORACLE MPM SUBSYSTEM MPM2 IS READY TO ACCEPT REQUESTS.
#MPM194I MPM SMFRECN=199 SMF RECORDING IS NOT ACTIVE
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM025I TASK MANAGER COMING UP.
#MPM099I ATTACHED TCB AT X7DBE88 FOR TASK 'MPMTNS'
#MPM099I ATTACHED TCB AT X7DBBB8 FOR TASK 'SVRMGRL'
#MPM099I ATTACHED TCB AT X7DB928 FOR TASK 'TASK0001'
#MPM099I ATTACHED TCB AT X7DB790 FOR TASK 'TASK0002'
#MPM099I ATTACHED TCB AT X7DB570 FOR TASK 'TASK0003'
TXM00307I Listening on (ADDRESS=(PROTOCOL=TCP)(HOST=WTSCPLX1)(PORT=1521))
TXM11668I TCP/IP listen now active for ORAMP on port 1521

Oracle Server Manager Release 2.3.2.0.0 - Production

Copyright (c) Oracle Corporation 1994, 1995. All rights reserved.

Oracle7 Server Release 7.3.2.3.50 - Production Release
With the distributed and parallel query options
PL/SQL Release 2.3.2.3.0 - Production

Echo                                ON
SVRMGR> CONNECT INTERNAL
Connected to an idle instance.
SVRMGR> STARTUP PFILE=/DD/INITORA NOMOUNT
#MPM099I ATTACHED TCB AT X7CBCD0 FOR TASK 'PMON'
#MPM099I ATTACHED TCB AT X7CB978 FOR TASK 'DBWR'
#MPM099I ATTACHED TCB AT X7CB758 FOR TASK 'LGWR'
#MPM099I ATTACHED TCB AT X7CB400 FOR TASK 'SMON'
#MPM099I ATTACHED TCB AT X7CB268 FOR TASK 'RECO'
ORACLE instance started.
Total System Global Area      99059140 bytes
Fixed Size                     38672 bytes
Variable Size                 82079412 bytes
Database Buffers              16777216 bytes
Redo Buffers                   163840 bytes
SVRMGR> ALTER DATABASE MPM MOUNT;
Statement processed.
SVRMGR> ALTER DATABASE OPEN;
Statement processed.

Server Manager complete.
#MPM056I 'SVRMGRL' (TCB X7DBBB8) SUBTASK TERMINATION - X0
```

Figure 29. Console Output at MPM Start

See 11.6, “SQL\*Net-Related Hints and Tips” on page 82 for additional SQL\*Net information.



---

## Chapter 5. Installing Oracle Clients

This chapter describes how to set up clients to access the Oracle database, independent of the Oracle Applications.

---

### 5.1 Creating Clients

You can set up TSO clients or Windows 95 clients.

#### 5.1.1 OS/390 TSO Clients

You can run SQL\*Plus from TSO. Starting SQL\*Plus is much easier by adding a few statements to your TSO logon procedure, as shown in Figure 30. Given physical connectivity, access can be provided to any of your Oracle Database instances regardless of the platform they are on.

Normally, you would just include the following DD statements in your TSO logon procedure:

```
...
//STEPLIB DD ...
//          DD DISP=SHR,DSN=MPM2.ORACLE.COMDLOAD
//          DD ..
...
//ORA@MPM2 DD TERM=TS
...
```

Figure 30. TSO Logon Procedure

Including the Oracle CMDLOAD library in your STEPLIB concatenation allows you to invoke `svmmgr`, as well as most of the Oracle utilities, from within your TSO session. The `ORA@MPM2` DD statement points to the desired Oracle Database instance.

#### Important

If your installation uses a common TSO logon procedure, you may create problems if everyone does not have access to the Oracle library. This is particularly true in a sysplex environment. This could prevent all TSO users not having access from logging on.

One way to avoid problems is to copy the logon procedure to something unique for each Oracle user. In our case we copied `IKJACNT` to `ORACCT` in `SYS1.PROCLIB`. There also other ways of concatenating the procedure in `PROCLIB` to avoid problems.

To enable client access to all your Oracle Database instances, you should include some additional DD statement in your TSO logon procedure as shown in Figure 31 on page 38.

```

...
/* SQL*NET CLIENT SUPPORT FILES -----
//SQLNET DD DISP=SHR,DSN=MPM2.ORACLE.PARMLIB(SQLNET)
//SQLNETLG DD SYSOUT=*
//SQLNETTC DD SYSOUT=*
//TNSNAMES DD DISP=SHR,DSN=MPM2.ORACLE.PARMLIB(MPMTNS)
//SQLLOGIN DD DUMMY
...

```

Figure 31. TSO Logon Procedure for SQL\*Net Client Access

With the SQLNET DD statement, you set your SQL\*Net environment, trace options, and so on. With the TNSNAMES DD statement, you point to all your SQL\*Net connect descriptors.

If you want to have Oracle Database instances not only on OS/390 but also on AIX and on your SmartClient PC, then your MPMTNS member would look as shown in Figure 32.

```

...
MPM2 = (DESCRIPTION =
        (ADDRESS_LIST=
          (ADDRESS=
            (PROTOCOL=TCP)
            (HOST=9.12.2.10)
            (PORT=1521)
          )
        )
      )
GDDB = (DESCRIPTION =
        ...
        (HOST=9.12.2.10)
        (PORT=1522)
      )
RS6K = (DESCRIPTION =
        ...
        (HOST=9.12.0.225)
        (PORT=1521)
      )
MPM3 = (DESCRIPTION =
        ...
        (HOST=9.12.0.240)
        (PORT=1521)
      )
...

```

Figure 32. TNSNAMES Including Local Databases

To access a different Oracle Database instance from your TSO session, you would then enter:

```

free fi(ORA@GDDB)
alloc fi(ORA@GDDB) da(*)

```

With these settings, our next svrmgr1 or sqlplus command will give us access to the Oracle Global Demo Database on OS/390. Similarly, we could get access to the instance on AIX via:

```

free fi(ORA@RS6K)
alloc fi(ORA@RS6K) da(*)

```

## 5.1.2 SQL\*Plus Client on Windows 95

SQL\*Plus enables communication with your Oracle instance from a Windows 95 client. This is a very convenient way to enter DDL and DML commands. There are also other commands provided by SQL\*Plus that are very beneficial, such as:

```
describe tablename
```

This will display all the characteristics of *tablename*.

Using SQL\*Plus from a Windows client will verify the communications path in the network and TNS as well. SQL\*Plus, when run from TSO, uses cross memory services and does not use TNS.

Installing SQL\*Plus is a simple task. It is installed by the Oracle Installer program. Just insert the CD titled Oracle Client Software, Part # A42699-01 (Release 7.3.3.1) and follow the directions provided by the installer software.

After the client software is installed, you need to configure SQL\*Plus:

1. From the Start Menu, select **Oracle for Windows 95**.
2. Next select **SqlNet Easy Configuration**.
3. This starts the configuration program for SQL\*Plus:
  - a. Select **Add Database Alias** and **OK**.
  - b. Now enter a name (this can be any name that you choose) and click **OK**.
  - c. Select **TCP/IP** for communications and click **OK**.
  - d. Enter the hostname or IP address of the system where the database is installed and click **OK**.
  - e. Confirm the information and click **OK**.
  - f. Exit the program.
4. Now you need to verify the tnsnames.ora file entries for SQL\*Plus. Use **Find... Files and Folders** from the Windows Start menu, and search for tnsnames.ora on the harddrive on which it was installed.
5. You will find several copies. Use WordPad to open the copy in the directory X:\orawin95\network\admin.
6. Look through the file for the database alias you selected. It will have .world appended to the alias. Ensure the Host entry is correct and that the port matches the port used in TNS as the listener port. Also, the entries are duplicated, so make sure both entries are correct.

You are now ready to run SQL\*Plus. Select **SQL\*Plus 3.3** from the Start Menu (Oracle for Windows 95). Enter a user name and password. The Host String is the database alias entered when configuring SQL\*Plus

## 5.1.3 Oracle Enterprise Manager (OEM) on Windows95

Oracle Enterprise Manager is a set of tools used to manage, operate, tune and do capacity planning for the Oracle database. Most functions apply to Oracle on OS/390. Oracle has recently released an intelligent agent to use with OEM for event-driven operations. The new agent runs in UNIX System Services.

The installation of OEM is accomplished by using the Oracle Installer program. All you need to do is place the CD in the reader and follow the instructions to install the OEM.

While it is not necessary to install the OEM for the applications install, it may be of value during the installation of the applications when additional tablespaces and datafiles need to be added to the Oracle instance.

---

## Chapter 6. Installing the Oracle Server on AIX

This chapter describes the steps we performed to install Oracle on AIX.

In our environment, we wanted the Oracle Database ultimately to be located on OS/390. Nonetheless we did a complete installation of the Oracle Server on AIX, including an Oracle Database instance.

This procedure ensures that you have the correct libraries installed on AIX. After the installation you might want to delete the database files on AIX. We decided to delete our database files, since we definitely did not want to use the Oracle database on AIX, and we needed the disk space: Our installation on AIX is now only a software repository for the Oracle executables.

---

### 6.1 Pre-Installation Steps

We followed the steps for the installation given in Chapters 3 to 5 in *Oracle7 Release 7.3 for AIX Installation Guide*. We chose the default values wherever possible.

The initial steps of the Oracle installation require that you work under user root:

1. Define the dba group.
2. Create the software owner oracle within this group.

We then set our environment variables:

- ORACLE\_HOME: /xoracle/app/oracle/product/7.3.2
- ORACLE\_SID: orax
- ORACLE\_TERM: hft

We added the ORACLE\_HOME directory to our PATH variable.

We mounted the product installation CD-ROM, created the Oracle link directory, and ran the start.sh script and the rootpre.sh script.

---

### 6.2 Installation

The installation has to be run under user oracle. We invoked the Oracle Installer and selected **Option 1, Install New Product**.

The installation process is straightforward and does not require any further explanation. We selected:

- Install from CD-ROM
- American/English as language
- No relink
- No online help
- No documentation

There were a few points specific to our environment:

1. We noticed a problem when the Installer tried to link its executables. Our AIX system had no linker installed. When we installed a C-compiler (which does have a linker included) the problem was solved.

2. We ran out of paging space under AIX. See 11.1.3, "Increase AIX Paging Space" on page 67 for further information.
3. Our installation package came with two CD-ROMs, one containing Oracle version 7.3, and the other containing the upgrade to version 7.3.2.3.
  - We selected the Installer **Option 1, Install New Product**, and did a complete Oracle installation with version 7.3.
  - We repeated all installation steps with the second CD-ROM, selecting the Installer **Option 2, Add/Upgrade Software**.
4. We finally deleted all Oracle database files on AIX, since we only wanted to use the Oracle database on OS/390.

---

## 6.3 Oracle Patch Installation

In the Oracle documentation that we had, there were no instructions on how to apply Oracle bug patches. Normally you would expect at least a readme file, but this varies from patch to patch.

As an example, here is how we applied bug patch 436643 for Oracle assets:

1. Login as applmgr.
2. Copy the bugfile from the CD into the patch directory:

```
cp /cdrom/1070/aix/436643.t $APPL_TOP/patches
```

3. Expand the bugfile:

```
cd $APPL_TOP/patches
tar -xvf 436643.t
```

Oracle uses a bug directory. After the uncompress, we have a new directory with all required files for the adpatch process.

4. Change your current directory to the new bug directory and run adpatch:

```
cd $APPL_TOP/patches/436643
adpatch
```

5. The driver name for all bugs is always patch.drv.
6. After you have applied the bugfile, you can remove the compressed file in your patch directory:

```
rm $APPL_TOP/patches/436643.t
```

---

## 6.4 Installing Patches for 7.3.3.5

The following is the process we followed to install the patches to Oracle database engine on AIX. We did this to insure that both database engines on OS/390 and AIX were at the same level.

1. Log in to the oracle account and make sure the environment is set to the correct ORACLE\_BASE, ORACLE\_HOME, ORACLE\_SID and PATH.
2. Make a directory for the patch set:

```
mkdir $ORACLE_HOME/patches
```
3. Download by ftp, in BINARY form, the patchset file from PC and copy it to this directory
4. Change to this directory, uncompress, and untar the patch set.



- Uncompress 7332patchset.Z
  - tar xvf 7332patchset
5. This will create a new directory using the patch set version underneath the current directory which will contain the patch set:  
\$ORACLE\_HOME/patches/7.3.3.5
  6. Shutdown all instances running from this \$ORACLE\_HOME. This should be a clean shutdown (that is a shutdown normal or shutdown immediate).
  7. Ensure that no one is using the Oracle executable, otherwise we may get an executable busy message and be unable to copy onto it.
  8. Start the Installer that was provided in the baseline release under the \$ORACLE\_HOME/orainst directory:
    - cd \$ORACLE\_HOME/orainst
    - ./orainst

If not installed, run it from the baseline release CD-ROM.
  9. At the Install Type screen, specify the Default Install option.
  10. At the Installation Activity Choice screen, specify the Install, Upgrade, or De-Install Software option.
  11. At the Installation Options screen, specify the Add/Upgrade Software option.
  12. At the Installation Options: Home Locator screen, check that the setting for \$ORACLE\_HOME is correct.
  13. Accept relinking when prompted by the Installer.
  14. At the Software Asset Manager screen, use the **From...** button to navigate to the directory where the untarred patch set is located, \$ORACLE\_HOME/patches/7.3.3.5
  15. Select the **unix.prd** file from this directory.
  16. Select the **Oracle Server(RDBMS)**, then select **Install**.
  17. When the Installer has finished, it prompts to run the root.sh script. We do not have to run the root.sh script after installing a patch set.
 

**Note:** In the next steps, it is very important that the Two Task variable be commented out. This will prevent the scripts running against the database on the S/390.
  18. Invoke server manager svrmgr1, connect as internal and run the following SQL scripts located in the \$ORACLE\_HOME/rdbms/admin directory:
    - catalog.sql
    - catproc.sql
    - catexp.sql
  19. As this instance is running Replication, we should also run the following SQL scripts located in the \$ORACLE\_HOME/rdbms/admin directory:
    - catdefrt.sql
    - catrepc.sql
    - catdefer.sql



---

## Chapter 7. Installing the Oracle Applications for SmartClient

This chapter describes the steps we followed to install the Oracle Applications on the OS/390 database.

---

### 7.1 Pre-Installation Steps

The preparatory steps of the installation are covered in Chapter 3 of *Oracle Applications Release 10.7 for UNIX Installation Manual*.

On OS/390, we changed our INITORA settings, as shown in Figure 33. We increased most values considerably compared to our initial (Oracle's default) settings, which we showed earlier in Figure 17 on page 26. Most important, however, is the compatibility setting, which has to be changed to install Oracle Applications (see 11.4.1, "Compatibility Setting" on page 75 for more information).

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM2.ORACLE.PARMLIB(INITORA) - 01.01          Columns 00001 00072
*****  ***** Top of Data *****
000001 CONTROL_FILES = "/DD/CONTROL2"
000002 CONTROL_FILES = "/DD/CONTROL1"
000013 SHARED_POOL_SIZE = 79691776
000010 DB_BLOCK_BUFFERS = 4096
000003 DB_FILES = 256
000004 DB_NAME = MPM2
000015 LOG_BUFFER = 163840
000005 LOG_CHECKPOINT_INTERVAL = 3000
000006 OPEN_CURSORS = 120
000007 ROLLBACK_SEGMENTS = (RS1,RS2,RS3,RS4)
000008 TRANSACTIONS = 55
000009 SESSIONS = 55
000011 PROCESSES = 200
000014 DML_LOCKS = 500
000022 COMPATIBLE = 7.3.3
*****  ***** Bottom of Data *****
```

Figure 33. INITORA Settings

We adjusted our Oracle database settings as shown in Figure 34 on page 46.

```

SQL> column tablespace_name format a15
SQL> column file_name          format a30
SQL> select tablespace_name, file_name, bytes
       from dba_data_files order by 1 asc ;

TABLESPACE_NAME FILE_NAME                                BYTES
-----
SYSTEM           /DD/DB1                                                33173504
SYSTEM           /DSN/MPM2.ORACLE.SYSTEM.DB2                          368635904
SYSTEM           /DSN/MPM2.ORACLE.SYSTEM.DB3                          147451904
TEMP             /DSN/MPM2.ORACLE.TEMP.DB1                          184315904
TS_ROLLBACK      /DSN/MPM2.ORACLE.SYSTEM.TSRB                        36859904
TS_ROLLBACK      /DSN/MPM2.ORACLE.SYSTEM.TSRB1                      110587904
USER2            /DD/DB2                                                16953344
USER2            /DSN/MPM2.ORACLE.USER2.DB1                          479227904
USER2            /DSN/MPM2.ORACLE.USER2X.DB1                        294907904
9 rows selected.

SQL> select tablespace_name, sum(bytes) from dba_data_files
       group by tablespace_name order by 1 asc ;

TABLESPACE_NAME SUM(BYTES)
-----
SYSTEM           549261312
TEMP             184315904
TS_ROLLBACK      147447808
USER2            791089152

SQL> select tablespace_name, sum(bytes) from dba_extents
       group by tablespace_name order by 1 asc ;

TABLESPACE_NAME SUM(BYTES)
-----
SYSTEM           453607424
TS_ROLLBACK      77414400
USER2            397963264

```

Figure 34. Database Size Settings

Before we installed the Oracle Applications, we added more datafiles and tablespaces to the existing database.

There are at least three ways to add datafiles:

1. Use the ALTER TABLESPACE SQL command
2. Use the Oracle Enterprise Manager using the create like option.
3. Use IDCAMs to create a VSAM cluster and then run the Oracle CCF utility against the cluster. The CCF utility formats the VSAM cluster so Oracle can use it. After creating the cluster, you can then use SQL commands to add the datafiles to the appropriate tablespace.

If you use either of the first two options, you must use the VSAM MODEL parameter VSAMATTR to model the new VSAM cluster after a cluster that already exists.

The way we did this was to create an SQL\*Plus script using the DOS editor. SQL\*Plus does not always recognize files created with Microsoft Word or Wordpad. We created a file with all the SQL commands needed and then ran the script.

On AIX, we created group oapp, and in it we created the user applmgr with the profile shown in Figure 35 on page 47.

```

PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:$HOME/bin:/usr/bin/X11:/sbin:.
export PATH
PLATFORM=AIXRIOS
export PLATFORM
ORACLE_SID=orax
export ORACLE_SID
if -s "$MAIL" # This is at Shell startup. In normal
then echo "$MAILMSG" # operation, the Shell checks
fi # periodically.
APPL_TOP=/xoracle/app/oraapps/product/10.7
export APPL_TOP
FB_MGR=$APPL_TOP/ad/2.3.19/bin
export FB_MGR
. /usr/lbin/oraenv
. /xoracle/app/oraapps/product/10.7/APPLSYS.env
export PS1=$USER@$(hostname) $PWD: '
export VISUAL=vi
export ENV=$HOME/.kshrc
export LANG=en_US

```

Figure 35. APPLMGR's Profile

The directory specified under APPL\_TOP should be created with owner applmgr and group oapp.

The directory /home/applmgr contains the oraenv file. At the beginning of the oraenv file, we added the following line:

```
TWO_TASK=MPM.world;export TWO_TASK
```

Figure 36. The TWO\_TASK Parameter

This ensures that the entry MPM.world in the tnsnames.ora file is used as our default database. It points to our database on OS/390.

The tnsnames.ora file should be created in the directory \$ORACLE\_HOME/network/admin and should contain the SQL\*Net connect descriptor of your OS/390 Oracle database. In our case this file looked as follows:

```

MPM.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (HOST = 9.12.0.230)
        (PROTOCOL = TCP)
        (Port = 1521)
      )
    )
    (CONNECT_DATA = (SID = MPM)
  )
)

```

Figure 37. The TNSNAMES File on AIX

For more information on SQL\*Net, TNSNAMES, and so on, see 11.6, "SQL\*Net-Related Hints and Tips" on page 82.

---

## 7.2 Installing Prerequisite Products

Mount the Oracle Applications CD-ROM. Login as applmgr, change to the directory where you mounted the CD, and enter the command unload.cmd.

This command unloads the installation directory from the CD-ROM to your \$APPL\_TOP directory (select **Choice 1: Regular Product Group**).

```
You are running unload.cmd, version 42.0

Start of unload.cmd session
Date/time is Wed May 28 11:34:15 CDT 1997
Log file is /xoracle/app/oraapps/product/10.7/unload.cmd.log

Assuming the CD-ROM device directory is '/cdrom'.
Is this the right device directory Yes? Yes

Do you wish to unload installation directory for:

1. regular product group
2. localized product groups
3. translated language product groups
x. exit

Enter your choice : 1
unloading base installation archive /cdrom/diskal.i...
cpio -icdvu "install/*" < /cdrom/diskal.i
install/addl1b.pls
...
install/adrelink
install/adsetenv
install/adsetup
install/adunload
...
install/formscrt.Z
...
install/restart
rc=0
Successful completion

End of unload.cmd session
Date/time is Wed May 28 11:34:53 CDT 1997
```

Figure 38. Oracle Applications Unload

Login as oracle. First you must uncompress the formcrt.Z file and then copy the file named formscrt from the \$APPL\_TOP/install directory to your \$ORACLE\_HOME directory.

From your \$ORACLE\_HOME directory, enter the command `cpio -icvd < formscrt`. This installs your forms directory.

From your `./forms/install` directory, execute `forms.install`. This completes your SQL\*Forms installation.

From your `./crt/install` directory, execute `crt.install`. This completes your CRT installation.

CRT and Forms 2.3 are only used for the Oracle Applications installation. These products are not officially distributed or supported any more.

You can now safely delete the file `formscrt.Z`.

---

## 7.3 Starting the Application Installation

The installation of Oracle Applications is covered in Chapter 4 of the *Oracle Applications Release 10.7 for UNIX Installation Manual*.

Login as applmgr. From your \$APPL\_TOP/install directory, run adsetup to unload and relink the AD and FND products.

Start the Oracle Application installation dialog by entering adaimgr. The screen shown in Figure 39 will be displayed.

```
AutoInstall version: 2.3.19
...
APPL_TOP is set to /xoracle/app/oraapps/product/10.7
...
Are you certain you are running a certified release combination .No. ? yes
...
Please choose one of the following:
1) Standalone installation
2) Client installation
3) Server installation
4) Node installation
Enter your choice .1. : 1
...
in your ORACLE database 'MPM.world'
Is this the correct database .Yes. ? Yes
...
Enter the password for your 'SYSTEM' ORACLE schema: p390
...
Do you wish to install:
1. Oracle Applications for a commercial or for-profit organization
2. Oracle Applications for a government, education or not-for-profit
   organization
Enter your choice .1. : 1

Do you wish to:

1. Install AMERICAN only
2. Install one language other than AMERICAN
3. Install multiple languages (requires Oracle Consulting Services support)

Enter your choice .1. : 1

Your base language will be AMERICAN.
...
```

Figure 39. Autoinstall: Dialog Start

You will eventually arrive at the main menu, as shown in Figure 40 on page 50.

```

AutoInstall Main Menu
-----
1.  Select products to install or upgrade
2.  Select additional modules
3.  Choose database parameters
4.  Choose overall tasks and their parameters
5.  Run the complete set of steps to install or upgrade
6.  Exit AutoInstall

```

Figure 40. Autoinstall: Main Menu

You select products first, as shown in Figure 41.

```

AutoInstall - Select products to install or upgrade

Product          ORACLE   Current   Current New   Translate
# Name           User ID  Status    Version  Version Action ] ]
-----
1 Application Object Library  APPLSYS                6.1.1  Install N N
2 Application Utilities       APPLSYS                1.10.7 Shared N N
3 Applications DBA            APPLSYS                2.3.19 Shared N N
4 Oracle Alert               APPLSYS                5.0.29 Shared N N
5 Global Accounting Engine    AX                    1.2.23 None   N N
6 Oracle Common Modules-AK    AK                    1.2.19 None   N N
7 Oracle General Ledger       GL                    9.0.9  None   N N
8 Application Report Generator RG                    4.0.9  None   N N

There are 41 Oracle Applications.  Enter U/D to scroll up/down.

<Product #> - To change the action for a product
<Product #>D - To change the product dependencies or other details
U / D / T / B - Press up/down/top/bottom to see other products
.Return.     - To return to the AutoInstall Main Menu

```

Figure 41. Autoinstall: Product Selection

There are 41 products. You can scroll up and down; entering a product number will toggle the action field. We selected all products.

You will finally return to the main menu and enter **Option 3, Choose database parameters**. This brings up the database parameter menu, as shown in Figure 42 on page 51.



```

AutoInstall - Choose database parameters

  Product          Action  - 0 -   - S -   --- M ---   --- I ---   --- T ---
# Name            ] ORACLE Sizing Main   Index   Temporary
- - - - -          ] User ID Factor Tablespace Tablespace Tablespace
-----
1 Application Object Lib I APPLSYS    100 APPLSYSD APPLSYSX TEMP
2 Application Utilities S APPLSYS    100 APPLSYSD APPLSYSX TEMP
3 Applications DBA      S APPLSYS    100 APPLSYSD APPLSYSX TEMP
4 Oracle Alert         I APPLSYS    100 APPLSYSD APPLSYSX TEMP
5 Global Accounting Engi I AX         100 AXD     AXX     TEMP
6 Oracle Common Modules- I AK         100 AKD     AKX     TEMP
7 Oracle General Ledger I GL         100 GLD     GLX     TEMP
8 Application Report Gen I RG         100 RGD     RGX     TEMP

There are 41 Oracle Applications. Enter U/D to scroll up/down.

<Product #><Letter> - To change a database parameter for a product;
                    INCLUDE the LETTER ABOVE the COLUMN you want to change
U / D / T / B      - Press up/down/top/bottom to see other products
.Return.           - To return to the AutoInstall Main Menu

Enter your choice (for example, 1M) : 1m

```

Figure 42. Autoinstall: Database Parameter Selection

Oracle's default is distinct tablespace names for all products for better performance. You should review your choices with your Oracle consultant. We wanted all the products in one tablespace, so we had to go through all our selections and change the name for our main and index tablespace.

You will eventually return to the main menu again and select **Option 4, Choose Overall Tasks**. This brings up the task parameter menu, as shown in Figure 43.

```

AutoInstall - Choose overall tasks and their parameters

# Task                                     Do it? Parameters
-----
1 Check init.ora parameters                NO
2 Unload files                             YES
3 Create Applications environment file      YES APPLSYS.env
4 Relink Applications programs              YES
5 Verify files necessary for install/upgrade YES
6 Install CRT definitions                  YES
7 Create SYSTEM.DUAL table                 YES
8 Install or upgrade database objects       YES
9 Load US data or other language data      YES

There are 18 tasks. Enter U/D to scroll up/down.

<Task #>      - To change YES to NO or NO to YES
              (You cannot change a task marked with a *)
<Task #>P     - To change the parameters of a task
U / D         - To page up/down to see other tasks
.Return.      - To return to the AutoInstall Main Menu

Enter your choice (for example 2 or 2P) : 1

```

Figure 43. AutoInstall: Choose Overall Tasks and Their Parameters

We de-selected the init.ora check and returned to our main menu to start the complete set of installation steps.

We chose all the defaults in the following installation start questions. This was a good decision with the exception of one point. We selected too many workers for the size of the system we had. See 11.4.2, “Selecting Number of Workers” on page 75 for more information.

Fortunately, the Oracle Applications installation can be restarted, because we encountered some problems:

- Error in INITIAL value. See 11.4.3, “Error during Autoinstall” on page 76 for more information.
- Auxiliary storage shortage. See 11.2.3, “Auxiliary Storage Shortage” on page 70 for more information.

---

## 7.4 Restart of the Oracle Application Installation

The Oracle Application installation resulted in more than 5300 steps being executed.

At some point, you may have to restart your installation. To do so, you login with user ID `applmgr` and invoke `adctrl`. The screen shown in Figure 44 will be displayed.

```
APPL_TOP is set to /xoracle/app/oraapps/product/10.7
Enter the ORACLE username of Application Object Library .APPLSYS. : APPL
Enter the ORACLE password of Application Object Library .APPS. : APPS
AD Controller is verifying your username/password.
Connecting to APPLSYS/APPS.....Connected successfully.

                        AD Controller Menu
-----

1.   Show worker status
2.   Tell worker to restart a failed job
3.   Tell worker to shut down/quit
4.   Tell manager that a worker failed its job
5.   Tell manager that a worker acknowledges quit
6.   Tell manager to start a worker that has shut down
7.   Exit
```

Figure 44. AD Controller Menu

To understand the reason why we specifically entered values where the default settings should be valid, see 11.4.4, “Wrong Default Password during Restart” on page 76.

You typically ask the controller to first show the status of your workers. A screen similar to Figure 45 on page 53 will be displayed.

Worker	Control Code	Context	Filename	Status
1	Wait	Installing at R107		Running

Figure 45. Show Worker Status

Depending on the current error situation, your worker could have a different status. If it has status Running, something must have happened on the OS/390 side that caused communication to OS/390 to be interrupted.

If an error gets correctly passed back to the AIX side, you typically see a status of failed.

In any case, your goal is to reset the worker status to Fixed, restart. In most cases you achieve this by using the following control sequence:

- 3-Tell worker to shutdown/quit
- 5-Tell manager that a worker acknowledges quit
- 6-Tell manager to start a worker that has shutdown
- 2-Tell worker to restart a failed job

You might have to try additional selections to get the worker into the Fixed, restart status.

Whenever your worker reaches the desired status, you may restart the Oracle Application installation by invoking `adaimg` again.



---

## Chapter 8. Loading the Oracle Demo Database for SmartClient

In this chapter we describe the steps we performed to load the Oracle demo database.

On UNIX and NT platforms, Oracle provides the Global Demonstration Database as a separate product feature with its own CD and a well-documented installation procedure. Recently, Oracle expanded the process to provide the Global Demo Database on OS/390. A 3490 tape of the database can be ordered from Oracle. The tape has all the files needed to install the database on OS/390 instead of exporting all the files through UNIX.

We ordered the tape and installed it using the directions file provided by Oracle. You will need to copy the contents of the tape in a library you will need to create (new hlq). Copy the tape into the library and follow the instructions in the hlq.instlib(install) member.

---

### 8.1 Specify an Additional Subsystem on OS/390

Refer to 3.1, "Pre-Installation Steps" on page 19 on how to perform this task. We named the new subsystem GDDB.

---

### 8.2 Create a New Database Instance on OS/390

Refer to 3.4, "Execute ISPF and Invoke the Oracle Customization Process" on page 22 on how to do this. Instead of selecting **Option 1, Define Primary ORACLE PRODUCTS Installation Parameters** on the primary option menu (see Figure 13 on page 24), you now select **Option 3, Define Secondary ORACLE SERVER Installation Parameters**.

We also specified a different INDEX parameter, to be able to distinguish our data sets by their high-level qualifier. We chose GDDB as the qualifier.

Before you actually create the database (see 3.8, "Initialize the Oracle Database" on page 28), we changed the INITORA file to match the requirements of the Oracle Applications demo database. One of the most important parameters is COMPATIBLE=7.3.3. (See also 11.4.1, "Compatibility Setting" on page 75 for more information.) The other important parameters are the NLS parameters for the AD part.

---

### 8.3 Adjust the SQL\*Net Configuration

See the SQL\*Net configuration requirements given in Chapter 4, "Configuring and Starting SQL\*Net" on page 31.

We assigned an additional TCP/IP port number for the new database,. 1522.

We modified MPMPARM to start the SQL\*Net master task with each demo database start:

```

LANGUAGE=' AMERICAN_AMERICA.WE8EBCDIC37C'
SSNAME=' GDDB'
COMCHAR='% '
SERVER_OPTS=(PARQ,DIST,REPL,MULT)
KERNEL=' ORACODE'
USERS=50
CONBUF=13
STACKSIZE=256000
TRACESIZE=32767
TRACEDS="GDDB.TRACE** "
PRIVUSER=DAV
SSCOMMENT=' VER(VERSION7)'
UPPERCASE
%START NET.MPMTNS

```

Figure 46. Demo Database MPMPARM

Our connect descriptor in MPMTNS now includes the demo database instance:

```

MPM2 = (DESCRIPTION =
        (ADDRESS_LIST=
          (ADDRESS=
            (PROTOCOL=TCP)
            (HOST=WTSC04)
            (PORT=1521)
          )
        )
      )
GDDB = (DESCRIPTION =
        (ADDRESS_LIST=
          (ADDRESS=
            (PROTOCOL=TCP)
            (HOST=WTSC04)
            (PORT=1522)
          )
        )
      )

```

Figure 47. MPMTNS with Two Connect Descriptors

Accordingly, we had to specify the second connect descriptor in the tnsnames.ora file on AIX.

Refer to Figure 37 on page 47 for the place where to implement your additions.

After this change you might want to verify the connections with TNSPING from AIX:

```
TNSPING GDDB
```

Your output should look like this:

```

TNS Ping Utility for IBM/AIX RISC System/6000: Version 2.3.2.1.0 - Production
29-MAY-97 15:07:04

Copyright (c) Oracle Corporation 1995. All rights reserved.

Attempting to contact (ADDRESS=(COMMUNITY=tcp.world)(PROTOCOL=TCP)(HOST=9.12.
0.230)(Port=1522))
OK (250 msec)

```

Figure 48. TNSPING on AIX

---

## Chapter 9. Installing the SmartClient on the PC

This chapter describes the steps we performed to install the Oracle SmartClient code on a PS/2. Your main reference will be the *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*. The software comes on two CD packages, *Oracle Applications 10 SmartClient™ Production 16 Runtime and Developer Kit CDs 1 and 2*. These CDs include all prerequisite Oracle products for Oracle Applications for a client, as well as Developer, and SQL\*Net client.

We followed the steps for a new installation given in Chapter 3 in *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*. After completion of the installation on the PS/2, we followed the steps for the server side updates given in Chapter 4, and the post-installation steps given in Chapter 5 of this publication.

---

### 9.1 Installing Oracle Applications on the Client

You have a choice between two types of client installations: shared or stand-alone.

*Shared* installation means you install the necessary runtime components only once within your network. All your client PCs will then share this installation. This type of installation obviously saves disk space, install time, and, most importantly, maintenance cost and effort.

The *stand-alone* installation is a little easier to do, and since in our case we were planning on having just one client, we would not have saved anything via a shared installation.

We chose the stand-alone installation: from the installation CD, we started the Oracle Installer. If your particular PC does not have a CD-ROM drive, you can use a remotely (NFS) mounted CD.

Note: you should only use the Oracle Installer included with your installation CD. Most other Oracle product packages include an installer, but they might fail to find the products file windows.prd for your installation.

We installed the following products from the D2000INSTALL directory of the CD:

- Oracle Installer 3.1.4.1.3
- Developer Forms Runtime 4.5.7.1.8
- SQL\*Net client 2.3.2.1.6

Several other components are installed automatically during the Forms Runtime installation.

We selected the following components from the APPS10SCINSTALL directory of the CD:

- Oracle Order Entry
- Oracle Human Resources

You may continue installing additional applications at this point, or you can add other applications later.

Here, too, some dependent components will be installed automatically during installation of a specific Oracle Applications component. If, however, the dependency check fails for a specific component, you have to abandon the current installation, install the indicated prerequisite component, and then repeat your installation.

---

## 9.2 Applying the Server Updates

These server updates will enable your server to support the release 10 SmartClient.

We installed the three required drivers as described in Chapter 4 of *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*. In our specific R/390 environment, the server updates took about 24 hours, including abends, problem solving and restarts.

---

## 9.3 Post-Installation Tasks

Almost all post-installation tasks relate to the server side.

We did not process the task Pin SGA Packages. Since we installed all applications on our server, and only one client executed a single application in our environment, we would have wasted a lot of SGA space if we had processed that task.

---

## 9.4 Configuration Files on the Client

The SQL\*Net client configuration is described in Chapter 2 in *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*. You can use the SQL\*Net Easy Installer to create the configuration.

Each client requires the connect descriptors to communicate with the Oracle Applications server.

For the database connection:

- TNSNAMES.ORA defines which Oracle database instances the client can talk to via SQL\*Net and under which name they are known to the client.
- The LOCAL variable in ORACLE.INI defines which Oracle Applications database the client can talk to. You define this in the [NET23] section of the ORACLE.INI file, as shown in 11.9.1, "ORACLE.INI" on page 91.

For the Oracle Applications connection:

- OACONFIG.ORA defines the gateway ID, that is, the public Oracle username and password that grants access to the Oracle Applications signon form (signon panel). It also defines the variable FNDNAM, that is, the Oracle username of Oracle Applications Object Library on the server. It also defines the GWYUID (gateway user ID).



These usernames are different from the names that will be used for the authentication of each Oracle Applications end user. The authentication names will be defined later in the Oracle Applications database. By default, username and password for an end user of the Oracle Applications demo database are set to GLOBAL/GLOBAL.

For an example of the client configuration files, refer to 11.9, “SmartClient PC Configuration Files” on page 91.

The TNSNAMES.ORA file is in the directory /orawin/network/admin

The OACONFIG.ORA file is in the directory /apps10

The ORACLE.INI file is in the directory /orawin

For further SQL\*Net-related topics, refer to 11.6, “SQL\*Net-Related Hints and Tips” on page 82.



---

## Chapter 10. Configuring the Cooperative Processor on AIX

Unfortunately, we did not have much time to perform the final step of setting up the cooperative processing on AIX. To implement all the concurrent managers for the complete Oracle Applications demo database, you will need the help of an Oracle Applications specialist.

We just decided to start with the *Order Entry* concurrent manager.

For *Order Entry* we had to create the listener.ora file manually, because we did not have a PC with the Oracle network configurator installed. Our listener.ora file turned out to be quite different from the example in the manual *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition*, as we did not have a local database on the AIX side.

```
LISTENER =
  (ADDRESS=
    (COMMUNITY=TCP.world)
    (PROTOCOL=TCP)
    (HOST=9.12.0.225)
    (PORT=1521)
  )
SID_LIST_LISTENER=
  (SID_LIST=
    (SID_DESC=
      (PROGRAM=/xoracle/app/oraapps/product/10.7/oe/4.0.172/bin/OEORPC)
      (ENVS=' FND_TOP=/xoracle/app/oraapps/product/10.7/fnd/6.1.1,OE_TOP=/xoracle
/app/oraapps/product/10.7/oe/4.0.172,AR_TOP=/xoracle/app/oraapps/product/10.7/ar
/7.0.152,BOM_TOP=/xoracle/app/oraapps/product/10.7/bom/5.0.168,INV_TOP=/xoracle/
app/oraapps/product/10.7/inv/5.0.161,MRP_TOP=/xoracle/app/oraapps/product/10.7/m
rp/5.0.160,PO_TOP=/xoracle/app/oraapps/product/10.7/po/8.0.167,WIP_TOP=/xoracle/
app/oraapps/product/10.7/wip/5.1.1,APPLBIN=bin,APPLHLP=helptext,APPLLANG=usaeng,A
PPLLOG=log,APPLMSG=msg,APPLOUT=out,APPLPLS=plsql,APPLSAV=save,APPLTMP=/tmp,APPL
USR=usrxit,APPCPNAM=REQID,NLS_NUMERIC_CHARACTERS=.,,NLS_DATE_FORMAT=DD-MON-RR')
      (GLOBAL_DBNAME=OEORPC_r390.world)
      (SID_NAME=OEORPC_r390)
      (ORACLE_HOME=/xoracle/app/oracle/product/7.3.2)
      (PRESPAWN_MAX=10)
    )
  )
```

Figure 49. Listener Parameter File /etc/listener.ora

See 11.7, “Cooperative Processor Configuration Files” on page 85 for our current configuration files for the concurrent manager. An Oracle Application specialist updated them significantly.

In /etc/inittab we added an entry to start the listener at each AIX reboot, as shown in Figure 50 on page 62.

```

: file .....: /etc/inittab
: usage .....: start processes at AIX IPL time
: -----
:
: start Oracle Listener for Order Entry RPC calls
:
lsnrctl:2:wait:/etc/orainit1 >/dev/console

# file .....: /etc/orainit1
# usage .....: start oracle listener under control of user oracle
#               part 1/2
# -----
su - oracle /etc/orainit2

# file .....: /etc/orainit2
# usage .....: start oracle listener under control of user oracle
#               part 2/2
# -----
lsnrctl start

```

Figure 50. Automatic Start of Listener at IPL Time

To check your listener on AIX, refer to 11.6.5, “Check the Listener on AIX” on page 84.

Once your listener is up and running, you can start the concurrent manager. Refer to Appendix A of *Oracle Applications Release 10.7 for UNIX Installation Manual* for instructions and parameter settings.

You normally configure and start your concurrent processing as system administrator on your SmartClient (see *Oracle Applications Release 10 System Administration Reference Manual*).

For a preliminary test you might proceed as follows:

1. Logon as applmgr.
2. Create a startmgr script in applmgr’s home directory.
3. Run the startmgr script.

Your startmgr script file will look like the following:

```

startmgr sysmgr="apps_appdemo/apps" \
mgrname="std" \
logfile="/xoracle/app/oraapps/product/10.7/log/startmgr" \
sleep="100"

```

Figure 51. Script to Start the Concurrent Manager

The resulting log file will show all your concurrent managers:

```

=====
Starting std internal concurrent manager -- shell process ID 20886

      logfile=/xoracle/app/oraapps/product/10.7/log/startmgr
      PRINTER=
      mailto=applmgr
      restart=N
      diag=N
      sleep=100
      pmon=20 (default)
      quesiz=1 (default)
-----
Application Object Library: Concurrent Processing version 6.0

Copyright (c) Oracle Corporation 1979, 1992. All rights reserved.

Internal Concurrent Manager started : 14-JUN-1997 09:20:57

-----

      Process monitor session started : 14-JUN-1997 09:21:2

Starting Standard Concurrent Manager          : 14-JUN-1997 09:21:2
Starting Standard Concurrent Manager          : 14-JUN-1997 09:21:2
Starting Standard Concurrent Manager          : 14-JUN-1997 09:21:2
Starting Standard Concurrent Manager          : 14-JUN-1997 09:21:2
Starting Standard Concurrent Manager          : 14-JUN-1997 09:21:2

Starting Conflict_Resolution_Manager Concurrent Manager : 14-JUN-1997 09
Starting Inventory Manager Concurrent Manager    : 14-JUN-1997 09:21:2
Starting MRP Manager Concurrent Manager          : 14-JUN-1997 09:21:2
Starting Shipping Transaction Manager Concurrent Manager : 14-JUN-1997 0

OESHM APPS_APPDEMO/94B8B9C3000000000000000000000000000000000000000000
OE Shipping Transaction Manager N 60 t RDBMS Y 1060939
Starting Shipping Transaction Manager Concurrent Manager : 14-JUN-1997 0

OESHM APPS_APPDEMO/94B8B9C3000000000000000000000000000000000000000000
OE Shipping Transaction Manager N 60 t RDBMS Y 1060940
Starting Shipping Transaction Manager Concurrent Manager : 14-JUN-1997 0

OESHM APPS_APPDEMO/94B8B9C3000000000000000000000000000000000000000000
OE Shipping Transaction Manager N 60 t RDBMS Y 1060941
Starting Shipping Transaction Manager Concurrent Manager : 14-JUN-1997 0

OESHM APPS_APPDEMO/94B8B9C3000000000000000000000000000000000000000000
OE Shipping Transaction Manager N 60 t RDBMS Y 1060942
Starting Shipping Transaction Manager Concurrent Manager : 14-JUN-1997 0

OESHM APPS_APPDEMO/94B8B9C3000000000000000000000000000000000000000000
OE Shipping Transaction Manager N 60 t RDBMS Y 1060943

Starting Receiving Transaction Manager Concurrent Manager : 14-JUN-1997

RCVOLTM APPS_APPDEMO/93B5B3B8000000000000000000000000000000000000000000
0 PO Receiving Transaction Manager N 60 t RDBMS Y 1060944
Starting Receiving Transaction Manager Concurrent Manager : 14-JUN-1997

RCVOLTM APPS_APPDEMO/93B5B3B8000000000000000000000000000000000000000000
0 PO Receiving Transaction Manager N 60 t RDBMS Y 1060945
Starting Receiving Transaction Manager Concurrent Manager : 14-JUN-1997

RCVOLTM APPS_APPDEMO/93B5B3B8000000000000000000000000000000000000000000
0 PO Receiving Transaction Manager N 60 t RDBMS Y 1060946

...

```

Figure 52. Concurrent Manager Log File

Note that the log file shown in Figure 53 on page 64 was created after an Oracle Application specialist helped us with the setup.

You can also check the processes on your system with `ps -ef` to see all the additional processes under `applmgr`:

```

UID      PID    PPID  C   STIME  TTY  TIME CMD
root      1      0    0   Sep 16  -   280:35 /etc/init
...
applmgr  4268  27040  0 09:21:26  -   0:00 FNDLIBR
applmgr  16306 27040  0 09:21:26  -   0:00 INVLIBR
applmgr  16570 27040  0 09:21:28  -   0:00 OESHTM APPS_APPDEMO/94B8B9
applmgr  16832 27040  0 09:21:29  -   0:00 RCVOLTM APPS_APPDEMO/93B5B
applmgr  17512 24196  0 09:19:44 pts/4 0:00 -sh
oracle  17702     1    0  Oct 21  -   0:00 /xoracle/app/oracle/produ
oracle  18474     1    0 10:31:29  -   0:00 /xoracle/app/oracle/produ
applmgr  19120 27040  0 09:21:26  -   0:00 FNDCRM APPS_APPDEMO/84BFBE
applmgr  19432 17512 12 09:34:07 pts/4 0:00 ps -ef
applmgr  20676 27040  0 09:21:30  -   0:00 RCVOLTM APPS_APPDEMO/93B5B
applmgr  20886     1    0 09:20:43 pts/4 0:00 ksh
applmgr  22186 27040  0 09:21:26  -   0:00 FNDLIBR
applmgr  22462 27040  0 09:21:29  -   0:00 OESHTM APPS_APPDEMO/94B8B9
applmgr  22712 27040  0 09:21:28  -   0:00 OESHTM APPS_APPDEMO/94B8B9
applmgr  23462 27040  0 09:21:26  -   0:00 FNDLIBR
applmgr  23996 27040  0 09:21:28  -   0:00 OESHTM APPS_APPDEMO/94B8B9
applmgr  25270 27040  0 09:21:27  -   0:00 OESHTM APPS_APPDEMO/94B8B9
applmgr  26532 27040  0 09:21:26  -   0:00 FNDLIBR
applmgr  26792 27040  0 09:21:26  -   0:00 FNDLIBR
applmgr  27040 20886  0 09:20:43 pts/4 0:02 FNDLIBR
applmgr  28596 27040  0 09:21:27  -   0:00 MRCLIB
applmgr  30402 27040  0 09:21:30  -   0:00 RCVOLTM APPS_APPDEMO/93B5B
...

```

Figure 53. Concurrent Manager Processes

You can stop concurrent processing by entering the following command under `applmgr`:

```

CONCSUB apps_appdemo/apps SYSADMIN 'System Administrator' SYSADMIN
CONCURRENT FND DEACTIVATE
Submitted request 1475124 for CONCURRENT FND DEACTIVATE

```

Figure 54. Stop Concurrent Manager

If you now check your processes again with `ps -ef`, you will notice the deactivated processes:

```

...
applmgr  25270 27040  2                0:00 <defunct>
applmgr  26532 27040  2                0:00 <defunct>
applmgr  26792 27040  2                0:00 <defunct>
applmgr  28596 27040  1                0:00 <defunct>
applmgr  30402 27040  0                0:00 <defunct>
...

```

Figure 55. Deactivated Concurrent Manager Processes

Your initial `startmgr` command starts the internal concurrent manager, which remains active until you specifically stop it. The internal concurrent manager will then start all your configured additional concurrent managers.

Those can be customized to run during specific work shifts and/or to follow defined rules.

Our current concurrent processing hierarchy was as follows:

Internal Concurrent Manager:

1. Conflict Resolution Concurrent Manager
2. Inventory Concurrent Manager
3. MRP Concurrent Manager
4. Receiving Transaction Concurrent Manager
5. Shipping Transaction Concurrent Manager
6. Standard Concurrent Manager





---

## Chapter 11. Hints and Tips for Oracle Database and SmartClient

This chapter is a collection of points that might be helpful to you during the process of installing Oracle Applications for OS/390.

---

### 11.1 AIX-Related Hints and Tips

This section describes items related to AIX that you might find helpful.

#### 11.1.1 Start the Oracle Concurrent Manager

After bringing up your Oracle database instance(s) and ensuring that SQL\*Net is functioning on all participating systems, you should start the Oracle concurrent manager, as follows:

```
su - applmgr
startmgr1
```

After the start, you will see many connections from AIX processes to the OS/390 Oracle database; the Concurrent Manager normally starts about six to eight parallel processes with database connections.

#### 11.1.2 Shutdown AIX

To shutdown AIX you have to be logged on as user root.

If working under CDE, you have to end CDE in order to get back to your login console, then enter

```
shutdown -F
```

to initiate the AIX shutdown.

#### 11.1.3 Increase AIX Paging Space

During our installation, we ran out of paging space on the AIX system. To increase your paging space, invoke SMIT (or smitty) and select the following:

1. **System Storage Management**
2. **Logical Volume Manager**
3. **Paging Space**
4. **Add Another Paging Space**

In addition, be sure to select **immediate activation** and **re-use after restart**. Figure 56 shows our settings.

COMMAND STATUS								
Command:	OK	stdout:	yes	stderr:	no			
Before command completion, additional instructions may appear below.								
Page Space	Physical Volume	Volume Group	Size	%Used	Active	Auto	Type	
paging01	hdisk0	rootvg	40MB	68	yes	yeo	lv	
hd6	hdisk0	rootvg	64MB	68	yes	yes	lv	
						s	lv	

Figure 56. Increase AIX Paging Space

## 11.1.4 Add a New DASD

Adding a volume depends on your installed hardware. To provide an additional DASD volume under AIX, we had to

- Add an SSA volume
- Add a logical volume

To add an SSA volume with smitty, select:

**Devices**  
**SSA Disks**  
**SSA Physical Disks**  
**Add an SSA Physical Disks**

To add a logical volume with smitty, select:

**System Storage Management**  
**Logical Volume Manager**  
**Logical Volumes**  
**Add a Logical Volume**

---

## 11.2 OS/390-Related Hints and Tips

This section describes items related to OS/390 that you might find helpful.

### 11.2.1 IPL OS/390

Our OS/390 was already installed; we made no changes to its basic configuration. IPL behavior heavily depends on how you set up your PARMLIB members.

Our specific OS/390 system needed the following actions on its master console:

1. Reply Enter to the first IPL message.

Apparently SYSPARM was not specified in our LOADxx member. Enter causes SYSPARM to default to IEASYS00.

2. After a few minutes, you will receive a message from JES2. Reply to this message with the message number and a valid JES start parameter, as follows:

1,noreq

Apparently NOREQ was not specified in the PARMS entry of our JES2 start procedure.

3. The next message displayed is: - MSG IKT003D TCAS UNABLE TO ACCEPT LOGONS. Wait until VTAM is up and running completely, then reply with the corresponding message number and the retry option, as follows:

2,retry

Most installations provide an exit via MPFLSTxx, which issues the remaining OS/390 start commands after the IST020I message appears on the console (VTAM initialization complete). Apparently, in our OS/390 system all subsystems get started via the COMMNDxx member without regard to any dependencies, so the TSO start command has to be retried after VTAM initialization completes.

The rest of the OS/390 system, including TCP/IP, will come up without manual intervention.

Refer to 11.6.1, “Start the Oracle TNS Subsystem” on page 82 for information on how to start the Oracle TNS subsystem.

Refer to 11.3.1, “Start the Oracle Database Instances” on page 72 for information on how to start the Oracle MPM subsystems.

### 11.2.2 Shutdown OS/390

First bring down all started Oracle subsystems. Example:

```
p oratns.tns
p orampm.mpm
```

Refer to 11.6.2, “Stop the Oracle TNS Subsystem” on page 82 and to 11.3.2, “Stop the Oracle Database Instances” on page 74, if you would like to see different choices on how to shutdown Oracle on your OS/390.

After that, initiate your normal OS/390 shutdown. This depends on what you have active in your OS/390 system and on what particular release of OS/390 you are running. Typically, you enter commands like the following:

```
p omvs
c asch
c appc
c dfm
p tso
p tcpipmvs
z net,quick
```

Wait for the following message from JES2:

```
$HASPO99 ALL AVAILABLE FUNCTIONS COMPLETE
```

Then finish JES2 processing by entering:

```
$PJES2
```

If you see the message

```
JES2 ENDED
```

you enter

```
QUIESCE
```

to complete your OS/390 shutdown.

### 11.2.3 Auxiliary Storage Shortage

OS/390 ran out of paging space during the installation. We had to add two more local page data sets.

An example of how to allocate an additional page data set follows:

```
//PAGE JOB ' ', 'INIT DASD', CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),
// REGION=4M,TIME=1440,NOTIFY=&SYSUID
//*****
/* THIS IS AN EXAMPLE OF A JOB THAT WILL:
/* ALLOCATE A LOCAL PAGE DATASET
//*****
//DEFPAGE EXEC PGM=IDCAMS,REGION=512K
//SYSPRINT DD SYSOUT=*
//PAGE DD UNIT=3380,VOL=SER=SCPMV5,
// DISP=OLD
//SYSIN DD *
DEFINE PAGESPACE -
( FILE(PAGE) -
NAME(PAGE.P390.LOCAL2) -
CYL(100) -
VOLUME(SCPMV5) )
/*
```

Figure 57. JCL to Allocate a Page Data Set

You then add the newly allocated page data set with

```
PA PAGE=PAGE.P390.LOCAL2
```

You have to make sure that in your IEASYSxx PARMLIB member you specified, under the first subparameter of PAGETOTL, a bigger number than the number of your page data sets given under PAGE:

```
PAGTOTL=(8,2),                ALLOW ADDITION 3 PAGE D/S AND 2 SWAP D/S
```

## 11.2.4 Initialize a DASD Volume

Make sure that the device is offline before you submit the following job:

```
//DSFINIT JOB ' ', 'INIT DASD', CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),
//          REGION=4M,TIME=1440,NOTIFY=&SYSUID
//*****
//* THIS IS AN EXAMPLE OF A JOB THAT WILL:
//*   INITIALIZE AND LABEL A DASD VOLUME
//*****
//ICKDSF  EXEC PGM=ICKDSF,REGION=4096K
//SYSPRINT DD SYSOUT=*
//SYSIN   DD *
//          INIT UNIT(A85) NOVALIDATE NVFY VOLID(ORACLE) PURGE VTOC(0,1,14)
//*
```

Figure 58. JCL to Initialize a Volume on OS/390

OS/390 will ask you for permission to initialize the volume, after which you can set the volume online for further use.

---

## 11.3 Oracle Database-Related Hints and Tips

This section describes items related to the Oracle7 Database installation that you might find helpful.

### 11.3.1 Start the Oracle Database Instances

We usually started the TNS subsystem before we started any Oracle database instances.

Refer to 11.6.1, "Start the Oracle TNS Subsystem" on page 82 for information on how to do this.

We had two Oracle database instances:

MPM was our Oracle Applications production database.

MPMD was our Oracle Applications demo database.

For each subsystem you normally have a separate procedure in your proclib. You also specify separate communication characters for each, so you can easily route your MPM commands to either subsystem.

As an example, we started our Oracle Applications production database instance with:

```
s orampm2.mpm2
```

You should see something like the following on your console:

```

MPM MPM002I MPM INITIALIZING
#MPM217I *****
#MPM258I * MPM VERSION      1.1.07.00.00
#MPM259I * MPM LINK EDIT DATE:11/04/96 TIME:11:09:29
#MPM217I *****
#MPM085I 50 USERS, EACH 259K PRIVATE AREA (18K PGA), TOTAL OF 13966K
BYTES
#MPM151I LXRES: PC NUMBER 11008 (X00002B00) ASSIGNED TO MPM
#MPM223I MPM BUILT ESA CROSS MEMORY ENTRY TABLE
#MPM160I ORACLE MPM SUBSYSTEM MPM IS READY TO ACCEPT REQUESTS.
#MPM194I MPM SMFREC=199 SMF RECORDING IS NOT ACTIVE
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM008I OK.
#MPM025I TASK MANAGER COMING UP.
#MPM099I ATTACHED TCB AT X7DBE88 FOR TASK 'MPMTNS'
#MPM099I ATTACHED TCB AT X7DBBB8 FOR TASK 'SVRMGR'
#MPM099I ATTACHED TCB AT X7DB928 FOR TASK 'TASK0001'
#MPM099I ATTACHED TCB AT X7DB790 FOR TASK 'TASK0002'
#MPM099I ATTACHED TCB AT X7DB1B0 FOR TASK 'TASK0003'
TXM00307I Listening on (ADDRESS=(PROTOCOL=TCP)(HOST=WTSC04)(PORT=1521))
TXM11668I TCP/IP listen now active for ORAMP on port 1521
Oracle Server Manager Release 2.3.2.0.0 - Production

Copyright (c) Oracle Corporation 1994, 1995. All rights reserved.

Oracle7 Server Release 7.3.3.1.00 - Production Release
With the distributed and parallel query options
PL/SQL Release 2.3.2.3.0 - Production

Echo                                ON
SVRMGR> CONNECT INTERNAL
Connected to an idle instance.
SVRMGR> STARTUP PFILE=/DD/INITORA NOMOUNT
#MPM099I ATTACHED TCB AT X7CBCD0 FOR TASK 'PMON'
#MPM099I ATTACHED TCB AT X7CB978 FOR TASK 'DBWR'
#MPM099I ATTACHED TCB AT X7CB620 FOR TASK 'LGWR'
#MPM099I ATTACHED TCB AT X7CB488 FOR TASK 'SMON'
#MPM099I ATTACHED TCB AT X7CB268 FOR TASK 'RECO'
ORACLE instance started.
Total System Global Area      99059140 bytes
Fixed Size                     38672 bytes
Variable Size                  82079412 bytes
Database Buffers               16777216 bytes
Redo Buffers                   163840 bytes
SVRMGR> ALTER DATABASE MPM MOUNT;
Statement processed.
SVRMGR> ALTER DATABASE OPEN;
Server Manager complete.
#MPM056I 'SVRMGR' (TCB X7DBBB8) SUBTASK TERMINATION - X0

```

Figure 59. MPM Start Console Messages

Because we included START NET.MPMTNS in our MPMPARM member, an automatic start of the MPMTNS worker task inside the Oracle address space is initiated.

It is good practice to have the TNS subsystem up before you start your database instances.

Now is the time to start the Oracle concurrent manager on AIX. Refer to 11.1.1, “Start the Oracle Concurrent Manager” on page 67 for information on how to accomplish this.

## 11.3.2 Stop the Oracle Database Instances

We usually stopped the TNS subsystem before we stopped any Oracle database instances.

Refer to 11.6.2, "Stop the Oracle TNS Subsystem" on page 82 for information on how to do this.

We had two Oracle database instances:

MPM2 was our Oracle Applications production database.  
GDDDB was our Oracle Applications demo database.

Before you stop a database instance, you might want to make sure that it is not in use. For each database instance you have a communication character specified under COMCHAR= in its MPMPARM (see Figure 18 on page 27).

As an example, we stop our Oracle Applications production database instance with: `mpm start svrmgr1 command="shutdown immediate"`

You can also use the following commands to bring it down less gracefully:

```
c orampm.mpm
```

or with the preferred way

```
-shutdown force
```

**Note:** Cancelling the Oracle instance should only be done in a critical situation. Problems can occur since the subsystem did not get to close all the database files in an orderly fashion. You should see something like the following on your console:

```
-SHUTDOWN FORCE
-MPM008I OK.
IEA989I SLIP TRAP ID=X33E MATCHED. JOBNAME=ORAMPM2 , ASID=0035.
TXM00304I SQL*Net V2 service terminated
TXM11669I TCP/IP listen terminated for ORAMPM on port 1521
-MPM056I 'RECO' (TCB X7CB268) SUBTASK TERMINATION - XFFFFFFF
-MPM056I 'SMON' (TCB X7CB400) SUBTASK TERMINATION - XFFFFFFF
-MPM056I 'LGWR' (TCB X7CB758) SUBTASK TERMINATION - XFFFFFFF
-MPM056I 'DBWR' (TCB X7CB978) SUBTASK TERMINATION - XFFFFFFF
-MPM056I 'PMON' (TCB X7CBCD0) SUBTASK TERMINATION - XFFFFFFF
-MPM056I 'TASK0003' (TCB X7DB500) SUBTASK TERMINATION - X0
-MPM056I 'TASK0002' (TCB X7DB790) SUBTASK TERMINATION - X0
-MPM056I 'TASK0001' (TCB X7DB928) SUBTASK TERMINATION - X0
-MPM056I 'MPMTNS' (TCB X7DBE88) SUBTASK TERMINATION - X0
-MPM007I ORACLE MPM (SUBSYSTEM MPM) TERMINATED
```

Figure 60. MPM Stop Console Messages



---

## 11.4 Oracle Applications-Related Hints and Tips

This section describes items related to the Oracle Applications installation that you might find helpful.

### 11.4.1 Compatibility Setting

For Oracle application installation, set your compatibility in the database to 7.3.2, otherwise you will get the error we encountered, shown in Figure 61:

```
AutoInstall error:
The following ORACLE error:

ORA-00406: COMPATIBLE parameter needs to be 7.3.0.0.0 or greater

occurred while executing the SQL statement:

alter tablespace USER2 default storage(maxextents unlimited)

Backing up restart files, if any.....Done.
```

Figure 61. Wrong Compatibility Setting

To correct the compatibility setting, we used these steps:

1. On OS/390, we started a server manager session from the TSO command line:

```
SVRMGRL
```

2. When in server manager line mode, we entered the following commands:

```
connect internal
alter database reset compatibility ;
```

3. We set the compatibility parameter in the initora file to the required value:

```
COMPATIBLE = 7.3.3
```

4. We shutdown and restarted the instance.

### 11.4.2 Selecting Number of Workers

After you have selected your products, set your database parameter, and chosen the tasks, start the application installation.

Now you have to answer such questions as:

```
How do you wish to enable Parallel Concurrent Processing?
Do you wish to use the 8.3 filename convention?
...
```

You can safely answer all such questions with the defaults provided by Oracle. There is one exception to this: the answer to the request

```
Enter the number of workers (3)
```

Unfortunately, we selected the default here. After a short time, the installation on OS/390 was stuck.

We were advised to change the number of workers to 1 for MVS and everything ran correctly.

Other Oracle Applications installations ran fine with more than one worker. The restriction only applies to constrained environments like ours on a R/390.

### 11.4.3 Error during Autoinstall

The error shown in Figure 62 occurred during the Oracle Applications installation.

```
CREATE TABLE APPLSYS.FND_MODULE_INSTALLATIONS (APPLICATION_ID NUMBER(15)
NOT NULL, ORACLE_ID NUMBER(15) NOT NULL, MODULE_SHORT_NAME VARCHAR2(30)
NOT NULL, STATUS VARCHAR2(1) NOT NULL, MODULE_VERSION VARCHAR2(30) NOT
NULL, LAST_UPDATE_DATE DATE NOT NULL, LAST_UPDATED_BY NUMBER(15) NOT NULL,
CREATION_DATE DATE NOT NULL, CREATED_BY NUMBER(15) NOT NULL,
LAST_UPDATE_LOGIN NUMBER(15) NOT NULL, DB_STATUS VARCHAR2(1) NOT NULL)
STORAGE (INITIAL -2147483648K NEXT 8K MINEXTENTS 1 MAXEXTENTS 50
PCTINCREASE 0 FREELISTS 3) PCTFREE 10 PCTUSED 80 INITRANS 3 MAXTRANS 255
TABLESPACE USER2

AutoInstall error:
The following ORACLE error:

ORA-02218: invalid INITIAL storage option value
```

Figure 62. Autoinstall Bug

We set the parameter STORAGE (INITIAL 8K) manually, reran the SQL statement, and restarted the installation.

### 11.4.4 Wrong Default Password during Restart

When restarting your Oracle Applications installation, you invoke `adctrl`, which then asks you some initial questions, as shown in Figure 63:

```
Enter the ORACLE username of Application Object Library (APPLSYS) :
...
Enter the ORACLE password of Application Object Library (APPS) :
```

Figure 63. Adadmin Bug

You would expect that pressing the Return key would mean that you select the default. It does not, at least not in many of the cases when we had to restart. So we ended up entering APPLSYS and APPS each time to avoid further problems.

### 11.4.5 Password Encryption Patch

We performed these steps to install the FNDSCUPW patch:

1. Received the bugfile for bug 474520.
2. Transferred this file to the AIX system.
3. Uncompressed the bugfile.

4. Expanded the bugfile (with tar -xvf).

The two resulting files were:

1. /tmp/readme.txt

This is a readme file that describes the steps.

2. /tmp/FNDSCUPW

This is the program to run.

Note: Use this program only against the Oracle Demo Database.

## 11.4.6 INITORA Settings

For the Oracle Demo Database we changed our INITORA settings as follows:

```
COMPATIBLE = 7.3.2
CONTROL_FILES = "/DD/CONTROL1"
CONTROL_FILES = "/DD/CONTROL2"
DB_BLOCK_BUFFERS = 15000
DB_FILE_MULTIBLOCK_READ_COUNT = 32
DB_FILES = 256
DB_NAME = GDDDB
DML_LOCKS = 500
ENQUEUE_RESOURCES = 5000
LOG_BUFFER = 163840
LOG_CHECKPOINT_INTERVAL = 100000
NLS_DATE_FORMAT = DD-MON-RR
NLS_LANGUAGE = AMERICAN
NLS_NUMERIC_CHARACTERS = ".,"
NLS_SORT = BINARY
NLS_TERRITORY = AMERICA
OPEN_CURSORS = 255
OPTIMIZER_MODE = RULE
PROCESSES = 200
ROLLBACK_SEGMENTS = (RBS1,RBS2,RBS3,RBS4,R1)
ROW_LOCKING = ALWAYS
SEQUENCE_CACHE_ENTRIES = 100
SEQUENCE_CACHE_HASH_BUCKETS = 89
SESSIONS = 100
SHARED_POOL_RESERVED_MIN_ALLOC = 10000
SHARED_POOL_RESERVED_SIZE = 10000000
SHARED_POOL_SIZE = 120000000
SORT_AREA_RETAINED_SIZE = 0 # REMOVE AFTER IMPORT
SORT_AREA_SIZE = 30000000
TRANSACTIONS = 100
```

Figure 64. INITORA Settings for the Demo Database

---

## 11.5 TCP/IP-Related Hints and Tips

This section describes items related to customizing TCP/IP that you might find helpful.

### 11.5.1 TCP/IP Data Set Names

We mentioned right at the beginning under 2.2.4, “Required Skills” on page 16 that TCP/IP knowledge is required for an Oracle/SQL\*Net installation with TCP/IP.

In the first chapter of *IBM TCP/IP for OS/390 Customization and Administration Guide* you will find TCP/IP’s implicit and dynamic data set allocation logic and its data set search sequence. Troubleshooting can be very annoying if you have no TCP/IP expert around.

Use the following:

- TCPIP as your TCP/IP job (started task, procedure) name
- A PROFILE DD statement in your TCP/IP start job that points to your TCP/IP PROFILE data set or member
- A SYSTCPD DD statement in your TCP/IP start job and all other TCP/IP-related jobs (FTP, PORTMAP, etc.), and also in your TSO logon procedure, that points to your TCP/IP DATA data set

Otherwise, just to locate TCP/IP’s server PROFILE data set, you would have to search for:

- jobname.nodename.TCPIP
- hlq.nodename.TCPIP
- jobname.PROFILE.TCPIP
- hlq.PROFILE.TCPIP

where:

- jobname is your TCP/IP start job name.
- nodename is the third parameter of your VMCF subsystem specification in your IEFSSNxx member of your PARMLIB.
- hlq (high-level qualifier) is anything your system programmer specified as replacement for the default TCPIP in the EZAPPRFX job at TCP/IP installation time.

TCP/IP’s client profile data sets are searched in the following sequence:

1. userid.TCPIP.DATA or jobname.TCPIP.DATA
2. SYS1.TCPPARMS(TCPDATA)
3. hlq.TCPIP.DATA

### 11.5.2 TCP/IP Client Profile

Our TCP/IP client profile data set is in SYS1.TCPPARMS(TCPDATA):

```
TCPIPUSERID TCPIPUMVS
HOSTNAME wtsc04
DOMAINORIGIN pok.ibm.com
DATASETPREFIX SYS1.TCPIPUMVS
```

Figure 65. Our TCP/IP Client Profile

The first line is our TCP/IP job name. Unfortunately, our job name was not TCP/IP, it was TCPIP. That is why we had to change the TCP/IP name for SQL\*Net (see 11.6.3, "Change the Default TCP/IP Name" on page 83).

The second line is our host name, which TCP/IP also calls node name. It appears as third parameter in our subsystem specification for VMCF in our IEFSSNxx PARMLIB member (see Figure 8 on page 20).

You can include your host name in the TNS start job under a HOSTNAME DD statement, otherwise TNS will use TCP/IP's search sequence to locate this file. See Chapter 4, "Configuring and Starting SQL\*Net" on page 31.

The third line is our domain origin, so the full name of our TCP/IP on OS/390 is wtsc04.pok.ibm.com.

The fourth line tells TCP/IP what its data sets' high-level qualifiers are.

### 11.5.3 TCP/IP Site Table

Our TCP/IP host name should also be in our local hosts file, which (in our environment) is named TCPIP.MVS.SC04.HOSTS.LOCAL:

```
HOST : 9.12.14.219 : WTSC04 :::
```

Figure 66. Our TCP/IP Local Hosts File

This file should contain all your interconnected clients and servers. It is the input for the TCP/IP MAKESITE program, which creates a site table.

This site table is used by TCP/IP to do some host name resolution without a name server.

If you invoke MAKESITE, you should see the following output:

```
EZA0567I MVS TCP/IP Makesite
EZA0536I Initializing tables ...
EZA0543I Computing tables ...
EZA0547I Writing out SC04.HOSTS.SITEINFO ...
EZA0548I Writing out SC04.HOSTS.ADDRINFO ...
EZA0549I          S T A T I S T I C S
EZA0550I Dataset: TCPIP.MVS.HOSTS.LOCAL
EZA0551I      Total lines: 5
EZA0552W      Bad lines: (skipped) 0
EZA0553I      Duplicate names: 0
EZA0554I      Conflicts in first 8 letters: 0
EZA0555I      0 networks, 0 gateways, 8 hosts
EZA0556I Dataset: HOSTS.SC04.SITEINFO
EZA0557I      Table Size: 17
EZA0558I      Total Entries: 4
EZA0559I      Distinct Names: 7
EZA0560I      Collisions: 1
EZA0561I      Average probes/name: 1.143
EZA0562I Dataset: HOSTS.SC04.ADDRINFO
EZA0563I      Table Size: 11
EZA0564I      Total entries: 5
EZA0565I      Collisions: 0
EZA0566I      Names dropped: 0
...
```

Figure 67. MAKESITE Command

Be careful: following its rules for dynamic data set allocation, TCP/IP writes its output data sets with a high level qualifier of your userid (we happened to be logged on as P390 in the above example). You can use those data sets successfully in your TSO session, but no other user could, nor could TCP/IP and SQL\*Net.

You have to rename or copy those data sets with a high level qualifier that will be found by TCP/IP in its search order (TCPIP.MVS in our case).

You can include your site table in the TNS start job under a TCPHOSTS DD statement, otherwise TNS will use TCP/IP's search sequence to locate this file. See Chapter 4, "Configuring and Starting SQL\*Net" on page 31.

## 11.5.4 TCP/IP Server Profile

TCP/IP's server profile is TCPIP.MVS.PROFILE.TCPIP in our environment.

There are many parameters that affect TCP/IP's performance. We just mention the few parameters that have to do with our hardware and TCP/IP configuration:

```
...
PORT
  1521 TCP TNS           ; Oracle
  1522 TCP TNS           ; Oracle
...
DEVICE OSA02C4 LCS      02C4
LINK OSAL02C4 IBMTR 2  OSA02C4
...
HOME
  9.12.14.219 OSAL02C4
...
DEFAULTNET 9.12.14.75  OSAL02C4 4096  0
...
START OSA02C4
```

Figure 68. Our TCP/IP Server Profile

The PORT entries refer to our SQL\*Net connect descriptors for the Oracle Applications databases MPM and MPMD. See Figure 25 on page 33 and Figure 47 on page 56.

The DEVICE entry refers to the OSA device address in our configuration.

The LINK entry specifies link number 1; this is the second OSA adapter.

The HOME entry specifies the IP address for our link. IP address and host name have to be specified in our site tables (see 11.5.3, "TCP/IP Site Table" on page 79) so that TCP/IP knows where to go when you refer to some host by its name.

The DEFAULTNET entry specifies the address of a router that will be contacted for any other requests.

The START entry tells TCP/IP to start our OSA device.

## 11.5.5 TCP/IP - SQL\*Net Connection

For the client connections from AIX, MS Windows, OS/2, or TSO to any Oracle database server you have either a MPMTNS data set or member on OS/390, or a LISTENER.ORA file on the other platforms.

Ideally, you can distribute one file containing all your connect descriptors onto all those platforms.

You have a choice to specify the host either by its name or by its IP address. If you choose to specify a host name, you have to make sure that this name can be resolved into an IP address on that platform. You can accomplish this on the different platforms by including entries with name and IP address in the following places:

<b>Windows NT</b>	WINNT\system32\drivers\etc\hosts
<b>Windows 95</b>	WINDOWS\SYSTEM\hosts
<b>OS2</b>	\tcip\dos\etc\hosts
<b>AIX</b>	/etc/hosts
<b>OS/390</b>	hlq.HOSTS.SITEINFO

Remember that in the OS/390 case you have to change hlq.HOSTS.LOCAL first and then run MAKESITE. See 11.5.3, "TCP/IP Site Table" on page 79 for more information.

You find the IP address on the different platforms as follows:

Windows NT: Hit Start on your task bar and select:

**Settings**  
**Control Panel**  
**Protocols**  
**TCP/IP Protocol**  
**Properties**

Windows 95: Same procedure as under Windows NT, or just enter winipcfg.

OS2: Enter tcpcfg. It should come up with its network tab. Select your LAN interface (normally 0); the IP address should show up.

AIX: Invoke smit and select:

Communication Applications and Services  
TCP/IP  
Minimum Configuration and Setup  
select tr0

OS/390: Look in TCP/IP's server profile under HOME; refer to Figure 68 on page 80.

---

## 11.6 SQL\*Net-Related Hints and Tips

This section describes items related to the SQL\*Net installation that you might find helpful.

### 11.6.1 Start the Oracle TNS Subsystem

We configured our TNS subsystem for TCP/IP, so make sure that TCP/IP is up and running. After that you can start the Oracle TNS subsystem with:

```
s oratns.tns
```

You should see something like the following on your console:

```
TXM00001I TNS subsystem initialization in progress, version 2.3.2.1.50
Aug 27 1996 - Production
TXM00002I TGV is at 5417400
TXM00004I Reused LX number 10496 (x2900)
TXM00005I Subsystem command character is '@'
TXM00002I SSVT is at D6D8D8
TXM00006I TNS subsystem initialization complete
TXM00100I TCP/IP networking task initializing
TXM11672I IBM TCP/IP Networking Task (TNTI) version 2.3.2.1.50 Aug 27
1996 - Production
TXM11673I IBM TCP/IP interface initialized for T390 (9.12.0.230)
```

Figure 69. TNS Start Console Messages

We usually started our Oracle database instances after TNS startup was complete.

Refer to 11.3.1, “Start the Oracle Database Instances” on page 72 for information on how to start the Oracle MPM subsystems.

### 11.6.2 Stop the Oracle TNS Subsystem

Stop your TNS subsystem on OS/390 with

```
p oratns.tns
```

@ is your communication character for TNS as specified with the P parameter of your TNS start procedure (see Figure 23 on page 31).

You should see something like the following on your console:

```
@SHUTDOWN
TXM00098I TNS subsystem termination in progress
TXM11669I TCP/IP listen terminated for ORAMP on port 1521
TXM00098W termination forced out active listener: 00100007
TXM00304I SQL*Net V2 service terminated
-MPM056I 'MPMTNS' (TCB X7DBD50) SUBTASK TERMINATION - X0
-MPM056I 'TASK0006' (TCB X7C9440) SUBTASK TERMINATION - X16
-MPM056I 'TASK0001' (TCB X7DB8E8) SUBTASK TERMINATION - X16
-MPM056I 'TASK0002' (TCB X7DB658) SUBTASK TERMINATION - X16
-MPM056I 'TASK0008' (TCB X7CFE88) SUBTASK TERMINATION - X16
-MPM056I 'TASK0004' (TCB X7E1768) SUBTASK TERMINATION - X16
-ORATNS ENDED. NAME- TOTAL TCB CPU TIME= .61
```

Figure 70. TNS Stop Console Messages



### 11.6.3 Change the Default TCP/IP Name

We had to apply the ZAP shown in Figure 71, since our TCP/IP name was not the default name:

```
File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      MPM.ORAV73A.INSTLIB(ZAPTCP/IP) - 01.01          Columns 00001 00072
*****  ***** Top of Data *****
000001 //P390ZAP JOB (0000,ORA), 'ORAIPO INSTALLATION',
000002 //          REGION=1024K,NOTIFY=P390,
000003 //          CLASS=A,MSGCLASS=X
000004 //*****
000005 //*
000006 /** JCL to change the Sql*Net V2 IBM/TCPIP protocol adapter
000007 /** default TCPNAME. The default name is TCPIP and the maximum
000008 /** length is 8 bytes. It must be padded with blanks if it is
000009 /** less than 8 bytes.
000010 /**
000011 /** change '*****' in the REP statement to the new tcpname.
000012 //*****
000013 /**
000014 //TCPNAME EXEC PGM=IGWSPZAP
000015 //SYSPRINT DD SYSOUT=*
000016 //SYSLIB DD DISP=SHR,DSN=MPM.ORAV73A.AUTHLOAD <== YOUR LOAD
000017 //SYSIN DD *
000018 NAME TMTI TCPNAME
000019 VER 0000 E3C3D7C9,D7404040 <== TPCIP
000020 REP 0000 E3C3D7C9,D7D4E5E2 <== TPCIPMVS
*****  ***** Bottom of Data *****
```

Figure 71. Change Default TCP/IP Name with ZAP

Note the name of our SUPERZAP module. Oracle's job comes with the old name IMASPZAP. It took us some time to find the right name.

### 11.6.4 Check the Listener on OS/390

Check your TNS subsystem on OS/390 with

```
@display listens
```

@ is your communication character for TNS as specified with the P parameter of your TNS start procedure (see Figure 23 on page 31).

It is possible that the above command may not work as OS/390 may intercept it and think it is a LIST command and not execute it. In this case you must enter the command as follows;

```
TNS ssn command
```

Where *ssn* is the subsystem name and *command* is DISPLAY LISTENS.

You should see something like the following on your console:

```
@DISPLAY LISTENS
TXM00202I  CID      Owner      Protocol  Address
TXM00203I  00100007 ORAMPM   TCP (IBM) 9.12.2.10:1521 (1)
```

Figure 72. Check TNS on OS/390

## 11.6.5 Check the Listener on AIX

To check your listener on AIX, logon as applmgr, enter the `lsnrctl` command, and ask for status when you are prompted by the listener.

Your output should look like this:

```
oracle@oracle1 /home/oracle: lsnrctl

LSNRCTL for IBM/AIX RISC System/6000: Version 2.3.2.1.0 - Production

Copyright (c) Oracle Corporation 1994. All rights reserved.

Welcome to LSNRCTL, type "help" for information.

LSNRCTL> status
Connecting to (ADDRESS=(PROTOCOL=IPC)(KEY=FNDFS_oracle1.world))
STATUS of the LISTENER
-----
Alias                LISTENER
Version              TNSLSNR for IBM/AIX RISC System/6000: Version 2.3.2.1.0
Start Date           29-MAY-97 14:29:52
Uptime               8 days 19 hr. 54 min. 46 sec
Trace Level          off
Security             OFF
SNMP                 OFF
Listener Parameter File /etc/listener.ora
Listener Log File    /xoracle/app/oracle/product/7.3.2/network/log/listener.
log
Services Summary...
  FNDFS              has 1 service handler(s)
The command completed successfully
LSNRCTL>
```

Figure 73. Check the Listener on AIX

---

## 11.7 Cooperative Processor Configuration Files

This section describes items related to the Cooperative Processor installation that you might find helpful.

### 11.7.1 TNSNAMES.ORA

```
MPM.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (HOST = 9.12.0.230)
        (PROTOCOL = TCP)
        (Port = 1521)
      )
    )
  (CONNECT_DATA = (SID = MPM)
  )
)
MPMD.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (HOST = 9.12.0.230)
        (Port = 1522)
      )
    )
  (CONNECT_DATA = (SID = MPMD)
  )
)
OERPC_r390.world =
  (DESCRIPTION =
    (ADDRESS =
      (COMMUNITY = tcp.world)
      (HOST = 9.12.0.230)
      (PROTOCOL = TCP)
      (Port = 1522)
    )
  (CONNECT_DATA = (SID = OERPC_r390)
    (GLOBAL_NAME=OERPC_r390.world)
  )
)
```

## 11.7.2 LISTENER.ORA

```
#####
SQLNET.AUTHENTICATION_SERVICES = (NONE)
USE_PLUG_AND_PLAY_LISTENER = OFF
USE_CHECKPOINT_FILE = OFF
LISTENER =
  (ADDRESS_LIST =
    (ADDRESS=
      (PROTOCOL=IPC)
      (KEY=FND FS_r390.world)
    )
    (ADDRESS=
      (PROTOCOL=IPC)
      (KEY=FND FS_r390)
    )
    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=9.12.0.225)
      (PORT=1521)
    )
    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=r390)
      (PORT=1521)
    )
    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=9.12.0.225)
      (PORT=1526)
    )
    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=r390)
      (PORT=1526)
    )
  )
STARTUP_WAIT_TIME_LISTENER = 0
CONNECT_TIMEOUT_LISTENER = 10
TRACE_LEVEL_LISTENER = OFF
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME=FND FS)
      (PROGRAM=FND FS)
      (ORACLE_HOME=/xoracle/app/oraapps/product/10.7/fnd/6.1.1)
    )
  )
LISTENER_OEORPC =
  (ADDRESS_LIST =
    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=9.12.0.225)
      (PORT=1522)
    )
  )
```

```

    (ADDRESS=
      (COMMUNITY=TCP.world)
      (PROTOCOL=TCP)
      (HOST=r390)
      (PORT=1522)
    )
  )
SID_LIST_LISTENER_OEORPC=
  (SID_LIST=
    (SID_DESC=
      (PROGRAM=/xoracle/app/oraapps/product/10.7/oe/4.0.172/bin/OEORPC)
      (ENVS=' FND_TOP=/xoracle/app/oraapps/product/10.7/fnd/6.1.1,OE_TOP=/xoracle
/app/oraapps/product/10.7/oe/4.0.172,AR_TOP=/xoracle/app/oraapps/product/10.7/ar
/7.0.152,BOM_TOP=/xoracle/app/oraapps/product/10.7/bom/5.0.168,INV_TOP=/xoracle/
app/oraapps/product/10.7/inv/5.0.161,MRP_TOP=/xoracle/app/oraapps/product/10.7/m
rp/5.0.160,PO_TOP=/xoracle/app/oraapps/product/10.7/po/8.0.167,WIP_TOP=/xoracle/
app/oraapps/product/10.7/wip/5.1.1,APPLHLP=helptext,APPLNG=usaeng,APPLLOG=log,AP
PLMSG=msg,APPLOUT=out,APPLPLS=plsql,APPLSAV=save,APPLTMP=/usr/tmp,APPLUSR=usrxi
t,APPCNAM=REQID,NLS_DATE_FORMAT=MM-DD-RR,NLS_NUMERIC_CHARACTERS=.,NLS_LANG=AMER
ICAN_AMERICA.WE8ISO8859P1')
      (GLOBAL_DBNAME=OEORPC_r390.world)
      (SID_NAME=OEORPC_r390)
      (ORACLE_HOME=/xoracle/app/oracle/product/7.3.2)
      (PRESPAWN_MAX=10)
    )
  )
)

```

---

## 11.8 SMP/E-Related Hints and Tips

This section describes some of the problems we encountered with installing Oracle Applications for OS/390 with SMP/E.

### 11.8.1 Choosing SMP/E or Non-SMP/E Installation

In an OS/390 environment, we usually install and maintain products with SMP/E. However, when installing Oracle Applications you should consider the following points:

- Oracle Database *can* be installed with SMP/E.
- However, we have not seen any Oracle patches that come in SMP/E format. In order to remain consistent with your SMP/E installation, you will have to create USERMODS for any patches you apply.
- Oracle Applications *cannot* be installed with SMP/E.
- The Oracle Demo Database *cannot* be installed with SMP/E.

Anyway, we did start the installation with SMP/E, following the steps given in Chapter 6 of *Oracle7 Release 7.3 for OS/390 Installation Guide*.

Unfortunately, SMP/E receive processing ended abnormally with code 237-0C. We suspected an error in the Oracle installation logic and decided to continue with the non-SMP/E installation.

A different installation did use SMP/E, and their hints and tips are included here.

### 11.8.2 First Job Step Did Not Work in Step 8

In Step 8 we had a problem with job SMPENV01: in its first job step it tried to delete SMP/E data sets that had not yet been allocated. This led to a JCL error. To avoid this, you have to comment out either the DD statements or the complete step.

### 11.8.3 Program IEV90 Not Found

We had a problem with job SMPGZN01, which is supposed to create the ORAOPT options file. Oracle still uses the old names for assembler, linkage editor, superzap, and so on.

```

SET BOUNDARY(GLOBAL).
UCLIN.
REP GLOBALZONE
  OPTIONS(ORAOPT)
  SREL(Z038)
.
REP OPTIONS(ORAOPT)
  AMS(IDCAMS) /* SMP/E DEFAULT FOR AMS */
  ASM(IEV90) /* SMP/E NAME FOR ASM H */
  DSSPACE(300,100,200) /* (PRIM,SEC,DIR) FOR TLIBS */
  LKED(HEWLH096) /* SMP/E NAME FOR LKED MVS/XA */
  COMP(IEBCOPY) /* SMP/E DEFAULT FOR COMPRESS */
  COPY(IEBCOPY) /* SMP/E DEFAULT FOR COPY */
  DSPREFIX(MPM)
.
  NUCID(6) /* PREFIX FOR SMP TLIBS */
  PAGELEN(60) /* SUFFIX FOR BACKUP NUCLEUS */
  PEMAX(9999) /* PAGE LENGTH FOR SYSOUT */
  NOREJECT /* MAX SUBENTRIES PER CSI ENTRY */
  RETRY(IEBCOPY) /* KEEP ENTRIES AFTER RESTORE */
  RETRYDDN(ALL) /* SMP/E DEFAULT FOR RETRY */
  /* LIST OF DDNAMES FOR X37 RETRY */
  /* "SAVEMTS" NOT SPECIFIED SO WILL DELETE ENTRIES AFTER ACCEPT */
  /* "SAVESTS" NOT SPECIFIED SO WILL DELETE ENTRIES AFTER ACCEPT */
  UPDATE(IEBUPDTE) /* SMP/E DEFAULT FOR UPDATE */
  ZAP(IMASPZAP) /* SMP/E DEFAULT FOR SUPERZAP */
.
REP UTILITY(IDCAMS) NAME(IDCAMS)
  RC(0) PRINT(SYSPRINT) /* SMP/E DEFAULT RC, PRINT, PARM */
.
REP UTILITY(IEV90) NAME(IEV90)
  RC(0) PRINT(SYSPRINT) /* SMP/E DEFAULT RC AND PRINT */
  PARM(XREF(SHORT),NOLOAD,DECK)
.
REP UTILITY(HEWLH096) NAME(HEWLH096)
  RC(8) PRINT(SYSPRINT) /* SMP/E DEFAULT RC AND PRINT */
  PARM(SIZE=(768K,100K),NCAL,LIST,LET,XREF)
.
REP UTILITY(IEFBR14) NAME(IEFBR14)
  RC(0) PRINT(SYSPRINT) /* SMP/E DEFAULT RC, PRINT, PARM */
.
REP UTILITY(IEBCOPY) NAME(IEBCOPY)
  RC(0) PRINT(SYSPRINT) /* SMP/E DEFAULT RC, PRINT, PARM */
.
REP UTILITY(IEBUPDTE) NAME(IEBUPDTE)
  RC(0) PRINT(SYSPRINT) /* SMP/E DEFAULT RC AND PRINT */
.
REP UTILITY(IMASPZAP) NAME(IMASPZAP)
  RC(4) PRINT(SYSPRINT) /* SMP/E DEFAULT RC, PRINT, PARM */
.
REP DDDEF(SMPLOG)
  MOD DA(MPM.SMPLOG)
.
REP DDDEF(SMPLOGA)
...

```

Figure 74. ORAOPT SMP/E Settings

To avoid this problem, check and correct names according to your installation. We had to change IEV90 to ASMA90, the new name of the assembler.

Oracle’s patches do not come in SMP/E format, otherwise we would have found out that IMASPZAP has changed to AMASPZAP and HMASPZAP has changed to IGWSPZAP (see job in 11.6.3, “Change the Default TCP/IP Name” on page 83).

#### **11.8.4 Long Job Times**

Some of the jobs can take a long time to run. This is normal, especially if you choose to install many options (for example, job SMPRCV01 takes quite a long time).

Specify TIME=1440 on the JOB card if in doubt.

#### **11.8.5 Condition Codes 4 or 8**

Several times we had a completion code of 8 when jobs tried to delete data sets that did not exist, as this was a first-time installation of Oracle. You may ignore these errors.

#### **11.8.6 VSAM PTF Required for OS/390 Release 3**

When we tried to create the Oracle database, we received the message IEC1611 RC79. The return code for this message was not documented in *OS/390 Messages and Codes*. We needed VSAM PTF UW36603 to resolve this.

#### **11.8.7 Other Considerations**

In general, most considerations of a non-SMP/E installation apply here as well.

However, be careful with job OSPIJA00. Refer to 3.3, "Create the ISPF Libraries Used by the Installation" on page 21 for parameters to correctly set your high-level qualifiers, device types, volume serial numbers, and ISPF library references.



---

## 11.9 SmartClient PC Configuration Files

This section gives the listings of the key PC configuration files.

### 11.9.1 ORACLE.INI

```
[Oracle]
ORACLE_HOME=E:\ORAWIN
CUSTOMER=IBM-Oracle
NLS_LANG=AMERICAN_AMERICA.WE8ISO8859P1
ORAINST=E:\ORAWIN\dbs
MSHELP=E:\ORAWIN\mshelp
PATH_MODIFIED=TRUE
D2K_COMPONENTS=Developer 2000 Components
D2K_ADMINISTRATION=Developer 2000 Administration
D2K_DEMOS=Developer 2000 Demos
D2K_DOCS=Developer 2000 Documentation
D2K_GROUP=Developer 2000
D2K_BOOK=Oracle Book
D2K_DRIVERS=Developer 2000 Direct Drivers
DIS2K_GROUP=Discoverer 2000
DIS2K_DOCS=Discoverer 2000 Documentation
DIS2K_ADMINISTRATION=Discoverer 2000 Administration
OPEN2000_DOCS=Open 2000 Documentation
CNTL_BREAK=ON
NLS_DATE_FORMAT=DD-MON-RR
[orainst]
REPLICATE_GROUPS=res:us,aux:us,prodmsg:us
[TUTIL25]
VGS21=E:\ORAWIN\CDE2
DE15=E:\ORAWIN\CDE2
CA_GPREFS=E:\ORAWIN
CA_UPREFS=E:\ORAWIN
OCL25=E:\ORAWIN\CDE2
OTM25=E:\ORAWIN\OTM25
QT_PLAYER=OMO
DEV2000_SOURCECONTROL=NONE
DEV2000_PROJECT=NONE
DEV2000_SCVIEWER=NOTEPAD.EXE
[GUI23]
TK23=E:\ORAWIN\TOOLS\COMMON
MM2A=E:\ORAWIN\TOOLS\COMMON
CUE_PREFS=E:\ORAWIN\TOOLS\COMMON
[rsf73]
REPLICATE_BIN=commd11,d11
RDBMS73=E:\ORAWIN\RDBMS73
PRO18=E:\ORAWIN\PRO18
NLSRTL32=E:\ORAWIN\NLSRTL32
ORA_NLS32=E:\ORAWIN\NLSRTL32\DATA
[net23]
PRD_PATH=E:\ORAWIN\NETWORK\CFG
REPLICATE_VARIABLES=prd_path
LOCAL=MPMD
[tcp23]
TCP_VENDOR=WINSOCK
[plus33]
SQLPATH=E:\ORAWIN\DBS
PLUS33=E:\ORAWIN\PLUS33
```

```
EXECUTE_SQL=PLUS33
[netman31]
ORACLE_HOME32_NETWORK=E:\ORAWIN\NETWORK
REPLICATE_VARIABLES=oracle_home32_network
REPLICATE_GROUPS=msb,sql,rosbild,rosdrop,rosgrnt,rosrvke,rosupdt,int
[FORMS45]
FORMS45=E:\ORAWIN\FORMS45
FORMS45_USEREXITS=fnd75win.dll;f45xtb.dll
FORMS45_PATH=E:\APPS10\FND75\forms\us;E:\APPS10\AU10\res\us;E:\APPS10\AU10\res\p
lsql
FORMS45_APPSLIBS=APPCORE FNDSQF APPDAYPK APPFLDR GLCORE HR_GEN HR_SPEC ARXCOVER
TK23_ICON=E:\APPS10\FND75\res
FORMS45_DEFAULTFONT="MS Sans Serif.8.Plain.Medium"
FORMS45_SESSION=TRUE
[GRAPH25]
GRAPHICS25=E:\ORAWIN\GRAPH25
[FND75]
OA_CONFIG=E:\APPS10\oaconfig.ora
APPS_INI=E:\APPS10\AU10\apps.ini
[AS13]
WPNAME=None of the above.
TEMPLATE_PATH=C:\
Setup Shared Install=false
```

## 11.9.2 OACONFIG.ORA

```
#
# Oracle Applications Configuration File
# (C) 1995 Oracle Corp., Redwood Shores, CA, USA.
#
# The location of this file is specified by the ORACLE.INI
# OA_CONFIG parameter.
#

#
# Client Release Number
#
APPS_RELEASE=SC16

#
# Application Directories
#
APPLTOP=E:\APPS10
AU_TOP=%APPLTOP%\AU10
FND_TOP=%APPLTOP%\FND75
AD_TOP=%APPLTOP%\AD
ALR_TOP=%APPLTOP%\ALR55
AK_TOP=%APPLTOP%\AK12
AP_TOP=%APPLTOP%\AP85
AR_TOP=%APPLTOP%\AR75
AS_TOP=%APPLTOP%\AS13
AX_TOP=%APPLTOP%\AX15
BOM_TOP=%APPLTOP%\BOM60
CE_TOP=%APPLTOP%\CE11
CHV_TOP=%APPLTOP%\CHV10
CN_TOP=%APPLTOP%\CN10
CRP_TOP=%APPLTOP%\CRP60
CS_TOP=%APPLTOP%\CS30
DT_TOP=%APPLTOP%\DT46
EC_TOP=%APPLTOP%\EC20
ENG_TOP=%APPLTOP%\ENG60
FA_TOP=%APPLTOP%\FA75
FF_TOP=%APPLTOP%\FF46
GL_TOP=%APPLTOP%\GL90
INV_TOP=%APPLTOP%\INV60
JA_TOP=%APPLTOP%\JA15
JE_TOP=%APPLTOP%\JE15
JG_TOP=%APPLTOP%\JG15
JL_TOP=%APPLTOP%\JL15
MRP_TOP=%APPLTOP%\MRP60
OE_TOP=%APPLTOP%\OE50
OTA_TOP=%APPLTOP%\OTA10
PAY_TOP=%APPLTOP%\PAY46
PA_TOP=%APPLTOP%\PA41
PER_TOP=%APPLTOP%\PER76
PO_TOP=%APPLTOP%\PO90
QA_TOP=%APPLTOP%\QA10
RCV_TOP=%APPLTOP%\RCV
RG_TOP=%APPLTOP%\RG40
SCP_TOP=%APPLTOP%\MRP60
SHP_TOP=%APPLTOP%\SHP50
SSP_TOP=%APPLTOP%\SSP30
WH_TOP=%APPLTOP%\WH10
WIP_TOP=%APPLTOP%\WIP60
```

```

APPLTMP=%APPLTOP%\TMP
APPLPTCH=%APPLTOP%\INSTALL\LOG
#
# Obsolete product directories
#
#
# Sub-directory names
#
APPLBIN=bin
APPLFRM=forms
APPLGRAF=graphs
APPLCFRM=cmforms
APPLDOC=docs
APPLIMG=images
APPLINC=include
APPLLIB=lib
APPLNG=usaeng
APPLLOG=log
APPLMSG=msg
APPLOUT=out
APPLPLS=plsql
APPLREG=regress
APPLREP=srw
APPLRPT=rpt
APPLRSC=res
APPLSAV=save
APPLSQL=sql
APPLUSR=usrxit

#
# Default connection
# (database TWO_TASK specified in oracle.ini LOCAL= parameter)
#
FNDNAM=APPS_APPDEMO
GWYUID=APPDEMOPUB/APPS

#
# AOL Window settings
#
AOL_CANVAS_FG=Black
AOL_CANVAS_BG=Gray75
AOL_DATA_FG=Black
AOL_DATA_BG=White
AOL_CANVAS_FONT=MS Sans Serif.10.Plain.Medium
AOL_CONTROL_FONT=MS Sans Serif.10.Plain.Bold

#
# Help system filenames
# (default is application short name)
#
FDH_SQLGL=GL
FDH_RG=GL
FDH_DT=PER
FDH_FF=PER
FDH_PAY=PER
FDH_SQLAP=AP
FDH_OFA=FA
FDH_JE=EUROPE
FDH_JG=EUROPE

```

```
#
# Low Resources Warning limit
# (percent of maximum windows resources)
#
FD_RESLIMIT=20

# Concurrent Program output naming
APPCPNAM=REQID

# Concurrent Program output location
# APPLMNT=N:/fnddev

#
# Userexit DLL names
#
XIT_ALR=alr55win.dll
XIT_AS=AS13WIN.DLL
XIT_INV=inv60win.dll
XIT_OFA=FA75WIN.DLL
XIT_WIP=WIP60WIN.DLL
XIT_PAY=PAY46WIN.DLL
XIT_FF=FF46WIN.DLL
XIT_DT=DT46WIN.DLL
XIT_SQLGL=GL90WIN.DLL
XIT_OE=oe50win.dll
XIT_ENG=ENG60WIN.DLL
XIT_PO=PO90WIN.dll
FDFOPTLOV=OFF

FNDEDCHR=c:\windows\notepad.exe $$FILE$$
```

### 11.9.3 TNSNAMES.ORA

#This is a SQL\*Net Configuration file

```
Tcp-loopback.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 127.0.0.1)
        (Port = 1521)
      )
    )
    (CONNECT_DATA = (SID = LOCL)
  )
)
fndfs_r390.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.225)
        (Port = 1521)
      )
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.225)
        (Port = 1526)
      )
    )
    (CONNECT_DATA = (SID = FND FS)
  )
)
MPMD.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.230)
        (Port = 1522)
      )
    )
    (CONNECT_DATA = (SID = MPMD)
  )
)
MPM.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.230)
        (Port = 1521)
      )
    )
    (CONNECT_DATA = (SID = MPM)
```

```

)
)
OERPC_r390.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.225)
        (Port = 1521)
      )
    )
    (CONNECT_DATA =
      (SID = OERPC_r390)
      (GLOBAL_NAME=OERPC_r390.world)
    )
  )
)

ORCL.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.12.0.240)
        (Port = 1521)
      )
    )
    (CONNECT_DATA = (SID = ORCL)
  )
)

```





---

## Part 2. Installing Oracle Applications with NCA Client

This part of the redbook describes the steps involved in upgrading Oracle Applications for OS/390 from 10.7 SmartClient to 10.7 NCA. Although it reflects the issues arising from a particular project, it is designed to be of assistance to those who are migrating from 10.7 SmartClient Oracle Applications architecture to a 10.7 NCA architecture. It should be noted that the move from 10.7 SmartClient to 10.7 NCA is just a technical migration, not an application upgrade. Nevertheless, this change of technical architecture has important implications for both the software and database of Oracle Applications.

This part is based on a project that IBM and Oracle conducted in Montpellier. We took a customer's existing SmartClient system and migrated it to a NCA Client system.

Some of the terms used in this part are:

<b>Application Server</b>	Platform for the Oracle code for the NCA Client that runs the code for Oracle Application Server and Oracle Developer.
<b>MGLF</b>	The Oracle database instance name used for our installation
<b>NCA Client</b>	Client using the Java applet
<b>Oracle Application Server</b>	Oracle's Product for the Web-enabled and Web-deployed Applications (formerly Oracle Web Application Server)
<b>Web-enabled</b>	The three self-services Web-designed applications
<b>Web-deployed</b>	Full suite of Oracle Applications using NCA client

Note: The Web-enabled applications will work with a browser, but presently the Web-deployed applications will run only with a Java applet viewer provided by Oracle.



---

## Chapter 12. Installation Overview

The following section is based on a project that IBM and Oracle conducted in Montpellier. We took a customer's existing SmartClient system and migrated it to an NCA Client system.

---

### 12.1 Planning the Migration

The planning process must include ensuring that the following areas are considered.

#### 12.1.1 Hardware Requirements

The hardware requirements are as follows:

An IBM S/390 as the database server, with enough disk space to hold two databases, one for the reference environment (customer's current SmartClient DB environment), and one for the new migration environment (10.7 NCA Database) plus Oracle RDBMS Version 7.3.3.2.50

IBM RS/6000 with AIX 4.2.1, minimum two CPUs and 1 G RAM, as reference Support Server, to contain Oracle Applications 10.7, to use as a reference system.

IBM RS/6000 with AIX 4.2.1, minimum two CPUs and 1 G RAM, as migration Support Server, to contain Oracle Applications 10.7 to be updated according to the 10.7 NCA.

IBM RS/6000 with AIX 4.2.1, minimum two CPUs and 1 G RAM, as target forms server, to contain Oracle Applications 10.7 NCA software and all other necessary software for the NCA.

One client PC Windows 95 or NT containing the 10.7 SC reference client environment, and clients PC Windows 95 or NT for the Java applet implementation, to access the new forms server; memory requirements: minimum 32 MB, recommended 64 MB.

#### 12.1.2 Software Requirements

The software requirements are as follows:

- Oracle Enterprise server
- Oracle Application Server release 3.1.0
- Oracle Developer server release 1.6.1 (containing Oracle Forms 4.5)
- Oracle Applications release 10.7 NCA and related patches
- Oracle Applications release 10.7 NCA NLS and related patches
- Oracle RDBMS Patch Sets 5.1 for AIX server
- Oracle RDBMS Patch Sets 5.2 for OS/390 server

### 12.1.2.1 Media

A complete set of CD-ROMs for the Oracle Applications release 10.7 NCA and the RDBMS upgrade (as listed in 12.1.2, “Software Requirements” on page 101), was ordered from Oracle, including all related tools and other software components.

### 12.1.3 Documentation

The documentation used was as follows:

- *Oracle Applications Release 10.7 Installation Manual for UNIX*
- *Oracle Applications Release 10.7 Upgrade Preparation Manual*
- *Oracle Applications Release 10.7 NCA Installation Manual for UNIX*
- *Oracle Applications Release 10.7 NCA Installation Manual for Windows NT.*
- *Oracle Applications Release 10.7 NCA Migration Strategy*
- *Oracle Applications Release 10.7 NCA Release Notes*
- *Oracle Applications Release Notes for OS/390 RDBMS Version 7.3.3*
- *Oracle Applications Release 10.7 NCA Patch Sets Release Notes*
- *Oracle Applications Release 10.7.0 and Oracle 7 Server 7.3.3 Interoperability Patch Notes*
- *Oracle Applications Release 10.7 NCA Patch Sets Release Notes*
- *Oracle Applications NLS Release 10.7 NCA Installation Guide*
- *Oracle Applications NLS Release 10.7 NCA Release Notes*
- *Oracle Applications NLS Release 10.7 NCA Patch Sets Release Notes*
- *Oracle Application Server Release 3.0.1 for AIX Installation Guide*
- *Developer Release 1.6. Client/Server Installation Guide for AIX Based Systems*
- *Developer Release 1.6 Deploying Applications on the Web*
- *Developer Release 1.6 Web Server Installation Guide for AIX Based Systems*

---

## 12.2 Strategy and Steps of Implementation

When you are migrating to a new environment, it is a good practice to have a reference environment to test against to ensure the new environment is working correctly. In our case we established two copies of the customer system. One was kept as the reference environment to be used to validate our migration. The second copy was the one on which the patches were applied and the NCA software installed. We were able to test each function on the migration copy against the reference copy to ensure that from the user’s point of view, the functionality was the same.

The following steps implemented our migration:

- Set up the reference environment: Database Server, Support Server and SmartClient workstations. This reference environment is a copy of the customer environment.

- Set up the migration environment: This is a copy of the database server and Support Server of the reference environment. The migration process is started from this environment.
- Upgrade the migration environment: Oracle RDBMS, Oracle Applications libraries and the database are upgraded to the levels that are required to allow the NCA installation and migration process.
- Install the applications server and Web client workstations.
- Apply the migration patches to the migration environment.
- Migrate the customized forms and set up the new administration environment.
- Run the system and functional tests (this item is not covered in this redbook).

---

## 12.3 Hardware Environment

We ran the migration on the following hardware configuration:

- S/390 - database server (reference and migrated database)
- Three SP2 nodes: 4-ways and 4 GB each
  - Node 1 - Support Server for the SmartClient reference environment
  - Node 5 - Support Server for the NCA environment
  - Node 13 - Oracle Application Server (Web server and applications server)
- Eight IBM PCs: 166 Mhz and 32 MB each
  - Three SmartClients (for the reference environment)
  - Five Web clients



---

## Chapter 13. Installing the Oracle Application Server

The following steps must be completed to install the application server:

- Install the libraries for the Oracle server engine
- Install the Oracle Application Server release 3.1.0
- Install Developer Server release 1.6.1 (containing Oracle Forms)
- Install Oracle Applications release 10.7 NCA and related patches
- Install Oracle Applications release 10.7 NCA NLS and related patches

---

### 13.1 Install the Libraries for Oracle Server Engine for AIX

The first step is to install the libraries for the Oracle Server on AIX. You do not have to create the database, but the Oracle RDBMS libraries must be installed.

#### 13.1.1 Install Oracle RDBMS 7.3.3.1

To install the database libraries, complete the following steps:

- Create a volume group called Oracle on hdisk1.
- Create an /oracle filesystem using smitty:

```
*****
                          Add a Standard Journalled File System
Type or select values in entry fields.
Press Enter AFTER making all desired changes.

Volume group name                [Entry Fields]
SIZE of file system (in 512-byte blocks) [1500000]
MOUNT POINT                       [/oracle]
Mount AUTOMATICALLY at system restart?  yes
PERMISSIONS                        read/write
Mount OPTIONS                      
Start Disk Accounting:              no
Fragment Size (bytes)               4096
Number of bytes per inode            4096
Allocation Group Size (MBytes)       8
*****
```

- Mount the new file system manually using the command:  
\$ mount /oracle
- Create a user Oracle belonging to group dba.
- Create the file system /cdrom to install Oracle RDBMS 7.3.3.1 from CD-ROM:

```

os> lsdev -C ` grep cd
os> cd0          Available 00-08-01-5,0 SCSI Multimedia CD-ROM
smitty fs
  Add / Change / Show / Delete File Systems
    CDROM File Systems
      Add a CDROM File System

          Add a CDROM File System
Type or select values in entry fields.
Press Enter AFTER making all desired changes.
                                [Entry Fields]
* DEVICE name                    cd0          +
* MOUNT POINT                    [/cdrom]
Mount AUTOMATICALLY at system restart    no          +

```

- Mount /cdrom on node 13 `mount -r -v cdrfs /dev/cd0 /cdrom`
- Create Oracle link directory `/oracle/olink`
- Start Oracle installer from `/cdrom/orainst` and choose option **INSTALL Software**. Do not create database objects (as database is on S/390)
- Select required components: RDBMS 7.3.3, SQL\*Plus, SQL\*Net, TCIPI Adaptor.
- Enter `su` to transfer to root and issue the following commands:  
`/cdrom/orainst/root.sh`  
`umount /cdrom`
- Add `$ORACLE_HOME`, `$ORACLE_SID` and `PATH` to Oracle `.profile`.

### 13.1.2 Apply 7.3.3.5.2 Upgrade Patch

See 6.4, "Installing Patches for 7.3.3.5" on page 42 for the procedure to follow.

### 13.1.3 Oracle Application Server

To install the Oracle Application Server code, complete the following steps:

- Add `$ORAWEB_HOME` and `PATH` to Oracle's `.profile`.
- Verify that SQL\*Net is properly installed and configured by attempting to connect to the Oracle Applications database server using SQL\*Plus. (Note: It is not necessary to configure an SQL\*Net listener on the forms server as release 10.7 NCA desktop clients use a Web browser or Appletviewer to connect to the forms server via the HTTP protocol, and do not use SQL\*Net.)
- Insert and mount the CD-ROM for the Web server:  
`> mount -r -v cdrfs /dev/cd0 /cdrom`
- Run `orainst` to install the Oracle Application server:  
`cd /cdrom`  
`./orainst`
- Select **Install New Product**, then choose **Oracle Application Server** and press **Install**.
- At the invite prompt of the installer, set the variable `ORAWEB_HOME` to `$ORACLE_HOME/ows/<version>` (here: 3.0).
- Choose the default settings:  
`WEBSITE website30`



UDP port 2649  
TCP port 8888

- Under the login oranca, type the following command to start the Web listener:

```
$owsctl start wrb &  
$owsctl start admin &
```

Note: It is important that the Web listeners are started in the correct order, beginning with wrb.

- Accessing administration pages via Netscape or Microsoft Explorer: Enter the URL `http://<hostname>:<port_number>/ows-abin/boot` (in our case the values were: `hostname=node13`, `port_number=8888`)

You will be asked to enter your userid and password:

```
Userid = admin  
Password = manager
```

- Create Database Access Descriptors at the home page of the Oracle Application Server:  
enter the Database user `system/manager`,  
`ORACLE_HOME (/oracle/app/oracle/product/7.3.3)`  
`ORACLE_SID (MGLF)`,  
`SQL*NET v2 Service (TWO_TASK)`  
`NLS_LANGUAGE (AMERICAN_AMERICA.WE8ISO8859P1)`  
`NKS_DATE_FORMAT (DD-MON-RR)`

---

## 13.2 Installing the Oracle Developer Server

When installing the Developer, check carefully that you have the correct CD-ROM as the server and client sides of the CD-ROM are very similar. The right CD-ROM must have Developer Server written at the bottom of the list of contents. Then, complete the following steps:

- Log in to the Oracle account and make sure the environment is set to the correct `ORACLE_BASE`, `ORACLE_HOME`, `ORACLE_SID` and `PATH`.
- Shut down all instances running from `$ORACLE_HOME`. This should be a clean shutdown (that is, shutdown normal or shutdown immediate).
- Ensure that no one is using the Oracle executable, otherwise you may get an executable busy message and be unable to execute the copy.
- Start the Installer from the baseline release CD-ROM:

```
cd /cdrom/orainst.  
./orainst
```
- On the Install Type screen, specify the Default Install option.
- On the Installation Activity Choice screen, specify the Install, Upgrade, or De-Install Software option.
- On the Installation Options screen, specify the Add/Upgrade Software option, then Install New Product. Do not select Create Database Objects option.
- On the Installation Options: Home Locator screen check that the setting for `$ORACLE_HOME` is correct.
- On the From question of the Installer, enter CD-ROM directory:

```
/cdrom/orainst.
```

- Accept default proposal NO at the question, Do you want to relink Oracle executables?
- On the Software Asset Manager screen inviting you to choose the products to install, select Oracle Forms 2.5 and Designer and Generator Executables.
- As interface mode for Oracle forms, select **Webforms Interface** and **Motif Interface** (both are mandatory), then press **Install**.
- Confirm the deletion of the old version at the prompt of the Installer.
- When the Installer has finished, it prompts you to run the root.sh script. You do have to run it.

The installation process creates a file named \$ORACLE\_HOME/bin/f45webm. When installing Oracle Applications 10.7 NCA, this same file will be reinstalled in the same directory. To avoid a file name conflict, rename the \$ORACLE\_HOME/bin/f45webm file with a backup file name after having installed Developer Server.

---

### 13.3 Install Oracle Applications 10.7 NCA Forms and Libraries

To install the NCA Forms and Libraries, complete the following steps:

- Create the file system /applnca to implement 10.7 NCA.
- Create the user applnca, \$HOME /applnca.
- Create the directory /applnca/product/107NCA as \$APPL\_TOP.
- Reset the .profile of applnca by including \$APPL\_TOP, \$ORACLE\_HOME and \$TWO\_TASK, reset \$PATH.
- Create a directory to unload the CD-ROM Oracle Applications release 10.7 for NCA patches:

```
mkdir /patches/107NCA
```

- Transfer the already unloaded CD-ROM from the Control Workstation to the Oracle Application Server node (/restore\_oracle/appatch/107NCA/cdrom).

This step is necessary if you are running on an SP2 system.

- From \$APPL\_TOP, as applnca, launch: /patches/107NCA/cdrom/prdnca10

This command will uncompress and install the Oracle Applications 10.7 NCA directories and files on disk, under \$APPL\_TOP.

- Relink the Oracle Applications executables:

```
cd $APPL_TOP/ad/10.7/bin
./adlnkall
```

- Set the NLS variables as follows:

```
NLS_LANG= AMERICAN_AMERICA.WE8ISO8859P1
NLS_SORT=BINARY
NLS_LANGUAGE=AMERICAN
NLS_TERRITORY=AMERICA
NLS_DATE_FORMAT=DD-MON-RR.
```

- Run the AD administration utility adadmin:

```
cd $APPL_TOP/ad/10.7/bin
./adadmin
```

- Select the menu Maintain Applications files and then choose the option:  
Create the Application environment file APPLSYS.env (to use as a model )
- Exit adadmin and execute the environment file from the .profile:  
`.$APPL_TOP/APPLSYS.env`
- Run the AD administration utility adadmin again :  
`cd $APPL_TOP/ad/10.7/bin`  
`./adadmin`
- Select the menu Maintain Applications files and then choose the option:  
Copy Java and HTML Files

---

## 13.4 Setup the NCA Server and Environment

You must set up the profiles at this point.

### 13.4.1 User's Oracle Environment

Here is the .profile of the user oranca (home directory: /oracle/app/oracle):

```

umask=022
set -o vi
PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:$HOME/bin:/usr/bin/X11:/sbin ; export PATH
export PS1='{ 'was': '$LOGNAME'}$PWD >'
TERM=vt100 ; export TERM
alias ll='ls -la'
alias bdf='df -k'
#####
# variables for Oracle RDBMS
ORACLE_BASE=oracle/app/oracle; export ORACLE_BASE
ORACLE_HOME=/oracle/app/oracle/product/7.3.3 ; export ORACLE_HOME
TNS_ADMIN=$ORACLE_HOME/network/admin; export TNS_ADMIN
PATH=$PATH:$ORACLE_HOME/bin:/usr/local/bin ; export PATH
#####
# variables for Oracle Application Server 3.0.1.8.0
ORAWEB_HOME=$ORACLE_HOME/ows/3.0 ; export ORAWEB_HOME
DISPLAY=node13:0.0 ; export DISPLAY
PATH=$PATH:$ORAWEB_HOME/bin ; export PATH
#####
# variables for Developer Server
ORA_NLS33=$ORACLE_HOME/ocommon/nls/admin/datad2k ; export
ORA_NLS33
#####
# variables for Oracle Applications 107 NCA
APPL_TOP=/applnca/107NCA; export APPL_TOP
. $APPL_TOP/APPLSYS.env
APPL_BASE=/applnca; export APPL_BASE
PATH=$PATH:$FND_TOP/bin; export PATH
#####
# alias to switch between languages
alias FR='. $APPL_TOP/APPLSYS_FR.env'
alias US='. $APPL_TOP/APPLSYS_US.env'
#####
# After sqlnet setup for the remote database
ORACLE_SID=MGLF; export ORACLE_SID
TWO_TASK=$ORACLE_SID; export TWO_TASK
#####
if [ -s "$MAIL" ] # This is at Shell startup. In normal
then echo "$MAILMSG" # operation, the Shell checks
fi # periodically

```

### 13.4.1.1 User's 10.7 NCA Environment

Here is the .profile of the user applnca (home directory: /applnca/107N CA):

```

umask=022
set -o vi
PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:$HOME/bin:/usr/bin/X11:/sbin ; export PATH
export PS1='{ 'was': '$LOGNAME'}$PWD >'
TERM=vt100 ; export TERM
alias ll='ls -la'
alias bdf='df -k'
#####
# variables for Oracle RDBMS
ORACLE_BASE=oracle/app/oracle; export ORACLE_BASE
ORACLE_HOME=/oracle/app/oracle/product/7.3.3
export ORACLE_HOME
PATH=TNS_ADMIN=$ORACLE_HOME/network/admin; export TNS_ADMIN
PATH=$PATH:$ORACLE_HOME/bin:/usr/local/bin ; export PATH
#####
# variables for Oracle Application Server 3.0.1.8.0
ORAWEB_HOME=$ORACLE_HOME/ows/3.0
export ORAWEB_HOME
DISPLAY=node13:0.0 ; export DISPLAY
PATH=$PATH:$ORAWEB_HOME/bin ; export PATH
#####
# variables for Developer Server
ORA_NLS33=$ORACLE_HOME/ocommon/nls/admin/datad2k
export ORA_NLS33
#####
# variables for Oracle Applications 107 NCA
APPL_TOP=/applnca/107NCA; export APPL_TOP
. $APPL_TOP/APPLSYS.env
APPL_BASE=/applnca; export APPL_BASE
APP_ADMIN=$APPL_BASE/admin ; export APP_ADMIN
PATH=$PATH:$FND_TOP/bin; export PATH
#####
# alias pour switch des langues
alias FR='. $APPL_TOP/APPLSYS_FR.env'
alias US='. $APPL_TOP/APPLSYS_US.env'
#####
# the next is to set after installation and sqlnet setup
ORACLE_SID=MGLF; export ORACLE_SID
TWO_TASK=$ORACLE_SID; export TWO_TASK
#####
if [ -s "$MAIL" &|rbk.      # This is at Shell startup. In normal
then echo "$MAILMSG"      # operation, the Shell checks
fi                          # periodically.

Add files $APPL_TOP/APPLSYS-FR.env
          $APPL_TOP/APPLSYS-US.env

```



---

## Chapter 14. Oracle Application Server NLS Update

This chapter describes the steps required to add the national language support we needed in Montpellier, France. You may not have to install NLS support.

---

### 14.1 Oracle Applications 10.7 NCA NLS Forms and Libraries

- Create a directory to unload the CD-ROM Oracle Applications NLS French 10.7 NCA:  
`mkdir /patches/NLS1`

- From \$APPL\_TOP, as applnca, launch:  
`/patches/NLS1/cdrom/prdnca10`

This command will uncompress and install the Oracle Applications 10.7 NCA NLS files on disk, under \$APPL\_TOP/forms/F and \$AU\_TOP/F.

- Create a directory to unload the CD-ROM Oracle Applications NLS French 10.7 NCA Patch Sets:  
`mkdir /patches/NLS2`

When transferring the CD-ROM to /patches/NLS2, we discovered that there was no 1070nca/AIX directory on the CD-ROM, as it does not contain any patches but merely has the same content as the CD-ROM Oracle Applications Release 10.7 NCA for AIX-Based Systems.

---

### 14.2 Web Server NLS Setup

This section describes the items necessary to setting up Web Server WLS.

#### 14.2.1 Web Server NLS Setup

Oracle Applications consolidates all Java files and all HTML files to a single location specified for each, in \$ORACLE\_HOME and \$APPL\_TOP directories. You define these locations while running the adadmin utility. For our migration, the locations of the virtual paths were as follows:

<code>/usr/tmp</code>	<code>/oa-temp/</code>
<code>/applnca/107NCA/au/1.0/html/US</code>	<code>/oa/</code>
<code>/applnca/107NCA/au/1.0/html/bin</code>	<code>/oa/bin/</code>
<code>/oracle/app/oracle/product/7.3.3/forms45/java</code>	<code>/oa-java/</code>

The default US setup file under \$AU\_TOP/html/US directory was duplicated and adapted for French, with dedicated forms directory path and dedicated port distinct from the US port, as follows:

- For US:  
`PARAM name="serverPort" value="9000";`  
`PARAM name="serverArgs"`  
`value="module=/applnca/107NCA/fnd/7.5/forms/US/FNDSCSGN;`  
`userid=applsypub/pub@MGLF fndnam=APPS"`
- For French:  
`PARAM name="serverPort" value="9001",`  
`PARAM name="serverArgs"`

```
value="/applnca/107NCA/fnd/7.5/forms/F/FNDSCSGN,  
userid=applsypub/pub@MGLF fndnam=APPS"
```

The setup file for French NLS was placed under a new \$AU\_TOP/html/F directory.

Here is the file \$AU\_TOP/html/US/node13MGLF\_US.htm, used to set up the Web US environment:

```
#node13MGLF_US.htm file  
#####  
<HTML>  
<HEAD>  
<TITLE>Oracle Applications Release 10.7 NCA: </TITLE>  
</HEAD>  
<BODY>  
<!--  
    This is a sample HTML file that can be edited and used for signing  
    on to Oracle Applications Release 10.7 NCA using a STATIC  
    initial HTML file. You will need to substitute the proper values  
    for the %APPL_TOP%, %GWYUID%, %TWO_TASK%, and %FNDNAM%  
variables below  
    before it can be used in your organization.  
    See Chapter 3 of the Oracle Applications Release 10.7 NCA  
    Installation Manual for more information.  
-->  
<APPLET codebase="/oa-java/"  
    code="oracle.forms.uiClient.v1_4.engine.Main"  
-->  
<APPLET codebase="/oa-java/"  
    code="oracle.forms.uiClient.v1_4.engine.Main"  
    archive="/oa-java/oracle/apps/fnd/appscore.jar"  
    width=200 height=100  
    alt="This browser does not have Java enabled. Please turn on Java  
<PARAM name="serverArgs"  
value="/applnca/107NCA/fnd/7.5/forms/US/FNDSCSGN  
userid=applsypub/pub@MGLF fndnam=APPS">  
<!--  
    See the Oracle Applications Release 10.7 NCA Release Notes regarding  
    the clientBrowser parameter setting on the next line.  
-->  
<!PARAM name="clientBrowser" value="netscape">  
<BLOCKQUOTE>  
This web browser is not capable of running Java applets, and therefore cannot be  
used to run the Oracle Applications Release 10.7 NCA. Please contact your system  
administrator for guidance.  
</BLOCKQUOTE>  
</APPLET>  
<P>  
Copyright &#169;1997 <a href="http://www.oracle.com">Oracle Corporation</a>  
</BODY>  
</HTML>
```

Here is the file \$AU\_TOP/html/F/node13MGLF\_FR.htm, to setup the Web French environment:



```

#node13MGLF_FR.htm file
#####
<HTML>
<HEAD>
<TITLE>Oracle Applications Release 10.7 NCA: </TITLE>
</HEAD>
<BODY>
<!--
    This is a sample HTML file that can be edited and used for signing
    on to Oracle Applications Release 10.7 NCA using a STATIC
    initial HTML file. You will need to substitute the proper values
    for the %APPL_TOP%, %GWYUID%, %TWO_TASK%, and %FNDNAM%
variables below
    before it can be used in your organization.
    See Chapter 3 of the Oracle Applications Release 10.7 NCA
    Installation Manual for more information.
-->
<APPLET codebase="/oa-java/"
        code="oracle.forms.uiClient.v1_4.engine.Main"
        archive="/oa-java/oracle/apps/fnd/appscore.jar"
        width=200 height=100
        alt="This browser does not have Java enabled. Please turn on Java
support in your browser preferences in order to run this applet.">
<PARAM name="serverApp" value="OracleApplications">
<PARAM name="serverPort" value="9001">
<PARAM name="registryPath" value="/oa-java/oracle/apps/fnd/formsClient">
<PARAM name="serverArgs"
value="module=/applnca/107NCA/fnd/7.5/forms/F/FNDSCSGN
userid=applsypub/pub@MGLF fndnam=APPS">
<!--
    See the Oracle Applications Release 10.7 NCA Release Notes regarding
    the clientBrowser parameter setting on the next line.
-->
<PARAM name="clientBrowser" value="netscape">
<BLOCKQUOTE>
This web browser is not capable of running Java applets, and therefore cannot be
used to run the Oracle Applications Release 10.7 NCA. Please contact your system
administrator for guidance.
<BLOCKQUOTE>
</APPLET>
<P>
Copyright &#169;1997 <a href="http://www.oracle.com">Oracle Corporation</a>
</BODY>
</HTML>

```

## 14.3 Troubleshooting

This section describes some of the problems we encountered and our solutions to these problems.

### Problem Bug 695994

Webforms does not work for all languages other than US English. The file called fmrweb.res installed in \$ORACLE\_HOME/forms45/admin/resource/F has a header that causes the file to generate an error when used.

### Solution

Remove the lines that make up this header.

### **Problem Bug 658206**

Lowercase filenames should be in uppercase. Using lowercase filenames produces the following errors when trying to access the French forms:

- FRM 99999 - any forms that are accessible in NLS\_LANG other than US English
- FRM 10221 - cannot read file FNDMENU

These error messages were caused by the fact that all the NLS French files, for application forms and menu forms, which were installed in \$AU\_TOP/resource/F are in lowercase, while the application expects them to be in uppercase. Indeed, in the directory \$AU\_TOP/resource/US, which are created by the base US English installation (see 13.3, "Install Oracle Applications 10.7 NCA Forms and Libraries" on page 108), these files are in uppercase.

### **Solution**

- Write a shell script which copies or renames all \*.fmb files in a given directory by translating the lowercase in uppercase (tr [a-z] [A-Z]). The directory to which you should apply this script is \$AU-TOP/ressource/F. Such scripts were also given by Oracle Support as a correction in this bug.
- Regenerate the forms either by adadmin (menu 2, Maintain Applications files, option 6 **Generate Forms Files**) or by a dedicated shell script which applies the executable \$FND\_TOP/bin/f45gen against all \*.fmb files in a given directory in order to generate the corresponding \*fmx files.

### **Problem US No Access**

The connection to Oracle Applications US base version fails.

### **Solution**

Use adadmin to regenerate the files contained in \$AU\_TOP/resource/US. This created a file called FNDMENU.mmx which previously did not exist. The connection to Oracle Application US then worked.

### **Problem Missing Executable**

When we tried to start f45ctl, we received this error:

Error Cannot run runform (f45webm executable was not found) The f45webm was missing from the \$ORACLE\_HOME/bin directory - why? (it was first installed there by the Developer/2000 Server installation).

### **Solution**

Copy the f45webm executable from \$APPL\_TOP/fnd/7.5/bin to \$ORACLE\_HOME/bin.

### **Problem Error when exiting Oracle Applications**

When exiting Oracle Applications we found that we could not exit normally and we were getting FRM-99999 errors.

### **Workaround**

When starting the Forms listener, instead of typing `f45ctl start port=9000`, type `nohup f45srvm port=9000 &`



---

## Chapter 15. Performing the Administration Tasks

This chapter describes the administrative tasks we did to complete the installation.

---

### 15.1 Switch Off NLS Languages

The following aliases were defined in the .profile file of users applmgr and applnca, on the Support Server and Application Server in order to allow switching between languages:

- FR: to run the environment file \$APPL\_TOP/APPLSYS\_FR.env
- US: to run the environment file \$APPL\_TOP/APPLSYS\_US.env

The Developer Forms Server may be run on one of these environments, or on both of them simultaneously on the same machine, by entering the following commands at the OS prompt, from two different telnet windows:

#### 15.1.1 The FR NLS Environment

To start the FR Forms Server, enter as applnca user, on the NCA Server (node 13):

```
os> FR
os> f45ctl start port=9001
```

To stop the FR Forms Server, enter as applnca user, on the NCA Server (node 13):

```
os> f45ctl stop port=9001
```

#### 15.1.2 The US NLS Environment

To start the FR Forms Server, enter as applnca user, on the NCA Server (node 13):

```
os> US
os> f45ctl start port=9000
```

To stop the US Forms Server, enter as applnca user, on the NCA Server (node 13):

```
os> f45ctl stop port=9000
```

---

### 15.2 Manage the Concurrent Managers

Under \$APPL\_BASE/admin/bin (/applmgr/admin/bin on node5 and /applnca/admin/bin on node13), the following scripts can be used to run and stop the Concurrent Managers, on one of the NLS environments or on both of them simultaneously (in this case, launch from two different telnet windows):

#### 15.2.1 The FR NLS Environment

To start the :CM, connect as applmgr user on the Support Server (node 5) and launch the script \$AP\_ADMIN/bin/startmgr.sh with FR as the argument:

```
os> cd $AP_ADMIN/bin
os> ./startmgr.sh FR
```

To stop them, as applmgr user on the Support Server (node 5) launch the script \$AP\_ADMIN/bin/stopmgr.sh with FR as the argument:

```
os> ./stopmgr.sh FR
```

## 15.2.2 The US NLS Environment

To start the CM, connect as applmgr user, on the Support Server (node 5) and launch the script \$AP\_ADMIN/bin/startmgr.sh with US as the argument: os> cd \$AP\_ADMIN/bin

```
os> ./startmgr.sh US
```

To stop them, as applmgr user on the Support Server (node 5) launch the script \$AP\_ADMIN/bin/stopmgr.sh with US as the argument: os> ./stopmgr.sh US

Note: Following are examples of these scripts:

- \$AP\_ADMIN/bin/startmgr.sh

```
. $APPL_TOP/APPLSYS_$1.env  
startmgr sysmgr=apps/apps mgrname=SYSADMIN
```

- \$AP\_ADMIN/bin/stopmgr.sh

```
. $APPL_TOP/APPLSYS_$1.env  
CONCSUB_apps :apps SYSADMIN 'System administrator' SYSADMIN  
CONCURRENT FND SHUTDOWN
```

---

## 15.3 View the log and report Files

On the Support Server both in the SmartClient and NCA environments, the Report View Agent was configured to be “a listener” and trapped as an ORACLE\_SID, so the Client may view the result of the run reports. This was done by simply configuring SQL\*NET, as decided in the following sections:

### 15.3.1 The SmartClient Environment

The steps to set up the SmartClient environment are:

- Set up the listener on the SmartClient

In the file \$ORACLE\_HOME/network/admin/listener.ora, set the following variables by entering the physical complete path:

```
ORACLE_HOME = /oracle/product/7.3.3  
PROGRAM = /applmgr
```

Note: For the PROGRAM variable, enter the value of \$APPL\_TOP; the listener adds by default the bin sub-directory.

- SIDs setup on the PC in the file \$ORACLE\_HOME/network/admin/tnsnames.ora

```

#This is a SQL*Net Configuration file generated by SQL*Net Easy Configuration.
#Attention: Do not modify this file yourself.
#If you do, your SQL*Net Easy Configuration may not function properly.
OGLF.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.100.194.161)
        (Port = 1528)
      )
    )
    (CONNECT_DATA = (SID = OGLF)
  )
)
FNDFS_node1.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.100.194.171)
        (Port = 1526)
      )
    )
    (CONNECT_DATA = (SID = FNDFS)
  )
)

```

### 15.3.2 The NCA Environment

- Listener setup on the Support Server

In the file \$ORACLE\_HOME/network/admin/listener.ora, set the following variables by entering the physical complete path:

```

ORACLE_HOME = /oracle/product/7.3.3
PROGRAM = /app1mgr/

```

Note: Do not enter \$APPL\_TOP/bin. Only enter \$APPL\_TOP (the listener adds by default the bin sub-directory).

- SIDs setup on the Application Server:  
\$ORACLE\_HOME/network/admin/tnsnames.ora

```

#This is a SQL*Net Configuration file generated by SQL*Net Easy Configuration.
#Attention: Do not modify this file yourself.
#If you do, your SQL*Net Easy Configuration may not function properly.
MGLF.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.100.194.161)
        (Port = 1528)
      )
    )
    (CONNECT_DATA = (SID = MGLF)
  )
)
FNDFS_node1.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = 9.100.194.172)
        (Port = 1526)
      )
    )
    (CONNECT_DATA = (SID = FNDFS)
  )
)

```

On the Support Server:

- Run the listener by launching on the Oracle account: `lsnrctl start`
- Stop the listener by entering on the Oracle account: `lsnrctl stop`

### 15.3.2.1 Issues and Recommendations

It is essential that all Web and forms processes are kicked off using the correct userids. If they are not started correctly, when you click the icon to connect to Oracle Applications, the black DOS window will appear momentarily then disappear again.

If you attempt to connect from the command line in the DOS window using the following command:

`C:\jdk\bin\appletviewer.exe http://node13/oa/US/node13MGLF.htm` you get an I/O error message and the client fails to connect to the server. (There is also an error log you can check called `svwww.err`).

On our test migration system, this error file was found in:

`$ORACLE_HOME/ows/admin/ows/website30/http_node13/www/log`. An example of the content of this error logfile follows.



```

07/Sep/1998:16:33:12 +0000 -- Error: A failure occurred (Permission denied) when
assigning a port ( domain: nodel3, address: 0.0.0.0, port: 80 ).
07/Sep/1998:16:33:12 +0000 -- Error: Failed to start the server.
07/Sep/1998:16:33:12 +0000 -- Error: The server could not initialize
07/Sep/1998:16:33:12 +0000 -- Information: The server is exiting
07/Sep/1998:16:39:51 +0000 -- Information: Listening on NORM port 80 address
0.0.0.0
07/Sep/1998:16:39:53 +0000 -- Information: The server started successfully
07/Sep/1998:18:10:57 +0000 -- Information: Listening on NORM port 80 address
0.0.0.0
07/Sep/1998:18:10:59 +0000 -- Information: The server started successfully
29/Sep/1998:09:15:42 +0000 -- Information: SIGTERM caught - program will shut
down once all connections are complete.
29/Sep/1998:10:52:36 +0000 -- Error: A failure occurred (Permission denied) when
assigning a port ( domain: nodel3, address: 0.0.0.0, port: 80 ).
29/Sep/1998:10:52:36 +0000 -- Error: Failed to start the server.
29/Sep/1998:10:52:36 +0000 -- Error: The server could not initialize
29/Sep/1998:10:52:36 +0000 -- Information: The server is exiting
29/Sep/1998:10:53:12 +0000 -- Information: Listening on NORM port 80 address
0.0.0.0
29/Sep/1998:10:53:14 +0000 -- Information: The server started successfully

```

One problem we had was that when we clicked the icon to start Oracle Applications, absolutely nothing happened. The wrb processes were already running, so we tried to stop and restart all the required processes. The command to stop the wrb hung and had to be killed using the kill command in AIX.

It was difficult to pinpoint the cause of the problem due to the amount of work that had taken place on the server prior to this happening so, as a last resort, we decided to reboot the Web server. When the server had rebooted and we restarted wrb, admin and f45ctl, we were able to connect to the applications. N.B. When this type of problem occurs, there are a number of processes associated with the wrb that you can look for using the ps -ef command in AIX (for example, \$ps -ef | grep wrb). These processes are as follows:

- ORB Processes: mnaddrsv, mnrpcnmsrv, mnorbsrv.
- WRB Processes: mnaddrsv, mnrpcnmsrv, mnorbsrv, wrbcfg, wrbdm, wrblog, wrbasrv, wrbahsrv, wrbroker, wrbvpm, wrbfac.

One of the errors we received when trying to start the wrb was as follows:

```

OWS-08820: Unable to start WRB process
/oracle/app/oracle/product/7.3.3/ows/3.0/bin/mnaddrsv

```

This message was probably generated because the mnaddrsv process was already running when the wrb had failed to shut down properly.



---

## Chapter 16. Migrating 10.7 SmartClient to 10.7 NCA

To use the NCA client, you must first install the SmartClient and then migrate to the NCA Client.

---

### 16.1 Migrating from the Existing Oracle Environment

In our case the Oracle database Server was level 7.3.2 and it had to be at level 7.3.3 for the NCA.

#### 16.1.1 Data Base Server Migration from 7.3.2 to 7.3.3.1

These are the steps we followed to upgrade the database server to 7.3.3.1:

1. In the INITORA member, we changed COMPATIBLE=7.3.2 to COMPATIBLE=7.3.3.
2. We edited the MGLF startup procedure to ensure that it uses the new ORACLE AUTHLOAD.
3. We authorized our new ORACLE AUTHLOAD library as APF\_authorized.
4. We modified the MPMTNS member to define the database MGLF on the new TCP/IP port 1529.
5. We started the new MGLF startup procedure with the default START set to STARTUP /S ORAMGLF START=STARTUP.
6. We ran the CAT7303 SQL script. After adding the command connect internal in the script, we executed the script with the following job:

```
000001 //ORACLEAA JOB ,MSGCLASS=X,MSGLEVEL=(1,1),REGION=4M,
000002 //      NOTIFY=&SYSUID
000003 /**
000004 //ORASQL   EXEC PGM=SVRMGRL,REGION=0M
000005 //STEPLIB DD DSN=ORAGLF.ORAV733.CMDLOAD,
000006 //      DISP=SHR
000007 //ORA&MGLF DD DUMMY
000008 //SYSMDUMP DD SYSOUT=*
000009 //SYSOUT DD DSN=GAYRAUD.SPOOL.ORACLE(SPOOL2),DISP=SHR
000010 //SYSERR DD SYSOUT=*,DCB=(LRECL=264,BLKSIZE=2640,RECFM=VB)
000011 //ORAPRINT DD DSN=GAYRAUD.SPOOL.ORACLE(SPOOL3),DISP=SHR
000012 //SYSIN   DD DSN=ORAGLF.ORAV733.SQL(CAT7303),DISP=SHR
```

7. We ran the ORPIJH00 job from the new 7.3.3 library, containing the RDBMS catalog procedures (catalog.sql, catexp.sql), after we added the following cards for the replication option installed in the origin database. These DD cards are not automatically generated by the install ISPF procedure.

```
//      DD DISP=SHR,DSN=ORAGLF.ORAV733.SQL(CATDEFRT)
//      DD DISP=SHR,DSN=ORAGLF.ORAV733.SQL(CATREPC)
//      DD DISP=SHR,DSN=ORAGLF.ORAV733.SQL(CATDEFER)
```

We changed the following DD card to be a comment:

```
/**      DD DISP=SHR,DSN=ORAGLF.ORAV733.SQL(ROLLBK)
```

The database upgrade is complete if there are no error message conditions.

## 16.1.2 Installing Patchset 5.2

We had to apply the 7.3.3.5.2 Upgrade Patch. The patch set 5.2 was already installed in the MVS system in PSSC. We received the new libraries, which are the contents of the patchset tape, through the NJE network. The content of the transfer is three libraries (AUTHLOAD, CMDLOAD, SQL) which are updates of the 7.3.3.1 libraries.

1. We concatenated the new AUTHLOAD ahead of the 7.3.3.1 AUTHLOAD in the STEPLIB:

```
000010 //STEPLIB DD DSN=ORAGLF.ORAV733.AUTHLOAD.NEW,  
000011 //          DISP=SHR  
000012 //          DD DSN=ORAGLF.ORAV733.AUTHLOAD,  
000013 //          DISP=SHR
```

2. We concatenated the new CMDLOAD ahead of the 7.3.3.1 CMDLOAD in the ORALIB:

```
000019 //ORALIB DD DSN=ORAGLF.ORAV733.AUTHLOAD.NEW  
000020 //          DISP=SHR  
000021 //          DD DSN=ORAGLF.ORAV733.AUTHLOAD,  
000022 //          DISP=SHR
```

3. We stopped and restarted the MGLF database,
4. We ran the new ORPIJH00 job, containing RDBMS catalog procedures, with all the modified DSN to use the new SQL library.

### 16.1.2.1 Recompile Invalid Objects

To avoid inconsistency with respect to the upgraded data dictionary, all database objects have to be recompiled if the requested status is INVALID. This operation is performed from the Support Server, and is composed of these steps:

1. Check invalid database objects and generate an SQL script containing instructions to compile them.

To do this, go to the \$APPL\_BASE directory (/applmgr), then go to admin/sql and run the script comp\_obj.sql under SQLPLUS, connected as system/manager.

```
- sqlplus system/manager @/applmgr/admin/sql/comp_obj
```

Note: comp\_obj.sql does not execute any compilation instruction.

2. Compile the checked invalid objects:
  - a. Enter spool comp\_obj.log under SQLPLUS, connected as system/manager.
  - b. Run the script \$APPL\_BASE/admin/sql/comp\_obj.exe that was previously generated.
  - c. Enter spool off and exit SQLPLUS.

Here is the script /applmgr/admin/sql/comp\_obj:

```

set head off
set feed off
set pages 0
spool comp_obj.exe
select 'alter '||decode (object_type,'PACKAGE BODY','PACKAGE','VIEW','VIEW',
'PROCEDURE','PROCEDURE','TRIGGER','TRIGGER','FUNCTION','FUNCTION')||' '||
owner||'.'||object_name||' compile;'
from sys.dba_objects
where status='INVALID' ;
spool off
set head on
set feed on
spool comp_obj.log
start comp_obj.exe
spool off
exit

```

An example of the file comp\_obj.exe, the output of comp\_obj.sql script, is as follows:

```

alter PACKAGE SYS.DBMS_DEFER_REPCAT compile;
alter PACKAGE SYS.DBMS_DEFER_SYS_PART1 compile;
alter PACKAGE SYS.DBMS_OFFLINE_INTERNAL compile;
alter PACKAGE SYS.DBMS_OFFLINE_OG compile;
alter PACKAGE SYS.DBMS_OFFLINE_SNAPSHOT compile;
alter PACKAGE SYS.DBMS_RECTIFIER_DIFF compile;
alter PACKAGE SYS.DBMS_RECTIFIER_FRIENDS compile;
alter PACKAGE SYS.DBMS_REFRESH compile;
alter PACKAGE SYS.DBMS_REPCAT compile;
alter PACKAGE SYS.DBMS_REPCAT_CONF compile;
alter PACKAGE SYS.DBMS_REPCAT_MAS compile;
alter PACKAGE SYS.DBMS_REPCAT_SNA compile;
alter PACKAGE SYS.DBMS_REPCAT_SNA_UTL compile;
alter PACKAGE SYS.DBMS_REPCAT_UTL compile;
alter PACKAGE SYS.DBMS_REPCAT_UTL3 compile;
alter PACKAGE SYS.DBMS_SNAPSHOT compile;
alter PACKAGE SYS.DBMSOBJGWRAPPER compile;
alter PACKAGE SYSTEM.AD_APPS_PRIVATE compile;
alter PACKAGE APPS.AP_APPROVAL_MATCHED_PKG compile;
alter PACKAGE APPS.CHV_BUILD_REVISION compile;
alter PACKAGE APPS.CHV_BUILD_SCHEDULES compile;

```

(cont....)

### 16.1.3 Support Server Migration

The RDBMS libraries on AIX had to be upgraded.

### 16.1.4 Install or Upgrade to RDBMS 7.3.3.1

This is already installed in the actual 10.7 SC environment.

## 16.1.5 Apply 7.3.3.5.1 Upgrade Patch

At the time of our install 7.3.3.5.1 was the current patch release for the AIX server. Complete the following steps:

1. Log in to the Oracle account and make sure the environment is set to the correct ORACLE\_BASE, ORACLE\_HOME, ORACLE\_SID and PATH.

2. Make a directory for the patch set:

```
mkdir $ORACLE_HOME/patches
```

3. Download by ftp, in BINARY form, the patchset file from PC and copy it to this directory.

4. Change to this directory, uncompress, and untar the patch set.

```
- Uncompress 7332patchset.Z
```

```
tar xvf 7332patchset
```

This will create a new directory using the patch set version underneath the current directory, which will contain the patch set:

```
$ORACLE_HOME/patches/7.3.3.5
```

5. Shut down all instances running from this \$ORACLE\_HOME. This should be a clean shutdown (that is, shutdown normal or shutdown immediate).
6. Ensure that no one is using the Oracle executable, otherwise you may get an executable busy message and be unable to copy onto it.
7. Start the installer that was provided in the baseline release under the \$ORACLE\_HOME/orainst directory:

```
cd $ORACLE_HOME/orainst  
./orainst
```

If not installed, run it from the baseline release CD-ROM.

8. At the Install Type screen, specify the **Default Install** option.
9. At the Installation Activity Choice screen, specify the **Install, Upgrade, or De-Install Software** option.
10. At the Installation Options screen, specify the **Add/Upgrade Software** option.
11. At the Installation Options Home Locator screen, check that the setting for \$ORACLE\_HOME is correct.
12. Accept relinking when prompted by the installer.
13. At the Software Asset Manager screen, use the **From...** button to navigate to the directory where the untarred patch set is located:  

```
$ORACLE_HOME/patches/7.3.3.5
```
14. Select the **unix.prd** file from this directory.
15. Select the **Oracle Server (RDBMS)**, then select **Install**.
16. When the installer has finished, it prompts you to run the root.sh script. You do not have to run the root.sh script after installing a patch set.
17. Invoke server manager (svrmgrl), connect as internal, and run the following SQL scripts located in the \$ORACLE\_HOME/rdbms/admin directory:  

```
catalog.sql catproc.sql catexp.sql
```
18. As this instance is running Replication, you should also run the following SQL scripts located in the \$ORACLE\_HOME/rdbms/admin directory:

## 16.2 Patches That We Installed

The following sections lists all the patches we installed. Be sure to contact Oracle support for the latest list of patches. Refer to 16.2.7, “Table Notes” on page 132 for the explanation of the notes listed in the tables.

### 16.2.1 Interoperability Patch OS/390

Table 1 shows the interoperability OS/RDBMS patches for the Support Server. Some patches had to be applied to both the AIX files and the OS/390 objects in the database. Those drivers that begin with Db are for the OS/390 objects in the database.

<i>Table 1. Interoperability OS/RDBMS Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
479803	Patch.drv	OK	N/A
504305	Patch.drv	OK	N/A
	Db494495.drv	OK	N/A
504807	Patch.drv	OK	N/A
664046	Patch.drv	OK	N/A
555964	Patch.drv	OK	N/A
	Db505238.drv	OK	N/A
650599	Patch.drv	OK	N/A
	Db650599.drv	OK	N/A
674292	Patch.drv	OK	N/A

### 16.2.2 Compatibility Patches

Table 2 shows the compatibility NCA patches for the Support Server. Some patches had to be applied to both the AIX files and the OS/390 objects in the database. Those drivers that begin with Db are for the OS/390 objects in the database.

<i>Table 2 (Page 1 of 2). Compatibility NCA Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
727011	Patch.drv	OK	
	Db727011	Script axx.suffix.sql failed	Note 1
711314	Patch.drv	Relinking errors	Note 2
	Db711314.drv	Compilation warnings (OK)	Note 2
701046	Patch.drv	OK	
660073	Patch.drv	OK	
	Db660073.drv	OK	
733541	Patch.drv	Relinking errors	Note 3

<i>Table 2 (Page 2 of 2). Compatibility NCA Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
	Db727011.drv	Script axx.suffix.sql failed	Note 4

### 16.2.3 NLS Patches for the Support Server

Table 3 shows the compatibility NCA patches for the Support Server. Some patches had to be applied to both the AIX files and the OS/390 objects in the database. Those drivers that begin with Db are for the OS/390 objects in the database.

Note: The patches in Table 3 are the French language equivalent to those described in Table 2 on page 129. On the CD-ROM the number/name of the patch is appended with frafre.

<i>Table 3. NLS Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Info</b>
727011	Patch.drv	OK	
	Db727011	OK	
711314	Patch.drv	OK	
	Db711314	OK on second attempt	Note 5
701046	Patch.drv	OK	
	Db701046	OK	

### 16.2.4 Web Server Patches

Table 4 shows the compatibility Web Server Patches for the Support Server. Some patches had to be applied to both the AIX files and the OS/390 objects in the database. Those drivers that begin with Db are for the OS/390 objects in the database.

<i>Table 4. Web Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Info</b>
725093	Patch.drv	OK	
701049	Patch.drv	OK	
692533	Patch.drv	Failed generating libraries	Note 6
670324	Patch.drv	OK	

### 16.2.5 Web Server Patches for NLS for French Language

Table 5 on page 131 shows the Web Server patches for NLS. Some patches had to be applied to both the AIX files and the OS/390 objects in the database. Those drivers that begin with Db are for the OS/390 objects in the database.

Note: The patches below are the French language equivalent to those described in Table 5 on page 131. On the CD-ROM the number/name of the patch is appended with frafre.



<i>Table 5. NLS Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
725093	Patch.drv	OK	
701049	Patch.drv	OK	
692533	Patch.drv	OK	
712273	Patch.drv	OK	Note 7

## 16.2.6 Additional Patches Applied

All of the patches in the previous tables were applied during the Montpellier migration. The patches listed in Table 6 are additional ones received as a result of user testing and discovery of errors.

<i>Table 6. NLS Patches</i>			
<b>Additional Patches</b>		<b>Result</b>	<b>Additional Information</b>
712226 (US)	Patch.drv	OK	
	D712226.drv	OK	
712226 (FR)	Patch.drv	OK	
	D712226.drv	OK	
715807 (US)	Patch.drv	OK	
	D715807.drv	OK	
715807 (FR)	Patch.drv	OK	
	D715807.drv	OK	
469697	Patch.drv	OK	Note 12
716111	Patch.drv	OK	Note 13
	D716111.drv	OK	
718365	Patch.drv	OK	Note 14
	D718369	OK	
642068	Patch.drv	OK	Note 15
	D624186	OK	
	D642068	OK	
745659 (US)	Patch.drv	OK	Note 18
733541 (US)	Patch.drv	OK	Note 19
733541 (FR)	Patch.drv	OK	

### 16.2.6.1 Web Server Patches

<i>Table 7 (Page 1 of 2). NLS Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
703038		OK	Note 8
712254		OK	Note 9
	Developer	OK	Note 10
715118 (US)		OK	Note 11

<i>Table 7 (Page 2 of 2). NLS Patches</i>			
<b>Patch Number</b>		<b>Result</b>	<b>Additional Information</b>
715118 (FR)		OK	Note 11
716111 (US)	Patch.drv	OK	Note 16
716111 (FR)	Patch.drv	OK	
731837 (US)	Patch.drv	OK	Note 17
31837 (FR)	Patch.drv	OK	

## 16.2.7 Table Notes

These notes relate to the additional information in the preceding tables.

### 1. Patch 727011

There are important pre-requisites for this patch. There are essential functional AX steps that must be carried out before patch is applied. Be sure to contact Oracle Support for details.

One script failed: /applmgr/ax/1.2.23/patchsc/107/sql/axx.suffix.sql. We investigated the reason for the failure but ultimately had to contact Oracle Support (no DAT available). We tried running the script manually. Error was as follows: Declare

\*

ERROR at line 1:

ORA-01422: exact fetch returns more than requested number of rows

ORA-06512: at line 39

### 2. Patch 711314

Relinking errors occurred following the application of the PO megapatch. These errors could not be immediately resolved and continued to affect relinking for the remainder of the Support Server patches.

We spoke to Oracle Support, who thought that perhaps the patch (which was delivered on CD-ROM from Oracle, Nanterre) was corrupt. The effect of the patch was to corrupt the PO library files.

Action taken was to copy back the PO lib files that were present before the patch was applied and run the same patch again, although this time the patch would be extracted from the Montpellier backup tape. This made no difference.

Our final solution was to copy the PO lib files from the Montpellier backup tape onto the Support Server.

Note: Although this did not get to the root of the problem, it was a workaround given the time constraints involved).

### 3. Patch 733541 Compilation error WARNINGS are not considered to be actual ERRORS (see Oracle Applications 10.7NCA Release Notes) and can be overlooked (although they should still be investigated).

### 4. Patch 733541

For some reason, this patch contained the same database driver file as an earlier patch (727011). We tried running it again anyway to see if the same script would fail again, which it did. The problem was sent to Oracle Support.

5. Patch 711314

We had to run both pre- and post-patch scripts called deact.sql and react.sql for this patch. The patch ran without errors after deact.sql had been run.

6. Patch 692533

An example of the error message in the adpatch.log is as follows:

```
ERROR :[code]
generating library resource/INVTMVE.plx from input file
/appsnc/product/107NCA/au/1.0/resource/INVTMVE.pll
```

Used adadmin to regenerate everything (forms and libraries). We then re-ran this patch and it ran without errors.

7. Patch 712273

The original version of this patch (sent from Oracle Support on CD-ROM to Montpellier) failed with errors in the patch.driv. We received a fresh version (10/29/98) from Oracle Support that applied without errors.

8. Patch 703038

Relinking errors (DAT#387783).

9. Patch 712254

This was the NCA-side patch for the problem exiting Oracle Applications (DAT#396107). The patch failed to solve the problem.

10. Developer

Relinking errors.

11. Patch 715118

Megapatch \* .AP N.

12. Patch 469697

This patch fixes a problem where the worker processes spawned by Autopatch hang if the customer is using at least one language in addition to American English. Apply first.

13. Patch 716111

Server-side co-requisite for PATCHSET 16.1.FND.B.

14. Patch 718365

This adds Web security features required by attachments and export for 107NCA, in the case where Oracle Self Service has not previously been installed.

15. Patch 624186 This is a 107 server patch for the Web Report Review Feature.

This is the 10.7 server patch required by 107NCA patch 624187.

16. Patch 716111

Server side co-requisite patch for PATCHSET 16.1.FND.B.

17. Patch 731837 Set up for 10.7 NCA export.

18. Bug AX 745659

This patch includes all prior compiler enhancements.

19. Patch 733541

Although this script had been applied previously, it had exited with relinking errors. We decided to reapply. It worked OK with no errors.

---

## Chapter 17. Installing the NCA Client

This chapter describes the steps to set up the NCA client.

---

### 17.1 Installing the Java Development Kit (JDK)

To run the client side of Release 10.7 NCA on your desktop PCs, you will need to install a program called JDK on each desktop PC that will be running Oracle Applications. JDK can be found on the Oracle Applications Release 10.7 NCA Technology Update for Windows NT CD-ROM. It is also available on the Developer/2000 Server CD-ROM (Version 1.1.4.8).

---

### 17.2 Installing JDK

To install JDK, do the following:

1. Insert the correct CD into the CD-ROM drive of the PC.
2. Double-click on the `jdk.exe` file found on the CD-ROM.
3. A Winzip Self-Extractor message box appears. The default folder into which you can unzip the required JDK files is `C:\temp` (although you can choose another directory if you prefer). For the test migration we chose `C:\`.
4. Click **unzip**. The files will then be unzipped in your chosen directory. (This takes less than one minute.)
5. Click **Close**.

---

### 17.3 Creating an Icon

To create an icon, do the following:

1. To access NCA directly from your desktop, drag and drop the `Appletviewer.exe` icon (found in the `jdk/bin` directory on the PC) onto your desktop.
2. Click on the icon with your right mouse button and select **Properties**, and then select **Shortcut**.
3. In the Target field you should find the pathname of the `Appletviewer.exe` file (for example, `C:\jdk\bin\appletviewer.exe`). To this pathname, you should append the following:

```
http://<myserver>.<mydomain>.com/oa/<LANG>/<mydb>.htm
```

where `myserver.mydomain.com` is the hostname of your Forms Server and `mydb` is the `$ORACLE_SID` of the database to which you want to connect.

For the test migration we created two icons, one for each NLS environment (US and French), as follows:

- `C:\jdk\bin\appletviewer.exe http://node13/oa/US/node13MGLF.htm`  
This pointed to the `$AU_TOP/html/US/node13MGLF.htm` file
- `C:\jdk\bin\appletviewer.exe http://node13/oa/F/node13MGLF.htm`  
This pointed to the `$AU_TOP/html/F/node13MGLF.htm` file.

4. When you have entered this field correctly, click **OK**.

**Note:** You must enter the hostname of your Forms Server into the hosts file of your PC before attempting to connect to Oracle Applications. On Windows NT, the hosts file can be found in the C:\Winnt40\System32\Drivers\etc directory on your PC.

---

## 17.4 Installing the Oracle Applications Certificate

If you attempt to connect to Oracle Applications using your Appletviewer to install the Oracle Applications Certificate, a yellow banner will appear at the bottom of your Oracle Applications Toolbar and your Oracle Application login window. The certificate can be found in the Extras directory of the Oracle Applications Release 10.7 NCA for AIX-Based Systems CD-ROM.

To install the certificate, do the following:

1. Insert the Oracle Applications Release 10.7 NCA for AIX-Based Systems into the CD-Rom drive of your PC.
2. In the Extras directory of this CD-ROM you should find the following files:
  - Oraapps.cer
  - Get\_jdk.htm
  - Appscert.bat
  - Listener.ora
  - Fmrpcweb.res;
3. Copy these files into the jdk\bin directory on your PC.
4. Double-click the **Appscert.bat** icon (this only takes a few seconds to run).

The Oracle Applications Certificate should now be installed. You are ready to logon to the Oracle Applications with an NCA Client.

---

## Appendix A. Examples of Files We Used

This section shows some of the files and commands we used when we were installing Oracle Applications with NCA client.

---

### A.1 Starting and Stopping Processes

The following scripts have been added for use on the system:

- To start Concurrent Manager/GTS:

```
$ cd $APPL_TOP/admin
$ . startmgr.sh FR (for French language)
$ . startmgr.sh US (for US language)
```

Note: To run both scripts simultaneously, execute these scripts from two separate telnet windows.

- To stop Concurrent Manager/GTS:

```
$ cd $APPL_TOP/admin
$ . stopmgr.sh FR (for French language)
$ . stopmgr.sh US (for US language)
```

- To start Oracle Web Listeners:

```
$ cd $ORACLE_BASE/admin
$ . startweb (to start wrb, admin & www listeners in consecutive order)
$ . startf45_FR (to start forms listener for French language)
$ . startf45_US (to start forms listener for US language)
```

---

### A.2 Copying Oracle Application Server (Cloning)

The following files must be edited and the hostname information changed when the Web Server software is copied onto another machine. The following pathnames are based on the OFA architecture installation:

```
$ ORACLE_BASE/admin/ows/website30/wrb/config/.omnaddr
$ ORACLE_BASE/admin/ows/website30/wrb/config/wrb.app
$ ORACLE_BASE/admin/ows/website30/httpd_hostname/owl.cfg
$ ORACLE_BASE/admin/ows/website30/httpd_hostname/admin/config/svadmin.cfg
$ ORACLE_BASE/admin/ows/website30/httpd_hostname/www/config/svwww.cfg
$APPL_TOP/APPLSYS_FR.env
$ APPL_TOP/APPLSYS_US.env
```

---

## A.3 System Configuration

The following configuration files are being used on the system:

### A.3.1 APPLSYS\_US.env

```
# Created by AD Administration version 2.3.19
#
# The APPLFENV variable is the filename of this file.
# If you rename this file, you should change this value.
#
APPLFENV=APPLSYS.env
export APPLFENV

#
# The PLATFORM variable is the Oracle name for this platform.
# If you transfer this file to another platform, change this value.
#
PLATFORM=AIXRIOS
export PLATFORM

APPL_TOP=/app1mgr
export APPL_TOP

FNDNAM=APPS
export FNDNAM

GWYUID=APPLSYSPUB/PUB
export GWYUID

#
# The APPLFULL and APPLSHAR variables below are needed for relinking.
# Do not edit or remove their definition.

APPLFULL=' FND AD AX AK GL RG INV PO AP JG JE '
export APPLFULL

APPLSHAR=' ALR FA AR OE PAY FF DT BOM MRP WIP ENG CRP '
export APPLSHAR
```



```
FND_TOP="$APPL_TOP/fnd/6.1.1"
export FND_TOP

AU_TOP="$APPL_TOP/au/1.10.7"
export AU_TOP

AD_TOP="$APPL_TOP/ad/2.3.19"
export AD_TOP

ALR_TOP="$APPL_TOP/alr/5.0.29"
export ALR_TOP

AX_TOP="$APPL_TOP/ax/1.2.23"
export AX_TOP

AK_TOP="$APPL_TOP/ak/1.2.19"
export AK_TOP

GL_TOP="$APPL_TOP/gl/9.0.9"
export GL_TOP

RG_TOP="$APPL_TOP/rg/4.0.9"
export RG_TOP

INV_TOP="$APPL_TOP/inv/5.0.161"
export INV_TOP

PO_TOP="$APPL_TOP/po/8.0.167"
export PO_TOP

AP_TOP="$APPL_TOP/ap/8.0.159"
export AP_TOP

FA_TOP="$APPL_TOP/fa/7.0.166"
export FA_TOP

AR_TOP="$APPL_TOP/ar/7.0.152"
export AR_TOP

OE_TOP="$APPL_TOP/oe/4.0.172"
export OE_TOP

AS_TOP="$APPL_TOP/as/1.3.38"
export AS_TOP

PA_TOP="$APPL_TOP/pa/4.1.20"
export PA_TOP

CN_TOP="$APPL_TOP/cn/1.0.67"
export CN_TOP

WH_TOP="$APPL_TOP/wh/1.0.44"
export WH_TOP

PER_TOP="$APPL_TOP/per/7.0.94"
export PER_TOP

PAY_TOP="$APPL_TOP/pay/4.0.94"
export PAY_TOP
```

```
FF_TOP="$APPL_TOP/ff/4.0.94"
export FF_TOP

DT_TOP="$APPL_TOP/dt/3.0.94"
export DT_TOP

SSP_TOP="$APPL_TOP/ssp/3.0.94"
export SSP_TOP

OTA_TOP="$APPL_TOP/ota/1.0.94"
export OTA_TOP

MFG_TOP="$APPL_TOP/mfg/5.0.161"
export MFG_TOP

BOM_TOP="$APPL_TOP/bom/5.0.168"
export BOM_TOP

MRP_TOP="$APPL_TOP/mrp/5.0.160"
export MRP_TOP

WIP_TOP="$APPL_TOP/wip/5.1.1"
export WIP_TOP

ENG_TOP="$APPL_TOP/eng/5.0.167"
export ENG_TOP

CRP_TOP="$APPL_TOP/crp/5.0.160"
export CRP_TOP

RLA_TOP="$APPL_TOP/rla/1.1.14"
export RLA_TOP

VEH_TOP="$APPL_TOP/veh/1.1.12"
export VEH_TOP

QA_TOP="$APPL_TOP/qa/1.0.62"
export QA_TOP

CS_TOP="$APPL_TOP/cs/2.0.41"
export CS_TOP

CE_TOP="$APPL_TOP/ce/1.1.57"
export CE_TOP

EC_TOP="$APPL_TOP/ec/2.0.1"
export EC_TOP

ICX_TOP="$APPL_TOP/icx/2.0.21"
export ICX_TOP

JG_TOP="$APPL_TOP/jg/1.2.52"
export JG_TOP

JE_TOP="$APPL_TOP/je/1.2.52"
export JE_TOP
```

```

JA_TOP="$APPL_TOP/ja/1.1.9"
export JA_TOP

JL_TOP="$APPL_TOP/jl/1.2.8"
export JL_TOP

#
# Specifique GL
#
SGL_TOP="$APPL_TOP/sgl/1.0.0"
export SGL_TOP
#
# Custom Applications
#
CMAP_TOP="$APPL_TOP/cmap/1.0.0"
export CMAP_TOP
CMAX_TOP="$APPL_TOP/cmax/1.0.0"
export CMAX_TOP
CMPO_TOP="$APPL_TOP/cmpo/1.0.0"
export CMPO_TOP
CMINV_TOP="$APPL_TOP/cminv/1.0.0"
export CMINV_TOP

#
# The APPLMAIL variable below is needed for relinking.
# You may edit this definition, but do not remove it.
# APPLMAIL={NONE ] ORACLE_OFFICE ] ORACLE_INTEROFFICE}
#
APPLMAIL=NONE
export APPLMAIL

. $FND_TOP/fndenv

#
# We append $new_path_dummy to the end of PATH for security reasons
#

new_path_dummy="$FND_TOP/$APPLBIN:$AD_TOP/$APPLBIN"

if test "${APPLSVDP:=}" != ""; then
  PATH=echo "$PATH" ] sed -e "s;$APPLSVDP;;g"
fi

PATH=echo "$PATH:$new_path_dummy" ] sed -e 's/:::*/:/g'
export PATH

APPLSVDP="$new_path_dummy"
export APPLSVDP

FND_CRT=VT220GL
export FND_CRT

APPLLANG=frfre
export APPLLANG

NLS_LANG="AMERICAN_AMERICA.We8iso8859p1"
export NLS_LANG

```

```

NLS_DATE_FORMAT="DD-MON-RR"
export NLS_DATE_FORMAT

NLS_NUMERIC_CHARACTERS="., "
export NLS_NUMERIC_CHARACTERS

APPLDCP=OFF
export APPLDCP

APPLCSF=/spool/OG LX
export APPLCSF

APPLLOG=log
export APPLLOG

APPLOUT=out
export APPLOUT

APPLTMP=/tmp
export APPLTMP

# REPORTS25_TMP and REPORTS25_PATH are needed for Oracle Reports 2.5

REPORTS25_TMP=/tmp
export REPORTS25_TMP

new_reports_dummy="$AU_TOP/$APPLPLS:$FND_TOP/$APPLREP"

if test "${APPLSVRD:=}" != ""; then
    REPORTS25_PATH=echo "${REPORTS25_PATH:-}" | sed -e "s;${APPLSVRD};;g"
fi

REPORTS25_PATH=echo "$new_reports_dummy:${REPORTS25_PATH:-}" | sed -e
's/:.*:/g'
export REPORTS25_PATH

# REPORTS_TMP and REPORTS_PATH are needed for Oracle Reports 2.0.14+

REPORTS_TMP=/tmp
export REPORTS_TMP

if test "${APPLSVRD:=}" != ""; then
    REPORTS_PATH=echo "${REPORTS_PATH:-}" | sed -e "s;${APPLSVRD};;g"
fi

REPORTS_PATH=echo "$new_reports_dummy:${REPORTS_PATH:-}" | sed -e
's/:.*:/g'
export REPORTS_PATH

APPLSVRD="$new_reports_dummy"
export APPLSVRD

# Here are the custom modifications for this environment file
APPL_BASE=/applmgr
export APPL_BASE

```

### A.3.2 APPLSYS\_FR.env

```
# Created by AD Administration version 2.3.19
#
# The APPLFENV variable is the filename of this file.
# If you rename this file, you should change this value.
#
APPLFENV=APPLSYS.env
export APPLFENV

#
# The PLATFORM variable is the Oracle name for this platform.
# If you transfer this file to another platform, change this value.
#
PLATFORM=AIXRIOS
export PLATFORM

APPL_TOP=/applmgr
export APPL_TOP

FNDNAM=APPS
export FNDNAM

GWYUID=APPLSYSPUB/PUB
export GWYUID

#
# The APPLFULL and APPLSHAR variables below are needed for relinking.
# Do not edit or remove their definition.

APPLFULL=' FND AD AX AK GL RG INV PO AP JG JE '
export APPLFULL

APPLSHAR=' ALR FA AR OE PAY FF DT BOM MRP WIP ENG CRP '
export APPLSHAR

FND_TOP="$APPL_TOP/fnd/6.1.1"
export FND_TOP

AU_TOP="$APPL_TOP/au/1.10.7"
export AU_TOP

AD_TOP="$APPL_TOP/ad/2.3.19"
export AD_TOP

ALR_TOP="$APPL_TOP/alr/5.0.29"
export ALR_TOP

AX_TOP="$APPL_TOP/ax/1.2.23"
export AX_TOP

AK_TOP="$APPL_TOP/ak/1.2.19"
export AK_TOP

GL_TOP="$APPL_TOP/gl/9.0.9"
export GL_TOP

RG_TOP="$APPL_TOP/rg/4.0.9"
export RG_TOP
```

```
INV_TOP="$APPL_TOP/inv/5.0.161"
export INV_TOP

PO_TOP="$APPL_TOP/po/8.0.167"
export PO_TOP

AP_TOP="$APPL_TOP/ap/8.0.159"
export AP_TOP

FA_TOP="$APPL_TOP/fa/7.0.166"
export FA_TOP

AR_TOP="$APPL_TOP/ar/7.0.152"
export AR_TOP

OE_TOP="$APPL_TOP/oe/4.0.172"
export OE_TOP

AS_TOP="$APPL_TOP/as/1.3.38"
export AS_TOP

PA_TOP="$APPL_TOP/pa/4.1.20"
export PA_TOP

CN_TOP="$APPL_TOP/cn/1.0.67"
export CN_TOP

WH_TOP="$APPL_TOP/wh/1.0.44"
export WH_TOP

PER_TOP="$APPL_TOP/per/7.0.94"
export PER_TOP

PAY_TOP="$APPL_TOP/pay/4.0.94"
export PAY_TOP

FF_TOP="$APPL_TOP/ff/4.0.94"
export FF_TOP

DT_TOP="$APPL_TOP/dt/3.0.94"
export DT_TOP

SSP_TOP="$APPL_TOP/ssp/3.0.94"
export SSP_TOP

OTA_TOP="$APPL_TOP/ota/1.0.94"
export OTA_TOP

MFG_TOP="$APPL_TOP/mfg/5.0.161"
export MFG_TOP

BOM_TOP="$APPL_TOP/bom/5.0.168"
export BOM_TOP

MRP_TOP="$APPL_TOP/mrp/5.0.160"
export MRP_TOP

WIP_TOP="$APPL_TOP/wip/5.1.1"
export WIP_TOP
```

```

ENG_TOP="$APPL_TOP/eng/5.0.167"
export ENG_TOP

CRP_TOP="$APPL_TOP/crp/5.0.160"
export CRP_TOP

RLA_TOP="$APPL_TOP/rla/1.1.14"
export RLA_TOP

VEH_TOP="$APPL_TOP/veh/1.1.12"
export VEH_TOP

QA_TOP="$APPL_TOP/qa/1.0.62"
export QA_TOP

CS_TOP="$APPL_TOP/cs/2.0.41"
export CS_TOP

CE_TOP="$APPL_TOP/ce/1.1.57"
export CE_TOP

EC_TOP="$APPL_TOP/ec/2.0.1"
export EC_TOP

ICX_TOP="$APPL_TOP/icx/2.0.21"
export ICX_TOP

JG_TOP="$APPL_TOP/jg/1.2.52"
export JG_TOP

JE_TOP="$APPL_TOP/je/1.2.52"
export JE_TOP

JA_TOP="$APPL_TOP/ja/1.1.9"
export JA_TOP

JL_TOP="$APPL_TOP/jl/1.2.8"
export JL_TOP

#
# Specifique GL
#
SGL_TOP="$APPL_TOP/sgl/1.0.0"
export SGL_TOP
#
# Custom Applications
#
CMAP_TOP="$APPL_TOP/cmap/1.0.0"
export CMAP_TOP
CMAX_TOP="$APPL_TOP/cmax/1.0.0"
export CMAX_TOP
CMPO_TOP="$APPL_TOP/cmpo/1.0.0"
export CMPO_TOP
CMINV_TOP="$APPL_TOP/cminv/1.0.0"
export CMINV_TOP

#
# The APPLMAIL variable below is needed for relinking.

```

```

# You may edit this definition, but do not remove it.
# APPLMAIL={NONE ] ORACLE_OFFICE ] ORACLE_INTEROFFICE}
#
APPLMAIL=NONE
export APPLMAIL

. $FND_TOP/fndenv

#
# We append $new_path_dummy to the end of PATH for security reasons
#

new_path_dummy="$FND_TOP/$APPLBIN:$AD_TOP/$APPLBIN"

if test "${APPLSVPD:=}" != ""; then
    PATH=echo "$PATH" ] sed -e "s;$APPLSVPD;;g"
fi

PATH=echo "$PATH:$new_path_dummy" ] sed -e 's/:::~/:/g'
export PATH

APPLSVPD="$new_path_dummy"
export APPLSVPD

FND_CRT=VT220GL
export FND_CRT

APPLLANG=frfre
export APPLLANG

NLS_LANG="FRENCH_AMERICA.We8iso8859p1"
export NLS_LANG

NLS_DATE_FORMAT="DD-MON-RR"
export NLS_DATE_FORMAT

NLS_NUMERIC_CHARACTERS="., "
export NLS_NUMERIC_CHARACTERS

APPLDCP=OFF
export APPLDCP

APPLCSF=/spool/OG LX
export APPLCSF

APPLLOG=log
export APPLLOG

APPLOUT=out
export APPLOUT

APPLTMP=/tmp
export APPLTMP

# REPORTS25_TMP and REPORTS25_PATH are needed for Oracle Reports 2.5

REPORTS25_TMP=/tmp
export REPORTS25_TMP

```



```

new_reports_dummy="$AU_TOP/$APPLPLS:$FND_TOP/$APPLREP"

if test "${APPLSVRD:=}" != ""; then
  REPORTS25_PATH=echo "${REPORTS25_PATH:-}" ] sed -e "s;$APPLSVRD;;g"
fi

REPORTS25_PATH=echo "$new_reports_dummy:${REPORTS25_PATH:-}" ] sed -e
's/:::*/:/g'
export REPORTS25_PATH

# REPORTS_TMP and REPORTS_PATH are needed for Oracle Reports 2.0.14+

REPORTS_TMP=/tmp
export REPORTS_TMP

if test "${APPLSVRD:=}" != ""; then
  REPORTS_PATH=echo "${REPORTS_PATH:-}" ] sed -e "s;$APPLSVRD;;g"
fi

REPORTS_PATH=echo "$new_reports_dummy:${REPORTS_PATH:-}" ] sed -e
's/:::*/:/g'
export REPORTS_PATH

APPLSVRD="$new_reports_dummy"
export APPLSVRD

# Here are the custom modifications for this environment file
APPL_BASE=/app1mgr
export APPL_BASE

```

### A.3.3 Listener.ora file - Applications Support Server

```

LISTENER=
  (ADDRESS_LIST=
    (ADDRESS =
      (PROTOCOL = TCP)
      (HOST = frmed00_utestb)
      (PORT = 1522)
    )
  )
STARTUP_WAIT_TIME_LISTENER = 0
CONNECT_TIMEOUT_LISTENER = 10
LOG_DIRECTORY_LISTENER = /tmp
LOG_FILE_LISTENER = listener73
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = FND)
      (ORACLE_HOME=/app1mgr/fnd/6.1.1)
      (PROGRAM=FND)
    )
  )
TRACE_LEVEL_LISTENER=16
TRACE_FILE_LISTENER=listener73.trc
TRACE_DIRECTORY_LISTENER=/tmp

```

### A.3.4 Tnsnames.ora file - Applications Support Server

```
#####
# FILENAME: tnsnames.ora
# TIME....: 27/11/97
# NETWORK.:
# NODE....:
# SERVICE.:
#####

ORCFES = (DESCRIPTION=
          (ADDRESS=(PROTOCOL=tcp)(HOST=192.168.5.26)(PORT=1522))
        (CONNECT_DATA=(SID=ORCFES))
        )
FNDFS_frmcd00_utestb =
  (DESCRIPTION=
    (ADDRESS_LIST=
      (ADDRESS=
        (PROTOCOL=tcp)
        (HOST=frmcd00_utestb)
        (PORT=1522)
      )
    )
    (CONNECT_DATA=
      (SID=FNDFS)
      (GLOBAL_NAME=FNDFS_frmcd00_utestb)
    )
  )
```

### A.3.5 Example of .profile Files

The following are examples of the .profile files we used.

#### A.3.5.1 Example of .profile of the Oracle User - Application Support Server

```
PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:/usr/bin/X11:/sbin:./usr/lbin
export PATH

export PS1='($PWD) $'
umask 022
set -o vi

# Oracle environment Variables
ORACLE_HOME=/ora_supp/product/7.3.3.5.0; export ORACLE_HOME
ORACLE_TERM=vt220 ; export ORACLE_TERM

#NLS_LANG=FRENCH_FRANCE.WE8ISO8859P1; export NLS_LANG

ORACLE_SID=OGLR; export ORACLE_SID
TWO_TASK=OGLR; export TWO_TASK
ORAENV_ASK=NO; export ORAENV_ASK
PATH=$PATH:$ORACLE_HOME/bin
#####

APPL_TOP=/applmgr; export APPL_TOP
#
if [ -s "$MAIL" ]          # This is at Shell startup. In normal
then echo "$MAILMSG"      # operation, the Shell checks
```

```

fi                                # periodically.
alias F='. $APPL_TOP/APPLSYS_FR'
alias FR='. $APPL_TOP/APPLSYS_FR.env'
alias US='. $APPL_TOP/APPLSYS_US.env'
#. /oracle/product/7.3.3.5.0/ows/3.0/install/owsenv_bsh.sh
. $APPL_TOP/APPLSYS.env

```

### A.3.5.2 Example of .profile of Applmgr - Application Support Server

```
PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:$HOME/bin:/usr/bin/X11:/sbin:.
```

```
export PATH
```

```
# Oracle 7.3.3 environment Variables
```

```
ORACLE_HOME=/oracle733
```

```
export ORACLE_HOME
```

```
# base created for tests ONLY : ORACLE_SID=ORCFES
```

```
# base created for tests ONLY : export ORACLE_SID
```

```
ORACLE_TERM=vt220
```

```
export ORACLE_TERM
```

```
NLS_LANG=FRENCH_FRANCE.WE8ISO8859P1
```

```
export NLS_LANG
```

```
ORA_NLS=$ORACLE_HOME/ocommon/nls/admin/data
```

```
export ORA_NLS
```

```
ORA_NLS32=/oracle733/ocommon/nls/admin/data
```

```
export ORA_NLS3
```

```
ORACLE_BASE=/oracle/admin; export ORACLE_BASE
```

```
LD_LIBRARY_PATH=$ORACLE_HOME/lib:/usr/lib/X11r5/Motif1.2:/usr/lib
```

```
export LD_LIBRARY_PATH
```

```
REPORTS25_TERMINAL=vt220
```

```
export REPORTS25_TERMINAL
```

```
REPORTS25_PATH=$ORACLE_HOME/reports25
```

```
export REPORTS25_PATH
```

```
REPORTS25_TMP=/tmp
```

```
export REPORTS25_TMP
```

```
#
```

```
# Positionnement de SQLPATH
```

```
# Tue May 26 15:23:22 DFT 1998
```

```
#
```

```
SQLPATH=/oracle/admin/audit/sql; export SQLPATH
```

```
PATH=$PATH:$ORACLE_HOME/bin:/usr/lib733
```

```
export PATH
```

```
umask 022
```

```
# Fin Oracle 733
```

```
# Oracle Application 10.7
```

```
TMPDIR=$APPL_TOP/tmp; export TMPDIR
```

```
APPL_TOP=/app1107
```

```
export APPL_TOP
```

```
TWO_TASK=OGLP
```

```
export TWO_TASK
```

```
. $APPL_TOP/APPLSYS.env
```

```
# fin Oracle application
```

```

if [ -s "$MAIL" ]           # This is at Shell startup. In normal
then echo "$MAILMSG"       # operation, the Shell checks
fi                           # periodically.

```

### A.3.5.3 Example of .profile of the Oracle User - Web/Forms Server

```

PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:/usr/bin/X11:/sbin:./usr/sbin
export PATH

#export PS1='($PWD) $'
umask 022
set -o vi

# Oracle environment Variables
ORACLE_HOME=/oracle/product/7.3.3.5.0; export ORACLE_HOME
ORACLE_TERM=vt220 ; export ORACLE_TERM
ORACLE_BASE=/oracle; export ORACLE_BASE
ORAWEB_HOME=$ORACLE_HOME/ows/3.0; export ORAWEB_HOME
#ORACLE_SID= ; export ORACLE_SID
ORAENV_ASK=NO ; export ORAENV_ASK
PATH=$PATH:$ORACLE_HOME/bin:$ORAWEB_HOME/bin

#
if [ -s "$MAIL" ]           # This is at Shell startup. In normal
then echo "$MAILMSG"       # operation, the Shell checks
fi                           # periodically.

. /oracle/product/7.3.3.5.0/ows/3.0/install/owsenv_bsh.sh

```

### A.3.5.4 Example of .profile of Appsnca - Web/Forms Server

```

umask=022
set -o vi
PATH=/usr/bin:/etc:/usr/sbin:/usr/ucb:$HOME/bin:/usr/bin/X11:/sbin:.
export PATH
export PS1='{ 'was': '$LOGNAME'}$PWD >'
TERM=vt220 ; export TERM
#####
# variables for Oracle RDBMS
ORACLE_BASE=/oracle; export ORACLE_BASE
ORACLE_HOME=/oracle/product/7.3.3.5.0
export ORACLE_HOME
TNS_ADMIN=$ORACLE_HOME/network/admin; export TNS_ADMIN
PATH=$PATH:$ORACLE_HOME/bin:/usr/local/bin
export PATH
#####
# variables for Web Apps Server 3.0.1.8.0
ORAWEB_HOME=$ORACLE_HOME/ows/3.0
export ORAWEB_HOME
DISPLAY=192.168.5.26
export DISPLAY
PATH=$PATH:$ORAWEB_HOME/bin
export PATH
#####
# variables for Developer Server
ORA_NLS33=$ORACLE_HOME/ocommon/nls/admin/datad2k
export ORA_NLS33
#####
# variables for Oracle Applications 107 NCA
APPL_TOP=/applnca/107NCA; export APPL_TOP
. $APPL_TOP/APPLSYS.env

APPL_BASE=/applnca; export APPL_BASE
PATH=$PATH:$FND_TOP/bin; export PATH
#####
# alias pour switch des langues
alias FR='. $APPL_TOP/APPLSYS_FR.env'
alias US='. $APPL_TOP/APPLSYS_US.env'
#####
# the next is to set after installation and sqlnet setup
ORACLE_SID=MGLF; export ORACLE_SID
TWO_TASK=$ORACLE_SID; export TWO_TASK
TWO_TASK=MGLF; export TWO_TASK
#####
if [ -s "$MAIL" ]           # This is at Shell startup. In normal
then echo "$MAILMSG"      # operation, the Shell checks
fi                          # periodically.

```

### A.3.6 Example of .bat File

```

PATH=%PATH%;p:\jdk\bin;c:\Progral\Intern1;
p:\jdk\bin\appletviewer.exe -J-Djava.compiler=symcjit -J-mx64m
http://weboglx:8100/oa/US/oglx_us.htm

```

### A.3.7 Filesystem Size Guidelines

\$APPL\_TOP for the Applications Support Server requires approximately 3Gb  
\$ORACLE\_HOME for the Applications Support Server requires less than 1Gb

\$APPL\_TOP for the WEB /Forms Server requires approximately 2.5Gb  
\$ORACLE\_HOME for the WEB/Forms Server requires < 1.5Gb

---

## Appendix B. How to Clone the OS/390 Oracle Database Server

This appendix describes the steps we took to clone the OS/390 Oracle Database Server so we could have a reference copy. The first steps we took were as follows:

- We duplicated the reference database.

We duplicated all the files (PARMLIB, Logfiles and Datafiles) of our reference database OGLF. (In this case the new database will be called MGLF.)

- We created a new member for the started task JCL.

We created a new member in our SYS1.PROCLIB which is a copy of the original started task.

---

### B.1 Set up the Database Parameters

Then we did the following:

- We added the new system name MGLF in the SYS1.PARMLIB and authorized the new oracle library ORAGLF.ORASHR(AUTHLOAD).
- We modified the DD cards and parameters in the start-up procedure in order to match the new filenames, as it is done in the following startup procedure.

```
SSN=MGLF
START=STRTMGLF
//STEPLIB DD DSN=ORAGLF.ORASHR.AUTHLOAD
//ORA$LIB DD DSN=ORAGLF.ORASHR.AUTHLOAD
//INITORA DD DSN=ORAGLF.ORACLE.PARMLIB(OI&SSN)
//DBAINIT DD DSN=ORAGLF.ORACLE.PARMLIB(DBAINIT)
//STARTUP DD DSN=ORAGLF.ORACLE.PARMLIB(&START)
//MPMTNS DD DSN=ORAGLF.ORACLE.PARMLIB(MPMTNS)
//TNSNAMES DD DSN=ORAGLF.ORACLE.PARMLIB(MPMTNS)
//SYSIN DD DSN=ORAGLF.ORACLE.PARMLIB(MP&SSN)
// DD DSN=ORAGLF.ORACLE.PARMLIB(SQLDBA)
//DB1 DD DSN=ORAGLF.C.SYSTEM.F001
//CONTROL2 DD DSN=ORAGLF.C.CONTROL.F002
//CONTROL1 DD DSN=ORAGLF.C.CONTROL.F001
```

- In the INITORA, we put in comments the ROLLBACK\_SEGMENTS and the LOG\_ARCHIVE\_DEST lines.
- In the MPMGLF member, we set the following two parameters to:  
SSNAME=MGLF  
TRACEDS="ORAGLF.TRACE\*\*"
- In the STRMGLF member, we modified the SQL command as following:  
ALTER DATABASE MGLF MOUNT;

---

### B.2 Generate a Backup Control File

The steps to create the backup control file are:

1. Start the OGLF database with the command:  
/S ORAOGLF

Note: We needed to connect to the database OGLF as internal. Therefore, we needed to define our TSO user as private user in the MPOGLF member,

setting the parameter like this: PRIVUSER=ORACLE with ORACLE my TSO userid:

2. Under TSO command, for connecting to the data base execute the commands:

```
alloc fi (ora@OGLF) dummy
call 'sys1.orashr.cmdload(svrmgr1)'
```

When the prompt SVRMGR> displays, type

```
connect internal
```

3. Type the command:

```
ALTER DATABASE BACKUP CONTROLFILE TO TRACE RESETLOGS
```

4. A trace file is created, with the name specified by the parameter set in the member SYS1.ORACLE.PARMLIB(MPOGLF):

```
TRACEDS="CMORAGLF.TRACE** "
```

Note: The previous three steps can be executed in batch. During the test we did this work using TSO commands.

5. You can now stop the OGLF database.

We created the following file:

```
000001 MVS SP5.2.0 , CPU MODEL 9672, RELEASE/LEVEL 038
000002 JOBNAME=CSJPCO STEPNAME=CSJPCO USER ID=CSJPC UID=9
000003 ASCB=00F64880 HASID=0054 PASID=00CF SASID=0054 TCB=007F1070 AMODE = 31
000004 Oracle RDBMS version 7.3.02.3.50 08/24/98 04:36:59
000005 Trace Dsn is CMORAGLF.TRACE08
000006 Oracle7 Server Release 7.3.2.3.5 Production Release with the distribution
000007 MVS SP5.2.0 , CPU MODEL 9672, RELEASE/LEVEL 038
000008 JOBNAME=CSJPCO STEPNAME=CSJPCO USER ID=CSJPC UID=9
000009 ASCB=00F64880 HASID=0054 PASID=00CF SASID=0054 TCB=007F1070 AMODE = 31
000010 Oracle RDBMS version 7.3.02.3.50 08/24/98 04:36:59
000011 #Instance name: OGLF
000012 #Redo thread mounted by this instance: 1
000013 #Oracle process number: 8
000014 #SPWPID Job: CSJPCO, User: CSJPC, Terminal: ORASQL, Program: SVRM
000015
000016 #1998/08/24 04:36
000017 #1998/08/24 04:36
000018 **** SESSION ID:(6.26) 1998.08.24.04.36.59.051
000019 # The following commands will create a new control file and use it
000020 # to open the database.
000021 # The contents of online logs will be lost and all backups will
000022 # be invalidated. Use this only if online logs are damaged.
000023 #STARTUP NOMOUNT <----- remove
000024 CREATE CONTROLFILE REUSE DATABASE "OGLF" RESETLOGS NOARCHIVELOG
000025     MAXLOGFILES 32
000026     MAXLOGMEMBERS 2
000027     MAXDATAFILES 32
000028     MAXINSTANCES 15
000029     MAXLOGHISTORY 1500
000030 LOGFILE
000031     GROUP 1 (
000032         '/DSN/CMORAGLF.C.LOGA.F001',
000033         '/DSN/CMORAGLF.C.LOGB.F001'
000034     ) SIZE 359996K,
000035     GROUP 2 (
000036         '/DSN/CMORAGLF.C.LOGA.F002',
000037         '/DSN/CMORAGLF.C.LOGB.F002'
000038     ) SIZE 359996K,
000039     GROUP 3 (
000040         '/DSN/CMORAGLF.C.LOGA.F003',
000041         '/DSN/CMORAGLF.C.LOGB.F003'
000042     ) SIZE 359996K
```



```

000043 DATAFILE
000044  '/ DSN/CMORAGLF.C.SYSTEM.F001',
000045  '/ DSN/CMORAGLF.C.ROLLBACK.F001',
000046  '/ DSN/CMORAGLF.C.USER2.F001',
000047  '/ DSN/CMORAGLF.C.AP.F001',
000048  '/ DSN/CMORAGLF.C.APX.F001',
000049  '/ DSN/CMORAGLF.C.FND.F001',
000050  '/ DSN/CMORAGLF.C.FNDX.F001',
000051  '/ DSN/CMORAGLF.C.GL.F001',
000052  '/ DSN/CMORAGLF.C.GLX.F001',
000053  '/ DSN/CMORAGLF.C.IC.F001',
000054  '/ DSN/CMORAGLF.C.ICX.F001',
000055  '/ DSN/CMORAGLF.C.OE.F001',
000056  '/ DSN/CMORAGLF.C.OEX.F001',
000057  '/ DSN/CMORAGLF.C.PO.F001',
000058  '/ DSN/CMORAGLF.C.POX.F001',
000059  '/ DSN/CMORAGLF.C.SHR.F001',
000060  '/ DSN/CMORAGLF.C.SHRX.F001',
000061  '/ DSN/CMORAGLF.C.TEMP.F001',
000062  '/ DSN/CMORAGLF.C.CMPTS.F001',
000063  '/ DSN/CMORAGLF.C.CMAPIX.F001',
000064  '/ DSN/CMORAGLF.C.CMGLTS.F001',
000065  '/ DSN/CMORAGLF.C.CMGLIX.F001',
000066  '/ DSN/CMORAGLF.C.GL.F002',
000067  '/ DSN/CMORAGLF.C.GLX.F002'
000068 ;
000069 # Recovery is required if any of the datafiles are restored backups,
000070 # or if the last shutdown was not normal or immediate.
000071 RECOVER DATABASE USING BACKUP CONTROLFILE <----- remove
000072 # Database can now be opened zeroing the online logs.
000073 ALTER DATABASE OPEN RESETLOGS;

```

6. You need to do the following:

- Modify all the bold characters and lines to correspond with your new MGLF database installation,
- Remove the line RECOVER DATABASE USING BACKUP CONTROLFILE.
- Modify the parameter ARCHIVELOG in NOARCHIVELOG if necessary.

Note: If you use the modified script to create the control file on the new MGLF database, you will find the following two error messages:

```

08.48.27 JOB07841 CREATE CONTROLFILE REUSE DATABASE
"ORAMGLF" RESETLOGS NOARCHIVELOG
08.48.27 JOB07841 *
08.48.27 JOB07841 ORA-01503: CREATE CONTROLFILE failed
08.48.27 JOB07841 ORA-01161: database name ORAMGLF in file header does not
match given name of ORAH

```

First message is due to an error in the SQL statement that you must modify to:

```

CREATE CONTROLFILE REUSE SET DATABASE "MGLF"
RESETLOGS NOARCHIVELOG

```

The second message needs to set the DB\_NAME parameter in the INITORA parmlib member: DB\_NAME = MGLF

---

### B.3 Create the Control File for the Migration Database

The steps to create the control file are:

- Keep the following control file in the member INITORA for ORAGLF.ORACLE.PARMLIB(OIMGLF):

```
000002 #CONTROL_FILES = "/DD/CONTROL2"  
000003 CONTROL_FILES = "/DD/CONTROL1"
```

Do the same in the start procedure:

```
/*CONTROL2 DD DSN=ORAGLF.C.CONTROL.F002,  
/*      DISP=SHR  
//CONTROL1 DD DSN=ORAGLF.C.CONTROL.F001,  
//      DISP=SHR
```

- Start the new database with the NOMOUNT parameter with this command:

```
/S ORAMGLF START=NOMOUNT
```

- Under TSO, connect the user in internal mode by entering the following command:

```
alloc fi (ora@MGLF) dummy  
call 'oraglf.orashr.cmdload(svrMgr1)'  
SVRMGR>connect internal
```

- Run the script for creating the control file. Execute the command under TSO:

```
@/dsn/cmoraglf.trace.new
```

The new control file ORAGLF.C.CONTROL.F001 for our new MGLF database is created.

- You can stop the database MGLF.
- Using the ISPF facility, you can copy the created control file in ORAGLF.C.CONTROL.F002. Modify the initora member and start the procedure.

---

## Appendix C. Special Notices

This publication is intended to help customers who are planning to run Oracle Applications for OS/390. The information in this publication is not intended as the specification of any programming interfaces that are provided by Oracle Applications and OS/390. See the PUBLICATIONS section for more information about what publications are considered to be product documentation.

References in this publication to IBM products, programs or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent program that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program or service.

Information in this book was developed in conjunction with use of the equipment specified, and is limited in application to those specific hardware and software products and levels.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the IBM Director of Licensing, IBM Corporation, North Castle Drive, Armonk, NY 10504-1785.

Licenseses of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact IBM Corporation, Dept. 600A, Mail Drop 1329, Somers, NY 10589 USA.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The information contained in this document has not been submitted to any formal IBM test and is distributed AS IS. The information about non-IBM ("vendor") products in this manual has been supplied by the vendor and IBM assumes no responsibility for its accuracy or completeness. The use of this information or the implementation of any of these techniques is a customer responsibility and depends on the customer's ability to evaluate and integrate them into the customer's operational environment. While each item may have been reviewed by IBM for accuracy in a specific situation, there is no guarantee that the same or similar results will be obtained elsewhere. Customers attempting to adapt these techniques to their own environments do so at their own risk.

Any pointers in this publication to external Web sites are provided for convenience only and do not in any manner serve as an endorsement of these Web sites.

The following document contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples contain the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

You can reproduce a page in this document as a transparency, if that page has the copyright notice on it. The copyright notice must appear on each page being reproduced.

IBM makes no warranties regarding Oracle and other non-IBM products. IBM has not tested Oracle and other non-IBM products and cannot confirm the accuracy of performance, compatibility, or any other claims relative to non-IBM products. Questions on the capabilities of Oracle and non-IBM products should be addressed to the suppliers of those products.

The information herein is provided as is. All warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose and the warranty of noninfringement, are expressly excluded.

The information herein is current as of December, 1998 and is subject to change without notice.

The following terms are trademarks of the International Business Machines Corporation in the United States and/or other countries:

ACF/VTAM	AIX
DB2/2	DFSMS
Enterprise System/3090	Enterprise Systems Architecture/390
Enterprise Systems Connection Architecture	ES/3090
ES/9000	ESCON
IBM	IMS
MVS (logo)	MVS/ESA
OS/390	S/390
S/390 Parallel Enterprise Server	System/390
S/390 Parallel Enterprise Server	

The following are registered trademarks or trademarks of Oracle Corporation:

Oracle7	Oracle8
Oracle Applications	Oracle Application Server
Oracle Applications Data Warehouse	Oracle Designer
Oracle Developer	Oracle Developer Server
Oracle Discoverer	Oracle Enterprise Developer Suite
Oracle JDeveloper	Oracle Transparent Gateways
Oracle SmartClient	SQL*NET
Oracle Forms	Oracle

The following terms are trademarks of other companies:

C-bus is a trademark of Corollary, Inc.

Java and HotJava are trademarks of Sun Microsystems, Incorporated.

Microsoft, Windows, Windows NT, and the Windows 95 logo are trademarks or registered trademarks of Microsoft Corporation.

PC Direct is a trademark of Ziff Communications Company and is used by IBM Corporation under license.

Pentium, MMX, ProShare, LANDesk, and ActionMedia are trademarks or registered trademarks of Intel Corporation in the U.S. and other countries.

UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Limited.

Other company, product, and service names may be trademarks or service marks of others.



---

## Appendix D. Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

---

### D.1 International Technical Support Organization Publications

For information on ordering these ITSO publications, see "How to Get ITSO Redbooks" on page 163.

- *Oracle Applications for S/390, Presentation Guide*, SG24-2084

---

### D.2 Redbooks on CD-ROMs

Redbooks are also available on CD-ROMs. **Order a subscription** and receive updates 2-4 times a year at significant savings.

CD-ROM Title	Subscription Number	Collection Kit Number
System/390 Redbooks Collection	SBOF-7201	SK2T-2177
Networking and Systems Management Redbooks Collection	SBOF-7370	SK2T-6022
Transaction Processing and Data Management Redbook	SBOF-7240	SK2T-8038
Lotus Redbooks Collection	SBOF-6899	SK2T-8039
Tivoli Redbooks Collection	SBOF-6898	SK2T-8044
AS/400 Redbooks Collection	SBOF-7270	SK2T-2849
RS/6000 Redbooks Collection (HTML, BkMgr)	SBOF-7230	SK2T-8040
RS/6000 Redbooks Collection (PostScript)	SBOF-7205	SK2T-8041
RS/6000 Redbooks Collection (PDF Format)	SBOF-8700	SK2T-8043
Application Development Redbooks Collection	SBOF-7290	SK2T-8037

---

### D.3 Oracle Publications

These publications, available from Oracle, are also relevant as further information sources: (information on how to contact Oracle can be found at <http://www.oracle.com>)

- *Oracle7 Release 7.3 for AIX Installation Guide*, A43771-1
- *Oracle Applications Release 10.7 for UNIX Upgrade Preparation Manual*, A47535-1
- *Oracle7 Release 7.3 for OS/390 Installation Guide*, A47428-1
- *Oracle Applications Release 10.7 for UNIX Installation Manual*, A47542-1
- *Oracle Applications Release 10 System Administration Reference Manual*, A12540-12
- *Oracle7 for MVS System Administration Guide*, A47448-1
- *Oracle7 for MVS User's Guide*, A47450-1
- *Oracle Applications Installation Manual for MS Windows Clients UNIX Server Edition Release 10 SmartClientProduction 16*, A50826-02
- *IBM TCP/IP for OS/390 Customization and Administration Guide*, SC31-7134
- *Oracle Applications Release 10.7 Upgrade Preparation Manual*
- *Oracle Applications Release 10.7 NCA Installation Manual for UNIX*
- *Oracle Applications Release 10.7 NCA Installation Manual for Windows*

- *Oracle Applications Release 10.7 NCA Migration Strategy*
- *Oracle Applications Release 10.7 NCA Release Notes*
- *Oracle Applications Release Notes for OS/390 RDBMS Version 7.3.3*
- *Oracle Applications Release 10.7 NCA Patch Sets Release Notes*
- *Oracle Applications Release 10.7.0 and Oracle 7 Server 7.3.3 Interoperability Patch Notes*
- *Oracle Applications NLS Release 10.7 NCA Installation Guide*
- *Oracle Applications NLS Release 10.7 NCA Release Notes*
- *Oracle Applications NLS Release 10.7 NCA Patch Sets Release Notes*
- *Oracle Web Application Server Release 3.0.1 for AIX Installation Guide*
- *Developer/2000 Release 1.6. Client/Server Installation Guide for AIX Based Systems*
- *Developer/2000 Release 1.6 Deploying Applications on the Web*
- *Developer/2000 Release 1.6 Web Server Installation Guide for AIX Base Systems*



---

## How to Get ITSO Redbooks

This section explains how both customers and IBM employees can find out about ITSO redbooks, redpieces, and CD-ROMs. A form for ordering books and CD-ROMs by fax or e-mail is also provided.

- **Redbooks Web Site** <http://www.redbooks.ibm.com/>

Search for, view, download or order hardcopy/CD-ROMs redbooks from the redbooks Web site. Also read redpieces and download additional materials (code samples or diskette/CD-ROM images) from this redbooks site.

Redpieces are redbooks in progress; not all redbooks become redpieces and sometimes just a few chapters will be published this way. The intent is to get the information out much quicker than the formal publishing process allows.

- **E-mail Orders**

Send orders via e-mail including information from the redbook order form to:

	<b>IBMMAIL</b>	<b>Internet</b>
In United States:	usib6fpl at ibmmail	usib6fpl@ibmmail.com
In Canada:	caibmbkz at ibmmail	lmannix@vnet.ibm.com
Outside North America:	dkibmbsh at ibmmail	bookshop@dk.ibm.com

- **Telephone Orders**

United States (toll free)	1-800-879-2755	
Canada (toll free)	1-800-IBM-4YOU	
Outside North America	(long distance charges apply)	
(+45) 4810-1320 - Danish	(+45) 4810-1220 - French	(+45) 4810-1270 - Norwegian
(+45) 4810-1420 - Dutch	(+45) 4810-1020 - German	(+45) 4810-1120 - Spanish
(+45) 4810-1540 - English	(+45) 4810-1620 - Italian	(+45) 4810-1170 - Swedish
(+45) 4810-1670 - Finnish		

This information was current at the time of publication, but is continually subject to change. The latest information for customers may be found at <http://www.redbooks.ibm.com/> and for IBM employees at <http://w3.itso.ibm.com/>.

### IBM Intranet for Employees

IBM employees may register for information on workshops, residencies, and redbooks by accessing the IBM Intranet Web site at <http://w3.itso.ibm.com/> and clicking the ITSO Mailing List button. Look in the Materials repository for workshops, presentations, papers, and Web pages developed and written by the ITSO technical professionals; click the Additional Materials button. Employees may also view redbook, residency and workshop announcements at <http://inews.ibm.com/>.

---

## IBM Redbook Fax Order Form

Fax your redbook orders to:

United States (toll free)	1-800-445-9269
Canada	1-403-267-4455
Outside North America	(+45) 48 14 2207 (long distance charge)

**Please send me the following:**

Title	Order Number	Quantity

---

First name  Last name

---

Company

---

Address

---

City  Postal code  Country

---

Telephone number  Telefax number  VAT number

• Invoice to customer number

• Credit card number

---

Credit card expiration date  Card issued to  Signature

**We accept American Express, Diners, Eurocard, Master Card, and Visa. Payment by credit card not available in all countries. Signature mandatory for credit card payment.**

## List of Abbreviations

<b>AIX</b>	Advanced Interactive Executive	<b>OS/390</b>	Operating System for S/390 (formerly MVS)
<b>AIM</b>	Accelerating the Implementation Process	<b>P/390</b>	A PS/2 that has a card to run OS/390
<b>APF</b>	authorized program facility	<b>PC</b>	personal computer
<b>CDE</b>	common desktop environment	<b>PL/SQL</b>	Procedural Language for SQL
<b>CEC</b>	central electronics complex	<b>PR/SM</b>	Processor Resource/Systems Manager (reference LPAR)
<b>CRT</b>	cathode ray tube	<b>PTF</b>	program temporary fix
<b>CMOS</b>	Complementary Metal Oxide Semiconductor	<b>R/390</b>	RS/6000 that has a card to run OS/390
<b>DBA</b>	database administrator	<b>RACF</b>	Resource Access Control Facility
<b>DASD</b>	direct access storage device	<b>RAS</b>	reliability, availability, serviceability
<b>DAT</b>	digital audio tape	<b>RDBMS</b>	relational database management system
<b>DCB</b>	data control block	<b>RPC</b>	remote procedure call
<b>DCE</b>	distributed computing environment	<b>SGA</b>	system global area
<b>DD</b>	data definition	<b>SDSF</b>	system display and search facility
<b>ECL</b>	emitter coupled logic	<b>SGA</b>	system global area
<b>ESCON</b>	Enterprise Systems Connection (architecture, IBM System/390)	<b>SID</b>	system identification
<b>GUI</b>	graphical user interface	<b>SMIT</b>	system management interface tool
<b>IBM</b>	International Business Machines Corporation	<b>SMITTY</b>	system management interface tool for TTY terminals
<b>IP</b>	Internet Protocol	<b>SMP/E</b>	System Maintenance Program/Extended
<b>IPL</b>	initial program load	<b>SNA</b>	Systems Network Architecture
<b>ISPF</b>	Interactive Structured Programming Facility	<b>SSA</b>	serial storage architecture
<b>ISV</b>	independent software vendor	<b>TCP/IP</b>	Transmission Control Program/Internet Protocol
<b>ITSO</b>	International Technical Support Organization	<b>TNS</b>	transparent network substrata
<b>JCL</b>	job control language	<b>TSO</b>	Time Sharing Option
<b>JDK</b>	Java Development Kit	<b>TTY</b>	teletype terminal
<b>JES</b>	job entry subsystem	<b>VM</b>	Virtual Machine
<b>LPAR</b>	logically partitioned mode	<b>VMCF</b>	Virtual Machine Communication Facility
<b>MPM</b>	multiprocess monitor	<b>VSAM</b>	Virtual Sequential Access Method
<b>MVS</b>	Multiple Virtual Storage	<b>VTAM</b>	virtual telecommunication access method
<b>NCA</b>	Network Computing Architecture		
<b>NLS</b>	National Language Support		
<b>NT</b>	Windows NT		
<b>OLAP</b>	online analytical processing		
<b>OPS</b>	Oracle Parallel Server		

***WIP***

work in progress

***XHCON***

AIX host connection program

---

# Index

## Special Characters

\$APPL\_TOP 48, 49  
\$ORACLE\_HOME 48

## A

abbreviations 165  
acronyms 165  
adaimgr 49  
adctrl 52, 76  
address space 2  
adpatch 42  
adsetup 49  
AIX 31, 47, 53, 56  
    adding DASD 68  
    concurrent manager 67  
    inittab 61  
    linker 41  
    listener 61, 84  
    oapp group 46  
    Oracle Server 41  
    paging space 42, 67  
    shutdown 67  
alias 22, 55  
allocate 25  
ALTER 75  
APF 20, 21  
APF authorization 20  
APPL\_TOP 47  
applmgr 42, 46, 48, 49, 52, 62, 84  
    profile 47  
ASMA90 89  
autoinstall 76

## B

bibliography 161

## C

CDE 67  
COMCHAR 74  
COMMNDxx 69  
compatibility 75  
compatibility setting 45, 55  
Concurrent Manager 5, 6, 61, 67, 73  
Cooperative Processor 6, 61  
    listener.ora 86  
    tnsnames.ora 85  
CREATE 26  
CRT 48

## D

DASD  
    add under AIX 68  
dba group 41  
DCB 21  
DEFAULTNET 80  
define page space 70  
Demo Database 19, 76  
    INITORA 77  
    installation 55  
    MPMPARM 56  
    password 59  
    password encryption 16  
Developer Server 105  
DEVICE 80

## F

FNDNAM 58, 94  
FNDSCUPW 76  
Forms 48

## G

GDDB 56  
GUI interface 7  
GWYUID 58, 94

## H

HOME 80, 81  
host name 32  
hosts 79, 81  
HOSTS.LOCAL 79  
HOSTS.SITEINFO 81

## I

ICKDSF 71  
IEAAPFxx 20  
IEASYSxx 20, 69, 71  
IEFSSNxx 32  
IEV90 88, 89  
IGWSPZAP 83, 89  
IMASPZAP 89  
INDEX 21, 55  
initialization 26, 28  
initialize volume 71  
INITORA 26, 45, 55, 75, 77  
inittab 61  
installation  
    client 57  
    Demo Database 55  
    dialog 49

- installation (*continued*)
  - Oracle Applications 45
  - Oracle Database 19
  - Oracle Server on AIX 41
  - post 58
  - restart 52, 76
  - verification 29
- installation media
  - Oracle Applications 17
  - Oracle Database, including SQL\*Net 17
- installing patchset 5.2 29
- invalid objects 126
- IP address 80, 81
- IPL 19, 20, 69
- ISPF 19, 21, 22, 23

## J

- Java Development Kit (JDK) 135
- JCL 19, 21, 22, 31, 70, 71, 88
- JES2 69, 70
- JOB card 21

## L

- LINK 80
- listener 61, 62, 84
- listener on SmartClient 120
- LISTENER.ORA 61, 81, 86
- LOADxx 69
- LOCAL 58, 91

## M

- MAKESITE 79, 80, 81
- MPFLSTxx 69
- MPM 2, 25, 26, 47, 56, 73, 80, 85, 96
  - Console output 35
- MPM PARMLIB 26
- MPM2 55, 74
- MPMD 19, 80, 85, 96
- MPMPARM 27, 34, 55, 74
- MPMTNS 32, 38, 56, 73, 81
- MPMTNSLG 33
- MPMTNSTC 33
- MS Windows 81
- MVS 19

## N

- names 20
- NCA Client 99, 135
- NCA Forms and Libraries 108
- NCA NLS Forms and Libraries 113
- Network Computing Architecture 11
- NLS 55, 113, 119
- NLS patches 130

## O

- OACONFIG.ORA 58, 59, 93
- oapp group 46
- Oracle Application Server 99, 105, 113
- Oracle Applications
  - autoinstall error 76
  - client installation 57
  - compatibility 75
  - concurrent manager 61
  - cooperative processor 61
  - CRT 48
  - database size settings 46
  - demo database MPMPARM 56
  - Forms 48
  - INITORA 55, 77
  - installation 45
  - installation dialog 49
  - installation media 17
  - installation restart 52, 76
  - MPMTNS 56
  - OACONFIG.ORA 58
  - ORACLE.INI 58
  - password 58
  - post installation 58
  - prerequisite products 48
  - server updates 58
  - SmartClient 57
- Oracle Applications Certificate 136
- Oracle Database
  - allocate 25
  - build options 26
  - customization 22
  - customization job 25
  - initialization 26, 28
  - installation dialog 23
  - installation library 25
  - installation media 17
  - installation on OS/390 19
  - installation verification 29
  - primary option menu 24
  - product selection 24
  - server options 25
  - size settings 46
  - start 72
  - startup procedure 28
  - stop 74
- Oracle Designer 3
- Oracle Developer 3
- Oracle Developer Server 3
- Oracle Discoverer 3
- Oracle Gateway Products 1
- Oracle Names 33
- Oracle SmartClient 7
- Oracle Tools 1, 3
- Oracle Web-designed applications
  - Web Customers 9
  - Web Employees 9
  - Web Suppliers 9

ORACLE.INI 58, 59, 91  
oraenv 47  
ORAOPT 88, 89  
ORIVJA01 29  
ORIVJA04 29  
ORPIJG00 28  
ORPIJH00 28  
ORPIJI00 28  
ORPIJJ00 28  
OS/2 81  
OS/390 19, 31, 45, 47, 53, 55  
    IPL OS/390 69  
    shutdown 69  
OSPIJA00 21, 22, 90  
OSPIJA01 25  
OSPIJD00 25  
OSPIJE00 25  
OSPIJF00 25  
OSPIJF01 25  
OSPIJF05 25  
OSPIJF06 25  
OSPIJF13 25

## P

PAGEADD 71  
paging 70  
password 58, 59, 76  
password encryption 16  
patch 15, 16, 17, 18, 42, 77  
patchset 42, 126  
patchset 5.2 29  
PDASD 21  
PDVOL 21  
ping 31  
PORT 80  
port number 31, 47, 55, 56  
Procedural Gateways 4  
processing time 90  
processing times 58  
PS/2 57  
PTF 90

## Q

quiesce 70

## R

restart 52  
root 41

## S

SDSF 19, 28, 34  
self-service 9  
shutdown  
    AIX 67  
    OS/390 69

SITEINFO 32  
size 46  
SmartClient 5, 7  
    installation 57  
    oaconfig.ora 93  
    oracle.ini 91  
    server updates 58  
    SQL\*Net configuration 58  
    tnsnames.ora 96  
SMP/E 19, 23, 88  
SMPENV01 88  
SMPGZN01 88  
SMPRCV01 90  
SQL\*Net 2, 3, 16, 17, 19, 31, 32, 33, 34, 37, 47, 55, 57,  
    58, 59, 78, 79, 80, 81, 82, 83, 84  
    check listener 83, 84  
    client 58  
    Clients 37  
    configuration 31  
    configure 32  
    start 33  
    start TNS 82  
    stop TNS 82  
SQLNET 33  
SQLNETLG 33  
SQLNETTC 33  
SSA 68  
START 80  
STARTUP 27  
subsystem  
    add dynamically 19  
    GBBB 74  
    GDDB 72  
    MPM 19, 35, 69, 82  
    MPM2 72, 74  
    TNS 19, 31, 32, 34, 69, 72, 74, 82, 83  
Support Server 5, 6

## T

TCP/IP 15, 16, 31, 32, 34, 55, 78, 79, 80, 81, 83  
    client profile 78  
    data set names 78  
    server profile 80  
    site table 79  
    SQL\*Net connection 81  
TCP/IP profile 31  
TCP/IP Release 3.4 15  
TCPHOSTS 32, 80  
TDASD 21  
TNS 73, 80, 82, 83  
    console output 34  
    environment 32  
    startup job 31  
TNSNAMES 38, 47, 56, 58  
tnsnames.ora 47, 56, 58, 59, 85, 96  
TNSPING 31, 56  
TPUNIT 21

TPVOL 21  
Transaction Manager 5, 6  
Transparent Gateways 4  
TSO 19, 23, 37, 38, 75, 80, 81  
TWO\_TASK 47

## **U**

unload.cmd 48  
usercatalog 22, 55

## **V**

VMCF 32  
VSAM 90

## **W**

Web Server patches 130  
Web-deployed 99  
Web-enabled 99  
worker 52, 53, 75, 76



---

# ITSO Redbook Evaluation

Oracle Applications for OS/390 Installation Guide  
SG24-4980-01

Your feedback is very important to help us maintain the quality of ITSO redbooks. **Please complete this questionnaire and Fax it to: USA International Access Code + 1 914 432 8264 or:**

- Use the online evaluation form found at <http://www.redbooks.ibm.com>
- Send your comments in an Internet note to [redbook@us.ibm.com](mailto:redbook@us.ibm.com)

Which of the following best describes you?

**Customer**     **Business Partner**     **Solution Developer**     **IBM employee**  
 **None of the above**

**Please rate your overall satisfaction** with this book using the scale:  
**(1 = very good, 2 = good, 3 = average, 4 = poor, 5 = very poor)**

**Overall Satisfaction**    \_\_\_\_\_

Please answer the following questions:

Was this redbook published in time for your needs?                      Yes\_\_\_\_ No\_\_\_\_

If no, please explain:

---

---

---

---

What other redbooks would you like to see published?

---

---

---

**Comments/Suggestions:**            **(THANK YOU FOR YOUR FEEDBACK!)**

---

---

---

---

---

