Oracle® Network Products Troubleshooting Guide

Release 2.3

Part No. A42483–1

ORACLE®

Oracle Network Products Troubleshooting Guide, Release 2.3

Part No. A42483–1

Copyright © 1992, 1993, 1994, 1995, 1996 Oracle Corporation

All rights reserved. Printed in the U.S.A.

Primary Authors: Peter Chu, Laura Ferrer, Sandy Vennning
Contributing Authors: Shelly Dimmick Willard, Larry Neumann
Contributors: Carl Dellar, June Foster, John Graham, Mark Hill, Mark Jarvis, Ricardo Jenez, Mike Kanaley, Allen Kong, Mark Lambert, Sandy Lau, Ed Miner, Dimitris Nakos, Mary Owen, Joe Pistritto, Bob Purvy, Cyril Scott, David Stowell, Steve Viavant, Rick Wessman

Preface

This manual provides information required to understand and use the problem resolution utilities of the following Oracle network products:

- SQL*Net version 2.0 and later
- Oracle MultiProtocol Interchange
- Oracle Protocol Adapters
- Oracle Network Manager
- Oracle Names
- Secure Network Systems
- Oracle Native Naming Adapters

In particular, this guide:

- provides an overview of messages, error logs, and trace facilities
- describes how to use the error logs and trace facilities
- describes how to configure the client, server, Interchange, listener, and Names Server components to invoke the trace facility
- lists all the Oracle network product error messages and their probable causes and provides the actions recommended to correct them

Audience   The information in this manual is intended primarily for network administrators, but may be useful for all users of Oracle network products.

Documentation Set   The Oracle network products documentation set consists of manuals that help you to set up an integrated, heterogeneous network and to use the applications and services provided. The documentation consists of the following manuals:

Diagnostics
- The *Oracle Network Products Troubleshooting Guide* (this manual) describes aspects of errors and diagnosing them, including:
  - information about coping with errors and using the diagnostic features of Oracle network products
  - the error messages and informational messages that may occur during use of SQL*Net, the Interchange, and Oracle Protocol Adapters
  - the error messages and informational messages that may occur during use of the Oracle Network Manager and Oracle Names.

SQLNet
- *Understanding SQL*Net* provides an overview of SQL*Net version 2.3 and specific information about:
  - the architecture of SQL*Net V2.3
  - planning and configuring SQL*Net V2.3
  - using SQL*Net V2.3

NetMan
- *Oracle Network Manager Administrator's Guide* describes how to use the Oracle Network Manager to create and manage the configuration files needed for your network.

Intchg
- *Oracle MultiProtocol Interchange Administrator's Guide* describes the MultiProtocol Interchange, including:
  - the purpose and function of the Interchange
  - the architecture of the Interchange
  - considerations for designing an Oracle application network
  - configuring and using the Interchange in an Oracle application network

ONames
- *Oracle Names Administrator's Guide* describes how to use this product to provide structured administration for a distributed database network.

- The *Oracle SNMP Support Reference Guide* describes how to use Oracle SNMP Support, which works with third–party vendor software to monitor services in a SQL*Net network. The guide includes MIBS for the following network objects:

  – Oracle MultiProtocol Interchange

  – Network listener

  – Oracle Names Server

  – Oracle7 Server

- The *Secure Network Services Administrator's Guide* describes the new encryption, checksum, and authentication features available to add security to network messages, including:

  – the purpose of the new security features

  – the effectiveness of the security features

  – how to enable the security features using Oracle Network Manager

  Note: Secure Network Services release 1.1 includes encryption and checksum abilities. Secure Network Services version 2.0 also includes authentication services.

Oracle Protocol Adapters Information

- Various Oracle operating system-specific documents provide Oracle Protocol Adapter information for each operating system.

  Refer to the Oracle installation documentation for your platform in order to determine where to find information, including:

  – an overview of the Oracle Protocol Adapters

  – protocol terms and concepts

  – protocol–specific keywords used in the connect descriptors

Throughout this book you will see these small book icons to alert you to other pertinent network product or operating system documentation.

In addition, you may wish to refer to other Oracle product documentation.

How This Manual Is Organized

The *Oracle Network Products Troubleshooting Guide* is organized into ten chapters and one appendix.

Chapter 1—Troubleshooting Techniques

This chapter provides an overview of methods for resolving problems in an Oracle application network. The topics it covers include:

- reading log files
- using Audit Trail information
- reading trace files
- locating different types of Oracle networking error messages
- understanding error message stacks
- using error number ranges
- using the Client Status Monitor
- using the Trace Route Utility
- calling Oracle Customer Support

Chapter 2—Logging

This chapter describes how to control and use the log facility. It explains how to use log information to diagnose and resolve operating problems. It includes information about:

- logging parameters
- sample log output
- the Audit Trail utility

Chapter 3 – Tracing

This chapter describes the trace options that may be used to examine Oracle network applications. It explains how to invoke the trace utility and use the trace information to diagnose and resolve operating problems. It includes information about:

- how to set tracing parameters
- how to invoke the trace facility
- sample trace output
- examples of tracing

Chapter 4 – Client Status Monitor

This chapter describes the Client Status Monitor and the SQL*Net Editor. As an aid to problem diagnosis, the Client Status Monitor

provides detailed information about an individual client. The SQL*Net Editor is a tool used to edit many of the optional parameters in a client's SQLNET.ORA file.

Chapter 5 – Trace Route Utility

This chapter describes the new Trace Route Utility. This utility sends a packet to a server and returns information about the nodes it encounters on its way. If it encounters an error, it returns an error stack.

Chapter 6—Networking Error Messages

This chapter lists error messages you may see when using SQL*Net and the Oracle MultiProtocol Interchange. For each error, the probable cause and corrective action are given.

Chapter 7—Network Manager Error Messages

This chapter lists the messages you may see when using Oracle Network Manager. For each error, the probable cause and corrective action are given.

Chapter 8—Oracle Names Error Messages

This chapter lists the messages you may see when using Oracle Names. For each error, the probable cause and corrective action are given.

Chapter 9—Oracle SNMP Support Error Messages

This chapter lists the messages you may see when using Oracle SNMP Support. For each error, the probable cause and corrective action are given.

Chapter 10—Oracle Native Naming Adapter Error Messages

This chapter lists the messages you may see when using Oracle Native Naming Adapters. For each error, the probable cause and corrective action are given.

Appendix A—Trace and Log Parameter Reference

This appendix provides a detailed reference for the log and trace facilities parameters and how they are used.

> **Note:** This guide contains examples and figures that refer to specific machine types, network protocols, and operating systems. These references are examples of one type of configuration and are not representative of all configurations. For operating system–specific issues, such as installation, configuration file locations, and protocol support, see your Oracle operating system–specific manual.

Suggestions for Using this Manual

For a general overview of the terms and concepts associated with error messages, read Chapter 1, "Troubleshooting Techniques".

To understand how to use log facilities in Oracle network products, read Chapter 2, "Logging".

To understand how to use trace facilities in Oracle network products, read Chapter 3, "Tracing".

To understand how to use the Client Status Monitor and the SQLNET.ORA Editor, read Chapter 4, "Client Status Monitor".

To find the cause of a specific error message and learn the recommended course of action, refer to the following:

- Chapter 6, "Networking Error Messages"
- Chapter 7, "Network Manager Error Messages"
- Chapter 8, "Oracle Names Error Messages"
- Chapter 9, "Oracle SNMP Support Error Messages"
- Chapter 10, "Oracle Native Naming Adapter Error Messages"

For a detailed reference on the parameters of the log and trace facilities, read Appendix A, "Trace and Log Parameter Reference".

Notational Conventions

The following syntax conventions are used in this guide:

`Monospace normal`	Monospace shows computer display or contains text you need to enter exactly as shown.
Italics (italics)	Italics, whether in monospace or in regular text font, represent a variable. Substitute an appropriate value. Italics in text is also used to draw attention to a technical term used for the first time, for emphasis, and to denote book titles.
[ ]	Brackets enclose optional items. Do not enter the brackets.
|	A vertical bar represents a choice of two or more options. You must enter one of the options. Do not enter the vertical bar.
Punctuation	Punctuation other than brackets and vertical bars must be entered as shown.
UPPERCASE	Uppercase characters within the text represent command names, filenames, directory names, and parameter names.

Note: Some operating systems are case sensitive. Although our convention is to present command names, filenames, directory names, and parameters in uppercase, that does not necessarily mean that they should be in uppercase on your platforms.

Your Comments Are Welcome

We value and appreciate your comments as an Oracle products user. As we write, revise, and evaluate our work, your opinions are the most important input we receive. At the back of this guide is a Reader's Comment Form; we encourage you to use this form to tell us what you like and dislike about this (or other) Oracle manuals. If the form is gone, or you would like to contact us, please use the following address:

Oracle Network Products Documentation Manager
Oracle Corporation
500 Oracle Parkway
Redwood Shores, CA 94065

FAX: 415–506–7200

Oracle Network Products Troubleshooting Guide

Contents

List of Figures

Troubleshooting Techniques

This chapter describes methods you can use to resolve problems that may arise when you use SQL*Net and other Oracle Network Products. The methods are described briefly in this chapter, and in more detail in subsequent chapters. These methods include:

- reading log files
- using Audit Trail information
- reading trace files
- using the Client Status Monitor
- using the Trace Route Utility

This release of SQL*Net includes three new analysis tools: Audit Trail, Client Status Monitor, and the Trace Route Utility. These tools enable you to gather information that can help you in general network administration, as well as in troubleshooting network problems.

What Is Logging?

When logging is enabled, all errors encountered in Oracle network products are logged to a log file for evaluation by a network or database administrator. The log file provides additional information for an

administrator when the error message on the screen is inadequate for you to understand the failure. The log file, by way of the error stack, shows the state of the software at various layers. The properties of the log file are:

- Error information is appended to the log file when an error occurs.

- The log file for a listener includes Audit Trail information about every connection request from a client and most listener control commands. (This feature is new in SQL*Net 2.3.)

- Generally, a log file can be replaced or erased only by an administrator, although client log files can be deleted by the user whose application created them. (Note that in general it is bad practice to delete these files while the program using them is still actively logging.)

- Logging of errors for the client, server, listener, and Names Server cannot be disabled. This essential feature ensures all errors are recorded.

- The Navigator and Connection Manager components of the MultiProtocol Interchange may have logging turned on or off. If on, logging includes connection statistics. The Navigator may optionally log additional information for process or audit control of operations. You set logging parameters using Oracle Network Manager.

Audit Trail

The Audit Trail is a new utility in SQL*Net release 2.3 that enables a system or network administrator to gather and analyze network usage statistics from the log file for the listener. In addition to containing errors, the listener log file contains information about every connection request from a client and most commands sent by the Listener Control Utility. The format of this information makes it easy to use in reports. For example, you might use Audit Trail information in a report about what departments in your company access certain databases most frequently.

For detailed information about log files and the Audit Trail, see Chapter 2, "Logging".

What Is Tracing?

The trace facility allows a network or database administrator to obtain more information on the internal operations of the components of an Oracle application network than is provided in a log file. Tracing an operation produces a detailed sequence of statements that describe the events as they are executed. All trace output is directed to trace output files that can be evaluated to identify the events that led to an error. The user or administrator typically invokes the trace utility during or after the occurrence of an abnormal condition, when the log file does not provide a clear indication of the cause.

☞ **Attention:** The trace facility uses a large amount of disk space and may have a significant impact upon system performance. Therefore, you are cautioned to turn the trace facility on only as part of a diagnostic procedure and to turn it off promptly when it is no longer necessary.

Components that can be traced using the trace facility are:

- Network listener
- SQL*Net version 2 components
    - SQL*Net on the client
    - SQL*Net on the server
- MultiProtocol Interchange components
    - the Connection Manager and pumps
    - the Navigator
- Oracle Names
    - Names Server
    - Names Control Utility
- TNSPING utility

The trace facility can be used to identify the following types of problems:

- difficulties in establishing connections
- abnormal termination of established connections
- fatal errors occurring during the operation of transparent network substrate (TNS) network components

For detailed information about using the trace facility, see Chapter 3, "Tracing".

What Is the Difference Between Logging and Tracing?

While logging reveals the state of the Oracle components at the time of an error, tracing provides a description of all software events as they occur, and therefore provides additional information about events prior to an error. The three levels of diagnostics, each providing more information than the previous level, are as follows:

1. The reported error from Oracle7 or tools. This is the single error message that is commonly returned to the user.

2. The log file containing the state of TNS at the time of the error. This file can often uncover low-level errors in interaction with the underlying protocols.

3. The trace file containing English statements describing what the TNS software has done from the time the trace session was initiated until the failure is re-created.

When an error occurs, a simple error message is displayed and a log file is generated. Optionally, a user can generate a trace file for more information. (Remember, however, that using the trace facility has an impact on your system performance.)

In the following example, the user failed to use Oracle Network Manager to create a configuration file, and misspelled the word "PORT" as "POT" in the connect descriptor. It is not important that you understand in detail the contents of each of these results; this example is intended only to provide a comparison between the three levels of diagnostics.

Reported Error

On the screen in SQL*Forms:

```
ERROR: ORA-12533: TNS:illegal ADDRESS parameters
```

Logged Error

In the log file, SQLNET.LOG:

```
****************************************************************
Fatal OSN connect error 12533, connecting to:
 (DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)
   (USER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=ipc)
   (KEY=bad_port))(ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=1521))))

  VERSION INFORMATION:
    TNS for SunOS: Version 2.0.14.0.0 - Developer's Release
    Oracle Bequeath NT Protocol Adapter for SunOS: Version
    2.0.14.0.0 - Developer's Release
    Unix Domain Socket IPC NT Protocol Adaptor for SunOS: Version
    2.0.14.0.0 - Developer's Release
    TCP/IP NT Protocol Adapter for SunOS: Version 2.0.14.0.0 -
```

```
  Developer's Release
 Time: 07-MAY-93 17:38:50
 Tracing to file: /home/ginger/trace_admin.trc
 Tns error struct:
   nr err code: 12206
   TNS-12206: TNS:received a TNS error while doing navigation
   ns main err code: 12533
   TNS-12533: TNS:illegal ADDRESS parameters
   ns secondary err code: 12560
   nt main err code: 503
   TNS-00503: Illegal ADDRESS parameters
   nt secondary err code: 0
   nt OS err code: 0
```

Example of Trace of Error   The trace file, SQLNET.TRC at the USER level, contains the following information:

```
--- TRACE CONFIGURATION INFORMATION FOLLOWS ---
New trace stream is "/private1/oracle/trace_user.trc"
New trace level is 4
--- TRACE CONFIGURATION INFORMATION ENDS ---

--- PARAMETER SOURCE INFORMATION FOLLOWS ---
Attempted load of system pfile source
/private1/oracle/network/admin/sqlnet.ora
Parameter source was not loaded
Error stack follows:
NL-00405: cannot open parameter file

Attempted load of local pfile source /home/ginger/.sqlnet.ora
Parameter source loaded successfully

 -> PARAMETER TABLE LOAD RESULTS FOLLOW <-
Some parameters may not have been loaded
See dump for parameters which loaded OK
 -> PARAMETER TABLE HAS THE FOLLOWING CONTENTS <-
  TRACE_DIRECTORY_CLIENT = /private1/oracle
  trace_level_client = USER
  TRACE_FILE_CLIENT = trace_user
--- PARAMETER SOURCE INFORMATION ENDS ---

--- LOG CONFIGURATION INFORMATION FOLLOWS ---
Attempted open of log stream "/tmp_mnt/home/ginger/sqlnet.log"
Successful stream open
--- LOG CONFIGURATION INFORMATION ENDS ---

Unable to get data from navigation file tnsnav.ora
local names file is /home/ginger/.tnsnames.ora
system names file is /etc/tnsnames.ora
```

```
-<ERROR>- failure, error stack follows
-<ERROR>- NL-00427: bad list
-<ERROR>-   NOTE: FILE CONTAINS ERRORS, SOME NAMES MAY BE MISSING

Calling address:
(DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)(U
SER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=ipc)(KEY=bad_port))(
ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=1521))))
Getting local community information
Looking for local addresses setup by nrigla
No addresses in the preferred address list
TNSNAV.ORA is not present. No local communities entry.
Getting local address information
Address list being processed...
No community information so all addresses are "local"
Resolving address to use to call destination or next hop
Processing address list...
No community entries so iterate over address list
This a local community access
Got routable address information
Making call with following address information:
(DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=ipc)(KEY=bad_port)))
Calling with outgoing connect data
(DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)(U
SER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=
1521))))
(DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=ipc)(KEY=bad_port)))
KEY = bad_port
connecting...
opening transport...
-<ERROR>- sd=8, op=1, resnt[0]=511, resnt[1]=2, resnt[2]=0
-<ERROR>- unable to open transport
-<ERROR>- nsres: id=0, op=1, ns=12541, ns2=12560; nt[0]=511,
nt[1]=2, nt[2]=0
connect attempt failed
Call failed...
Call made to destination
Processing address list so continuing
Getting local community information
Looking for local addresses setup by nrigla
No addresses in the preferred address list
TNSNAV.ORA is not present. No local communities entry.
Getting local address information
Address list being processed...
No community information so all addresses are "local"
Resolving address to use to call destination or next hop
Processing address list...
No community entries so iterate over address list
This a local community access
```

```
Got routable address information
Making call with following address information:
(DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=1521)
))
Calling with outgoing connect data
(DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)(U
SER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=
1521))))
(DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=tcp)(HOST=lala)(POT=1521)
))

-<FATAL?>- failed to recognize: POT

-<ERROR>- nsres: id=0, op=13, ns=12533, ns2=12560; nt[0]=503,
nt[1]=0, nt[2]=0
Call failed...
Exiting NRICALL with following termination result -1
-<ERROR>-  error from nricall
-<ERROR>-    nr err code: 12206
-<ERROR>-    ns main err code: 12533
-<ERROR>-    ns (2)  err code: 12560
-<ERROR>-    nt main err code: 503
-<ERROR>-    nt (2)  err code: 0
-<ERROR>-    nt OS   err code: 0
-<ERROR>- Couldn't connect, returning 12533
```

In the trace file, note that unexpected events are preceded with an
-<ERROR>- stamp. These events may represent serious errors, minor
errors, or merely unexpected results from an internal operation. More
serious and probably fatal errors are stamped with the -<FATAL?>-
prefix.

In this sample trace file, you can see that the root problem, the
misspelling of "PORT," is indicated by the trace line:
```
-<FATAL?>- failed to recognize: POT
```

Sorting Out Networking Error Messages

Error messages may originate from many sources, especially in
distributed applications in which many components interact.
Applications such as SQL*Plus, SQL*Forms, or Pro*C applications,
which depend on network services from network applications such as
SQL*Net, display a single message for errors encountered. This concise
error message is often insufficient to identify the specific cause of a
network error. A network error may originate at any of several different
layers within the TNS products, but the user application reports only the

highest level error. The actual cause of the error can be found in the error stack produced by all the layers of Oracle network products such as SQL*Net and Oracle Protocol Adapters.

Error Stacks

The relationships among Oracle network products as they might appear in an error stack is shown in Figure 1 – 1:

OSN		SQL*Net V2
NR | **NN**		**TNS**
NS main		
NS (2) | **NA**		
NT main		**Oracle Protocol Adapter**
NT (2)		
NT OS		
Network Protocol		**Network Protocol**
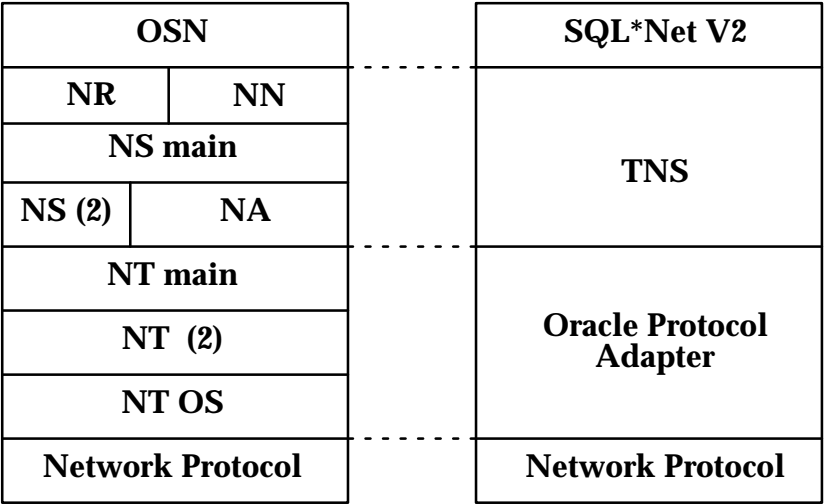
Figure 1 – 1 Network Products and Error Stack Components

The layers shown in this figure have the following meanings:

OSN	SQL*Net Interface Layer
NR	Network Routing (MultiProtocol Interchange)
NN	Network Naming (Oracle Names)
NS	Network Session (main and secondary layers)
NA	Native Services includes Network Authentication (NAU) and Network Encryption (NAE)
NT	Network Transport (main, secondary, and operating system layers)

Note: Your network may not include all of these components.

When a network error occurs, each layer contributes to the error stack. Layers that know nothing about the error report nothing, while other layers report what they know about the error. For example, suppose that a user of a client application tries to establish a connection with a database server using SQL*Net version 2 and TCP/IP, and the user enters:

```
sqlplus scott/tiger@hrserver.world
```

After the banner of SQL*Plus appears on the screen, the following error is displayed:

```
ORA-12203: TNS:Unable to connect to destination
```

This message indicates that the error message file on the Oracle server could not be opened, because the connection to the server failed. However, although the application displays only a one-line error message, an error stack that is much more informative is recorded in the log file by the network layer, if it is able to locate the appropriate message files on the client machine. This error stack can also be captured in trace files by invoking the trace facility and trying the connection again.

In the client-side log output file, SQLNET.LOG, an error stack corresponding to the SQL*Plus ORA–12203 error contains the following message:

```
************************************************************
Fatal OSN connect error 12203, connecting to:
 (DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)
   (HOST=lala)(USER=sviavant)))(ADDRESS_LIST=(ADDRESS=
   (PROTOCOL=ipc)(KEY=trace))(ADDRESS=(PROTOCOL=tcp)
   (HOST=lala)(PORT=1521))))

VERSION INFORMATION:
    TNS for SunOS: Version 2.1.3.0.0 –
    Oracle Bequeath NT Protocol Adapter for SunOS: Version
     2.1.3.0.0
    Unix Domain Socket IPC NT Protocol Adaptor for SunOS:
     Version 2.1.3.0.0 –
    TCP/IP NT Protocol Adapter for SunOS: Version 2.1.3.0.0
  Time: 07-FEB-94 17:36:38
  Tracing to file: /home/sviavant/trace_admin.trc
  Tns error struct:
    nr err code: 12203
    TNS-12203: TNS:unable to connect to destination
    ns main err code: 12541
    TNS-12541: TNS:no listener
    ns secondary err code: 12560
    nt main err code: 511
    TNS-00511: No listener
    nt secondary err code: 61
    nt OS err code: 0
```

Each of the six middle layers shown in Figure 1–1 contributes an error status to the error stack. In this example, the actual cause of the error is introduced and reported at the ”nt main” layer. When the error number 511 is propagated to the upper layers, the same error is interpreted by the ns secondary, ns main, and nr layers to be errors 12560, 12541, and 12203 respectively. These error messages are all listed in Chapter 6 of this guide, along with a cause and suggested corrective action for each.

Oracle Networking Error Prefixes

Oracle network product error messages are identified by the following prefixes:

- The prefix ”TNS” means that the error message is generated by an Oracle network product. For example, an application may display the following error:

  ```
  TNS–00103: Parameter file initialization error.
  ```

  The error is documented in Chapter 6 of this guide, and the information in Chapter 6 explains the error and offers a recommended action.

- The prefix ”ORA” is the generic prefix returned by all Oracle applications, but within that category network product-specific errors can be identified by the ”TNS:” prefix at the beginning of the error string. Some network product error messages may appear with either the "ORA–" or the "TNS–" prefix, depending on the source of the error message. In these cases, the message text is the same regardless of whether the message is looked up in the ORA or the TNS message files.

  In addition, Secure Network Services messages have the "ORA–" prefix.

  Error messages for the Oracle Protocol Adapters, TNS, SQL*Net, the Oracle MultiProtocol Interchange, and Secure Network Services are documented in Chapter 6, regardless of their prefix.

  For example, although the following error has the ”ORA–” prefix used by all Oracle products, the "TNS:" characters in the beginning of the message text identify it as an Oracle network product error message. The error is documented in Chapter 6 of this guide, and the information in Chapter 6 explains the error and offers a recommended action.

  ```
  ORA–12203: TNS: Unable to connect to destination
  ```

- The prefix ”NMC” indicates that an error message is generated by the Oracle Network Manager. The prefix ”NMO” indicates error messages generated by the network object layer of the Network Manager. The prefix ”NMR” is for messages generated from the

ROS file level of the Network Manager. For example, the Network Manager may display the following error:

```
NMC-00010:  Resource file cannot be opened
```

The error is documented in Chapter 7 of this guide, and the information in Chapter 7 explains the error and offers a recommended action.

- The prefix "NNO" precedes error messages generated by a Names Server. The prefix "NNC" is for error messages generated by an Oracle Names client, and those common to both server and client. The prefix "NNL" is for error messages generated by the Oracle Names Control Utility.

  The "NMP" prefix is for error messages generated by the Network Management Protocol, the part of the Names Server that handles SNMP queries. The "NPL" prefix precedes error messages generated by the Network Presentation Layer component of the Names Server. (Network Management Protocol and Network Presentation Layer error messages are typically not visible to the user.)

  For example, a Names Server may display the following error:

```
NNO-00052:  invalid domain description list
```

The error is documented in Chapter **8** of this guide, and the information in Chapter **8** explains the error and offers a recommended action.

- The prefix "NMS" precedes error messages related to Oracle SNMP Support. Chapter 9 explains the error and offers a recommended action.

- The prefix "NNF" precedes error messages related to native naming adapters. Chapter 10 explains the error and offers a recommended action.

Error Ranges

Oracle network product error messages are listed in Chapter 6 through Chapter 10. All error messages are identified by error message numbers. The error messages are organized in ascending numerical order and are separated into sections based on the error message prefix. Within each section, the error messages are organized into subsections based on the component that reported the error. The prefixes, error message numbers, and the product components where they are generated are shown in Table 1–1:

Table 1 – 1
Error Message Prefix, Numbers,
and Components

Prefix	Error Number		Component	Type of Error
TNS	1	to 500	NR (routing)	MultiProtocol Interchange
TNS	501	to 1000	NT (transport)	Protocol Adapter
TNS	1001	to 2500	Listener Control Program	Listener Control Program
TNS	2501	to 3500	NA Internal Messages	NAU (Authentication) and NAE (Encryption)
ORA/TNS	12150	to 12195	SQL*Net	Oracle SQL*Net
ORA/TNS	12196	to 12285	NR (routing)	TNS
ORA/TNS	12500	to 12530	Listener	Listener to client
ORA/TNS	12531	to 12629	NS (session)	TNS
ORA/TNS	12630	to 12699	NA (Native Services)	Native Services (Authentication and Encryption)
NMC	00001	to 11000	Network Manager	Oracle Network Manager
NMO	01001	to 01300	Object Layer	Oracle Network Manager Object Store
NMR	00001	to 00500	Resource Layer	Oracle Network Manager
NNO	00050	to 00711	NN (Network Naming)	Oracle Names Server
NNC	00001	to 00501	NN (Network Naming)	Oracle Names client and server
NNL	00001	to 01073	NN (Network Naming)	Oracle Names Control Utility
NMP	00001	to 00011	NMP (Network Management Protocol)	Oracle Names client and server
NPL	00100	to 00420	NPL (Network Presentation Layer)	Network Presentation Layer

Prefix	Error Number	Component	Type of Error
NMS	00001 to 00275	NMS (Oracle SNMP Support)	Oracle SNMP Support
NNF	00001 to 04999	NNF (Native Naming Adapters)	Native Naming Adapters

Error Messages and Documentation

Error messages you may encounter while using Oracle network products fall into the categories shown in Table 1–2:

Table 1 – 2
Error Messages and Related Documentation

Type of Error Message	Where to Find Information
Application	Application reference manual
Operating system	Operating system documentation
Network protocol	Protocol–specific documentation
Oracle network software SQL*Net Version 2.*x* MultiProtocol Interchange TNS Secure Network Services Oracle Protocol Adapters Network Manager Oracle Names	This guide
SNMP Support Native Naming	This guide

What Is the Client Status Monitor?

The Client Status Monitor is a new utility in SQL*Net release 2.3 that provides client information which can be useful for troubleshooting. The tool can be used by decentralized users to provide useful information to the system administrator or to Oracle Customer Support, thus enabling faster problem-solving assistance.

The Client Status Monitor also provides a SQLNET.ORA Editor that enables users to edit some of the optional parameters in the

SQLNET.ORA file on the client. The editing tool is useful because it enables you to change the configuration parameters of a single client, without having to use Oracle Network Manager or to distribute new files from a central location.

For further information, see Chapter 4, "Client Status Monitor".

What Is the Trace Route Utility?

The Trace Route Utility (TRCROUTE) is a new feature of SQL*Net release 2.3. It enables administrators to discover what path or route a connection takes from a client to a server. It TRCROUTE encounters a problem, it returns an error stack to theclient instead of a single error. These additional error messages make troubleshooting easier.

> **Note:** TRCROUTE does not function on nodes using releases of SQL*Net earlier than release 2.3.

For more information about TRCROUTE, see Chapter 5, "Trace Route Utility".

Calling Oracle Customer Support

Some error messages recommend calling Oracle Customer Support to report the error. When you call Oracle Customer Support, please have the following information at hand:

- The hardware, operating system, and release number of the operating system on which your application(s) is running.

  Example: "My client application runs on a Sun workstation running SUN OS4.1.3 and the server application runs on a VAX machine running VMS version 5.4. The protocol is TCP/IP."

- The release numbers of all the Oracle networking products involved in the current problem.

  Example: "We are running SQL*Net release 2.0.14 at the client and the server, with release 2.0.14 Oracle TCP/IP Adapters."

- If you encountered one or more error codes or messages, the exact code numbers and message texts in the order they appeared.

- The problem severity according to the following codes:

  1 = Program not usable. Critical impact on operations.

2 = Program usable. Operations severely restricted.

3 = Program usable with limited functions. Not critical to overall operations.

4 = Problem circumvented by customer. Minimal effect, if any, on operations.

- A description of the problem, including any unusual conditions.
- You will also be expected to provide your:
    - name
    - company's name
    - company's Oracle customer support ID (CSI) number
    - phone number

Logging

This chapter describes how to control and use the log facility. It explains how to use log information to diagnose and resolve connection problems. In particular, this chapter describes:

- logging parameters
- sample log output
- the Audit Trail Utility

Note: Information in this section is generic to all operating system environments. You may require further information from the Oracle operating system–specific documentation for some details of your specific operating environment.

OS Doc

Log files automatically record connection errors for clients, servers, listeners, and Names Servers. Logging cannot be turned off for most components. In addition, the listener log file contains Audit Trail information about all connection requests and the results of Listener Control Utility commands.

Logging for the Connection Manager and pumps and the Navigator is optional; you can turn it on and off through Oracle Network Manager. The default is for logging to be off. Logging for these components includes statistical information. You can also request the Navigator to log more detailed information.

Setting the Log Parameters

Component Configuration Files

Table 2–1 shows the four configuration files that contain the log parameters for Oracle network product components.

Log Parameters Corresponding to	*Configuration File*
client	SQLNET.ORA
server	
listener	LISTENER.ORA
Interchange	INTCHG.ORA
Connection Manager and pumps	
Navigator	
Names Server	NAMES.ORA

Although there are operating system specific default names and locations for the log files, you can specify alternative names and locations if you wish. You do so using Oracle Network Manager. Each component has one or more corresponding log parameters that determine the following:

- the log file name (optional)

- the log file directory (optional)

A summary of all log parameters is provided in the tables in Chapter 3.

OS Doc

See the Oracle operating system–specific documentation for your platform to determine where these files are expected to reside and where you can find sample files.

> **Note:** The Connection Manager and Navigator log file location cannot be modified using Oracle Network Manager. Use the default location for your platform.

Format for Log Parameters

NetMan

When you use Oracle Network Manager to create or edit the log parameters, you do not need to be concerned about syntax. Use Oracle Network Manager to create or edit the log parameters for all components except the server. See Chapter 5 in *Oracle Network Manager Administrator's Guide*

> **Note:** There is usually a single SQLNET.ORA file for all the clients and servers on a node. That file would contain log parameters for both clients and servers. Generally all clients on a node will have similar logging requirements, as will all servers.

Editing Log Parameters

Use the following format information when you edit log parameters for the server in the SQLNET.ORA file. Use Network Manager or the SQLNET.ORA Editor to change log parameters for other components.

Log parameters are entered in the appropriate component configuration files in the form:

```
log_parameter_component = value
```

The *component* is one of listener name, client, server, Connection Manager, Navigator, or Names Server.

> **Note:** All log parameters except those for the listener are entered with their component's generic name (for example, navigator). Listener log parameters are entered with the name of the specific listener (for example, LISTENER2). However, the server is the only component for which you should configure log parameters manually. All other components are configured using Oracle Network Manager.

Summary of Available Log Parameters

Parameters are available to control the log filename and location for the client, the server, the listener, and the Names Server. The Connection Manager and the Navigator have these parameters, and in addition both have a parameter that controls whether logging is done.

Logging for the MultiProtocol Interchange

You can turn on logging for both the Connection Manager and the Navigator through a single entry in the Interchange property sheet in Oracle Network Manager. The Navigator has a parameter to control logging of optional information for process and audit control. The Connection Manager has a parameter to control the frequency of logging its statistics. Logging for the pumps is included in the log files for the Connection Manager.

Log Filenames

Log files produced by different components have unique names. The default filenames are:

SQLNET.LOG	Contains client and/or server information
LISTENER.LOG	Contains listener information
INTCHG.LOG	Contains Connection Manager and pump information
NAVGATR.LOG	Contains Navigator information

NAMES.LOG   Contains Names Server information

You can control the name of the log file. For each component, any valid string can be used to create a log filename. The parameters are of the form:

```
LOG_FILE_component = string
```

For example:

```
LOG_FILE_LISTENER = TEST
```

This parameter would send listener log output to a file called TEST.LOG on the server machine. On most operating systems, the *log* suffix is automatically appended to the log filename. Therefore, do not include a suffix in the log filename string.

OS Doc   Some platforms have restrictions on the properties of a filename. See your Oracle operating system-specific manuals for platform-specific restrictions.

Log File Directories   You can control the destination location of the log file for each component. The parameters are of the form:

```
LOG_DIRECTORY_component = valid directory
```

Examples are specific to different operating systems. An example on UNIX might be:

```
LOG_DIRECTORY_LISTENER = /tmp/log
```

OS Doc   Some platforms have restrictions on the properties of a directory. See your Oracle operating system-specific manuals for platform-specific restrictions.

Logging for Interchange Components   You can set parameters that determine whether or not log files are produced by the Interchange components, the Connection Manager and pumps, and the Navigator. The Navigator has a parameter to control the amount of information collected into a log file. The Connection Manager has a parameter that controls the frequency of logging. These optional parameters are part of the INTCHG.ORA file.

Turning Logging On   By default, the Interchange components do not produce log files. If you want log files to be created, use the Logging page of the Interchange property sheet in Oracle Network Manager.

A single option, Level, determines whether logging is activated for the Connection Manager and the Navigator. The choices and their consequences are as follows:

OFF	No logging for either the Connection Manager or the Navigator. This is the default.
ON	Logging is on for the Connection Manager (and pumps), but not the Navigator.
ERRORS	Logging is on for the Connection Manager (and pumps), and all errors of navigation are logged for the Navigator.
ALL	Logging is on for the Connection Manager (and pumps), and all navigation requests are logged for the Navigator.

Setting Logging Intervals for the Connection Manager

The parameter LOG_INTERVAL_CMANAGER indicates the length of the interval between logs of statistics by the Connection Manager, if logging is turned on for that component. Set this parameter using the Logging page of the Interchange property sheet in Oracle Network Manager.

Logging for Pumps

There are no separate log files generated for pumps. All pump log properties are determined by the corresponding Connection Manager parameters.

NetMan

> **Note:** See the *Oracle Network Manager Administrator's Guide* for how to set logging parameters for all the network objects.

Using Log Files

Follow these steps to track an error using a log file:

1. Browse the log file for the most recent error that matches the error number you have received from the application. This is almost always the last entry in the log file. Notice that an entry or error stack in the log file is usually many lines in length. In the example in Chapter 1, the error number was 12203.

2. Starting at the bottom, look up to the first non–zero entry in the error report. This is usually the actual cause. In the example in Chapter 1, the last non–zero entry is the "ns" error 12560.

3. Look up the first non–zero entry in later chapters of this book for its recommended cause and action. (For example, you would find the "ns" error 12560 under ORA–12560.) To understand the notation used in the error report, see the section, "Sorting Out Networking Error Messages,"in Chapter 1.

4. If that error does not provide the desired information, move up the error stack to the second to last error and so on.

5. If the cause of the error is still not clear, turn on tracing and re–execute the statement that produced the error message. The use of the trace utility is described in detail in the next chapter. Be sure to turn tracing off after you have re–executed the command.

Audit Trail

The new Audit Trail utility can be valuable to the DBA or anyone responsible for monitoring listener activity. This feature adds a block of text to the listener log file every time a connection is attempted by a client or one of the following commands is issued from the Listener Control Utility:

- start
- stop
- status
- reload
- service

This feature cannot be turned off.

Format

The Audit Trail formats the block of text into the following fields:

```
TIMESTAMP*CONNECT DATA[* PROTOCOL INFO]*EVENT [*SID]*RETURN CODE
```

Each field is delimited by an asterisk (*).

Both PROTOCOL INFO and SID appear only when a connection is attempted. Only four fields are passed in response to a listener control command.

A successful connection or command returns a code of 0. A failure produces a code that maps to an error message.

Example: Reload

Upon a reload request, a typical output to the log file would look like this:

```
10-MAY-95 14:16:21
*(CONNECT_DATA=(CID=(PROGRAM=)(HOST=roach)(USER=reltest)
(COMMAND=reload)(ARGUMENTS=64)(SERVICE=LISTENER)
(VERSION=36704256))*reload*0
```

Example: Connection Request

Upon a connection request, a typical output to the log file would look like this:

```
10-MAY-95 14:16:21*(CONNECT_DATA=(SID=reltest)(CID=
(PROGRAM=C:\ORAWIN\BIN\PLUS31.EXE)
(HOST=WINDOWSPC)(USER=CCLOW))*(ADDRESS=(PROTOCOL=tcp)
(HOST=144.25.23.246)(PORT=3366))
*establish*reltest*0
```

Notice that the user ID is recorded as well as the platform, protocol, and software used to make the connection.

Using Audit Trail Information

You can store Audit Trail information in a table and then collate it into a report format, thereby making it possible to view trends and user activity. Use an import utility like SQL*Loader to import the data into a table. The data is then available for reports and queries. For example, using the information from the Audit Trail, you may choose to allocate network expenses by user connections.

Use a script to load the client connection event information from the listener log file. To use it, you must have a database to accomodate it. Therefore, before running the script, create a table with the following structure:

```
CREATE TABLE A_TRAIL
    (TIMESTAMP VARCHAR2 (20),
    CONNECTDATA CHAR (80),
    PROTOCOL_INFO VARCHAR2 (60),
    EVENT CHAR (15),
    SID CHAR (15),
    RETURN_CODE NUMBER (2));
```

The following sample SQL*Loader script is stored as `a_trail.ctl`. It looks like this:

```
LOAD DATA
INFILE LISTENER.LOG
APPEND
INTO TABLE a_trail
```

```
FIELDS TERMINATED BY "*"
(TIMESTAMP, CONNECTDATA, PROTOCOL_INFO, EVENT, SID,
  RETURN_CODE)
```

To run the script, enter:

```
sqlldr username/password a_trail.ctl
```

Tracing

This chapter describes tracing, which can be used to examine application connections across the network. It explains how to invoke tracing and how to use trace files to diagnose and resolve problems. The chapter describes:

- how to set tracing parameters
- how to invoke tracing
- examples of tracing
- sample trace output

Note: Information in this section is generic to all operating system environments. You may require further information from the Oracle operating system–specific documentation for your platform.

OS Doc

How to Set Trace Parameters

There are several ways to set non–default tracing parameters. (For information about defaults see Tables 3–2 tthrough 3–7, and Appendix A.)

- Set non-default tracing parameters in the network definition using Oracle Network Manager.

  – Client tracing and server tracing are governed by parameters in the SQLNET.ORA file, set in the Client Profile property sheet.

  – Listener tracing is controlled by parameters in the LISTENER.ORA file, set in the Listener property sheet.

  – MultiProtocol Interchange component tracing is controlled by parameters in the INTCHG.ORA file, set in the Interchange property sheet.

  – Oracle Names tracing is controlled by parameters in the NAMES.ORA file, set in the Names Server property sheet.

  Note: If you have a self–configuring network using Oracle Names and the dynamic discovery option, you must add the trace parameters manually to the NAMES.ORA and LISTENER.ORA files.

For further information about Oracle Network Manager, see the *Oracle Network Manager Administrator's Guide.*

NetMan
- Set parameters governing server tracing in the SQLNET.ORA file using a text editor.

- For individual clients, use the SQLNET.ORA Editor, part of the Client Status Monitor. You can turn client tracing on or off and set the level of tracing using this utility. You can also set a non–default name for the trace output file and the directory in which it is stored. See the next chapter for further details.

- For other network components, use the appropriate control utility to turn tracing on and off. For example, using Oracle Network Manager you can set the listener trace level, and non–default name and location for the trace file in the LISTENER.ORA file. To turn tracing on and off, use the TRACE command of the Listener Control Utility. For the correct syntax see *Understanding SQL*Net* .

SQLNet

How to Invoke Tracing

The steps used to invoke tracing are outlined here. Each step is fully described in subsequent sections.

1. Choose the component to be traced:

   - client

   - server

   - listener

   - Connection Manager and pump (cmanager)

   - Navigator (navigator)

   - Names Server

   - Names Control Utility

   - TNSPING Utility

2. If an existing trace file from a previous trace session exists for a listener or a client and you need to retain the information in it, save that file under another name. Otherwise, the new trace file will overwrite the existing trace file. (For Interchange components and the server, the trace facility appends a process identifier to each trace file, so each one is unique.)

   For the Names Server, the trace facility appends a process identifier to each trace file only if NAMES.TRACE_UNIQUE is set to ON or TRUE in the NAMES.ORA file. For the Names Control Utility, the trace facility appends a process identifier to each trace file only if NAMESCTL.TRACE_UNIQUE is set to ON or TRUE in the SQLNET.ORA file. To ensure unique trace files, you must set NAMES.TRACE_UNIQUE to ON in NAMES.ORA, then restart the Names Server. You cannot set this from the Names Control Utility.

3. The trace facility for the listener is controlled through the Listener Control Utility. The trace facilities for the Connection Manager and pumps and for the Navigator are invoked through the Interchange Control Utility. For the listener, the LSNRCTL TRACE command can be used to set the trace level while the component is running; for Interchange components, the INTCTL TRACE_ON command does the same thing.
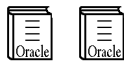
   If you use this method, steps 4 and 5 can be skipped. See *Understanding SQL*Net* and the *Oracle MultiProtocol Interchange Administrator's Guide* for specific syntax.

Intchg SQLNet

Ttacing for the Names Server and Names Control Utility itself is invoked either from NAMESCTL or by setting the parameter in the configuration file and restarting the Names Server or NAMESCTL. For the Names Server, only the NAMES.TRACE_LEVEL command can be used to set the trace level from NAMESCTL while the Names Server is running. You must set the other trace commands in the configuration file, then restart either the Names Server or NAMESCTL. For specific syntax guideline, see the *Oracle Names Administrator's Guide.*

ONames

4. For any component, you can invoke tracing by editing the component configuration file that corresponds to the component traced. The component configuration files are SQLNET.ORA, LISTENER.ORA, INTCHG.ORA, and NAMES.ORA. The trace parameters are described in the section "Summary of Trace Parameters" later in this chapter, and a summary of all trace parameters is provided in Tables 3–2 through 3–7.

5. Execute or start the component to be traced. If the trace component configuration files are modified while the component is running, the modified trace parameters will take effect the next time the component is invoked or restarted. Instructions for each component follow:

client   Set the trace parameters in the client–side SQLNET.ORA and invoke a client application, such as SQL*Plus, a Pro*C application, or any application that uses the Oracle network products. You can set or edit the trace parameters using the Client Profile property sheet in Oracle Network Manager.

server   Set the trace parameters in the server–side SQLNET.ORA. The next process started by the listener will have tracing enabled. The trace parameters must be created or edited manually.

listener   Use the Listener property sheet in Network Manager to set the trace parameters in LISTENER.ORA and start the listener from the Listener Control Utility or command line. See *Understanding SQL*Net* for specific syntax.

SQLNet

Connection   Use the Network Manager to set the trace
Manager   parameters in INTCHG.ORA and start the Connection Manager from the Interchange Control Utility or command line. The pumps are started

automatically with the Connection Manager, and their trace files are controlled by the trace parameters for the Connection Manager. For specific syntax guidelines, see the *Oracle MultiProtocol Interchange Administrator's Guide*.

Oracle
Intchg

Navigator

Oracle
Intchg

Use the Network Manager to set the trace parameters in INTCHG.ORA and start the Navigator from the Interchange Control Utility or command line. . For specific syntax guidelines, see the *Oracle MultiProtocol Interchange Administrator's Guide*.

Names Server

Oracle
ONames

Use the Network Manager to set the trace parameters in NAMES.ORA and start the Names server from the Names Control Utility or command line. For specific syntax guidelines, see the *Oracle Names Administrator's Guide*.

Names Control Utility

Oracle
ONames

Set the trace parameters in SQLNET.ORA and start the Names Control Utility from the command line. For specific syntax guidelines, see the *Oracle Names Administrator's Guide*.

6. Be sure to turn tracing off when you do not need it for a specific diagnostic purpose.

Trace Files

This section describes the configuration files that contain trace parameters and the trace output files.

The trace parameters are defined in the same configuration files as are the log parameters. Table 3 – 1 shows the configuration files for different network components and the default names of the trace files they generate.

Table 3 – 1
Trace Parameters and
Component Configuration Files

Trace Parameters Corresponding to	Configuration Files	Output Files
Client	SQLNET.ORA	SQLNET.TRC
Server		SQLNET.TRC
TNSPING Utility		TNSPING.TRC
Names Control Utility		NAMESCTL.TRC
Listener	LISTENER.ORA	LISTENER.TRC
Interchange	INTCHG.ORA	
Connection Manager		CMG.TRC
Pumps		PMP.TRC
Navigator		NAV.TRC
Names Server	NAMES.ORA	NAMES.TRC

The configuration file for each component is located on the computer running that component.

The trace characteristics for two or more components of an Interchange are controlled by different parameters in the same configuration file. For example, there are separate sets of parameters for the Connection Manager and the Navigator that determine which components will be traced, and at what level.

Similarly, if there are multiple listeners on a single computer, each listener is controlled by parameters that include the unique listener name in the LISTENER.ORA file.

For each component, the configuration files contain the following information:

- a valid trace level to be used (Default is OFF)
- the trace filename (optional)
- the trace file directory (optional)

A summary of all trace parameters is provided in Table 3 – 2 through Table 3 – 7.

OS Doc See the Oracle operating system–specific documentation for your platform to determine where these files are expected to reside and where you can find sample files.

Summary of Trace Parameters

Three common trace parameters control the level of detail of the trace, the name of the trace file, and the location of the trace file. There are defaults for all three of these parameters. If you choose the defaults, you do not need to provide any values for the trace parameters. To change the defaults, use Oracle Network Manager.

Trace Levels

You can set trace levels to provide different amounts of trace information. For each component, there are three levels:

OFF   This setting signifies that no trace output should be generated. This setting is the default.

USER   This setting is intended for database administrators or users who are administering TNS products, but do not have extensive network knowledge. The USER trace level generates only English sentences describing high-level significant networking events.

ADMIN   This setting is intended for network or database administrators with more knowledge of network terms and concepts. The ADMIN trace level generates all of the USER level statements plus additional information such as TNS addresses and detailed events.

The parameters are of the form:

```
TRACE_LEVEL_component = [OFF|USER|ADMIN]
```

For example, the following parameter, set in Oracle Network Manager, would produce trace output for the client at the administrator level:

```
TRACE_LEVEL_CLIENT = ADMIN
```

Trace Filenames

You can control the name of the trace file for each component. Any valid string can be used as a trace filename. The parameters are of the form:

```
TRACE_FILE_component = string
```

For example, the following parameter would send listener trace output to a file called TEST.TRC on the server machine:

```
TRACE_FILE_LISTENER = TEST
```

Change the default trace filename using Oracle Network Manager.

> **Note:** On most operating systems, the suffix .TRC is automatically appended to the filename you provide for the

parameter; do not include the suffix when you enter the file name in Oracle Network Manager.

Note: You cannot change the default name, PMP.TRC, of the trace file for the pump.

Note: Some platforms have restrictions on the properties of a filename. See your Oracle operating system–specific manuals for platform specific restrictions.

OS Doc

Trace File Directories   You can control the destination directory of the trace file for each component, except the Connection Manager and Navigator, through Oracle Network Manager.

Examples are specific to different operating systems. An example on a UNIX system might be:

```
TRACE_DIRECTORY_LISTENER = /tmp/trace
```

Note: Some platforms have restrictions on the properties of a directory name. See your Oracle operating system–specific manuals for platform specific restrictions.

OS Doc

Unique Trace Files for Clients   Normally, when a new trace file is created for a client, it overwrites any existing trace file for that component. If you want to save an existing trace file, you must change its name before running the trace facility again. However, if the TRACE_UNIQUE_CLIENT parameter is set to ON, the trace facility appends a process identifier to the name of each trace file generated so that several can coexist. The format of the appended process identifier is platform specific. The default is OFF.

Note: Trace files are usually very large. If this parameter is set to ON, the number of large trace files created could interfere with the available disk space on your machine. Therefore, turn this parameter on only for specific reasons and delete the resulting files when they are no longer useful.

Unique Trace Files for Servers and Interchange Components   When tracing is turned on for servers or Interchange components, the trace files generated automatically have process identifiers attached, so that new trace files do not overwrite existing ones. There is no parameter needed to control this feature. Be careful not to let too many trace files accumulate, however, as they are usually quite large.

Note: This feature is not implemented on all operating systems. See the Oracle operating system–specific documentation for your platform for further information.

OS Doc

Unique Trace Files for Names Servers   When tracing is turned on to trace a Names Server, by default the trace files generated have process identifiers attached, so that new trace files

do not overwrite existing ones. Be careful not to let too many trace files accumulate, however, as they are usually quite large. You can turn this feature off using Oracle Network Manager.

OS Doc

Note: This feature is not implemented on all operating systems. See the Oracle operating system–specific documentation for your platform for further information.

Unique Trace Files for Names Control Utility

When tracing is turned on to trace the Names Control Utility itself, the trace files generated have process identifiers attached, so that new trace files do not overwrite existing ones. This feature is controlled by the NAMESCTL.TRACE_UNIQUE parameter. Be careful not to let too many trace files accumulate, however, as they are usually quite large.

OS Doc

Note: This feature is not implemented on all operating systems. See the Oracle operating system–specific documentation for your platform for further information.

Tracing the TNSPING Utility

You can manually add the following two tracing parameters to SQLNET.ORA to perform tracing on the TNSPING utility:

```
TNSPING.TRACE_LEVEL
TNSPING.TRACE_DIRECTORY
```

Valid SQLNET.ORA Diagnostic Parameters

The SQLNET.ORA file may contain optional parameters to control logging and tracing of clients and servers, and optional parameters for tracing the NAMESCTL utility and the TNSPING utility.

Parameters for Clients and Servers

The following table shows the valid SQLNET.ORA parameters used in logging and tracing of SQL*Net version 2 clients and servers. A more detailed description of each parameter is available in Appendix A, "Trace and Log Parameter Reference".

Table 3 – 2 SQLNET.ORA
Diagnostic Parameters

Parameters	Default	Values	Example (DOS client, UNIX server)
TRACE_LEVEL_CLIENT	OFF	[OFF | USER | ADMIN]	TRACE_LEVEL_CLIENT=USER
TRACE_FILE_CLIENT	SQLNET.TRC	string	TRACE_FILE_CLIENT=CLIENT
TRACE_DIRECTORY_CLI-ENT	O/S specific	valid directory	TRACE_DIRECTORY_CLIENT= c:\NET\ADMIN
TRACE_UNIQUE_CLIENT	OFF	[ON|OFF]	TRACE_UNIQUE_CLIENT=ON
LOG_FILE_CLIENT	SQLNET.LOG	string	LOG_FILE_CLIENT=CLIENT
LOG_DIRECTORY_CLIENT	O/S specific	valid directory	LOG_DIRECTORY_CLIENT=c:\NET\ADMIN
TRACE_LEVEL_SERVER	OFF	[OFF | USER | ADMIN]	TRACE_LEVEL_SERVER=ADMIN
TRACE_FILE_SERVER	SQLNET.TRC	string	TRACE_FILE_SERVER=unixsrv_2345.trc
TRACE_DIRECTORY_SERV-ER	O/S specific	valid directory	TRACE_DIRECTORY_SERVER=/tmp/trace
LOG_FILE_SERVER	SQLNET.LOG	string	LOG_FILE_SERVER=unixsrv.log
LOG_DIRECTORY_SERVER	O/S specific	valid directory	LOG_DIRECTORY_SERVER=/tmp/trace

Note: You control both log and trace parameters for the client through Oracle Network Manager. You can also control trace parameters for the client through the SQLNET.ORA Editor. You control log and trace parameters for the server by manually adding the desired parameters to the SQLNET.ORA file.

For more information about the SQLNET.ORA Editor, see Chapter 4.

Parameters for Names Control Utility

The following table shows the valid SQLNET.ORA parameters used in tracing the Names Control Utility. A more detailed description of each parameter is available in Appendix A, "Trace and Log Parameter Reference".

Note: You must add these parameters manually to the SQLNET.ORA file. You cannot create them using Oracle Network Manager.

Table 3 – 3 NAMESCTL Utility
Diagnostic Parameters

Parameters	Default	Values	Example (UNIX server)
NAMESCTL.TRACE_LEVEL	OFF	[OFF | USER | ADMIN]	NAMESCTL.TRACE_LEVEL=user
NAMESCTL.TRACE_FILE	namesctl.trc	file	NAMESCTL.TRACE_FILE=nc_south.trc

NAMESCTL.TRACE_DIRECTORY	O/S specific	directory	NAMESCTL.TRACE_DIRECTORY= /oracle7/network/trace
NAMESCTL.TRACE_UNIQUE	FALSE	TRUE/FALSE or ON/OFF	NAMESCTL.TRACE_UNIQUE=TRUE

Parameters for TNSPING

If you want to trace the TNSPING utility, you can add these parameters to SQLNET.ORA.

> **Note:** You can add these parameters to the SQLNET.ORA file using the SQLNET.ORA Editor. You cannot create them using Oracle Network Manager.

> For more information about the SQLNET.ORA Editor, see Chapter 4.

Table 3 – 4 TNSPING Diagnostic Parameters

Parameters	*Default*	*Values*	*Example (UNIX server)*
TNSPING.TRACE_LEVEL	OFF	[OFF	USER	ADMIN]	TNSPING.TRACE_LEVEL=user
TNSPING.TRACE_DIRECTORY	O/S specific	directory	TNSPING.TRACE_DIRECTORY= /oracle7/network/trace

Valid LISTENER.ORA Diagnostic Parameters

The following table shows the valid LISTENER.ORA parameters used in logging and tracing of the listener. A more detailed description of each parameter is available in Appendix A, "Trace and Log Parameter Reference".

Table 3 – 5 LISTENER.ORA Diagnostic Parameters

Parameters	*Default*	*Values*	*Example (VMS)*
TRACE_LEVEL_LISTENER	OFF	[OFF	USER	ADMIN]	TRACE_LEVEL_LISTENER=OFF
TRACE_FILE_LISTENER	LISTENER.TRC	string	TRACE_FILE_LISTENER=LISTENER
TRACE_DIRECTORY_LISTEN-ER	O/S specific	valid directory	TRACE_DIRECTORY_LISTENER= $ORA_SQLNETV2
LOG_FILE_LISTENER	LISTEN-ER.LOG	string	LOG_FILE_LISTENER=LISTENER
LOG_DIRECTORY_LISTENER	O/S specific	valid directory	LOG_DIRECTORY_LISTENER=$ORA_ ERRORS

Valid INTCHG.ORA Diagnostic Parameters

The following table shows the valid INTCHG.ORA parameters used in logging and tracing of the Interchange. A more detailed description of each parameter is available in Appendix A, ''Trace and Log Parameter Reference''.

Table 3 – 6 INTCHG.ORA Diagnostic Parameters

Parameters	Default	Values	Example (OS/2 Interchange)
TRACE_LEVEL_CMANAGER	OFF	[OFF	USER	ADMIN]	TRACE_LEVEL_CMANAGER=USER
TRACE_FILE_CMANAGER	CMG.TRC	string	TRACE_FILE_CMANAGER= CMANAGER
TRACE_DIRECTORY_CMANAGER	O/S specific	valid directory	TRACE_DIRECTORY_CMANAGER= C:\ADMIN
LOG_FILE_CMANAGER	INTCHG.LOG	string	LOG_FILE_CMANAGER=CMANAGER
LOG_DIRECTORY_CMANAGER	O/S specific	valid directory	LOG_DIRECTORY_CMANAGER= C:\ADMIN
LOGGING_CMANAGER	OFF	OFF	ON	LOGGING_CMANAGER=OFF
LOG_INTERVAL_CMANAGER	60 minutes	Any number of minutes	LOG_INTERVAL_CMANAGER=60
TRACE_LEVEL_NAVIGATOR	OFF	[OFF	USER	ADMIN]	TRACE_LEVEL_NAVIGATOR=ADMIN
TRACE_FILE_NAVIGATOR	NAV.TRC	string	TRACE_FILE_NAVIGATOR= NAVIGATOR
TRACE_DIRECTORY_NAVIGATOR	O/S specific	valid directory	TRACE_DIRECTORY_NAVIGATOR= C:\ADMIN
LOG_FILE_NAVIGATOR	NAVGATR.LOG	string	LOG_FILE_NAVIGATOR=NAVIGATOR
LOG_DIRECTORY_NAVIGATOR	O/S specific	valid directory	LOG_DIRECTORY_NAVIGATOR= C:\ADMIN
LOGGING_NAVIGATOR	OFF	OFF	ON	LOGGING_NAVIGATOR=OFF
LOG_LEVEL_NAVIGATOR	ERRORS	ERRORS	ALL	LOG_LEVEL_NAVIGATOR=ERRORS

Valid NAMES.ORA Diagnostic Parameters

The following table shows the valid NAMES.ORA parameters used in logging and tracing of the Names Server. A more detailed description of each parameter is available in Appendix A, "Trace and Log Parameter Reference".

Table 3 – 7 NAMES.ORA Diagnostic Parameters

Parameters	*Default*	*Values*	*Example (UNIX server)*
NAMES.TRACE_LEVEL	OFF	[OFF | USER | ADMIN]	NAMES.TRACE_LEVEL=ADMIN
NAMES.TRACE_FILE	names.trc	file	NAMES.TRACE_FILE=nsrv3.trc
NAMES.TRACE_DIRECTORY	O/S specific	directory	NAMES.TRACE_DIRECTO-RY=/oracle7/network/trace
NAMES.TRACE_UNIQUE	FALSE	TRUE/FALSE or ON/OFF	NAMES.TRACE_UNIQUE=TRUE
NAMES.LOG_FILE	names.log	file	NAMES.LOG_FILE=nsrv1.log
NAMES.LOG_DIRECTORY	O/S specific	directory	NAMES.LOG_DIRECTORY= /oracle7/network/log

Examples of Tracing

This section contains several examples of tracing possibilities. For each example the entries in the configuration files are shown with the relative locations of the trace configuration and files. The following trace options are demonstrated:

- tracing a client
- tracing a listener
- tracing a server
- tracing both the server and listener
- tracing the Connection Manager and pump
- tracing the Navigator
- tracing the Connection Manager, pump, and Navigator

Example 1: Tracing a Client

Figure 3 – 1 shows a trace invoked by a client on a Microsoft Windows machine. The client trace parameters are determined by the SQLNET.ORA file, and the trace output is generated to the CLIENT.TRC file on the client machine.

SQLNET.ORA

(Specify CLIENT Parameters)

Client   TNS Community   Server & Listener

(Client Trace Output)

CLIENT.TRC
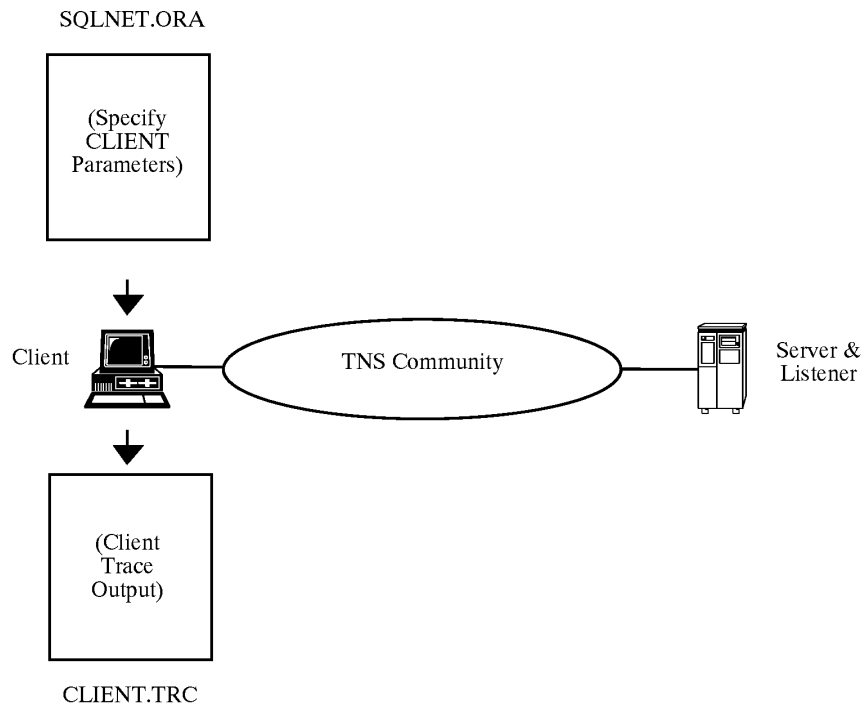
Figure 3 – 1 Tracing the Client

In Oracle Network Manager, on the Tracing page of the Client Profile property sheet, Trace Level is set to USER, Trace File to CLIENT, and Trace Directory to C:\trace. The SQLNET.ORA would therefore contain the following entries:

```
TRACE_LEVEL_CLIENT = USER
TRACE_FILE_CLIENT = CLIENT
TRACE_DIRECTORY_CLIENT = C:\TRACE
```

The first line sets the trace level, the second determines the name of the trace file, and the third indicates the location of the trace file.

Example 2: Tracing a Listener

Figure 3 – 2 shows an example of a listener trace on a computer running the UNIX operating system.

LISTENER.ORA

(Specify
LISTENER
Parameters)

Client

TNS Community

Server &
Listener

(Listener
Trace
Output)
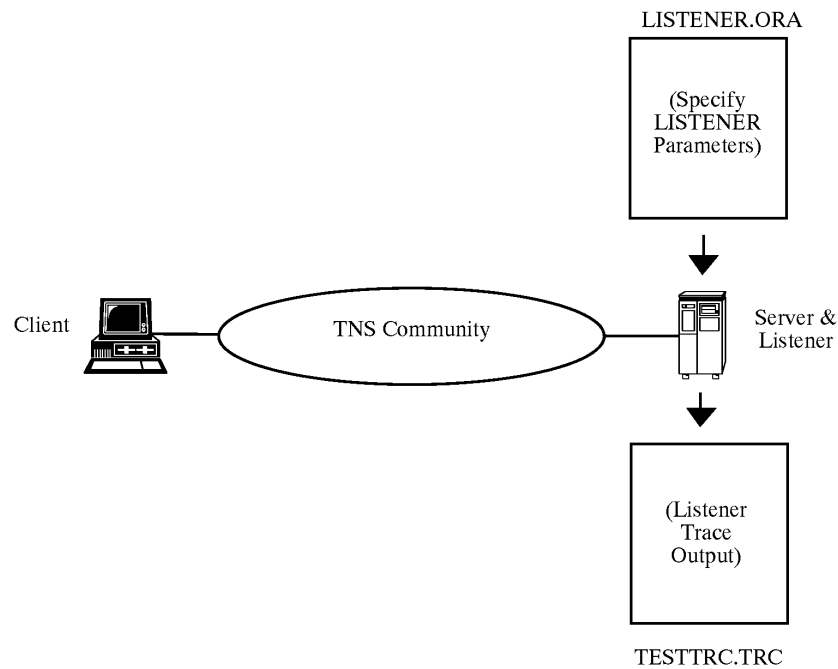
TESTTRC.TRC

Figure 3 – 2 Tracing the Listener

To activate this tracing, on the Tracing page of the Listener property sheet in Oracle Network Manager, set Trace Level to ADMIN and Trace File to TESTTRC. The listener parameter file LISTENER.ORA that invokes trace for the listener would then include the following lines:

```
TRACE_LEVEL_LISTENER = ADMIN
TRACE_FILE_LISTENER = TESTTRC
```

In this example, the trace would occur at the ADMIN level and the resulting trace information would be written to the TESTTRC.TRC file in the default trace file location for that platform. For example:

```
$ORACLE_HOME/network/trace/TESTTRC.trc
```

Example 3: Tracing a Server

NO TAG shows an example of a server trace on a VMS machine.

SQLNET.ORA

(Specify
SERVER
Parameters)

Client

TNS Community

Server &
Listener

(Server
Trace
Output)

TESTTRC.*pid*.TRC
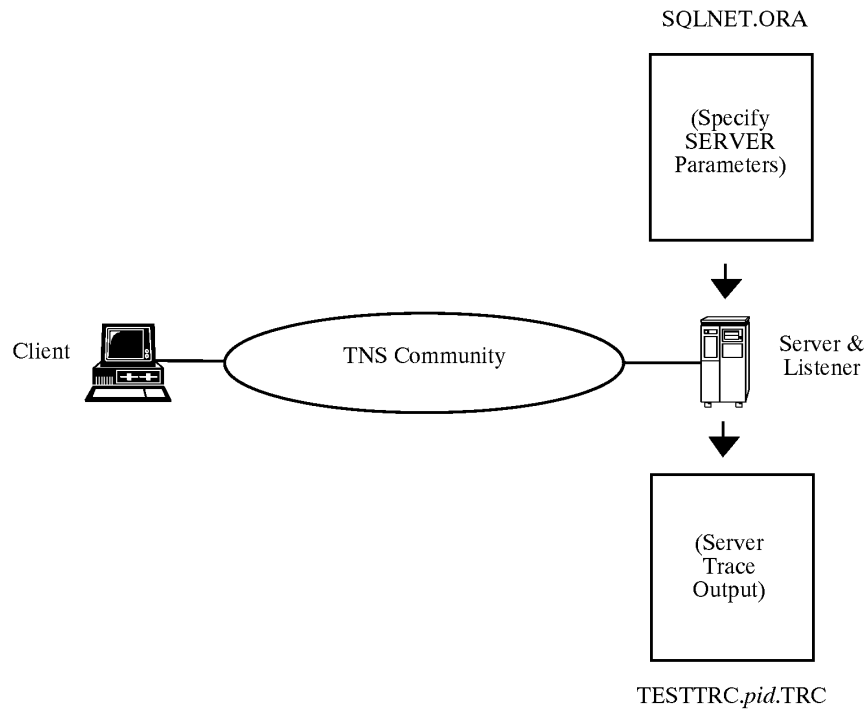
Figure 3 – 3 Tracing the Server

To set tracing for the server, you must manually edit the SQLNET.ORA file. In this example, the server's SQLNET.ORA file would include the following lines:

```
TRACE_LEVEL_SERVER = ADMIN
TRACE_FILE_SERVER = SERVER
```

The resulting trace file would be:

```
ORA_RDBMS:[NETWORK.TRACE]SERVER_44A17BEA.TRC
```

Note that the server's process identifier, in hexadecimal notation, is included in the trace filename.

**Example 4: Tracing
Both the Server and the
Listener**

Figure 3 – 4 shows the configuration parameters used to produce trace files for both the server and listener on a VMS machine.

LISTENER.ORA   SQLNET.ORA

(Specify
LISTENER
Parameters)

(Specify
SERVER
Parameters)

Client   TNS Community   Server &
Listener

(Listener
Trace
Output)

(Server
Trace
Output)

TNSL.SNR.TRC   SERVER_*pid*.TRC
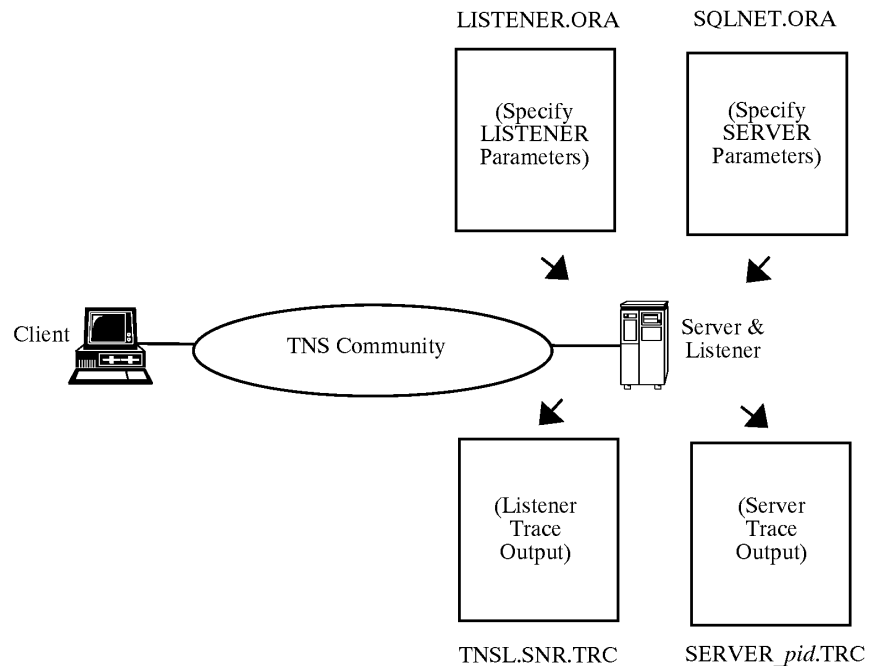
Figure 3 – 4   Tracing the Server and Listener

Since the server and the listener use separate configuration files, you must use two different files to invoke tracing for both the server and the listener. Parameters in the server's SQLNET.ORA file, which you must set using a text editor, would be:

```
# SERVER Trace Parameters
TRACE_LEVEL_SERVER = ADMIN
TRACE_FILE_SERVER = SERVER
```

Trace parameters in the server's LISTENER.ORA file (set using Oracle Network Manager) would be:

```
# TNS Listener Trace Parameters
TRACE_LEVEL_LISTENER = ADMIN
TRACE_FILE_LISTENER = TNSLSNR
```

The resulting trace filenames and directories would be:

```
ORA_RDBMS:[NETWORK.TRACE]SERVER_44A17BEA.TRC
ORA_RDBMS:[NETWORK.TRACE]TNSLSNR.TRC
```

Example 5: Tracing the Connection Manager and Pump

Figure 3 – 5 shows the configuration file used when tracing the Connection Manager and pump components of the MultiProtocol Interchange on a machine running OS/2.
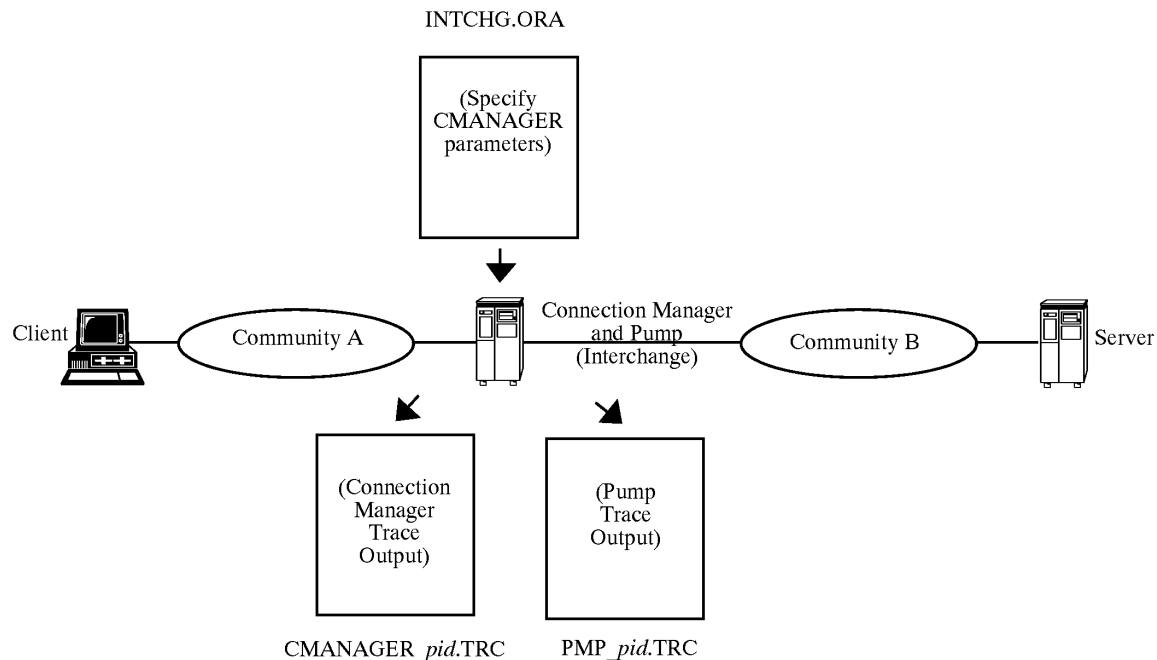
INTCHG.ORA

Figure 3 – 5 Tracing the Connection Manager and Pump

On the Connection Tracing page of the Interchange property sheet in Oracle Network Manager, Trace Level is set to ADMIN and Trace File is designated as CMNGR. The INTCHG.ORA configuration file therefore includes the following lines:

```
TRACE_LEVEL_CMANAGER = ADMIN
TRACE_FILE_CMANAGER = CMNGR
```

These parameters specify tracing for the Connection Manager and pump components of the Interchange at the administrator level, and a non–default name for the Connection Manager trace file.

> **Note:** The pump component shares the trace parameters of the Connection Manager, but it generates a separate trace file with the unchangeable default name PMP*pid*.TRC.

Based on these parameters, the trace files generated would be:

```
C:\ORAOS2\NETWORK\TRACE\PMP2A.TRC
C:\ORAOS2\NETWORK\TRACE\CMNGR7B.TRC
```

Note that the trace filenames include process identifiers in hexadecimal notation.

Example 6: Tracing the Navigator

Figure 3 – 6 shows the configuration file used and the resulting trace file generated for a Navigator on a system running UNIX.
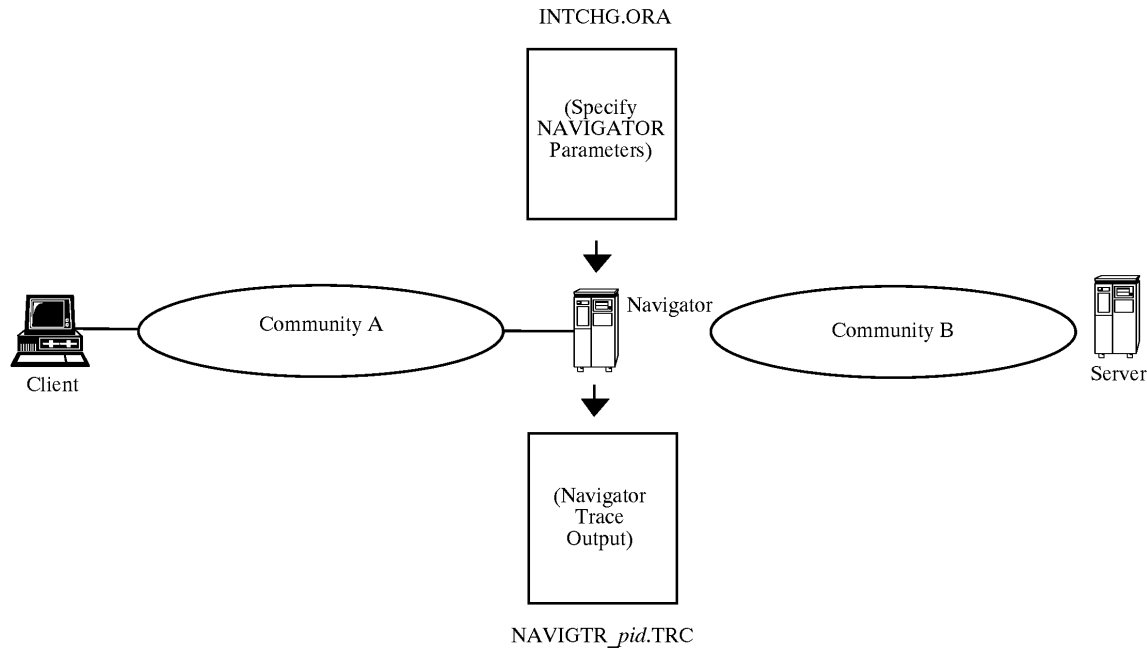
INTCHG.ORA

Figure 3 – 6 Tracing the Navigator

On the Navigation Tracing page of the Interchange property sheet in Oracle Network Manager, Trace Level is set to ADMIN, Trace File is set to NAVIGTR, and Trace Directory to /tmp/trace. The INTCHG.ORA component configuration file therefore contains the following lines:

```
# Navigator Trace Parameters
TRACE_LEVEL_NAVIGATOR = ADMIN
TRACE_FILE_NAVIGATOR = NAVIGTR
TRACE_DIRECTORY_NAVIGATOR=/tmp/trace
```

These parameters indicate that the Navigator is to be traced at the administrator level with a trace file named NAVIGTR_*pid*.TRC to be located in /tmp/trace; for example:

```
 /tmp/trace/NAVIGTR_9453.TRC
```

Example 7: Tracing the Connection Manager, Pump, and Navigator

Figure 3 – 7 shows the configuration file used when tracing the Connection Manager, pump, and Navigator, and the trace files that are generated.

INTCHG.ORA

(Specify CMANAGER and NAVIGATOR parameters)

Community A

Client

Interchange

Community B

Server

(Connection Manager Trace Output)

(Pump Trace Output)

(Navigator Trace Output)

CMG_*pid*.TRC   PMP_*pid*.TRC   NAVIGTR_*pid*.TRC
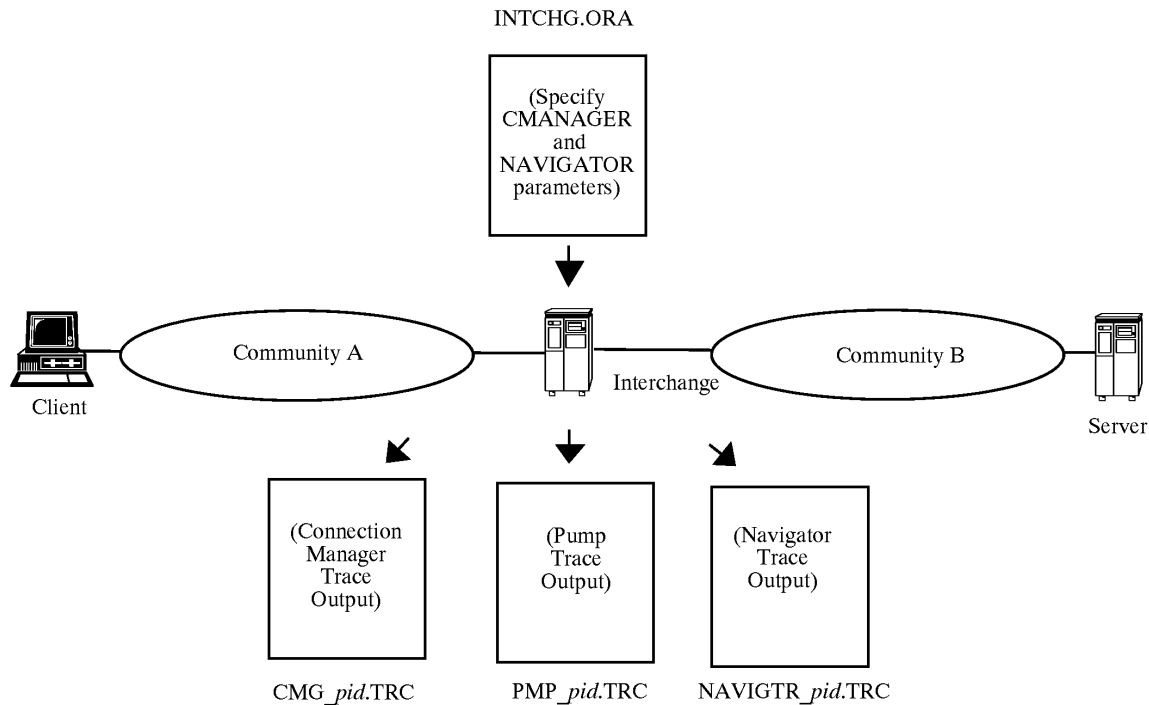
Figure 3 – 7 Tracing All Components of an Interchange

The trace parameters are set in the tracing pages of the Interchange property sheet in Oracle Network Manager. On the Connection Tracing page, Trace Level is set to ADMIN. On the Navigation Tracing page, Trace Level is set to ADMIN and Trace File is set to NAVIGTR.

The INTCHG.ORA configuration file therefore includes the following lines:

```
# Interchange Connection Manager Parameters
# Use default name of CMG.TRC for trace file
# Pump trace is controlled by Connection Manager parameters
TRACE_LEVEL_CMANAGER = ADMIN
#
# Navigator Trace Parameters
TRACE_LEVEL_NAVIGATOR = ADMIN
TRACE_FILE_NAVIGATOR = NAVIGTR
```

These parameters specify the Connection Manager, pump, and Navigator to be traced at the administrator level. The Connection Manager trace file will use the default filename, but the Navigator trace file will be created with a specified name. Note that no TRACE_LEVEL parameter is specified for the pump, because the pump shares the TRACE_LEVEL parameter with the Connection Manager; the pump's trace filename cannot be changed.

Example of a Trace File

In the following example, the SQLNET.ORA file includes the following line:

```
TRACE_LEVEL_CLIENT = ADMIN
```

The following trace file is the result of a connection attempt that failed because the hostname is invalid.

The trace output is a combination of debugging aids for Oracle specialists and English information for network administrators. Several key events can be seen by analyzing this output from beginning to end:

- The client describes the outgoing data in the connect descriptor used to contact the server.

- An event is received (connection request).

- A connection is established over the available transport (in this case TCP/IP).

- The connection is refused by the application, which is the listener.

- The trace file shows the problem, as follows:
  ```
  -<FATAL?>-  *** hostname lookup failure! ***
  ```

- Error 12545 is reported back to the client.

If you look up Error 12545 in Chapter 6 of this guide, you will find the following description:

ORA–12545   TNS:Name lookup failure

Cause   A protocol specific ADDRESS parameter cannot be resolved.

Action   Ensure the ADDRESS parameters have been entered correctly; the most likely incorrect value is the node name.

Sample Trace File   The following trace file has been annotated to make it easier to understand:

```
--- TRACE CONFIGURATION INFORMATION FOLLOWS ---
New trace stream is "/private1/oracle/trace_admin.trc"
New trace level is 6
--- TRACE CONFIGURATION INFORMATION ENDS ---


--- PARAMETER SOURCE INFORMATION FOLLOWS ---
Attempted load of system pfile source
/private1/oracle/network/admin/sqlnet.ora
Parameter source was not loaded
Error stack follows:
NL-00405: cannot open parameter file

Attempted load of local pfile source /home/ginger/.sqlnet.ora
Parameter source loaded successfully

 -> PARAMETER TABLE LOAD RESULTS FOLLOW <-
Some parameters may not have been loaded
See dump for parameters which loaded OK
 -> PARAMETER TABLE HAS THE FOLLOWING CONTENTS <-
  TRACE_DIRECTORY_CLIENT = /private1/oracle
  trace_level_client = ADMIN
  TRACE_FILE_CLIENT = trace_admin
--- PARAMETER SOURCE INFORMATION ENDS ---


--- LOG CONFIGURATION INFORMATION FOLLOWS ---
Attempted open of log stream "/private1/oracle/sqlnet.log"
Successful stream open
--- LOG CONFIGURATION INFORMATION ENDS ---


Unable to get data from navigation file tnsnav.ora
local names file is /home/ginger/.tnsnames.ora
system names file is /etc/tnsnames.ora
initial retry timeout for all servers is 500 csecs
max request retries per server is 2
default zone is [root]
Using nncin2a() to build connect descriptor for (possibly remote)
database.
initial load of /home/ginger/.tnsnames.ora
-<ERROR>- failure, error stack follows
-<ERROR>- NL-00405: cannot open parameter file
-<ERROR>-   NOTE: FILE CONTAINS ERRORS, SOME NAMES MAY BE MISSING

initial load of /etc/tnsnames.ora
-<ERROR>- failure, error stack follows
-<ERROR>- NL-00427: bad list
-<ERROR>-   NOTE: FILE CONTAINS ERRORS, SOME NAMES MAY BE MISSING
```

Loading parameter files {

Reading parameter files {

```
                        Inserting IPC address into connect descriptor returned from
                        nncin2a().
                        Calling address:
                        (DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)
                         (USER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=ipc
                         (KEY=bad_host))(ADDRESS=(PROTOCOL=tcp)(HOST=lavender)
                         (PORT=1521))))
                        Getting local community information
                        Looking for local addresses setup by nrigla
Looking for routing information    No addresses in the preferred address list
                        TNSNAV.ORA is not present. No local communities entry.
                        Getting local address information
                        Address list being processed...
                        No community information so all addresses are "local"
                        Resolving address to use to call destination or next hop
                        Processing address list...
                        No community entries so iterate over address list
                        This a local community access
                        Got routable address information
                        Making call with following address information:
                        (DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=ipc)(KEY=bad_host)))
                        Calling with outgoing connect data
                        (DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)
                         (USER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=tcp)
                         (HOST=lavender)(PORT=1521))))
                        (DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=ipc)(KEY=bad_host)))
Calling first address    KEY = bad_host
            (IPC)       connecting...
                        opening transport...
                        -<ERROR>- sd=8, op=1, resnt[0]=511, resnt[1]=2, resnt[2]=0
                        -<ERROR>- unable to open transport
                        -<ERROR>- nsres: id=0, op=1, ns=12541, ns2=12560; nt[0]=511,
                        nt[1]=2, nt[2]=0
                        connect attempt failed
                        Call failed...
                        Call made to destination
                        Processing address list so continuing
                        Getting local community information
                        Looking for local addresses setup by nrigla
                        No addresses in the preferred address list
                        TNSNAV.ORA is not present. No local communities entry.
                        Getting local address information
                        Address list being processed...
Looking for routing information    No community information so all addresses are "local"
                        Resolving address to use to call destination or next hop
                        Processing address list...
                        No community entries so iterate over address list
                        This a local community access
```

```
                        Got routable address information


                        Making call with following address information:
                        (DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=tcp)
                         (HOST=lavender)(PORT=1521)))
                        Calling with outgoing connect data
                        (DESCRIPTION=(CONNECT_DATA=(SID=trace)(CID=(PROGRAM=)(HOST=lala)
                         (USER=ginger)))(ADDRESS_LIST=(ADDRESS=(PROTOCOL=tcp)
                         (HOST=lavender)(PORT=1521))))
                        (DESCRIPTION=(EMPTY=0)(ADDRESS=(PROTOCOL=tcp)
                         (HOST=lavender)(PORT=1521)))
                        port resolved to 1521
                        looking up IP addr for host: lavender
```

Calling second address (TCP/IP)

```
                        -<FATAL?>-  *** hostname lookup failure! ***


                        -<ERROR>- nsres: id=0, op=13, ns=12545, ns2=12560; nt[0]=515,
                        nt[1]=0, nt[2]=0
                        Call failed...
                        Exiting NRICALL with following termination result -1
                        -<ERROR>-  error from nricall
                        -<ERROR>-    nr err code: 12206
                        -<ERROR>-    ns main err code: 12545
                        -<ERROR>-    ns (2)  err code: 12560
                        -<ERROR>-    nt main err code: 515
                        -<ERROR>-    nt (2)  err code: 0
                        -<ERROR>-    nt OS   err code: 0
                        -<ERROR>- Couldn't connect, returning 12545
```

Most tracing is very similar to this. If you have a basic understanding of the events the components perform, you can identify the probable cause of an error in the text of the trace.

> **Note:** Customers who have a beta version of the new Oracle Trace product installed on a Solaris or Sequent machine will see additional files in the trace directory beside the standard .TRC files. These .CDF and .DAT files are created by Oracle Trace. They are in an encoded binary format and are not readable without Oracle Enterprise Manager, which is not yet released. To save disk space, these files should be removed.

4

Client Status Monitor

The Client Status Monitor is a useful tool to tell you about the configuration of the client machine. The Client Status Monitor has two main functions:

- to provide troubleshooting information

  If you run into any problems making connections to Oracle services from your client, you can use the Client Status Monitor to give you information to troubleshoot the problem.

  The Client Status Monitor can generate a form suitable for faxing to Oracle Customer Support. It includes all the information about your client that the Client Status Monitor displays.

- to provide access to the SQLNET.ORA Editor

  The Client Status Monitor gives you access to the SQLNET.ORA Editor, a tool that enables you to edit selected optional parameters in the SQLNET.ORA file for your client.

Providing Troubleshooting Information

Connection problems may be caused by a number of things. Perhaps a needed Oracle product is not installed. Perhaps the necessary configuration files are missing, or are not in the correct directories. Perhaps your environment variables are incorrectly set. You can choose to look at the following aspects of your environment:

- environment Information (not available in MS Windows version of Client Status Monitor)

    - installed Oracle products

    - paths and names of all SQL*Net configuration files

    - environment variables

- general SQL*Net properties

    General properties include what version of SQL*Net (TNS) you are running, and the names and paths of some critical files. The level of tracing currently turned on is also shown. You can change the trace level by editing the SQLNET.ORA file.

- Protocol Adapters available

    Client–server connections are made using SQL*Net over a transport layer protocol. A protocol adapter is needed as an interface between the protocol and SQL*Net. The Client Status Monitor enables you to see what protocol adapters are available.

- Secure Network Services installed and selected

    Secure Network Services enables several encryption, checksumming, and authentication services. The Client Status Monitor enables you to see what security services are installed and selected on the client.

- name resolution services installed and their priority

    There are several different ways that a service's name can be resolved to its network address. You can see what name–address resolution alternatives are available to the client, and also see in what order they are used.

- service name resolution

    The Client Status Monitor enables you to see the address of the service name you are trying to reach. It also enables you to attempt a connection to that service and to trace the connection attempt.

Contacting Oracle Customer Support

The Client Status Monitor includes a form suitable for faxing to Oracle Customer Support. If you cannot resolve your problem yourself, the fax report form provides information generated by the Client Status Monitor in a convenient format to send to Oracle Customer Support. Sending the fax report form can speed the resolution of your problem by providing answers to many of the support analyst's questions before they are even asked.

Editing Individual SQLNET.ORA Files

The Client Status Monitor enables you to access the SQLNET.ORA Editor to change some of the optional parameters in the SQLNET.ORA file. You might want to do this to change the trace level or the name and location of the trace file, to change the TNSPING trace level, or to make other changes. The Client Status Monitor's SQLNET.ORA Editor is an efficient way to make changes that affect only the individual client in whose SQLNET.ORA file the changes are made.

> **Note:** There may be more than one SQLNET.ORA file available, a system-level and a user-level file. If both are available, the values for the variables in the user-level file take priority over those in the system-level file.

How to Run the Client Status Monitor

OS Doc

The Client Status Monitor is installed on every client as part of SQL*Net release 2.3. The details of the installation may vary from platform to platform. For further information, see the Oracle operating system-specific manual for your platform.

On most machines, start the Client Status Monitor by entering the following at the command line of your client machine:

```
csm
```

On clients running MS Windows, start the Client Status Monitor by double–clicking on the Client Status Monitor icon.

The Client Status Monitor can be run in command line mode or with a graphical user interface. There is one graphical user interface available for UNIX workstations and another for machines running MS Windows. These interfaces offer similar functionality, but their organization is slightly different.

The rest of this chapter describes the Client Status Monitor from the point of view of each of the three interfaces:

- graphical mode for UNIX
- graphical mode for MS Windows
- command line mode

Graphical Mode for UNIX

You can reach all the features of the Client Status Monitor through the main window.

Main Window

In graphical mode, the main window of the Client Status Monitor looks like that shown in Figure 4 – 1. From this window you can select the information or operations you wish.
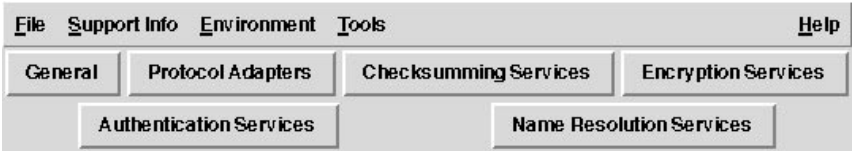
Figure 4 – 1 Client Status Monitor – Main Window

Most of the windows display information about your system and are read–only.

Getting Help

Select the Help menu to get help at any time. From this menu you can choose to display the man page for the Client Status Monitor, or you can bring up the Help page. The Help page can stay open on your screen while you are using the Client Status Monitor, and it includes hypertext links that make it easy to find information about the various functions of the tool.

Client Status Monitor Menu Bar

The following sections describe the choices in the Client Status Monitor Menu Bar.

File Menu

There are two choices in this menu.

- **Print Report** — You can choose to print a page to fax to Oracle Customer Support that will assist the support analysts in helping you solve your connectivity problems. The Fax Report includes several categories of information about your system. You can see the information displayed by selecting the other menu items in the Status Monitor Window.

  Note: Before printing the Fax Report to send to Oracle Customer Support, be sure that the Support Information has been entered.

- **Quit** — You can choose to close the Client Status Monitor by choosing Quit.

Support Info Menu

From this menu, you can display an editable window called CSI Editor (Customer Support Information Editor). Use this window to provide identifying information to give to Oracle Customer Support. An example is shown in Figure 4 – 2. In most cases, the system administrator who installs SQL*Net on the client machine will have provided this information. If no information appears in this window, your system administrator should be able to provide it.

Figure 4 – 2 Identifying Information for Oracle Customer Support

Enter the following information in the appropriate fields.

From	Name of person at your location who is the liaison with Oracle Customer Support
Phone	Phone number of the person at your location who is the liaison with Oracle Customer Support
Fax Number	Fax number of the person at your location who is the liaison with Oracle Customer Support
Customer Support ID	Identifying number that authorizes you to get help from Oracle Customer Support
Subject	Optional field in which to explain the problem
Comment	Optional field for additional information

To save the information in this window, select OK.

To print the Fax Report, which includes the information in this window as well as all the client information from the Client Status Monitor, select Print Report.

To cancel your entries on this window, select Cancel.

Environment Menu

This menu enables you to display information about your environment. All the windows you can select are read–only and cannot be edited.

- Installed Products

  Displays a list of all installed Oracle products on this machine. Figure 4 – 3 shows an example. Note that you can scroll this window to see the complete list of installed products.
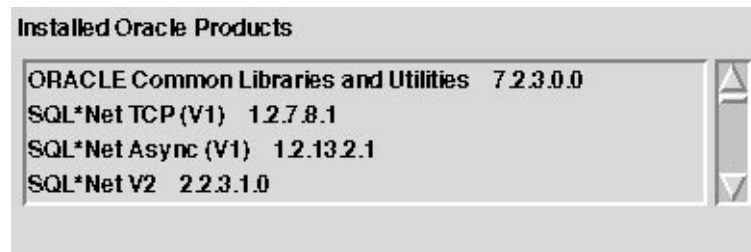
Figure 4 – 3 Installed Products Window

- SQL*Net Configuration Files

  Displays the paths of all the SQL*Net configuration files on the client machine. Figure 4 – 4 shows an example of this window.
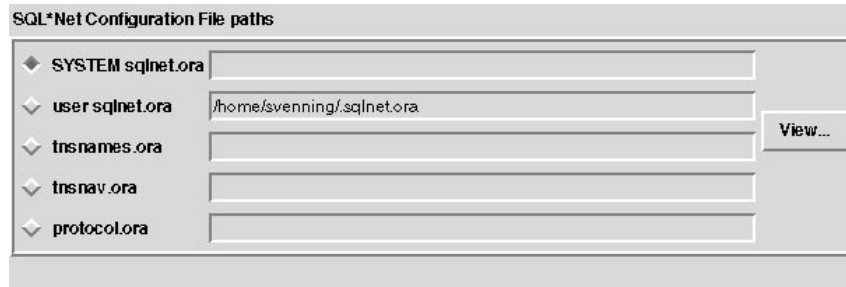
Figure 4 – 4 SQL*Net Configuration Files

  Select one of the files and select View to display it. In this window, select the Print button to print the file to your default printer. Select OK to close the window.

- UNIX Variables

  Displays the environment variables for your operating system. Figure 4 – 5 shows an example.
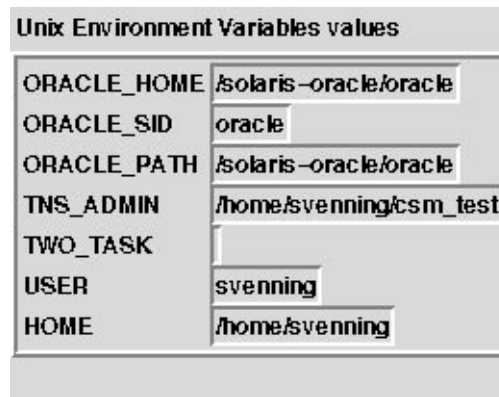
Figure 4 – 5 Environmental Variables

Tools Menu

From this menu you can choose to resolve a service name and test a connection from the client to a server, and you can edit either the user-level or the system-level SQLNET.ORA file. The values for the parameters in the user SQLNET.ORA file override the values in the

system SQLNET.ORA file. Note that you may not have write permission for the system-level SQLNET.ORA file.

Test Connection   Select this choice to display a window in which you can resolve a service name to its network address, and from which you can attempt a connection to that service. An example is shown in Figure 4 – 6.

Figure 4 – 6 Resolve Service Name

To use this window, enter the service name of the database you wish to reach, and select the Resolve button. The names resolution method appears in the Source field, and the address appears in the Resolved To field.

> **Note:** The names resolution method should match the first method shown in the names resolution path field in the Name Resolution Services window.

You can see if a connection is possible to this service by running the TNSPING utility. To do so, select the Connect button. A connection will be attempted.

If you have selected a TNSPING trace level, the connection attempt will be traced. You can view the trace file by selecting the View button.

> **Note:** You cannot turn on tracing and set the TNSPING trace level on this screen. Use the SQLNET.ORA Editor to set the trace level.

If you are missing required files, a message telling you so appears at the bottom of the window. An example of this is shown in Figure 4 – 6.

SQLNET.ORA Editor

From the Tools menu you can open the SQLNET.ORA Editor, from which you can edit many of the optional parameters in the SQLNET.ORA file. You can edit the user or the system file. Parameters in the user SQLNET.ORA file override those in the system SQLNET.ORA file.

The SQLNET.ORA files contain parameters that affect the behavior of the client. If created by Oracle Network Manager, the SQLNET.ORA file has values that are the same for all clients of a particular client profile, or client type. Once the SQLNET.ORA files are distributed to individual clients, however, they can be modified to reflect individual needs. The SQLNET.ORA Editor provides a convenient way to do this.

> **Note:** Not all parameters in SQLNET.ORA can be modified using this editor. Specifically, not all parameters related to Authentication in Secure Network Services are available to this tool in this release. Also, you cannot use this tool to set preferred Names Servers.

The main SQLNET.ORA Editor window looks like that shown in Figure 4 – 7.

Figure 4 – 7 SQLNET.ORA Editor

Each of the buttons in the SQLNET.ORA Editor window brings up a window in which you can edit a number of parameters.

> ☞ **Attention:** Be careful when using this tool. Many client parameters work in conjunction with server parameters which you cannot see with this tool. Do not change any parameters unless you are sure of the result.

There are three buttons at the bottom of each of the SQLNET.ORA Editor windows.

- Select OK to save your changes into the SQLNET.ORA file.

- Select CANCEL to lose your changes and leave the window.

- Select HELP to get online information about the parameters in the window.

General   Select General to display a window in which you can edit a variety of optional parameters for the client.

Client LOG File Name	You can change the existing name for the log file in this field. In most operating systems, the log filename is automatically appended with the suffix .LOG. You do not need to enter that suffix in the field.
Client LOG Directory	You can change the existing directory to which the client log file is written in this field. Be sure that you have write permission to the directory you select.
Client Registration	Enter an identifier for the client machine. This identifier will be passed to the listener with any connection request and included in the Audit Trail. The identifier can be any alphanumeric string up to 128 characters. A typical identifier might be a department name.
Default Domain	The default domain is the domain to which most client connection requests are directed. In a hierarchical name space, the default domain should be the domain in which the most frequently contacted servers reside.

You can toggle the following features ON and OFF by selecting the buttons next to their names.

Automatic IPC	Select this button if you want the client to try an IPC (internal) connection before trying other protocols. The default is for Automatic IPC to be ON.
Use Dedicated Server	Select this button if you want to make a connection to a dedicated server rather than to use a multi–threaded server.
DISABLE Out of Band Breaks (OOB)	Select this button if you want to disable out-of-band breaks.

For further information about these optional parameters, refer to the appropriate sections in *Understanding SQL*Net.*

Tracing   Select Tracing to display a window in which you can modify the parameters that affect tracing on the client. This window is shown in Figure 4 – 8.

Figure 4 – 8 Tracing Parameters

Client Trace Level	Select a trace level from the scrolling list. Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and ADMIN, for more extensive trace information.
	Note: After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility on can impact performance.
Client Trace File Name	Change the existing name for the trace file in this field. In most operating systems, the trace filename is automatically appended with the suffix .TRC. You do not need to enter that suffix in the field.
Client Trace Directory	Change the existing directory to which the client trace file is written in this field. Be sure that you have write permission to the directory you select.
TNSPING Trace Level	Trace the behavior of the TNSPING utility by selecting a trace level from the scrolling list. Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and

ADMIN, for more extensive trace information.

Note: After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility on can impact performance.

TNSPING Trace Directory — Override the default location of the TNSPING trace file using this field. Be sure that you have write permission to the directory you select.

Encryption — Select Encryption to change any of the Secure Network Services encryption parameters for the client. An example of this window is shown in Figure 4 – 9.
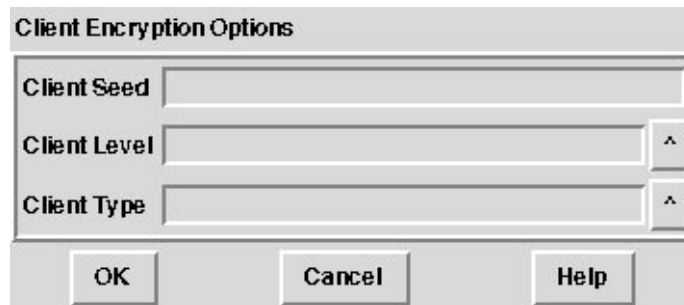
Figure 4 – 9 Client Encryption Parameters

Client Seed — Enter a new random number to act as a seed for encryption of client messages in this field. Enter a string of between 16 and 70 random characters.

Client Level — Change the level of encryption the client requests using this field. Choices in the pop–up list are Accepted, Rejected, Requested, and Required. (Whether encryption is implemented in a client–server connection is determined by the level requested by both the client and the server.)

Client Type — Select the type of encryption from the choices available in the pop–up list. (Do not select a type unless it has been

installed. Even if a type appears in the list, it may not be installed in your system.)

Checksumming
Select Checksumming to change any of the Secure Network Services checksum parameters for the client. An example of this window is shown in Figure 4 – 10.
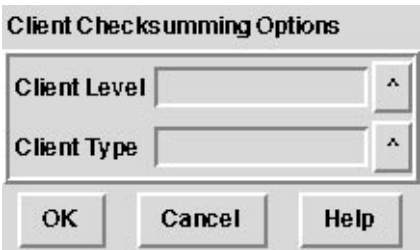
Figure 4 – 10 Client Checksum Parameters

Client Level
Choose the client's requested level of checksumming from the pop–up list. Choices are Accepted, Rejected, Requested, and Required. (Whether checksumming is implemented in a client–server connection is determined by the level requested by both the client and the server.)

Client Type
Select the type of checksumming from the choices available in the pop–up list. In this release, only MD5 is available. (Do not select a type unless it has been installed.)

Authentication
Select Authentication to change the authentication service the client requests. Do not select a service that has not been installed. Select one or more authentication services from the pop–up list. If more than one is selected, the first one that is also on the server's list is the one that is used. An example of this window is shown in Figure 4 – 11.

Figure 4 – 11 Client Authentication Parameter

Note: If you select CYBERSAFE or KERBEROS5, you may need to modify other parameters that are not accessible from the SQLNET.ORA Editor. Both these authentication adapters require other parameters to be set. If they are not already set in the SQLNET.ORA file, you must set them through Oracle Network Manager, or by using a text editor.

Name Resolution

Select Name Resolution to change the preferred method for resolving service names to addresses. The order in which the name resolution services appear in this list determines the order in which they are tried. For example, if you select ONAMES and then TNSNAMES, the client will request name resolution from Oracle Names rather than the SQL*Net configuration file TNSNAMES.ORA. An example of this window is shown in Figure 4 – 12.
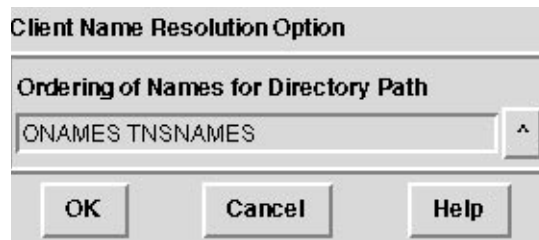
Figure 4 – 12 Name Resolution Parameter

Client Status Monitor Read–Only Display Windows

Below the Menu Bar in the Client Status Monitor is an array of six buttons. Each button brings up a window that displays the current values for parameters in the SQLNET.ORA file.

Note: These windows are read–only. To change any of the values, use the SQLNET.ORA Editor.

General

Select this button to display some of the client SQL*Net properties set in the SQLNET.ORA file. An example is shown in Figure 4 – 13.

Figure 4 – 13 General Client Properties

To view any of the files listed in this window, select the file and select
View. A scrollable window displaying the file appears. To print the file,
select Print from the display window.

Network Protocol
Adapters

Select this button to display the Oracle protocol adapters available on
your client machine. Figure 4 – 14 shows an example of this window.
The window is read–only.

Figure 4 – 14 Oracle Protocol Adapters

Checksumming Services

Select this button to display the Checksumming adapters available in
Secure Network Services, and to show the specific services selected.
Figure 4 – 15 shows an example of this window.
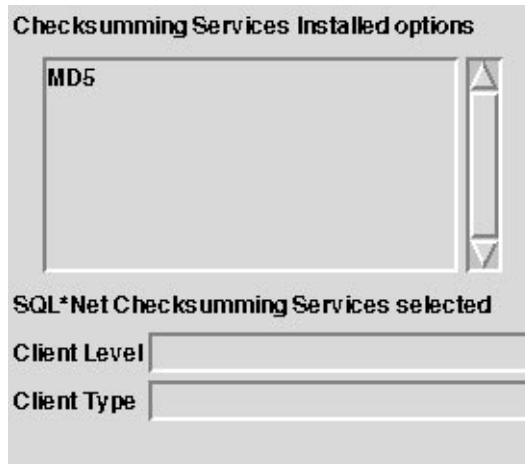
Figure 4 – 15 Checksumming Services

The fields in this window display the following information:

- In the first field, all checksumming adapters available in Secure Network Services are listed.

- In the Client Level field, the level of checksumming requested is listed.

- In the Client Type field, the client's preference, if any, for a checksumming service is listed.

Encryption Services

Select this button to display the encryption services available in Secure Network Services, and the specific services selected. Figure 4 – 16 shows an example of this window.
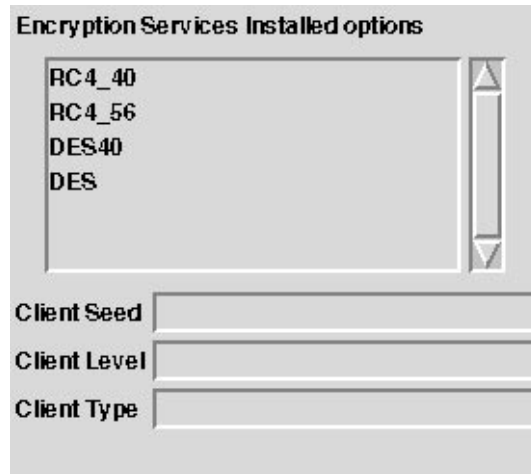
Figure 4 – 16 Client Encryption Parameters

- In the first field, all encryption services available in Secure Network Services are listed.

- In the Client Seed field, the random number used as a starting point for the encryption algorithm is shown.

- In the Client Level field, the level of encryption requested is listed.

- In the Client Type field, the client's preference, if any, for encryption services is listed.

The client and the server to which it connects must have compatible encryption and checksum requirements. For example, if the client requires encryption and the server refuses encryption, the connection request will be rejected. Similarly, if the client has only RC4_40 encryption selected, and the server has only DES40, the connection request will fail.

Authentication Services   Select this button to display the authentication services that are part of Secure Network Services, and to show which ones are selected by the client. Figure 4 – 17 shows an example of this window.

Figure 4 – 17 Client Authentication

- In the first field, all Authentication Adapters available in Secure Network Services are listed.

- In the Authentication Selected field, all Authentication Adapters selected by the client are shown.

SNS

For further information about Secure Network Services, see the *Secure Network Services Administrator's Guide*. For information about setting the Secure Network Services parameters using Oracle Network Manager, see Chapter 5 in the *Oracle Network Manager Administrator's Guide*.

NetMan

Name Resolution Services Select this button to display the name resolution services available on your client. The name resolution services are used in the order listed in the Name Resolution Path field. For example, of the services listed in the example shown in Figure 4 – 18, the TNSNAMES.ORA file is the first method used to resolve a service name to an address, and Oracle Names is the second. If they are installed, native naming adapters such as NIS or DCE/CDS would be listed too.

Figure 4 – 18 Name Resolution Services

Graphical Mode for MS Windows

When you click on the Client Status Monitor icon, a window like that shown in Figure 4 – 19 appears:
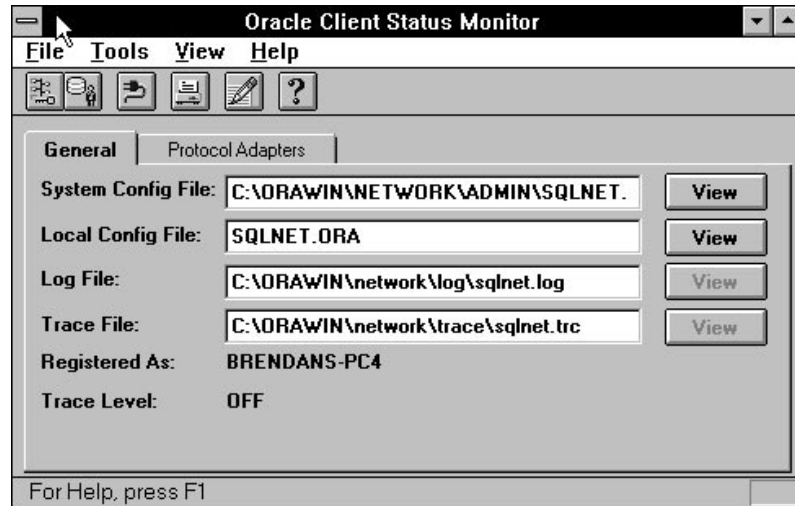
Figure 4 – 19 Initial Client Status Monitor Window

This window includes a menu bar from which you can access other windows, as described in the following section, and a page that displays the names and paths to important client files.

Client Status Monitor Menu Bar

The following sections described the choices on the Menu Bar.

File Menu

This menu has three choices:

- **Print Setup** —Displays a window in which you can set defaults for printing from the Client Status Monitor.

- **Generate Report** — Displays a window from which you can choose to view, save to file, or print a report about the client. See the section "Generate Report" later in this chapter.

- **Exit** — Select Exit to close the Client Status Monitor.

Tools Menu

This menu provides access to two tools:

- **SQLNET.ORA Editor** — Displays the SQLNET.ORA Editor, from which you can edit many of the optional parameters in the SQLNET.ORA configuration file. For detailed information, see "SQLNET.ORA Editor" later in this chapter.

- **Test Connection** — Displays a window from which you can resolve a service name of an Oracle database service, and trace a connection attempt. See the section "Test a Connection" later in this chapter.

View Menu

This menu has three choices which influence the appearance of the Client Status Monitor window:

- **Toolbar** — Hide or Display the icon tool bar. Default is for the Tool Bar to be displayed.

- **Secure Network Services Details** —Hide or display the folder tabs for Secure Network Services (encryption, checksumming, and authentication). Default is that they be hidden.

- **Native Naming Details** —Hide or display the folder tab for name resolution services. Default is that it be hidden.

Help Menu

This menu has three choices:

- **Index** — Displays the Table of Contents of the Help file. From the Table of Contents you can navigate to help on various topics pertaining to the Client Status Monitor.

- **Using Help** — Displays a file that explains how to use Microsoft Help.

- **About Client Status Monitor** — Displays a window with information about this release of the Client Status Monitor.

Icon Tool Bar

Immediately below the Menu Bar is a set of icons. You can use these icons as alternatives to selecting items from the Menu Bar.

> **Note:** You can choose whether or not to display the icons by selecting Toolbar from the View menu.

Figure 4 – 20 Toolbar

The icons and their functions are as follows:

Show/Hide SNS Pages   Equivalent to selecting Secure Network
                                 Services Details from the View menu

Show/Hide Naming page   Equivalent to selecting Native Naming
                                 Details from the View menu

Test Connection   Equivalent to selecting Test Connection
                                 from the Tools menu

Generate Report   Equivalent to selecting Generate Report
                                 from the File menu

SQLNET.ORA Editor   Equivalent to selecting SQLNET.ORA
                                 Editor from the Tools menu

Help   Equivalent to selecting Index from the
                                 Help menu

The following sections describe the Test Connection, Generate Report,
and SQLNET.ORA Editor options in detail.

Test Connection

Selecting this icon or menu item displays a window in which you can
resolve a service name to its network address, and from which you can
trace an attempted connection to that service. An example is shown in
Figure 4 – 21.
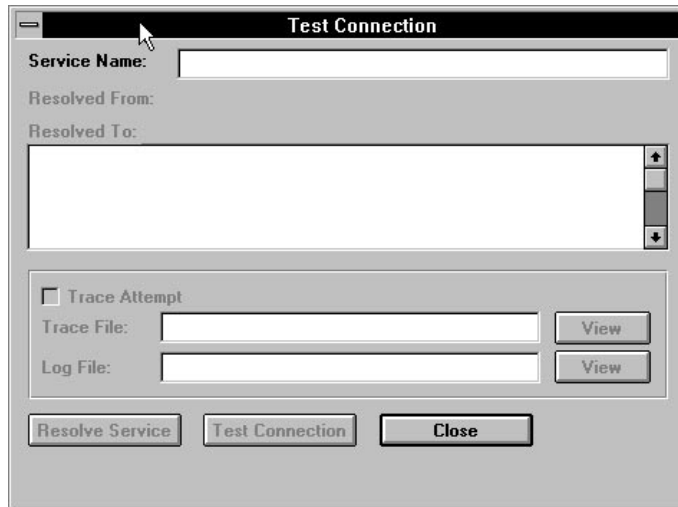
Figure 4 – 21 Test Connection Window

To use this window, enter the service name of the database you wish to reach, and select Resolve Service. The names resolution method will appear in the Resolved From field, and the address will appear in the Resolved To field.

> **Note:** The names resolution method should match the first one shown in the names resolution path field in the Name Resolution Services window.

You can see if a connection is possible to this service by selecting Test Connection. If you select Trace Attempt you can view the trace file that results.

> **Note:** You cannot turn on tracing and set the trace level from this window. Use the SQLNET.ORA Editor to set the trace level.

If a trace and log file are created, you can view them by selecting View, and you can print them from the Viewer window.

Generate Report

Selecting this icon or menu item displays a windowshown in Figure 4 – 22, in which you can choose to display, save to file, or print a detailed report of the status of your client.
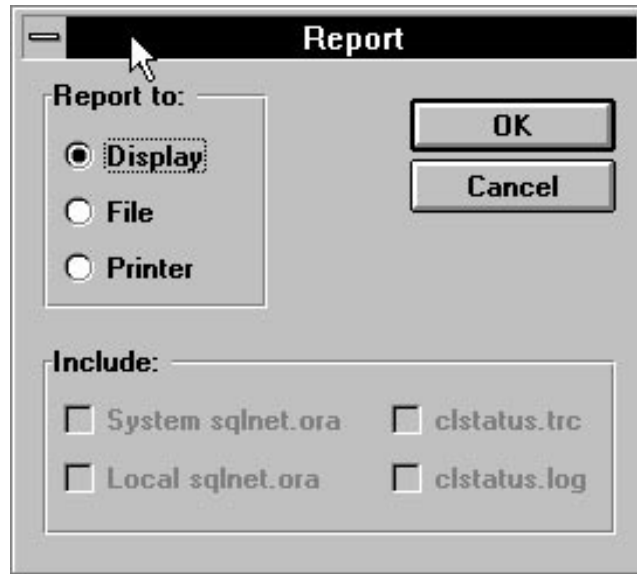
Figure 4 – 23 Report Window

- If you select Display, a Viewer window displays all the information that appears separately in the read–only client information pages.

- If you select File, a window appears in which you can select a file name and location. The default name is CLSTATUS.RPT, and the default location is the CSM directory.

  Note that if you select File, copies of the client configuration, log and trace files are included in the file by default. You may choose not to include them by deselecting them in the Generate Report window.

- If you select Printer, a window like that shown in Figure 4 – 24 appears.
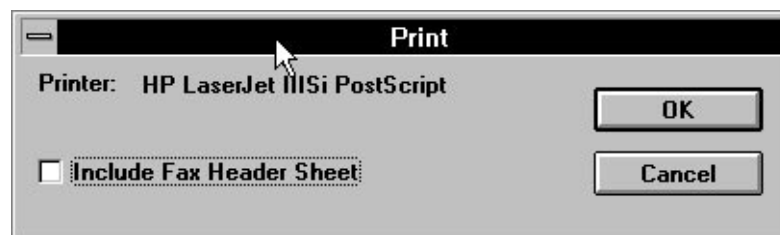
Figure 4 – 24 Initial Print Page

Note that if you select Printer, copies of the client configuration, log and trace files are printed by default. You may choose not to print them by deselecting them in the Generate Report window.

If you select Include Fax Header Sheet, the window expands to look like that in Figure 4 – 25.

Figure 4 – 25 Print with Fax Header Sheet

Enter the following information in the appropriate empty fields.

To	Person to contact within Oracle Customer Support, if known
Fax Number	Fax number of the branch of Oracle Customer Support for your area
From	Name of person at your location who is the liaison with Oracle Customer Support

Support ID	Identifying number that authorizes you to get help from Oracle Customer Support
Phone Number	Phone number of the person at your location who is the liaison with Oracle Customer Support
Fax Number	Fax number of the person at your location who is the liaison with Oracle Customer Support
Comment	Optional field in which to explain the problem

To print the report, which includes the information in this window as well as all the client information from the Client Status Monitor, select OK.

To close this window, select Cancel.

SQLNET.ORA Editor

The SQLNET.ORA files contain parameters that affect the behavior of the client. If created by Oracle Network Manager, the SQLNET.ORA file has values that are the same for all clients of a particular client profile, or client type. Once the SQLNET.ORA files are distributed to individual clients, however, they can be modified to reflect individual needs. The SQLNET.ORA Editor provides a convenient way to do this.

You can open the SQLNET.ORA Editor on an MS Windows machine directly by double–clicking in the SQLNET.ORA Editor icon. You can also access the SQLNET.ORA Editor from the Client Status Monitor. Either way, when you open the SQLNET.ORA Editor you are asked whether you want to edit the system level SQLNET.ORA file, the local (user level) SQLNET.ORA file, or another SQLNET.ORA file. If you select Other, a window appears in which you select the location of the file you want to edit.

Values in the local (user) SQLNET.ORA file override those in the system SQLNET.ORA file.

> **Note:** You might not have write permission for the system SQLNET.ORA file.

> **Note:** Not all parameters in SQLNET.ORA can be modified using this editor. Specifically, not all parameters related to Authentication in Secure Network Services are available to this tool in this release. Also, you cannot use this tool to set preferred Names Servers.

Like the Client Status Monitor, the SQLNET.ORA Editor has a number of pages, which are displayed when you select their folder tabs.

There are four buttons at the bottom of the SQLNET.ORA Editor window:

- Select OK to save your changes to the SQLNET.ORA file.

- Select CANCEL to lose your changes and leave the window.

- The APPLY button is not usable. If you want to apply your entries, select OK.

- Select HELP to get online information about the SQLNET.ORA Editor.

General Page

The first page that displays is the General Page, as shown in Figure 4 – 26.
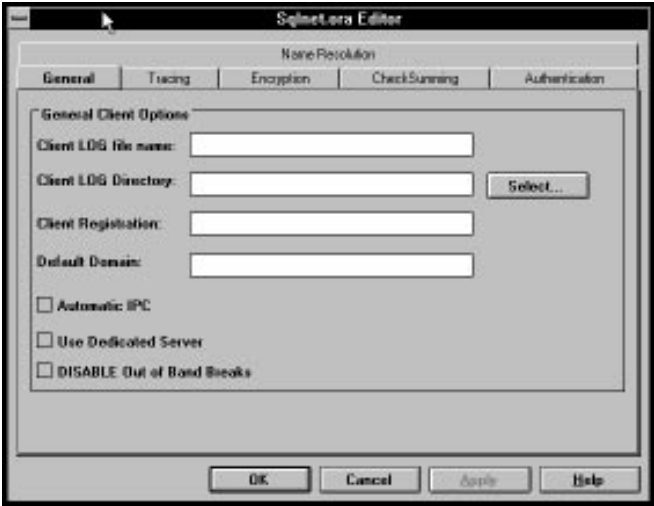
Figure 4 – 26 SQLNET.ORA Editor General Page

Client LOG File Name   Change the existing name for the log file in this field. In most operating systems, the log filename is automatically appended with the suffix .LOG. You do not need to enter that suffix in the field.

Client LOG Directory   Change the existing directory to which the client log file is written in this field. Be sure that you have write permission to the directory you select.

Client Registration   Enter an identifier for the client machine. This identifier will be passed to the listener with any connection request and included in the Audit Trail. The identifier can be any alphanumeric string up to 128 characters. A typical identifier might be a department name.

Default Domain   Enter a default domain in this field. The default domain is the domain to which most client connection requests are directed. In a hierarchical name space, the default domain should be the domain in which the most frequently contacted servers reside.

You can toggle the following features ON and OFF by selecting the buttons next to their names.

Automatic IPC   Select this button if you want the client to try an IPC (internal) connection before trying other protocols. The default is for Automatic IPC to be ON.

Use Dedicated Server   Select this button if you want to make a connection to a dedicated server rather than to use a multi–threaded server.

DISABLE Out of Band Breaks (OOB)   Select this button if you want to disable out-of-band breaks.

For further information about these optional parameters, please refer to the appropriate sections in *Understanding SQL*Net*.

Press OK to apply your changes; press Cancel to cancel them.

Tracing   Select Tracing to display the page in which you can modify the parameters that affect tracing on the client. The page looks like that shown in Figure 4 – 27.
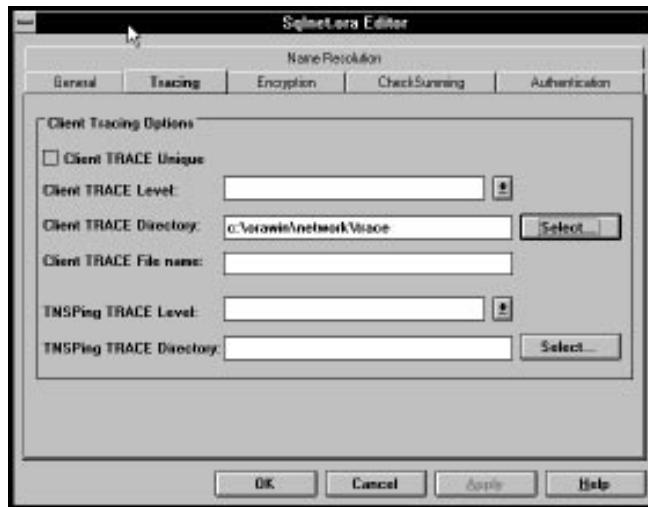
Figure 4 – 27 SQLNET.ORA Editor Tracing Page

Client Trace Unique	Select this box to toggle the value of this parameter to ON. When set to ON, this parameter will give each client trace file a different identifying number so that repeated traces do not overwrite one another.
Client Trace Level	Select a trace level from the scrolling list. Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and ADMIN, for more extensive trace information.
	NOTE: After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility on can impact performance.
Client Trace File Name	Change the existing name for the trace file in this field. In most operating systems, the trace file name is automatically appended with the suffix .TRC. You do not need to enter that suffix in the field.
Client Trace Directory	Change the existing directory to which the client trace file is written in this field. Be sure that you have write permission to the directory you select.

TNSPING Trace Level	Ttrace the behavior of the TNSPING utility by selecting a trace level from the scrolling list. Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and ADMIN, for more extensive trace information.
	Note: After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility ON can impact performance.
TNSPING Trace Directory	Change the location of the TNSPING trace file from the platform-specific default by entering the desired location in this field. Be sure that you have write permission to the directory you select.

Press OK to apply your changes; press Cancel to cancel them.

Encryption

Select Encryption to change any of the Secure Network Services encryption parameters for the client. An example of this window is shown in Figure 4 – 28.
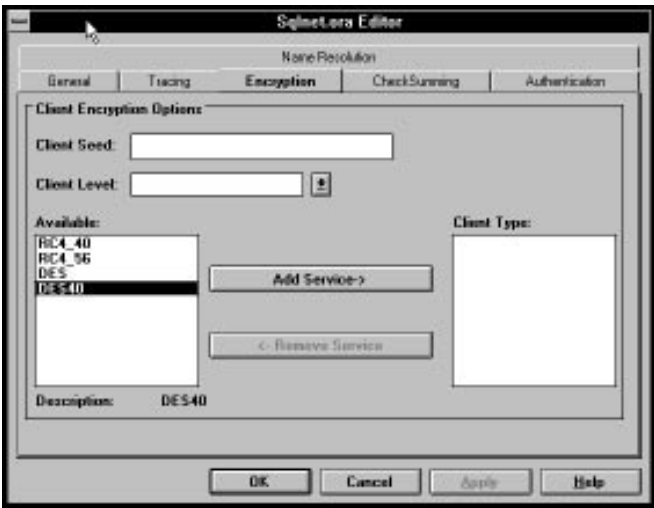
Figure 4 – 28 SQLNET.ORA Editor Encryption Page

Client Seed	Enter a new random number to act as a seed for encryption of client messages.

Enter a string of between 16 and 70 random characters.

Client Level
Change the level of encryption the client requests. Choices in the pop–up list are Accepted, Rejected, Requested, and Required. (Whether encryption is implemented in a client–server connection is determined by the level requested by both the client and the server.)

Client Type
Select the type of encryption desired from the choices in the Available list box on the left. (Do not select a type unless it has been installed. Even if a type appears in the list, it may not be installed in your system.) You can select more than one type. Remove a type from the Client Type list box by selecting it and selecting Remove.

Press OK to apply your changes; press Cancel to cancel them.

Checksumming
Select Checksumming to change any of the Secure Network Services checksum parameters for the client. An example of this window is shown in Figure 4 – 29.
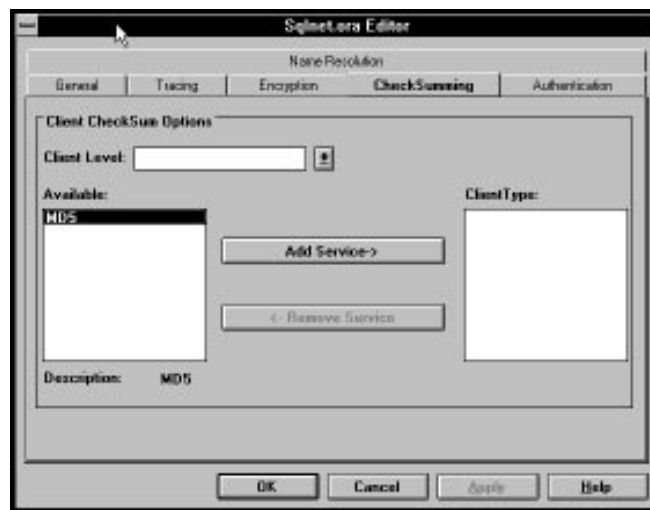
Figure 4 – 29 SQLNET.ORA Editor Checksumming Page

Client Level
Change the client's requested level of checksumming. Choices in the pop–up list are Accepted, Rejected, Requested, and

Required. (Whether checksumming is implemented in a client–server connection is determined by the level requested by both the client and the server.)

Client Type Select the type of checksumming from the choices available in the Available list box. In this release, only MD5 is available. (Do not select a type unless it has been installed.)

Press OK to apply your changes; press Cancel to cancel them.

Authentication Select Authentication to change the authentication service the client requests. Do not select a service that has not been installed. Select one or more authentication services from the Available list box. If more than one is selected, the first one that is also on the server's list is the one that is used. An example of this window is shown in Figure 4 – 30.
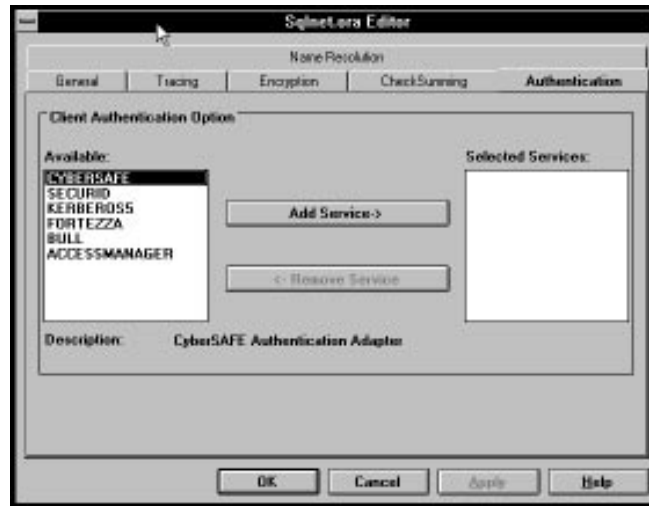
Figure 4 – 30 SQLNET.ORA Editor Authentication Page

Note: If you select CYBERSAFE or KERBEROS5, you may need to modify other parameters that are not accessible from the SQLNET.ORA Editor. Both these authentication adapters require other parameters to be set. If they are not already set in the SQLNET.ORA file, you must set them through Oracle Network Manager, or by using a text editor. See *Secure Network Services Administrator's Guide* and your Oracle platform–specific documentation for more information.

Press OK to apply your changes; press Cancel to cancel them.

Name Resolution	Select Name Resolution to change the preferred method for resolving service names to addresses. The order in which the name resolution services appear in th Ordering of Path list determines the order in which they are tried. For example, if you select ONAMES and then TNSNAMES, the client will first request names resolution from Oracle Names rather than the SQL*Net configuration file TNSNAMES.ORA. An example of this window is shown in Figure 4 – 12.
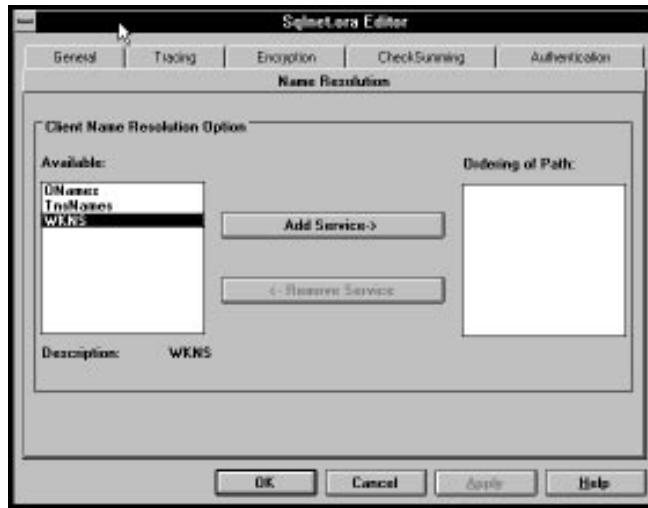
Figure 4 – 31 SQLNET.ORA Editor Name Resolution Page

To change the order of the names services selected in the Ordering of Names list box, select the service at the top of the list and select Remove, then select it from the Available list and select Add. It will reappear in the Ordering of Path list at the bottom.

Press OK to apply your changes; press Cancel to cancel them.

The default, if no selections are made, is for TNSNAMES to be tried first.

Client Information Pages

Beneath the Menu Bar and Tool Bar, information about the client is displayed. Related sets of information appear on different pages, which you access by selecting the folder tabs. These pages are read–only. If you want to change any of the values on these pages, use the SQLNET.ORA Editor or Oracle Network Manager to do so.

General Page

The General page, which is shown in Figure 4 – 19, lists the names and paths of several important client files. You can see any of the files by selecting View, and you can print any file by selecting Print from the Viewer window that appears. For example, Figure 4 – 32 shows the Viewer window for a SQLNET.ORA file.
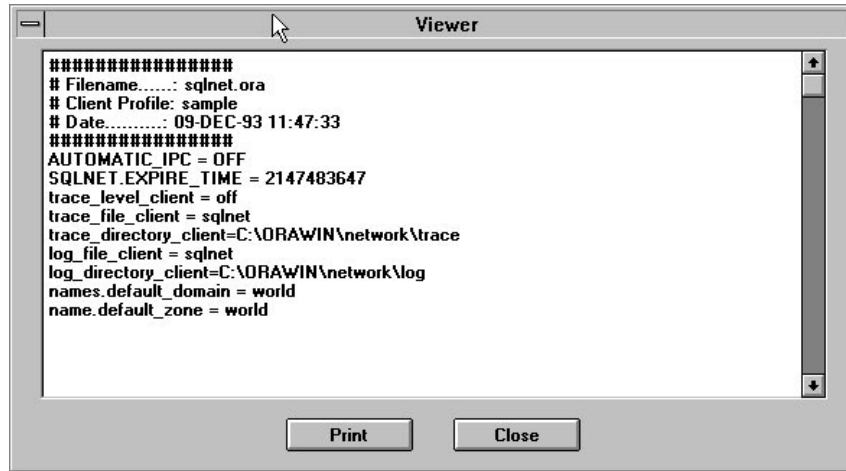
Figure 4 – 32 Viewer Window for a SQLNET.ORA File

The General page also shows any client registration information that appears in the SQLNET.ORA file, and shows the current trace level.

> **Note:** The trace level and client registration shown on the General page are those in the local (user) SQLNET.ORA file, if one is available. The values in the local SQLNET.ORA file override the values in the system SQLNET.ORA file.

Protocol Adapters

If you select the Protocol Adapters folder tab, the window shown in Figure 4 – 33 appears. This page displays all Oracle protocol adapters installed on the client machine. It also shows the location and version of the DLLs used by the protocol adapter you highlight.
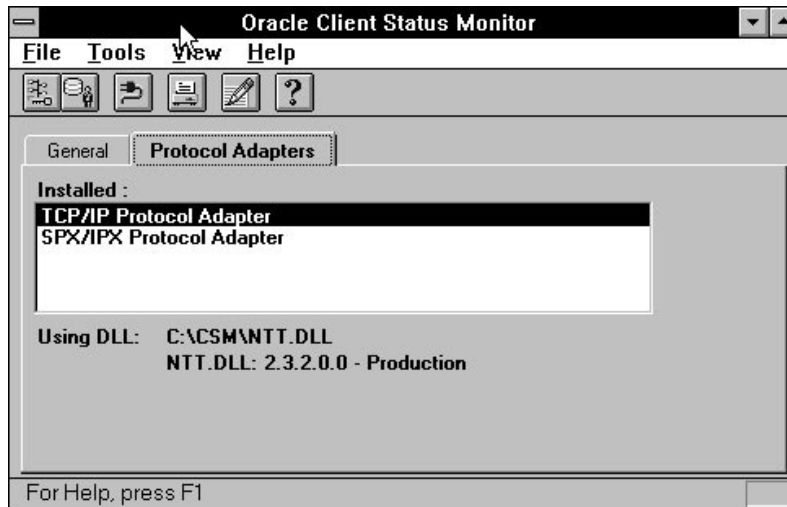
Figure 4 – 33 Protocol Adapter Page

Checksumming Services

The Checksumming page, shown in Figure 4 – 34, displays the checksum services installed and selected.
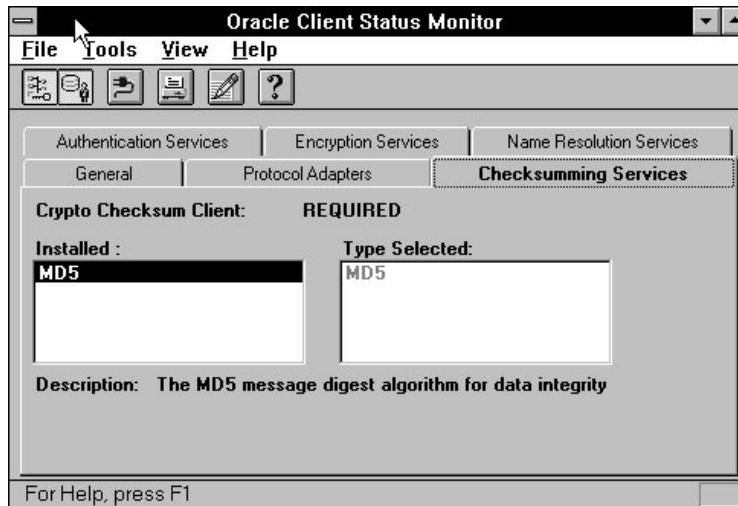
Figure 4 – 34 Checksumming Page

Authentication Services

The Authentication page, shown in Figure 4 – 35, displays the authentication services installed and selected.
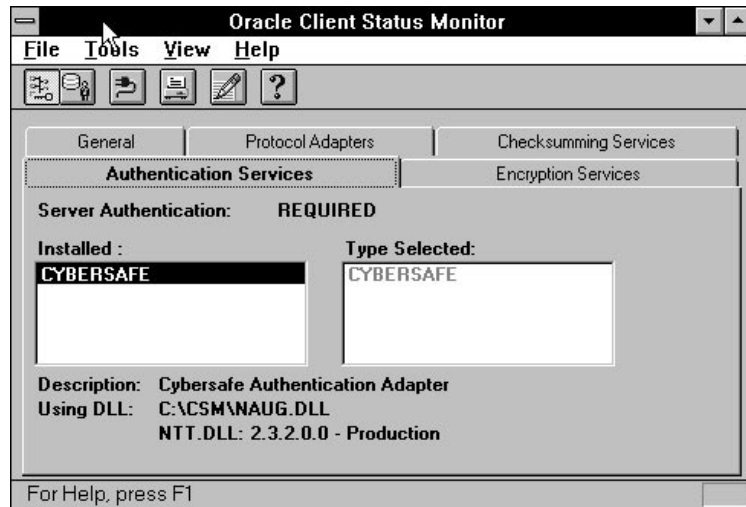
Figure 4 – 35 Authentication Page

The highlighted service is described briefly, and the DLL used by the highlighted service is displayed.

Encryption Services

The Encryption page, shown in Figure 4 – 36, shows the encryption services installed and selected.
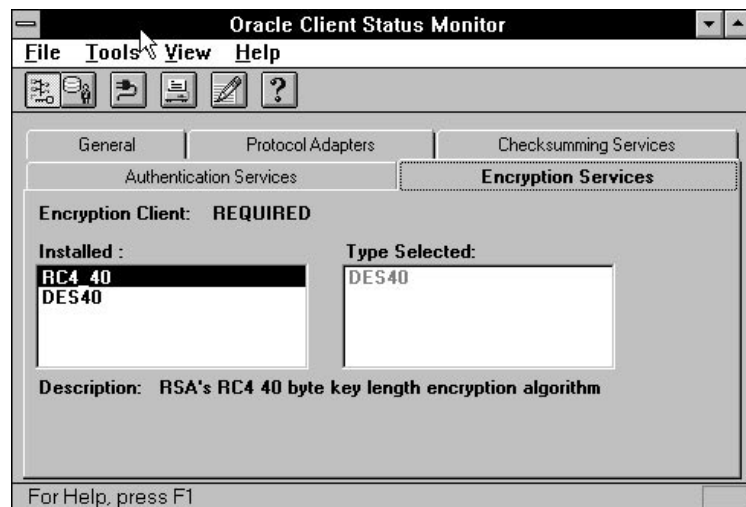
Figure 4 – 36 Encryption Page

The highlighted service is described briefly in the Description area.

Name Resolution Services

The Name Resolution page, shown in Figure 4 – 37, displays the default order of the name resolution services installed on the client, and, in the second column, the order in which they are used. (The order is determined by a parameter in the SQLNET.ORA file.)
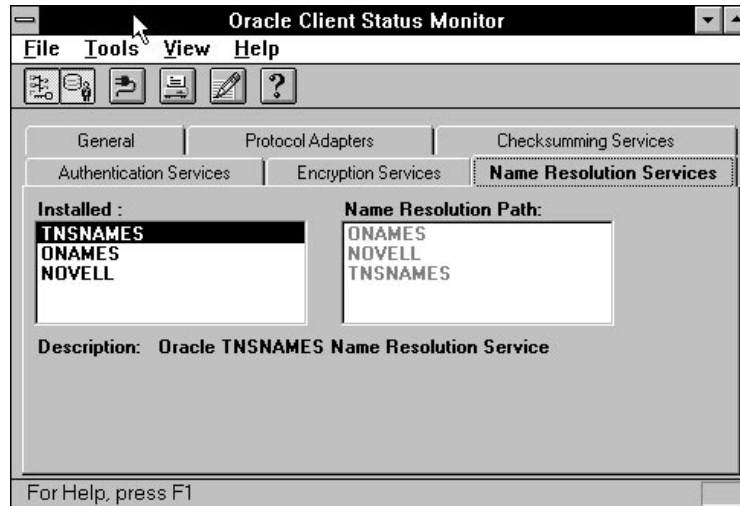
Figure 4 – 37 Name Resolution Page

The highlighted service is described in the Description area.

Client Status Monitor in Command Line Mode

To enter the Client Status Monitor in command line mode, enter CSM. The prompt changes to Status Monitor> to show that the Client Status Monitor has started.

> **Note:** Command line mode is not appropriate to use on machines running MS Windows. Use the graphical interface for Windows, described earlier.

Overview

To get an overview of the commands available, at the status monitor prompt enter HELP:

```
status monitor> help
```

The following display appears:

```
SHOW ALL                     SHOW NAME_RESOLUTION_SERVICES  SHOW GENERAL
SHOW INSTALLED_PRODUCTS       SHOW NETWORK_PROTOCOL_ADAPTERS SHOW CSI_INFORMATION
SHOW SYSTEM_SQLNET_OPTIONS    SHOW SECURE_NETWORK_SERVICES   SHOW FILE_PATHS
SHOW USER_SQLNET_OPTIONS      SHOW UNIXENV                   SHOW MAN_PAGE

SET USE_DEDICATED_SERVER      SET TRACE_DIRECTORY_CLIENT     SET DISABLE_OOB
SET TRACE_FILE_CLIENT         SET SQLNET.CLIENT_REGISTRATION SET AUTOMATIC_IPC
SET TNSPING.TRACE_LEVEL       SET TNSPING.TRACE_DIRECTORY    SET TRACE_LEVEL_CLIENT

SET CSI_ID                    SET CSI_PHONE                  SET CSI_FAX
SET CSI_FROM                  SET CSI_SUBJECT                SET CSI_COMMENT

RESOLVE_SERVICE_NAME          ATTEMPT_CONNECT                PRINT_REPORT
HELP                          QUIT
```

These commands enable you to show or set the same information as you can using the graphical version of the tool.

> **Note:** Within the Client Status Monitor, case is not significant. For example, you can enter either HELP or help.

For example, if you want to display the general information for your client, enter the following:

```
Status Monitor> SHOW GENERAL
```

A display like the following appears on your screen:

```
      *** General ***

TNS for Unix: Version 2.1.6.1.0 Production
system config file =>
user config file   =>
log file           => /home/jshaw/sqlnet.log
client trace file  =>
registration       =>
client tracelevel  => OFF
```

To set parameters, enter the value you wish to set following the command name.

For example, to set the name of the contact for Oracle Customer Support to be JShaw, enter the following:

```
Status Monitor> SET CSI_CONTACT JSHAW
```

If you want to edit the SQLNET.ORA file to turn tracing ON, enter the following:

```
Status Monitor> SET TRACE_LEVEL_CLIENT ADMIN
```

Using Client Status Monitor for Individual Commands

From the command line, you can open the Client Status Monitor and issue a command on the same line. For example, you can open the

Client Status Monitor and ask for a display of general information about the client by entering the following command at the operating system prompt:

```
> CSM SHOW GENERAL
```

After the Client Status Monitor has carried out the command, the operating system prompt returns.

Display the Client Environment

To display information about your environment, you can use the following commands:

```
Status Monitor> SHOW INSTALLED_PRODUCTS
```

The Client Status Monitor displays a list of all the Oracle products on this machine.

```
Status Monitor> SHOW FILE_PATHS
```

The Client Status Monitor displays the paths of the SQL*Net configuration files on the client machine.

```
Status Monitor> SHOW UNIXENV
```

The Client Status Monitor displays the environment variables for your operating system.

```
Status Monitor> SHOW NAME_RESOLUTION_SERVICES
```

The Client Status Monitor displays the name resolution services available to the client, and shows the order in which they are used.

```
Status Monitor> SHOW NETWORK_PROTOCOL_ADAPTERS
```

The Client Status Monitor displays the protocol adapters installed on the client.

```
Status Monitor> SHOW SECURE_NETWORK_SERVICES
```

The Client Status Monitor displays the security services available to the client. These services include encryption, checksumming, and authentication.

```
Status Monitor> SHOW ALL
```

The Client Status Monitor displays all the the information available through the individual commands listed in this section.

Contact Oracle Customer Support

The Client Status Monitor can print a fax sheet containing information for you to provide to Oracle Customer Support. Most of the information on the fax page is similar to the result of the SHOW ALL command. However, you must provide identifying information for Oracle Customer Support. To do this in character mode, enter the following commands:

```
Status Monitor> SET CSI_ID customer_ID
Status Monitor> SET CSI_PHONE phone_number_of_local_contact
Status Monitor> SET CSI_FAX fax_number_of_local_contact
Status Monitor> SET CSI_CONTACT name_of_local_contact
```

After providing the identifying information, print the fax page by entering the following command:

```
Status Monitor> PRINT_FAXPAGE
```

Edit SQLNET.ORA

In command line mode you can change some parameters in the user level SQLNET.ORA file. The commands to use and the values available to use with them follow:

```
Status Monitor> SET USE_DEDICATED_SERVER ON|OFF
```

Use this command to make a connection to a dedicated server rather than to use a multi–threaded server.

```
Status Monitor> SET DISABLE_OOB ON|OFF
```

Use this command to disable (or enable) out-of-band breaks. The default is for out-of-band breaks to be enabled.

```
Status Monitor> SET TRACE_LEVEL_CLIENT OFF|USER|ADMIN
```

Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and ADMIN, for more extensive trace information.

> **Note:** After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility set to USER or ADMIN can impact performance.

```
Status Monitor> SET TRACE_FILE_CLIENT file_name
```

You can change the name for the trace file with this command. In most operating systems, the trace file name is automatically appended with the suffix .TRC. You do not need to enter that suffix in the field.

```
Status Monitor> SET TRACE_DIRECTORY_CLIENT directory_path
```

You can change the directory to which the client trace file is written with this command. Be sure that you have write permission to the directory you select.

```
Status Monitor> SET TNSPING.TRACE_LEVEL OFF|USER|ADMIN
```

Unless you are troubleshooting a particular problem, the trace level should be OFF. Other choices are USER, for a moderately detailed trace report, and ADMIN, for more extensive trace information.

> **Note:** After troubleshooting your connection problem, turn trace level back to OFF. Leaving the trace facility set to USER or ADMIN can impact performance.

```
Status Monitor> SET TNSPING.TRACE_DIRECTORY directory_path
```

You can change the directory to which the TNSPING trace file is written with this command. Be sure that you have write permission to the directory you select.

```
Status Monitor> SET AUTOMATIC_IPC ON|OFF
```

Use this command to change whether or not the client should use an IPC connection before trying other protocols. The default is for IPC to be set to ON

```
Status Monitor> SET SQLNET.CLIENT_REGISTRATION
unique_identifier
```

This command sets a unique identifier for this client machine. This identifier will be passed to the listener with any connection request and will be included in the Audit Trail. The identifier can be any alphanumeric string up to 128 characters long.

Resolve Service Name

You can find out the address to which a service name is resolved by entering the following command:

```
Status Monitor> RESOLVE_SERVICE_NAME service_name
```

The Client Status Monitor displays the address.

The Client Status Monitor will also attempt a connection using the TNSPING utility if you enter the following command:

```
Status Monitor> ATTEMPT_CONNECT service_name
```

The TNSPING utility will return a message stating whether the connection attempt was successful, and how long it took.

5

Trace Route Utility

This chapter describes the Trace Route Utility (TRCROUTE), which enables administrators to discover what path or route a connection is taking from a client to a server.

If TRCROUTE encounters a problem, it returns an error stack to the client instead of a single error. These additional error messages make troubleshooting easier.

TRCROUTE is different from TNSPING in that it travels as a special type of connect packet, and is routed as such. As it travels toward its destination, the TRCROUTE connect packet collects the TNS addresses of every node it travels through. If an error occurs, TRCROUTE collects error information that shows where the error occurred. The Trace Route Utility displays the information collected on the client screen. You can redirect the TRCROUTE output to a file, and print it if you wish.

Requirements

Trace Route works only over SQL*Net release 2.3. Every node along the route from client to server must use SQL*Net 2.3. If a pre–2.3 node is on the path, the following error is displayed:

```
TNS-03603:  Encountered a node with pre-2.3 version of
SQL*Net
```

> **Note:** TRCROUTE will be most useful when the route traverses several Oracle MultiProtocol Interchanges. It can be a boon to troubleshooting because it shows what node along the path is responsible for any errors. At the time of this release, however, MultiProtocol Interchanges do not use SQL*Net 2.3.

Effect on Performance

The Trace Route Utility uses minimal resources. It gathers information in the connect data of a special connect packet; standard connect packets are not affected.

The server is not affected by TRCROUTE. The listener receives and processes the TRCROUTE connect packet. It returns the information to the client by putting it into a refuse packet. The server does not need to start up any new processes or deal with dummy connections.

How To Execute the Trace Route Utility

To execute TRCROUTE, enter the following command:

```
trcroute service_name
```

In this command, *service_name* is the name of server mapped to an address in TNSNAMES.ORA or in Oracle Names.

> **Note:** If you have configured your network to use listener load balancing, there may be more than one listener on different nodes for a database. If so, the Trace Route Utility might use any of the listeners, just as a regular connection request might. The output it returns shows you what listener node it used.

Examples of Trace Route Output

This section includes two examples.

- The first shows the output of a successful Trace Route packet that traveled from a client to a listener.

- The second shows the output of a Trace Route packet that was unable to reach the listener because the listener was not up.

Successful Trace Route

```
%trcroute tcp_direct

Trace Route Utility for Solaris: Version 2.3.2.0.0 - Production on
01-DEC-95 13:26:36

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

Route of TRCROUTE:
------------------

Node: Client          Time and address of entry into node:
-----------------------------------------------------------
01-DEC-95 13:26:36 ADDRESS= PROTOCOL=TCP  Host=shining-sun
Port=1581

Node: Server          Time and address of entry into node:
-----------------------------------------------------------
01-DEC-95 13:27:20 ADDRESS= PROTOCOL=TCP  Host=setting-sun
Port=1526
```

Trace Route with Error

```
% trcroute tcp_direct

Trace Route Utility for SVR4: Version 2.3.1.1.0 - Production on
01-DEC-95 11:12:34

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

Route of TRCROUTE:
------------------

Node: Client          Time and address of entry into node:
-----------------------------------------------------------
01-DEC-95 11:12:34 ADDRESS= PROTOCOL=TCP  Host=shining-sun
Port=1581
```

```
TNS-12224: TNS:no listener
TNS-12541: TNS:no listener
TNS-12560: TNS:protocol adapter error
TNS-03601: Failed in route information collection
```

6

Networking Error Messages

This chapter lists the error messages that may be returned by the following Oracle network components:

- SQL*Net release 2.0 and later
    - client
    - server
    - listener
- MultiProtocol Interchange release 2.0 and later
    - Connection Manager
    - Pump
    - Navigator
- MultiProtocol Interchange Control Program
- Transparent Network Substrate (TNS)
- Oracle Protocol Adapters
- Secure Network Services
- Native Naming

Oracle network product error messages are identified by two prefixes. The first prefix is "ORA–" and the other is "TNS–." Error messages

beginning with the "ORA–" prefixes are generated by the Oracle Server and other Oracle utilities. The error numbers within the range from 12150 through 12629 are network related errors, and these errors contain text that begins with "TNS:" Error messages from 12630 through 12699 are generated by Secure Network Services.

Please consult the appropriate documentation for detailed information on other "ORA–" prefixed errors outside this range. For more information on the error message prefixes, please refer to Chapter 1, "Coping with Error Messages."

Table 3–1 shows the networking software components that generate error messages with "ORA" or "TNS"prefixes.

Table 6 – 1
Error Message Prefix, Numbers,
and Components

Prefix	Error Number		Component	Type of Error
TNS	1	to 500	NR (routing)	MultiProtocol Interchange
TNS	501	to 1000	NT (transport)	Protocol Adapter
TNS	1001	to 1500	Listener Control Program	Listener Control Program
ORA/TNS	12150	to 12195	SQL*Net	Oracle SQL*Net
ORA/TNS	12196	to 12285	NR (routing)	TNS
ORA/TNS	12500	to 12530	Listener	Listener to client
ORA/TNS	12531	to 12629	NS (session)	TNS
ORA	12630	to 12699	NA	Native Services

Interchange Control Utility (NR) Error Messages (TNS–00001 to 00099)

TNS–00001   INTCTL: error while getting command line from the terminal

Cause   Improper standard input connection from the terminal.

Action   Normally not visible to the user. Start the INTCTL program again. If error persists, contact Worldwide Customer Support.

TNS–00002   **INTCTL: error while starting the Interchange**

   Cause   The Interchange could not be started.

   Action   Check the Interchange configuration files (INTCHG.ORA, TNSNET.ORA, and TNSNAV.ORA) for errors and confirm that no other programs are using the ADDRESS(es) specified. If error continues, turn on tracing in the Interchange components and examine the trace files to determine the cause of the problem. Be sure to turn tracing off when the problem has been rectified.

TNS–00003   **INTCTL: error while sending the request to the Interchange**

   Cause   Improper command sent to the Interchange or the Interchange is not responding. Not normally visible to the user.

   Action   Verify that the command sent to the Interchange is valid. Also check that the Interchange is running by using the INTCTL STATUS command. If necessary, start the Interchange using the INTCTL START command.

TNS–00004   **INTCTL: error while starting the Navigator**

   Cause   The Navigator could not be started.

   Action   Check to make sure that executables for the Navigator (navgatr) are present in the ORACLE executable directory on your platform. Check the configuration files TNSNET.ORA and TNSNAV.ORA for errors. If error continues, turn on tracing in the Interchange components and examine the trace files to determine the cause of the problem. Be sure to turn tracing off when the problem has been rectified.

TNS–00005   **INTCTL: error while sending request to the Navigator**

   Cause   The Navigator is not responding. Either the Navigator is not running or another process is responding. Not normally visible to the user.

   Action   Check that the Navigator is running by using the STATUS command of the Interchange Control Utility. Verify that the correct addresses are listed in the TNSNAMES.ORA, TNSNET.ORA, and TNSNAV.ORA configuration files.

TNS–00006   **INTCTL: HOST variable is not defined**

   Cause   The HOST variable was not set.

   Action   Set the HOST variable properly and restart the INTCTL program.

TNS–00007   INTCTL: unknown host

Cause   The pointer HOST is set to an unknown hostname.

Action   Set the pointer HOST properly and restart INTCTL program.

TNS–00008   INTCTL: could not contact destination Navigator

Cause   Connection could not be established to a Navigator. This may be because the Navigator specified is not running or the Navigator addresses are incorrect.

Action   Check that the Navigator is running by using the STATUS command of the Interchange Control Utility; if necessary, start the Navigator using the START command of the Interchange Control Utility. If it is running and the error persists, contact Worldwide Customer Support.

TNS–00009   INTCTL:could not contact destination Connection Manager

Cause   Connection could not be established to a Connection Manager. This may be because the Connection Manger (Interchange) specified is not running or the Connection Manger addresses are incorrect.

Action   Make sure that the Connection Manager is running by using the STATUS command of the Interchange Control Utility; if necessary, start the Connection Manager using the START command of the Interchange Control Utility. If it is running and the error persists, contact Worldwide Customer Support.

TNS–00010   INTCTL: Error while flushing NS context

Cause   Internal NS error; connection may be lost.

Action   Make sure the connection is properly established. If the error persists, then contact Worldwide Customer Support.

TNS–00011   INTCTL: error while starting the Connection Manager

Cause   The Connection Manager could not be started.

Action   Assure that the executable can be found in the standard Oracle executable area. Check the configuration file INTCHG.ORA for errors and confirm that no other process is using the ADDRESS(es) for this Connection Manager as specified in TNSNET.ORA.

Tracing can also be turned on in the Connection Manager and detailed information about the reason for the error determined. Consult the *MultiProtocol Interchange Administrator's Guide* and Chapter 2 in this manual for how to turn on tracing.

TNS–00012   INTCTL: error while processing Connection Manager request

Cause   An improper command was sent to the Connection Manager or it is not responding. Not normally visible to the user.

Action   Verify that the correct addresses are listed in the TNSNAMES.ORA, TNSNET.ORA, and TNSNAV.ORA configuration files. Also check that the Connection Manager is running by using the STATUS command of the Interchange Control Utility. If the error persists, contact Worldwide Customer Support.

TNS–00013   INTCTL: error while performing NS disconnect command

Cause   Internal NS error. Error in closing down connections.

Action   Make sure the networking protocol being used is properly installed on the machine. If the error persists, contact Worldwide Customer Support.

TNS–00014   INTCTL: error while opening terminal input channel

Cause   Could not open standard terminal input. Internal error.

Action   Normally not visible to the user. Restart the INTCTL program. If error persists, contact Worldwide Customer Support.

TNS–00015   INTCTL: error while closing terminal input channel

Cause   Could not close terminal input channel. Internal error.

Action   Normally not visible to the user. Restart the INTCTL program. If the error persists, contact Worldwide Customer Support.

TNS–00016   INTCTL: error while performing NS send command

Cause   Internal NS error. Connection may be lost.

Action   If error persists contact Worldwide Customer Support.

TNS–00017   INTCTL: error while performing NS receive command

Cause   Internal NS error. Connection may be lost.

Action   If error persists contact Worldwide Customer Support.

TNS–00018   INTCTL: TNS_ADMIN not defined

   Cause   The TNS_ADMIN pointer is improperly set.

   Action   No action necessary; TNS_ADMIN need only be set if you want to use a
                 different network environment.

TNS–00019   INTCTL: error initializing the national language interface

   Cause   The message file could not be found.

   Action   Make sure that the ORACLE environment is set and that the message file is in
                 the correct place.

TNS–0020   INTCTL: missing NAVIGATOR_DATA in TNSNAV.ORA

   Cause   TNSNAV.ORA does not contain the NAVIGATOR_DATA component.

   Action   Define the ADDRESS(es) for the Navigator, then restart the INTCTL program.

TNS–0021   INTCTL: missing INTERCHANGE_DATA in INTCHG.ORA

   Cause   INTCHG.ORA does not contain an INTERCHANGE_DATA component.

   Action   Define the correct data for the Connection Manager, then restart the INTCTL
                 program.

TNS–00022   INTCTL: missing CMANAGER_NAME in INTCHG.ORA

   Cause   The file INTCHG.ORA does not contain a CMANAGER_NAME component.

   Action   Define the correct name for the CMANAGER_NAME, then restart the INTCTL
                 program. Use of the Oracle Network Manager should eliminate this error.

TNS–00023   INTCTL: missing ADDRESS(es) in config files

   Cause   onfiguration files do not contain an ADDRESS/ADDRESS_LIST component.

   Action   Define the Connection Manager ADDRESS(es) in the TNSNET.ORA file and
                 check the Navigator ADDRESS(es) in the TNSNAV.ORA file, then restart the
                 INTCTL program.

TNS–00024   INTCTL: unable to contact the Navigator to obtain Connection Manager address

Cause   The Navigator is not running.

Action   Verify that the Navigator is running by doing a status request on the Navigator (use the Interchange Control Utility command STATUS). If necessary, start the Navigator, using the Interchange Control Utility. Verify that the network is properly configured; if possible, use the Oracle Network Manager to generate the configuration files. If the error persists, contact Worldwide Customer Support.

TNS–00025   INTCTL: the ORACLE environment is not set up correctly

Cause   The ORACLE environment is incorrectly set up.

Action   Refer to the Oracle operating system specific documentation for your platform for information on how the ORACLE environment should be set. Correct it and rerun INTCTL. Make sure the ORACLE environment includes the correct directories.

TNS–00026   INTCTL: TNS_ADMIN directory set, and is being used

Cause   The TNS_ADMIN environment variable is set properly. INTCTL will use the TNS_ADMIN directory. This is only an informative message. If you do not want it to be used, and want the default directory to be used instead, then unset TNS_ADMIN and reexecute.

Action   None.

TNS–00027   INTCTL: could not resolve Navigator's name/address

Cause   The Navigator's name to address definition is missing.

Action   Check TNSNAMES.ORA file and make sure to include a definition for the name specified.

TNS–00028   INTCTL: could not resolve Connection Manager's name/address

Cause   The Connection Manager's name does not have a definition that the Navigator knows about, nor is the name/address available in the TNSNAMES.ORA file. The name may also be incorrect in the INTCHG.ORA file.

Action   Verify that the Connection Manager's name is in the TNSNET.ORA file read by the Navigator or in the TNSNAMES.ORA file. Be sure that INTCHG.ORA is correct.

TNS–00031   **INTCTL: internal NT error**

Cause   Problem interfacing to the protocol adapters installed.

Action   Normally not visible to the user. Try starting INTCTL again. If the error persists, check the product installation. If it is correct, contact Worldwide Customer Support.

TNS–00032   **INTCTL:internal NS error**

Cause   Problem interfacing with TNS.

Action   Normally not visible to the user. Try starting INTCTL again. If the error persists, check the product installation. If it is correct, contact Worldwide Customer Support.

TNS–00033   **INTCTL:internal NL error**

Cause   Problem with internal TNS module NL.

Action   Normally not visible to the user. Try starting INTCTL again. If the error persists, check the product installation. If it is correct, contact Worldwide Customer Support.

TNS–00034   **INTCTL :internal NR error**

Cause   Problem with internal Interchange routines.

Action   Normally not visible to the user. Try starting INTCTL again. If the error persists, check the product installation. If it is correct, contact Worldwide Customer Support.

TNS–00035   **INTCTL: error while constructing full file name**

Cause   Problem while constructing the full path for a file name because the path name to the file or the environment variables are incorrect. Files looked up include TNSNAMES.ORA, TNSNAV.ORA, INTCHG.ORA, and the error files for the Navigator and Connection Manager.

Action   Check that all environment variables are defined correctly and that all configuration files exist in their correct places.

TNS–00036   **INTCTL: error reading from Navigator or Connection Manager error files**

Cause   Problem while reading from error files generated by the Navigator or Connection Manager when they fail to start.

Action   Check that a standard Network Error directory exists and that all privileges on the directory are appropriate.

TNS–00037   INTCTL: error opening Navigator or Connection Manager error files

Cause   Failed to open Navigator or Connection Manager error files when they have
failed to start.

Action   Check that a Network Error directory exists and that all privileges on the
directory are appropriate.

TNS–00038   INTCTL: poorly formed address or command string

Cause   An unacceptable string was encountered while attempting to send a message to
either the Navigator or Connection Manager. The addresses provided for either
the Navigator or Connection Manager may be incorrectly constructed.

Action   Check all address strings in configuration files (TNSNAMES.ORA,
TNSNAV.ORA, or TNSNET.ORA) and assure that they are properly formed.
Regenerate the files using the Oracle Network Manager, if possible. If all
addresses are correct and the problem persists, please contact Worldwide
Customer Support.

TNS–00039   INTCTL: error while spawning a process

Cause   An error was encountered while spawning a process, due to an internal
operating system dependent problem. Machine resources may be limited.

Action   Retry command. Check permissions on Interchange executables and the current
setting of the search path. If necessary, terminate other applications to free up
machine resources. If the error persists, contact Worldwide Customer Support.

TNS–00040   INTCTL: failed to initialize trace context– Continuing anyway

Cause   Problem while opening specified trace file because of errors in INTCHG.ORA
or because the user has incorrect privileges, or the file does not exist.

Action   Check the privileges on the configuration files and ensure that all of them exist
in their proper locations.

TNS–00041   INTCTL: Navigator already running. Start operation cancelled

Cause   There is a Navigator already running and listening on the same addresses.

Action   None; the Navigator is already running.

TNS–00042   INTCTL: Cmanager already running. Start operation cancelled

Cause   There is a Connection Manager already running and listening on the same
addresses.

Action   None; the Connection Manager is already running.

TNS–00043 **INTCTL: the CMANAGER has active connections, do you still want to stop it (y/n)?**

Cause   The CMANAGER that is being stopped has active connections going through. This is a confirmation message.

Action   Respond by pressing y or n. Answering y will cause the active database connection to be dropped; this is not generally recommended.

TNS–00044 **INTCTL: you must have an INTCHG.ORA file to contact the Connection Manager**

Cause   There was an attempt to contact a default Connection Manager (Interchange) where there was no INTCHG.ORA present in the correct directory.

Action   Create an INTCHG.ORA file using the Oracle Network Manager and make sure it is placed in the correct directory and includes the correct name for the Connection Manager you wish to contact.

TNS–00045 **INTCTL: could not contact the Navigator on address**

Cause   There was an attempt to contact a Navigator on a specific address, which is not responding.

Action   Check that a TNSNAV.ORA file containing the correct local communities exists for that address. Also check that the Navigator is actually listening on that address by using the INTCTL STATUS command. If necessary, start the Navigator using the INTCTL START command.

TNS–00046 **INTCTL: Could not contact the Connection Manager on address**

Cause   There was an attempt to contact a CMANAGER on a specific address, which is not responding.

Action   Verify that the TNSNET.ORA file contains that address. Also check that the CMANAGER is actually listening on that address by using the INTCTL STATUS command. If necessary, start the Connection Manager using the INTCTL START command.

TNS–00060 **INTCTL: Bad command: only the STATUS command can be used on remote Interchanges**

Cause   The user entered a command that does not exist, or the user tried to make a request other than STATUS to a remote Interchange.

Action   Check the *MultiProtocol Interchange Administrator's Guide* for a list of INTCTL commands or type HELP for a list of valid commands.

TNS–00061   INTCTL: Bad command or syntax error: you must specify a trace level

Cause   The user did not specify a trace level.

Action   Specify a trace level and retry command.

TNS–00062   INTCTL: Bad command or syntax error: For help type "help" or "h" or "?"

Cause   The user entered an invalid command.

Action   Check the *MultiProtocol Interchange Administrator's Guide* or type HELP for a list of valid commands.

TNS–00063   INTCTL: Failed to allocate memory for buffers

Cause   INTCTL was unable to allocate memory for internal buffers.

Action   Check the amount of available memory on your machine to ensure that there is enough memory to run this executable. If necessary, free up memory by running fewer programs, then try again.

TNS–00064   INTCTL: Failed to find CMANAGER_NAME in INTCHG.ORA

Cause   INTCTL was unable to find the CMANAGER_NAME parameter in INTCHG.ORA.

Action   Check that the INTCHG.ORA file is properly constructed.

TNS–00065   INTCTL: Command cannot be executed remotely

Cause   A command other than status and version has been attempted remotely.

Action   If you desire to execute any command other that status and version, you must run INTCTL on the Interchange machine.

Interchange Error Messages (TNS–00100 to 00499)

TNS–00100   Unable to allocate memory

Cause   INTCTL was unable to allocate memory for internal buffers.

Action   Check the amount of available memory on your machine to ensure that there is enough memory to run this executable. If necessary, free up memory by running fewer programs, then try again.

TNS–00101   File Operation Error

Cause   Error in accessing, reading, or writing a particular file.

Action   Check the existence of, or operating system access to, the log and trace file locations.

TNS–00102   Keyword–Value binding operation error

Cause   Not normally visible to the user. May indicate a shortage of memory.

Action   If error persists contact Worldwide Customer Support.

TNS–00103   Parameter file load error

Cause   Parameter file process failed.

Action   Check to make sure that all parameter files necessary for the Interchange are present (TNSNAV.ORA, TNSNET.ORA and INTCHG.ORA). If these files are present and properly configured, turn on tracing and repeat the operation. Turn off tracing when the trace is complete. Look in the trace file for errors in the parameter loading process. If error persists contact Worldwide Customer Support.

TNS–00104   Data stream open/access error

Cause   Unable to open or access data stream for either log or trace files for the Interchange.

Action   Check read/write permissions on Oracle trace and log files and directories. Check for sufficient available space on disk.

TNS–00105   Could not initialize tracing

Cause   The INTCHG.ORA file is improperly configured. Verify the trace parameters specified in INTCHG.ORA.

Action   If error persists contact Worldwide Customer Support.

TNS–00106   Failed to open log file

Cause   Unable to access or obtain write permission to create log file.

Action   Check existence of or access to log file directory.

TNS–00107   Unable to initialize TNS global data

Cause   Not normally visible to the user. This error may be caused by insufficient memory on machine

Action   Add more resources. If error persists contact Worldwide Customer Support.

TNS–00108   TNS_ADMIN not defined

Cause   TNS_ADMIN pointer is not set.

Action   Set the TNS_ADMIN pointer before running application.

TNS–00109   Message could not be printed; not enough memory

Cause   Printing of message failed due to lack of memory. Not normally visible to the user.

Action   Increase the resources on your machine. If error persists contact Worldwide Customer Support.

TNS–00110   Could not initialize network from file TNSNET.ORA

Cause   Poorly formed network information in network file.

Action   Check network configuration data to assure that at least one Interchange is defined in TNSNET.ORA. Regenerate the file using the Oracle Network Manager if possible.

TNS–00111   Failed to get configuration data from TNSNET.ORA or TNSNAV.ORA

Cause   Poorly formed configuration information in network files TNSNET.ORA or TNSNAV.ORA.

Action   Check TNSNET.ORA and TNSNAV.ORA to confirm that they are correct.

TNS–00112   Failed to find configuration file name

Cause   Name specified for configuration file was incorrect.

Action   Check for presence of the configuration file.

TNS–00113   Failed to open error log file

    Cause   Could not open error log file during startup of Navigator or Connection Manager due to read or write permission problems or non–existent error directory.

   Action   Create the standard error directory or assure that if one is present the Interchange executables can write to it.

TNS–00114   Internal error– Allocation of addresses not performed

    Cause   Internal error. Should not normally occur.

   Action   Contact Worldwide Customer Support.

TNS–00115   Could not allocate pump global buffers

    Cause   Not enough memory to allocate pump buffers.

   Action   Decrease the number of PUMP_BUFFERS in INTCHG.ORA.

TNS–00116   Pump failed during initial bequeath

    Cause   Error in assigning connection to a new pump. This error may be caused by insufficient machine resources.

   Action   Attempt the connection again. The pump should recover from such a failure. If machine resources appear to be the problem, add more resources or shut down some active applications. If the problem persists, contact Worldwide Customer Support.

TNS–00117   Internal error– No data passed through pump

    Cause   Internal error. Data expected has not arrived yet.

   Action   If error persists, contact Worldwide Customer Support.

TNS–00119   Missing PUMP_CONNECTIONS in INTCHG.ORA

    Cause   No PUMP_CONNECTIONS parameter specified in INTCHG.ORA.

   Action   Add PUMP_CONNECTIONS parameter to INTCHG.ORA. If the file is generated by the Oracle Network Manager, this error should not occur.

TNS–00120   Missing PUMPS in INTCHG.ORA

   Cause   No PUMPS parameter specified.

   Action Add an appropriate number of PUMPS to INTCHG.ORA. Use the Oracle
               Network Manager to generate the configuration files.

TNS–00121   Missing CMANAGER_NAME in INTCHG.ORA

   Cause   No CMANAGER_NAME specified in INTCHG.ORA.

   Action Define the CMANAGER_NAME parameter in INTCHG.ORA; it must match
               the CMANAGER_NAME parameter used in TNSNET.ORA for that
               Interchange. This will happen automatically if the Oracle Network Manager is
               used.

TNS-00122   Missing ADDRESS(es) in TNSNET.ORA file

   Cause   No ADDRESS or ADDRESS_LIST parameter specified in TNSNET.ORA.

   Action Define a valid set of ADDRESSes for the Connection Manager in the
               TNSNET.ORA file.

TNS–00123   Unable to perform a listen on configured ADDRESS(es)

   Cause   Another process is already listening on this address or the ADDRESS is
               incorrectly defined.

   Action Check the ADDRESS(es) defined in TNSNET.ORA (for the Connection
               Manager) for errors. Verify that another program is not using them.

TNS–00124   Internal error – Unable to create empty address

   Cause   Internal error. Should not normally occur.

   Action If problem persists contact Worldwide Customer Support.

TNS–00125   Failed to get number of Interchanges in TNSNET.ORA

   Cause   Error in the TNSNET.ORA file.

   Action Check the contents of TNSNET.ORA and eliminate errors. Regenerate
               TNSNET.ORA using the Oracle Network Manager.

TNS–00126   Missing Connection Manager name and address in TNSNET.ORA

Cause   The Interchange name specified in INTCHG.ORA is not defined in the
TNSNET.ORA file.

Action   Define one Connection Manager name and set of addresses for each
Interchange in the network. Regenerate the SQL*Net configuration files using
the configuration tool.

TNS–00127   Missing Connection Manager name in TNSNET.ORA

Cause   One or more Connection Manager names are missing from TNSNET.ORA.

Action   Ensure that each Connection Manager name is defined in TNSNET.ORA.
Regenerate TNSNET.ORA using the Oracle Network Manager.

TNS–00128   Missing COMMUNITY in TNSNET.ORA

Cause   One or more ADDRESSes do not have a COMMUNITY assigned.

Action   Ensure that all addresses have a COMMUNITY defined in TNSNET.ORA.

TNS–00129   Internal error – Failed to create new community

Cause   Internal Error. Should not normally occur. There may be a resource limitation
problem on the machine.

Action   Stop and restart Interchange. If possible, make more memory available on the
machine. If problem persists, contact Worldwide Customer Support.

TNS–00130   Failed to create Interchange's internal address

Cause   There is an error in one of the addresses listed in TNSNET.ORA.

Action   Check the file for errors in defining Interchanges.

TNS–00131   Missing COMMUNITY in COMMUNITY_COST_LIST in TNSNET.ORA

Cause   A COMMUNITY keyword–value pair is missing within the
COMMUNITY_COST_LIST in TNSNET.ORA.

Action   Define the communities with a COMMUNITY name and associated COST in
COMMUNITY_COST_LIST.

TNS–00132   COST value must be an integer greater than 0

Cause   A community has been defined in TNSNET.ORA with a COST of 0.

Action   Assign an alternate value that is greater than 0.

TNS–00133   Missing LOCAL_COMMUNITIES field in TNSNAV.ORA

Cause   Improperly configured TNSNAV.ORA file.

Action   Define the LOCAL_COMMUNITIES fields correctly in TNSNAV.ORA.

TNS–00135   Missing TNS error message file

Cause   No error message file is present.

Action   Ensure that the ORACLE environment is correctly set for your platform and that there is a message directory that contains the correct error message file.

TNS–00136   Did not register product/facility for TNS error message

Cause   Error message file error.

Action   Ensure that the ORACLE environment is correctly set for your platform and that there is a message directory that contains the correct error message file.

TNS–00137   Failed to get TNS error message file entry

Cause   No TNS error message file present.

Action   Ensure that the ORACLE environment is correctly set for your platform and that there is a message directory that contains the correct error message file.

TNS–00138   Failed to find ORACLE executable directory

Cause   The ORACLE environment is not correctly set.

Action   Ensure that the ORACLE environment is correctly set and the error messages file is in the correct place.

TNS–00139   Internal – Data passed from the Interchange listener is poorly formed

Cause   Internal error in Interchange.

Action   Check that you are using compatible components of the Interchange product, using the INTCTL VERSION command. If the problem persists, call Worldwide Customer Support.

TNS–00140   Interchange specified was not found in network tables

Cause   Could not find the Interchange specified in a control request.

Action   Check that the Interchange specified is in TNSNET.ORA.

TNS–00141   **Failed to get file stream information**

Cause   Error in the file stream package.

Action   None.

TNS–00144   **PUMP_CONNECTIONS value in INTCHG.ORA is too large**

Cause   The number of PUMP_CONNECTIONS specified in INTCHG.ORA is too large to be supported on this platform.

Action   Consult the Oracle operating system specific manual for the value for the number of PUMP_CONNECTIONS.

TNS–00145   **PUMPS value in INTCHG.ORA is too large**

Cause   The number of PUMPS specified in INTCHG.ORA is too large to be supported on this platform.

Action   Consult the Oracle operating system specific manual for the value for the number of PUMP_CONNECTIONS.

TNS–00146   **Internal–– Retry data request within pump**

Cause   The data space provided in order to receive data from the pump is too small.

Action   Operation must be retried with a larger buffer.

TNS–00147   **Failed to start a pre–spawned pump**

Cause   The Connection Manager was unable to start a pump during startup.

Action   Check all configuration parameters and assure that they are correct. Turn on tracing to determine the area that the failure ocurred in.

TNS–00200   **Unable to do nsanswer on context: result=*string***

Cause   Requester of service may have aborted or options negotiation failed.

Action   Try making the connection again. If the problem persists call Worldwide Customer Support.

TNS–00201   **Unable to read answer connection data: *string***

Cause   Improperly formed connect data sent to the Interchange listener.

Action   If problem persists, check the application using the Interchange (it may be closing down or crashing). Call Worldwide Customer Support.

TNS–00202   **Failure in redirecting call: Original to *string* Redirect to *string***

Cause   Internal error: could not redirect call to a pump or other Interchange listener. The cause may be insufficient network or machine resources.

Action   Add resources or close some running applications in order to free up resources. If error persists, call Worldwide Customer Support.

TNS–00203   **Unable to start tracing in intlsnr**

Cause   Failure in setting up tracing for Interchange listener.

Action   Check file permissions in Network trace directory. Also check to make sure that if trace file names and directories are specified in INTCHG.ORA, they are correct.

TNS–00224   **No more connections available**

Cause   More connections were attempted to the Interchange than are configured in INTCHG.ORA.

Action   Wait until the Interchange is not as busy or change the number of connections allowed in INTCHG.ORA and restart the Interchange.

TNS–00225   **Unable to bequeath connection to pump**

Cause   Unable to start a pump because either the executable cannot be found or too many processes are currently running on a particular machine.

Action   Reduce the number of processes on the machine or increase the resources on the machine.

TNS–00226   **Unable to contact pump *num* to send broadcast message *string***

Cause   Could not call a particular pump.

Action   None, but if the problem persists, call Worldwide Customer Support.

TNS–00227   **Unable to contact pump; Connection Manager declared pump dead**

Cause   A pump became an orphaned process. A protocol adapter is not working properly or machine network resources are being overused.

Action   This error is not immediately fatal; the orphaned pump may continue to function. Restart the Interchange when convenient. If the problem persists, call Worldwide Customer Support.

TNS–00228   **Failure in finding pump data**

Cause   Internal problem with data passed back from pump

Action   None.

TNS–00229   **Error in nscall: unable to deliver message: *string: error num***

Cause   Destination for call is unavailable.

Action   None.

TNS–00230   **Cannot start new pump process: *error string***

Cause   Unable to create a new process; possibly there are too many processes on the machine.

Action   Free machine resources by exiting other applications on the Interchange machine. If the problem continues you may need more memory on the machine. If you believe there are sufficient resources on the machine but the problem persists, contact Worldwide Customer Support.

TNS–00232   **Unable to set up connection**

Cause   Error log message sent from pump to indicate failure in initiating connection because of errors in the call string: network problem or resource limitations.

Action   None.

TNS–00233   **Interchange failed to make contact with destination with errors: *string***

Cause   Pump call to destination failed.

Action   Check destination.

TNS–0235   **Aborting connection: Protocol Adapter errors:*error error***

Cause   Pump aborting connection because connection has been up too long, or there is some other network error on the connection.

Action   None.

TNS–00236   **Failed to initialize tracing**

Cause   Pump failed to initialize tracing.

Action   Check that INTCHG.ORA is properly configured.

TNS–00237   **Failed to refuse connection**

Cause   Connection may have aborted before error took place in pump.

Action   None.

TNS–00245   **Connection Manager: Failed to open log file**

Cause   Message sent back to control program from Interchange.

Action   None.

TNS–00246   **Connection Manager: Failed to start tracing**

Cause   Message sent back to control program from Interchange.

Action   None.

TNS–00247   **Unable to allocate memory for configuration data from TNSNET.ORA file**

Cause   Navigator failed to allocate enough memory for TNSNET.ORA configuration file.

Action   Increase machine resources available for running the Interchange or remove some other running applications from the machine.

TNS–00248   **Unable to get information from file: *string*: Exiting with NR error: *string***

Cause   TNSNAV.ORA is poorly configured or addresses provided are already being used by another application.

Action   Check the syntax of the TNSNAV.ORA file; if necessary, assign new addresses.

TNS–00249   **Unable to read network configuration data from file: *string* NR error: *string***

Cause   Network configuration file TNSNET.ORA is missing or poorly configured.

Action   Check to make sure that TNSNET.ORA is properly configured.

TNS–00251   **Failure in nstest**

Cause   NS test operation failed due to internal error.

Action   If the problem persists there may be a network problem or resource limitations on the machine. If these do not seem to be causing the problem, call Worldwide Customer Support.

TNS–00252   Unable to handle route request

Cause   Command requested did not exist.

Action   None.

TNS–00253   Error in reading network configuration data from file *string* NR error *string*

Cause   TNSNET.ORA is poorly configured or nonexistent.

Action   Check to make sure that TNSNET.ORA is properly configured.

TNS–00305   The Navigator encountered an invalid/unknown trace level

Cause   Message sent back by the Navigator indicating an invalid trace level.

Action   Reattempt the request with a correct trace level.

TNS–00306   Connection Manager encountered an invalid/ unknown trace level

Cause   Message sent back by the Connection Manager indicating an invalid trace level.

Action   Reattempt the request with a correct trace level.

TNS–00308   Navigator: Failed to open log while rereading parameter data

Cause   Request sent by the Navigator to control program indicating that it could not reopen log file after rereading parameter data.

Action   None.

TNS–00309   Connection Manager: Failed to open log while rereading parameter data

Cause   Request sent by the Connection Manager to control program indicating that it could not reopen log file after rereading parameter data.

Action   None.

TNS–00310   Navigator: Failed to start tracing after rereading parameter data

Cause   Message sent back to control program from Navigator.

Action   None.

TNS–00311   Connection Manager: Failed to start tracing after rereading parameter data

Cause   Message sent back to control program from Connection Manager.

Action   None.

TNS–00312   **Connection Manager: Failed to get version information**

Cause   Message sent back to control program from Connection Manager.

Action   None.

TNS–00313   **Navigator: Failed to get version information**

Cause   Message sent back to control program from Navigator.

Action   None.

TNS–00315   **Failed to allocate larger connect data area for getting pump data:**

Cause   Could not allocate a large enought area to get pump statistics; continue without them.

Action   None

TNS–00316   **Ran out of data buffers in the pump**

Cause   The Interchange is resource limited by having too few data buffers in the pump.

Action   If the problem persists (that is, if there are a lot of log messages), increase the number of pump buffers by increasing the value of the parameter PUMP_BUFFERS in INTCHG.ORA. Then shutdown and restart the Interchange to make the changes take effect.

TNS–00317   **Failed to contact Connectio Manager**

Cause   Connection Manager is not running.

Action   Start the Connection Manager and retry.

NT Error Messages (TNS–00501 to 00999)

TNS–00501   **Cannot allocate memory**

Cause   Sufficient memory could not be allocated to perform the desired activity.

Action   Either free some resource for TNS or add more memory to the machine. For further details, turn on tracing and reexecute the operation.

TNS–00502   Invalid argument

    Cause   An internal function received an invalid parameter.

    Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00503   Illegal ADDRESS parameters

    Cause   An illegal set of protocol adapter parameters was specified.

    Action   Check the parameters within the ADDRESS section of the TNSNAMES.ORA file. It may be helpful to turn on tracing and look at the addresses specified in the trace file, checking for spelling or other errors. Be sure to turn tracing off when the trace is complete.

TNS–00504   Operation not supported

    Cause   An internal function received a request to perform an operation that is not supported (on this machine).

    Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00505   Operation timed out

    Cause   The requested operation could not be completed within the timeout period.

    Action   For further details, turn on tracing and reexecute the operation.

TNS–00506   Operation would block

    Cause   An internal operation did not commence because to do so would block the current process and the user has requested that operations be non–blocking.

    Action   None needed; this is an information message.

TNS–00507   Connection closed

    Cause   Normal "end of file" condition has been reached; partner has disconnected.

    Action   None needed; this is an information message.

TNS–00508   No such protocol adapter

Cause   The protocol adapter requested for this connection does not exist.

Action   Install the protocol adapter or use one that is available. Be sure that the correct protocols are listed in the configuration files.

TNS–00509   Buffer overflow

Cause   Too much data for buffer.

Action   Reexecute with larger receive buffer or smaller send buffer.

TNS–00510   Internal limit restriction exceeded

Cause   Too many files or sockets open simultaneously (or some other resource has been depleted).

Action   For further details, trace the operation for protocol details.

TNS–00511   No listener

Cause   The connection request could not be completed because no application is listening on the address specified, or the application is unable to service the connect request in a sufficiently timely manner.

Action   Ensure that the supplied destination address matches one of the addresses used by the listener –– compare the TNSNAMES.ORA entry with the appropriate LISTENER.ORA file (or TNSNAV.ORA if the connection is to go by way of an Interchange). Start the listener on the remote machine.

TNS–00512   Address already in use

Cause   Specified listener address is already being used.

Action   Start your listener with an unused address.

TNS–00513   Destination host unreachable

Cause   Contact cannot be made with remote party.

Action   Make sure the network driver is functioning and the network is up.

TNS–00514 **Contexts have different wait/test functions**

Cause Two protocol adapters have conflicting wait/test functions.

Action Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00515 **Name lookup failure**

Cause A protocol specific ADDRESS parameter cannot be resolved.

Action Ensure the ADDRESS parameters have been entered correctly; the most likely incorrect parameter is the node name.

TNS–00516 **Permission denied**

Cause User has insufficient privileges to perform the requested operation.

Action Acquire necessary privileges and try again.

TNS–00517 **Lost contact**

Cause Partner has unexpectedly gone away.

Action Investigate partner application for abnormal termination.

TNS–00518 **Incomplete read or write**

Cause A data send or receive failed.

Action Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00519 **Operating system resource quota exceeded**

Cause The current user has exceeded the allotted resource assigned in the operating system.

Action Acquire more operating system resource, or perform a different function.

TNS–00520 **Syntax error**

Cause The supplied connect descriptor contains illegal syntax.

Action Check the syntax of the connect descriptor for correct syntax.

TNS–00521   Missing keyword

Cause   The supplied connect descriptor is missing one or more TNS keywords.

Action   Check the syntax, and ensure all required keywords are present.

TNS–00522   Operation was interrupted

Cause   An internal operation was interrupted and could not complete.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00523   Previous operation was busy

Cause   Operation tried could not be successfully completed because the requested resource was busy.

Action   Attempt the operation again. If the error persists, contact Worldwide Customer Support.

TNS–00524   Current operation is still in progress

Cause   Internal operation is still in progress but will complete.

Action   None; wait for operation to complete.

TNS–00525   Insufficient privilege for operation

Cause   Operating system failed to complete operation because user lacked sufficient privileges.

Action   Check your platform–specific privileges.

TNS–00526   No caller (false async event)

Cause   Internal error.

Action   For further details, turn on tracing and reexecute the operation.

TNS–00527   Protocol Adapter not loadable

Cause   On some platforms (for example OS/2) protocol adapters are loaded at run–time. If the shared library (or DLL) for the protocol adapter is missing or one of its supporting libraries is missing, then this error is returned.

Action   For further details, turn on tracing and reexecute the operation. The trace file will have the name of the shared library (or DLL) that could not be loaded.

TNS–00528   Protocol Adapter not loaded

Cause   On some platforms (for example OS/2) protocol adapters are loaded at run–time. If the shared library (or DLL) for the protocol adapter has not been loaded, then this error is returned.

Action   For further details, turn on tracing and reexecute the operation. The trace file will have the name of the shared library (or DLL) that has not been loaded.

TNS–00530   Protocol adapter error

Cause   A generic protocol adapter error occurred.

Action   For further details, turn on tracing and reexecute the operation.

TNS–00532   No previous async operation to wait on

Cause   Internal protocol adapter error.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00533   Connection dissolved or not yet made

Cause   Internal protocol adapter error.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00534   Failed to grant connection ownership to child

Cause   Internal protocol adapter error.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00535   Failed to send or receive disconnect message

Cause   Internal protocol adapter error.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00536   Connection entered inappropriate state

Cause   Internal protocol adapter error.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00537   Index into protocol adapter table is out of legal range

  Cause   Internal protocol adapter error.

  Action For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–00539   Network or protocol services are down

  Cause   The network services on or from your node are not running or have stopped running.

  Action Restart your network and protocol services on this platform. If error persists, contact Worldwide Customer Support.

Listener Error Messages (TNS–01000 to 02500)

TNS–1064   Listener configuration changes will not be persistent

  Cause   Configuration changes to the listener will not be visible when the listener starts up again as the check–pointing has been turned off in listener.ora

  Action Edit LISTENER.ORA setting USE_CKPFILE_LISTENER=true

TNS–01100   TNS returned error *num* when attempting to start the listener

  Cause   The bequeath (BEQ) mechanism that LSNRCTL uses to start the listener failed.

  Action Check to ensure that the BEQ driver is installed – if it is not then the nserror code returned will be 12538 (NSENODRIVER). To fix this, reinstall SQL*Net V2 and make sure that the BEQ driver is selected when it is installed. If this is not the problem then the error is probably caused by the fact that the TNSLSNR executable cannot be found in the place expected in your platform's ORACLE environment. Verify that the full pathname of the TNSLSNR executable as displayed by LSNRCTL is correct.

TNS–01101   Could not find service name *string*

  Cause   The service name could not be resolved by name–lookup.

  Action Verify that the listener name or service name specified to LSNRCTL has the correct name and address defined in LISTENER.ORA or in TNSNAMES.ORA.

TNS–01102   TNS application contacted was not the listener

Cause   Another TNS application such as the Interchange was listening at the address contacted. There may be another TNS application listening at the address contacted and the data returned is not in the appropriate format.

Action   Verify that the listener name or service name specified to LSNRCTL has the correct name and address defined in LISTENER.ORA or in TNSNAMES.ORA.

TNS–01103   Protocol specific component of the address is incorrectly specified

Cause   The ADDRESS used to contact the listener is not correctly specified. This error occurs because the address fails to specify the destination of the listener. The address is well–formed (for example, there are no missing parentheses) but it is missing a protocol specific component. For example, this is the error returned when the HOST component is missing from a TCP/IP address string.

Action   Edit the ADDRESS in LISTENER.ORA to include the required protocol–specific keywords. For more information about the keywords required by different protocol adapters, see the Oracle operating system specific documentation for your platform.

TNS–01106   Listener using listener_name *listener_name* has already been started

Cause   Another listener is already listening on one of the ADDRESSes specified.

Action   Shutdown the previous listener specified by the *listener_name* before starting this one.

TNS–01107   A valid trace level was not specified

Cause   Failed to specify a valid trace level for the LSNRCTL trace command.

Action   Specify one of OFF, USER, or ADMIN. Type "lsnrctl help trace" for more information or consult Chapter 2 of this manual for an introduction to the concepts of tracing.

TNS–01108   Listener password prompt failed

Cause   Password not entered via tty.

Action   Enter the listener password on a tty device.

TNS–01109   Listener password encryption failed

Cause   Possibly garbled password entered.

Action   Re–enter the listener password, using valid ASCII characters. If problem persists, contact Worldwide Customer Support.

TNS–01110 **Mismatch – password unchanged**

Cause New password and reentered new password are different

Action Re–enter the listener password, make sure that New password and reentered new password are the same

TNS–01111 **Log status can either be ON or OFF**

Cause Failed to specify a log status value for the LSNRCTL log_status command.

Action Specify one of ON or OFF. Type ”LSNRCTL help set log_status” for more information or consult Chapter 2 of this manual for an introduction to the concepts of logging.

TNS–01150 **The address of the specified listener name is incorrect**

Cause The address on which the listener attempted to listen contains a syntax error.

Action For the listener name or service name specified to LSNRCTL, check that the address or connect descriptor is well–formed. You can find the listener name in LISTENER.ORA, or you can access the listener through the service name in TNSNAMES.ORA.

TNS–01151 **Missing listener name *listener_name* in LISTENER.ORA**

Cause The listener could not find the listener name specified.

Action Make sure that valid addresses on which to listen are specified for the listener name in LISTENER.ORA.

TNS–01152 **All addresses specified for the listener name *listener_name* failed**

Cause The listener failed to listen on any of the specified addresses.

Action Make sure that another application is not listening on the addresses specified or check that the appropriate protocol adapters are installed. Turn on tracing and execute again for more information.

TNS–01154   **SID detected in old format that is no longer supported**

Cause   One of the SIDs was specified in an obsolete format.

Action   Check LISTENER.ORA for a line of the form:

sid = (SID=(ORACLE_HOME=*oracle_home*))
or
sid = (SID_DESC=(ORACLE_HOME=*oracle_home*))

The above format is no longer supported and the SID_LIST_*listener_name* format described in the *SQL*Net Administrator's Guide* should be used. For example,

SID_LIST_LISTENER = (SID_LIST=
        (SID_DESC=(SID_NAME=*sid*)(ORACLE_HOME=*oracle_home*)))

TNS–01155   **Incorrectly specified SID_LIST_*listener_name* parameter in LISTENER.ORA**

Cause   SID_LIST_*listener_name* in LISTENER.ORA contains an error.

Action   Be sure this parameter is specified as described in the *SQL*Net Administrator's Guide.* For example, (SID_LIST_LISTENER = (SID_DESC=(SID_NAME=*sid*) (ORACLE_HOME=*oracle_home*))).

TNS–01156   **Missing or inappropriate PROTOCOL, TIMEOUT, or POOL_SIZE parameter from PRESPAWN_DESC**

Cause   PRESPAWN_DESC in each SID_DESC does not have required fields.

Action   Be sure the parameters required for PRESPAWN_DESC are specified in each SID_DESC. For example:

```
SID_LIST_LISTENER = (SID_LIST= (SID_NAME=sid) (PRESPAWN_MAX=5)
     (ORACLE_HOME=oracle_home)
     (PRESPAWN_DESC=(PROTOCOL=tcp)(POOL_SIZE=10)(TIMEOUT=30))))
```

TNS–01157   **Can only listen on *num* addresses – ignoring remaining addresses**

Cause   Too many addresses were given to listen on.

Action   Reduce the number of addresses to listen on and use another listener to listen on the remaining addresses.

TNS–01158   **Internal connection limit has been reached, preventing dispatcher from connecting**

Cause   The internal SQL*Net connection list is full. Too many dispatchers are connected to the listener; therefore, no more dispatchers are allowed to connect.

Action   For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–01159   **Internal connection limit has been reached; listener has shut down**

Cause   The internal SQL*Net connection list is full. The listener is configured to use too many SQL*Net connections.

Action   Reduce the number of listen addresses or services connected to the listener. For further details, turn on tracing and reexecute to operation. If error persists, contact Worldwide Customer Support.

TNS–01167   **The command *string* is not supported by the listener contacted**

Cause   The listener does not recognize the command.

Action   This is caused when a newer version of LSNRCTL contacts an old listener. Upgrade listener if executing this command is important.

TNS–01168   **Cannot allocate memory**

Cause   Sufficient memory could not be allocated to perform the desired activity.

Action   Either free some resource for TNS, or add more memory to the machine. For further details, turn on tracing and reexecute the operation.

TNS–01169   **The listener did not recognize the password**

Cause   The security feature of the listener is preventing the intended operation.

Action   Some commands like stopping the listener are only intended to be used by DBAs. A client can only use LSNRCTL to get the status of a listener and the version of the listener software running. The command that the client attempted may not have been appropriate. If a DBA is attempting the command then use the "set password" command at the LSNRCTL prompt to one of the appropriate passwords in the PASSWORDS_*listener_name* entry in LISTENER.ORA. If you do not know a password then you are trying to execute an inappropriate command.

TNS–01170   **Event detection broke for address:** *addrress*

Cause   he event detection mechanism for the address specified returned an error.

Action   Future attempts to detect events on this address will fail. The listener will deallocate the listen address and connections will no long be accepted for this address. This error is not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–01171   **Event detection broke for dispatcher:** *dispatcher*

Cause   The event detection mechanism for the dispatcher specified returned an error.

Action   Future attempts to detect events on this dispatcher will fail. The listener will deallocate the dispatcher and connections will no long be redirected to this dispatcher. This error is not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–01172   **Listener has shut down since all listen addresses have been deallocated**

Cause   The event detection mechanism broke and caused all listen addresses to be removed.

Action   Error 1170 has occured and caused all the listen addresses to be deallocated. Since all the listen addresses have been removed, no more connections can be established to this listener so it shuts itself down. This error is not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–01173   **Missing or inappropriate PRESPAWN_MAX parameter from SID_DESC**

Cause   PRESPAWN_MAX in each SID_DESC does not have required fields.

Action   Be sure the parameters required for PRESPAWN_DESC are specified in each SID_DESC. For example:

```
SID_LIST_LISTENER = (SID_LIST= (SID_NAME=sid) (PRESPAWN_MAX=15)
     (ORACLE_HOME=oracle_home)
     (PRESPAWN_DESC=(PROTOCOL=tcp)(POOL_SIZE=10)(TIMEOUT=30))))
```

TNS–1174   **The sum of the POOL_SIZEsfrom each PRESPAWN_DESC is greater than the PRESPAWN_MAX**

Cause   The minimum value for PRESPAWN_MAX should be the sum of the POOL_SIZEs in each SID_DESC. For example:

```
SID_LIST_LISTENER = (SID_LIST= (SID_NAME=sid) (PRESPAWN_MAX=15)
      (ORACLE_HOME=oracle_home)
      (PRESPAWN_DESC=(PROTOCOL=tcp)(POOL_SIZE=10)(TIMEOUT=30)
      (PRESPAWN_DESC=(PROTOCOL=icp)(POOL_SIZE=5)(TIMEOUT=30))))
```

TNS–01175   **Password unchanged**

Cause   Unable to set the new password.

Action   Be sure to see that the new password has legal ASCII characters. Try to set the password again.

TNS–01176   **Error in loading the new parameter value**

Cause   Illegal values given for the parameters.

Action   Make sure that the parameter values are valid. Refer to the manual for the legal values for parameters.

TNS–01177   **Log Status is OFF. Log file/directory unchanged**

Cause   Log status needs to be set ON for changing the log file

Action   Use command set log_status ON to set the log status of the listener ON.

TNS–01178   **Trace Level is 0. Trace file/directory unchanged**

Cause   Trace Levelneeds to be set for changing the trace file/directory.

Action   Use command set trc_level ON to set the trace level.

TNS–01200   **The listener must be suid root**

Cause   The ownership privileges of the TNSLSNR executable are incorrect.

Action   Contact your DBA or system administrator to change the ownership of the file to be suid root and restart the listener. This action is necessary because the user that started the process should claim ownership.

Comment: This error is reported only on Trusted Oracle platforms.

TNS–01201   **Listener cannot find executable *string* for SID *string***

Cause   The executable for the Oracle dedicated server process cannot be found.

Action   Check the appropriate SID_DESC in LISTENER.ORA to make sure that the ORACLE_HOME component is pointing to a valid location. If this component is not set, then check the value of the ORACLE_HOME environment variable.

Comment: This error is reported only on UNIX platforms.

TNS–01202   **Missing the dba group (*string*) specified by DBA_GROUP in SID_DESC**

Cause   The dba group specified is missing from /ETC/GROUP.

Action   Check the DBA_GROUP parameter in the SID_DESC in LISTENER.ORA and verify it has a valid entry in /ETC/GROUP.

Comment: This error is reported only on UNIX platforms.

TNS–01203   **Missing the account *string* specified by DEFAULT_USER_ACCOUNT in SID_DESC**

Cause   The unprivileged OS account is missing from /ETC/PASSWD.

Action   Check the DEFAULT_USER_ACCOUNT parameter in the SID_DESC in LISTENER.ORA and verify it has a valid entry in /ETC/PASSWD. This is the account that the ORACLE shadow process will be started with if the connecting client has database privileges or does not exist on this machine.

Comment: This error is reported only on UNIX platforms.

TNS–01204   **Unprivileged account *string* is in dba group *string***

Cause   The unprivileged account has DBA privileges. The unprivileged account specified by DEFAULT_USER_ACCOUNT in the SID_DESC in LISTENER.ORA is a member of the dba group specified by DBA_GROUP in the SID_DESC. The unprivileged account cannot belong to the dba group because this would be a security violation with OPS$ logins.

Action   Remove the unprivileged account from the dba group.

Comment: This error is reported only on UNIX platforms.

NA Internal Messages (TNS–02501 to 03500)

TNS–02501   Authentication: no more roles

Cause   When a process attempted to retrieve a role from the authentication service, no more were available.

Action   None. This error is used internally and occurs in the normal course of events.

TNS–02502   Authentication: unable to find initialization function

Cause   he native authentication service was unable to call the initialization function for the specified service because it does not exist.

Action   If this service adaptor came directly from Oracle, contact Worldwide Customer Support, as this error should never happen. Otherwise, add an initialization function for the service being used.

TNS–02503   Parameter retrieval failed

Cause   The native service layer was unable to retrieve a parameter from a configuration file.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02504   Parameter count retrieval failed

Cause   The native service layer was unable to determine the number of arguments given for a configuration parameter.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02505   Authentication: null context pointer provided

Cause   nau_ini() was passed a null pointer for the context that it is supposed to use.

Action   Call nau_ini() with a pointer to a context structure.

TNS–02506   Authentication: no type string

Cause   An authentication context structure does not contain a string that describes the authentication service being used.

Action   Contact Worldwide Customer Support

TNS–02507   Encryption: algorithm not installed

Cause   After picking an algorithm, the server was unable to find an index for it in its table of algorithms. This should be impossible because the algorithm was chosen (indirectly) from that list.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–0208   Encryption: server negotiation response in error

Cause   The server's response in negotiation was in error.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–02509   Authentication: invalid process state

Cause   The state in which a process is running does not correspond to any of the values which are valid.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02510   Invalid numeric data type

Cause   The type of a piece of numeric data that was received does not correspond to one of the valid values.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02511   Invalid data type

Cause   The type of a piece of data that was received or to be transmitted did not correspond to any of the correct values.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02512   Invalid status received

Cause   A process received a value as a status flag which was unknown.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02513   **Requested data type does not match retrieved type**

Cause   A service requested data whose type does not match that of the segment which was sent from the other process.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02514   **Invalid packet received**

Cause   A process received a data packet which was not meant for the native services layer.

Action   If it is possible, enable tracing and attempt to reproduce the problem. In any event, contact Worldwide Customer Support.

TNS–02515   **Encryption/crypto–checksumming: unknown control type**

Cause   An encryption or crypto–checksumming algorithm "control" function was called, but did not recognize the "type" argument it was given.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

TNS–02516   **No data available**

Cause   A native service attempt to retrieve data but no data was available to be received.

Action   The error is not normally visible as it usually is only used to signal the end of a data stream. If the error becomes visible, enable tracing to reproduce the problem and contact Worldwide Customer Support.

TNS–02517   **Key smaller than requested size**

Cause   The key returned by SNS key negotiation was smaller than the size requested by some service (either encryption or crypto–check–summing).

Action   The error is not normally visible. If the error persists, enable tracing, reproduce the problem, and contact Worldwide Customer Support.

TNS–02518   **key negotiation error**

Cause   An error occurred while the two sides of the connection were negotiating an SNS key.

Action   he error is not normally visible. If the error persists, enable tracing to reproduce the problem and contact Worldwide Customer Support.

TNS–02519   no appropriate key–negotiation parameters

Cause   No appopriate key–negotiation parameters are available for the key size requested either by encryption or by crypto–checksumming.

Action   The error is not normally visible. Enable tracing to reproduce the problem and contact Worldwide Customer Support.

TNS–02520   encryption/crypto–checksumming: no Diffie–Hellman seed

Cause   The "sqlnet.crypto_seed" parameter is missing from the SQLNET.ORA parameters file for SQL*Net.

Action   Add this line to SQLNET.ORA, perhaps by using Network Manager: sqlnet.crypto_seed = "randomly–chosen text"

TNS–02521   encryption/crypto–checksumming: Diffie–Hellman seed too small

Cause   The "sqlnet.crypto_seed" parameter in the SQLNET.ORA parameter file for SQL*Net is too small.

Action   Add more randomly–chosen text to it, perhaps using Network Manager.

TNS–02524   Authentication: privilege check failed

Cause   An error occurred when the SQL*Net authentication service attempted to verify that a user had a specific database privilege.

Action   This error should not happen normally. Enable tracing and attempt to repeat the error. Contact Customer Support.

TNS–02525   encryption/crypto–checksumming: self test failed

Cause   The SNS system detected an error while running tests on the active encryption or checksumming algorithm.

Action   Contact Customer Support.

TNS–02526   server proxy type does not match client type

Cause   The authentication type selected by the server does not match that picked by the client.

Action   Contact Worldwide Customer Support

TNS–03502   **Insufficient arguments. Usage: tnsping <address> [<count>]**

    Cause   Some required command–line arguments are missing.

    Action   Re–enter the command using the correct arguments.

TNS–03503   **Could not initialize NL**

    Cause   The network library could not be initialized.

    Action   This is an internal error which should not normally be visible. Ensure that memory is available to run the application and that there are no other operating system problems, and then attempt the command again.

TNS–03504   **Service name too long**

    Cause   The service name you are attempting to ping is too long.

    Action   Re–enter the command using the correct service name.

TNS–03505   **Failed to resolve name**

    Cause   The service name you provided could not be found in TNSNAMES.ORA, an Oracle Names server, or a native naming service.

    Action   Verify that you entered the service name correctly. You may need to ensure that the name was entered correctly into the network configuration using Oracle Network Manager.

TNS–03506   **Failed to create address binding**

    Cause   The TNSPING utility found the requested address or service name, but received an internal error when trying to use it.

    Action   This is an internal error which should not normally be visible. Ensure that memory is available to run the application and that there are no other operating system problems, and then attempt the command again.

TNS–03507   **Failure looking for ADDRESS keyword**

    Cause   The TNS address did not contain an ADDRESS keyword.

    Action   If you entered the TNS address on the command line, be sure that the syntax is correct. If you entered a service name on the command line, the address contains the wrong information. You should verify that the information was entered correctly with Oracle Network Manager.

TNS–03508   Failed to create address string

Cause   The TNSPING utility received an internal error when generating an address.

Action   This is an internal error which should not normally be visible. Ensure that memory is available to run the application and that there are no other operating system problems, and then attempt the command again.

TNS–03509   OK (*decimal* msec)

Cause   The operation succeeded, in this amount of time.

Action   No action necessary.

TNS–03510   Failed doe to I/O error

Cause   An I/O operation failed perhaps due to resource failure of premature window termination.

Action   This is an internal error which should not normally be visible. Do not close the TNSPING window before all I/O operations have completed.

TNS–03601   Failed in route information collection

Cause   The route could either not connect or encountered an unsupported version of SQL*Net.

Action   Check if SQL*Net along all node is version 2.3 or greater.

TNS–03602   Insufficient arguments. Usage: trcroute *address*

Cause   Some required command–line arguments are missing.

Action   Re–enter the command using the correct arguments.

TNS–03603   Encountered a node with pre–2.3 version of SQL*Net

Cause   Any version of SQL*Net before 2.3 doesn't support trcroute.

Action   Find the node that isn't responding to trcroute.

OSN Error Messages (ORA–12150 to 12195)

ORA–12150   **TNS:Unable to send data**

Cause   Unable to send data. Connection probably disconnected.

Action   Re–establish connection. If the error is persistent, turn on tracing and reexecute the operation.

ORA–12151   **TNS:Received bad packet type from network layer**

Cause   Internal error.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12152   **TNS:Unable to send break message**

Cause   Unable to send break message. Connection probably disconnected.

Action   Re–establish connection. If the error is persistent, turn on tracing and reexecute the operation.

ORA–12153   **TNS:Not connected**

Cause   Not currently connected to a remote host.

Action   Re–establish connection.

ORA–12154   **TNS:Could not resolve service name**

Cause   The service name specified is not defined in the TNSNAMES.ORA file.

Action   Make the following checks and correct the error:

- Verify that a TNSNAMES.ORA file exists and is in the proper place and accessible. See the operating system specific manual for details on the required name and location.

- Check to see that the service name exists in one of the TNSNAMES.ORA files and add it if necessary.

- Make sure there are no syntax errors anywhere in the file. Particularly look for unmatched parentheses or stray characters. Any error in a TNSNAMES.ORA file makes it unusable. See Chapter 4 in the *SQL*Net Administrator's Guide*. If possible regenerate the configuration files using the Oracle Network Manager.

ORA–12155   **TNS:Received bad datatype in NSWMARKER packet**

Cause   Internal error during break handling.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12156   **TNS:Tried to reset line from incorrect state**

Cause   Internal error during break handling.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12157   **TNS:Internal network communication error**

Cause   Internal error during network communication.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12158   **TNS:Could not initialize parameter subsystem**

Cause   Unable to locate parameter file.

Action   Verify that a valid parameter file exists, and is readable.

ORA–12159   **TNS:trace file not writeable**

Cause   The trace file to be generated is not writeable by this user.

Action   If the user does not have write permissions in the directory to which the trace file will be written, contact the DBA to get the proper permissions or use TRACE_DIRECTORY_CLIENT in SQLNET.ORA to specify a directory the user can write to.

ORA–12160   **TNS:Internal error: Bad error number**

Cause   Corrupt error reporting subsystem.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12161   **TNS:Internal error: partial data received**

Cause   The connection may be terminated.

Action   Reconnect and try again. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12162   **TNS:service name is incorrectly specified**

Cause   The connect descriptor corresponding to the service name in TNSNAMES.ORA is incorrectly specified.

Action   Make sure there are no syntax errors in the connect descriptor. Particularly look for unmatched parentheses or stray characters. Any error in the TNSNAMES.ORA file makes it unusable. See the *SQLNet V2 Administrator's Guide.*

ORA–12163   **TNS:Connect descriptor is too long.**

Cause   The connect descriptor corresponding to the service name in TNSNAMES.ORA is too long.

Action   The maximum length for a connect descriptor is 512 bytes and this limit has been exceeded. Use a smaller connect descriptor. If this is not possible, contact Worldwide Customer Support.

ORA–12164   **TNS:sqlnet.fdf file not present**

Cause   The sqlnet.fdf file doesn't exist in $ORACLE_HOME/network/admin.

Action   The sqlnet.fdf file is required for Oracle Tracing to occur. Either install the sqlnet.fdf file in $ORACLE_HOME/network/admin or turn off tracing in your ORA file.

ORA–12165   **TNS:Trying to write trace file into swap space**

Cause   Oracle Trace doesn't allow writing trace information into your swap space.

Action   Oracle Trace cannot write trace information into swap space so either disable tracing or redirect trace files to be written to another area of your disk.

ORA–12166   **TNS:client cannot connect to HO agent**

Cause   NVstring contained DESCRIPTION/HO.

Action   Call HO agent from integrating server.

NR Error Messages (ORA–12196 to 12285)

ORA–12196   **TNS:received an error from TNS**

Cause   The navigation layer received an error from TNS.

Action   See the error log file for the specific TNS error.

ORA–12197   **TNS:keyword–value resolution error**

Cause   The navigation layer received an error while trying to look up a value for a keyword.

Action   Check the syntax of the connect descriptor.

ORA–12198   **TNS:could not find path to destination**

Cause   Could not navigate a path through Interchanges to the destination. This error occurs if an invalid community is in the address string, or the address includes a protocol that is not available the TNSNAV.ORA file does not have a correct CMANAGER address specified, or the Interchange is down.

Action   Assure that the Interchanges necessary to get to the desired destination are up and have available capacity for an additional connection. Also check that the correct community and protocol have been specified in the CMANAGER address used.

ORA–12200   **TNS:Could not allocate memory**

Cause   Out of memory on machine.

Action   Reconfigure machine to have more storage or run fewer applications while the Interchange is running.

ORA–12201   **TNS:Encountered too small a connection buffer**

Cause   TNS connection buffer supplied by the application was too small to retrieve the data sent back.

Action   Supply a larger connection buffer. If problem persists, call Worldwide Customer Support.

ORA–12202   **TNS:Internal navigation error**

Cause   Internal navigation error.

Action   Not normally visible to the user. For further details contact Worldwide Customer Support.

ORA–12203   **TNS:Unable to connect to destination**

Cause   Invalid TNS address supplied or destination is not listening. This error can also occur because of underlying network transport problems.

Action   Verify that the service name you entered on the command line was correct. Ensure that the listener is running at the remote node and that the ADDRESS parameters specified in TNSNAMES.ORA are correct. Finally, check that all Interchanges needed to make the connection are up and running.

ORA–12204   **TNS:Received data refused from an application**

Cause   The application using the Interchange refused the connection at the listener.

Action   Make sure that the listener at the destination is functioning correctly. If it is and the problem persists, contact Worldwide Customer Support.

ORA–12205   **TNS:Could not get failed addresses**

Cause   Internal navigation error.

Action   Not normally visible to the user. For further details contact Worldwide Customer Support.

ORA–12206   **TNS:Received a TNS error during navigation**

Cause   Internal navigation error occurred because of an unexpected TNS error.

Action   Look at the log file to find the TNS error. If necessary, turn on tracing and repeat the operation.

ORA–12207   **TNS:Unable to perform navigation**

Cause   Improperly configured navigation file TNSNAV.ORA.

Action   Check the syntax of the TNSNAV.ORA file on the application's machine, and verify that it lists the correct communities.

ORA–12208   **TNS:could not find the TNSNAV.ORA file**

Cause   Either the ORACLE environment is not set up correctly, or the TNSNAV.ORA file is not present.

Action   Ensure that the ORACLE environment is set up appropriately on your platform and that a TNSNAV.ORA file is present.

ORA–12209   TNS:encountered uninitialized global

Cause   Application calling navigation routine has not properly configured the global variables. There are no TNSNAV.ORA files available, or they are defective.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12210   TNS:error in finding Navigator data

Cause   Application calling navigation routine has not properly configured the TNSNAV.ORA file.

Action   Check the syntax of the TNSNAV.ORA.

ORA–12211   TNS:needs PREFERRED_CMANAGERS entry in TNSNAV.ORA

Cause   TNSNAV.ORA does not have a PREFERRED_CMANAGERS defined.

Action   Add a PREFERRED_CMANAGERS entry to the TNSNAV.ORA file.

ORA–12212   TNS:incomplete PREFERRED_CMANAGERS binding in TNSNAV.ORA

Cause   The PREFERRED_CMANAGERS binding in the client's TNSNAV.ORA file does not have a CMANAGER_NAME specified.

Action   Define the CMANAGER_NAME as part of the PREFERRED_CMANAGERS binding. Use of the Oracle Network Manager should eliminate this error.

ORA–12213   TNS:incomplete PREFERRED_CMANAGERS binding in TNSNAV.ORA

Cause   The PREFERRED_CMANAGERS binding in the client's TNSNAV.ORA file does not have an ADDRESS specified.

Action   Define the ADDRESS as part of the PREFERRED_CMANAGERS binding.

ORA–12214   TNS:missing LOCAL_COMMUNITIES entry in TNSNAV.ORA

Cause   There is no LOCAL_COMMUNITIES entry in TNSNAV.ORA.

Action   Define the LOCAL_COMMUNITIES for this node in the TNSNAV.ORA file.

ORA–12216   **TNS:poorly formed PREFERRED_CMANAGERS Addresses in TNSNAV.ORA**

Cause   Address binding for the PREFERRED_CMANAGERS entry in the client's TNSNAV.ORA file is improperly entered.

Action   Define the ADDRESS as part of the PREFERRED_CMANAGERS binding.

ORA–12217   **TNS:could not contact PREFERRED_CMANAGERS in TNSNAV.ORA**

Cause   There is a syntax error in the PREFERRED_CMANAGERS entry, or addresses specified are wrong, or the intended Connection Managers are unavailable.

Action   Check the PREFERRED_CMANAGERS entries in the client's TNSNAV.ORA file and correct them or talk with your network administrator to determine if the specified Connection Managers are available. Verify that the Interchanges are active by using the INTCTL STATUS command.

ORA–12218   **TNS:unacceptable network configuration data**

Cause   Poorly formed network configuration data. For example, a PREFERRED_CMANAGERS entry may have an incorrect CMANAGER_NAME in the client's TNSNAV.ORA file. Or an Interchange downtime parameter (TIMEOUT_INTERVAL) on the Navigator may be set to zero in INTCHG.ORA.

Action   Check the entries in TNSNAV.ORA and the Interchange configuration files and correct them. If necessary, talk to your network administrator to determine if the specified Interchanges (Connection Managers) are available and properly configured. Use the Oracle Network Manager to generate the configuration files if necessary.

ORA–12219   **TNS:missing community name from address in ADDRESS_LIST**

Cause   This error occurs when an ADDRESS_LIST has some ADDRESSes in it that have no COMMUNITY component and others that do have a COMMUNITY component.

Action   Check that in the connect descriptors you are using either all the ADDRESSes have a COMMUNITY component or all do not.

ORA–12221   **TNS:illegal ADDRESS parameters**

Cause   An illegal set of protocol adapter parameters was specified. In some cases, this error is returned when a connection cannot be made to the protocol transport.

Action   Verify that the destination can be reached using the specified protocol. Check the parameters within the ADDRESS section of TNSNAMES.ORA. Legal ADDRESS parameter formats may be found in the Oracle operating system specific documentation for your platform. Protocols that resolve names at the transport layer (such as DECnet object names) are vulnerable to this error if not properly configured or names are misspelled.

ORA–12222   **TNS:no such protocol adapter**

Cause   The protocol adapter requested (by way of the "(PROTOCOL=..)" keyword–value pair in a TNS address) is unknown. If the supplied address is typographically correct then the protocol adaptor is not installed.

Action   Install the protocol adapter or correct typographically error, as appropriate. Note: if the supplied address was derived from resolving the service name, check the address in the appropriate file (TNSNAMES.ORA, LISTENER.ORA or TNSNET.ORA).

ORA–12223   **TNS:internal limit restriction exceeded**

Cause   Too many TNS connections open simultaneously.

Action   Wait for connections to close and re–try.

ORA–12224   **TNS:no listener**

Cause   The connection request could not be completed because the listener is not running.

Action   Ensure that the supplied destination address matches one of the addresses used by the listener – compare the TNSNAMES.ORA entry with the appropriate LISTENER.ORA file (or TNSNAV.ORA if the connection is to go by way of an Interchange). Start the listener on the remote machine.

ORA–12225   **TNS:destination host unreachable**

Cause   Contact can not be made with remote party.

Action   Make sure the network driver is functioning and the network is up.

ORA–12226   **TNS:operating system resource quota exceeded**

    Cause   The current user has exceeded the allotted resource assigned in the operating system.

    Action   Acquire more operating system resource, or perform a different function.

ORA–12227   **TNS:syntax error**

    Cause   The supplied connect descriptor contains illegal syntax.

    Action   Check the syntax of the connect descriptor in TNSNAMES.ORA.

ORA–12228   **TNS:protocol adapter not loadable**

    Cause   On some platforms (such as OS/2) protocol adapters are loaded at run–time. If the shared library (or DLL) for the protocol adapter is missing or one of its supporting libraries is missing then this error is returned.

    Action   For further details, turn on tracing and reexecute the operation The trace file will include the name of the shared library (or DLL) that could not be loaded.

ORA–12229   **TNS:Interchange has no more free connections**

    Cause   One or more Interchanges along the path to the destination desired has no more free connections available to be used for this call.

    Action   Try again later when the Interchanges are less busy, or contact your network administrator to have him determine which interchange it is, and increase the number of connections available on that interchange.

ORA–12230   **TNS:Severe Network error ocurred in making this connection**

    Cause   This error is reported by an interchange which fails to make contact with the destination due to a physical network error while calling a destination.

    Action   Try again later when the network service may have been fixed or report the problem to your Network Administrator so that he may fix the problem.

ORA–12231   **TNS:No connection possible to destination**

    Cause   This error is reported by an interchange which fails to find a possible connection along the path to the destination.

    Action   Report the problem to your Network Administrator so that he may fix the problem.

ORA–12232   TNS:No path available to destination

Cause   This error is reported by an interchange which fails to find a possible path to the destination.

Action   Report the problem to your Network Administrator so that he may fix the problem.

ORA–12233   TNS:Failure to accept a connection

Cause   This error is reported by an interchange which fails to accept a connection due to a redirect failure.

Action   Report the problem to your Network Administrator so that he may isolate the interchange problem.

ORA–12234   TNS:Redirect to destination

Cause   This error is reported by an interchange which determines that this interchange is not the right gateway and needs to redirect the connection to another gateway along the path to the destination.

Action   None.

ORA–12235   TNS:Failure to redirect to destination

Cause   This error is reported by an interchange which fails to redirect a connection to another interchange along the path to the destination.

Action   Report the problem to your Network Administrator so that he may fix the problem.

ORA–12236   TNS:protocol adapter not loaded

Cause   On some platforms (such as OS/2) protocol adapters are loaded at run–time. If the shared library (or DLL) for the protocol adapter has not been loaded, then this error is returned.

Action   For further details, turn on tracing and reexecute the operation. The trace file will have the name of the shared library (or DLL) that has not been loaded.

TNS Listener Error Messages (ORA–12500 to 12530)

ORA–12500 **TNS:listener failed to start a dedicated server process**

Cause The process of starting up a dedicated server process failed. The executable could not be found or the environment may be set up incorrectly.

Action Turn on tracing at the ADMIN level and reexecute the operation. Verify that the ORACLE Server executable is present and has execute permissions enabled. Ensure that the ORACLE environment is specified correctly in LISTENER.ORA. If error persists, contact Worldwide Customer Support.

ORA–12502 **TNS:listener received no CONNECT_DATA from client**

Cause No CONNECT_DATA was passed to the listener.

Action Check that the service name resolved from TNSNAMES.ORA has the CONNECT_DATA component of the connect descriptor.

ORA–12504 **TNS:listener was not given the SID in CONNECT_DATA**

Cause The SID was missing from the CONNECT_DATA.

Action Check that the connect descriptor corresponding to the service name in TNSNAMES.ORA has an SID component in the CONNECT_DATA.

ORA–12505 **TNS:Listener could not resolve SID given in connect descriptor**

Cause The SID in the CONNECT_DATA was not found in the listener's tables.

Action Check to make sure that the SID specified is correct. The SIDs that are supported can be obtained by typing LSNRCTL STATUS *SERVICE_NAME* and matching the SID specified in TNSNAMES.ORA with one of the SIDs displayed in the services summary.

ORA–12509 **TNS:listener failed to redirect client to service handler**

Cause The dispatcher terminated unexpectedly.

Action Attempt to connect again and if the same error occurs, contact the DBA to check the state of the dispatchers for this SID. If the problem persists, turn on tracing in the listener to determine the TNS error caused by the redirect.

ORA–12510 **TNS:database lacks resources to handle the request for this SID**

Cause The dispatchers are busy handling other requests.

Action Contact the DBA to increase the number of dispatchers servicing this SID.

ORA–12511   **TNS:service handler found but it is not accepting connections**

Cause   The dispatchers are busy handling other requests and they notified the listener that they were temporarily busy.

Action   Attempt the connection again. If the error persists, ask the DBA to increase the number of dispatchers.

ORA–12512   **TNS:service handler found but it has not registered a redirect address**

Cause   The dispatcher just came up and has not had time yet to register the address that a client should be redirected to.

Action   Attempt the connection again. If the error persists, ask the DBA to increase the number of dispatchers.

ORA–12513   **TNS:service handler found but it has registered on a different protocol**

Cause   The dispatchers registered for this service are connected to the listener by way of a different network protocol than that of the client.

Action   Contact the DBA to register a dispatcher on your protocol.

NS Error Messages (ORA–12531 to 12629)

ORA–12531   **TNS:cannot allocate memory**

Cause   Sufficient memory could not be allocated to perform the desired activity.

Action   Either free some resource for TNS, or add more memory to the machine. For further details, turn on tracing and reexecute the operation.

ORA–12532   **TNS:invalid argument**

Cause   An internal function received an invalid parameter.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12533   **TNS:illegal ADDRESS parameters**

Cause   An illegal set of protocol adapter parameters was specified. In some cases, this error is returned when a connection cannot be made to the protocol transport. Check the protocol parameters and verify that the destination can be reached using the specified protocol.

Action   Check the parameters within the ADDRESS section of TNSNAMES.ORA Legal ADDRESS parameter formats may be found in the Oracle operating system specific documentation for your platform. Protocols that resolve names at the transport layer (such as DECnet object names) are vulnerable to this error if not properly configured or names are misspelled.

ORA–12534   **TNS:operation not supported**

Cause   An internal function received a request to perform an operation that is not supported (on this machine).

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12535   **TNS:operation timed out**

Cause   The requested operation could not be completed within the timeout period specified by the CONNECT_TIMEOUT parameter in LISTENER.ORA. This error arises from the tnslsnr.

Action   Either reconfigure CONNECT_TIMEOUT to be 0, which means wait indefinitely, or reconfigure CONNECT_TIMEOUT to be some higher value. Or, if the timeout is unacceptably long, turn on tracing for further information.

ORA–12536   **TNS:operation would block**

Cause   An internal operation did not commence because to do so would block the current process and the user has requested that operations be non–blocking.

Action   None needed; this is an information message.

ORA–12537   **TNS:onnection closed**

Cause   Normal "end of file" condition has been reached; partner has disconnected.

Action   None needed; this is an information message.

ORA–12538   TNS:no such protocol adapter

Cause The protocol adapter requested (by way of the "(PROTOCOL=)" keyword–value pair in a TNS address is unknown. If the supplied address is typographically correct then the protocol adapter is not installed.

Action Install the protocol adapter or correct the typographical error, as appropriate. Note: if the supplied address was derived from resolving the service name resolution, check the address in the appropriate file (TNSNAMES.ORA, LISTENER.ORA, or TNSNET.ORA).

ORA–12539   TNS:buffer over– or under– flow

Cause Buffer too small for incoming data or too large for outgoing data.

Action This restriction (which is associated with CONNECT DATA) is not normally visible to the user. For further details, turn on tracing and reexecute the operation; contact Worldwide Customer Support.

ORA–12540   TNS:internal limit restriction exceeded

Cause Too many TNS connections open simultaneously.

Action Wait for connections to close and re–try.

ORA–12541   TNS:no listener

Cause The connection request could not be completed because the listener is not running.

Action Ensure that the supplied destination address matches one of the addresses used by the listener –– compare the TNSNAMES.ORA entry with the appropriate LISTENER.ORA file (or TNSNAV.ORA if the connection is to go by way of an Interchange). Start the listener on the remote machine.

ORA–12542   TNS:address already in use

Cause Specified listener address is already being used.

Action Start your listener with a unique address.

ORA–12543   TNS:destination host unreachable

Cause Contact cannot be made with remote party.

Action Make sure the network driver is functioning and the network is up.

ORA–12544   **TNS:contexts have different wait/test functions**

Cause   Two protocol adapters have conflicting wait/test functions.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12545   **TNS:name lookup failure**

Cause   A protocol specific ADDRESS parameter cannot be resolved.

Action   Ensure the ADDRESS parameters have been entered correctly; the most likely incorrect value is the node name.

ORA–12546   **TNS:permission denied**

Cause   User has insufficient privileges to perform the requested operation.

Action   Acquire necessary privileges and try again.

ORA–12547   **TNS:lost contact**

Cause   Partner has unexpectedly gone away, usually during process startup.

Action   Investigate partner application for abnormal termination. On an Interchange, this can happen if the machine is overloaded.

ORA–12548   **TNS:incomplete read or write**

Cause   A data send or receive failed.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12549   **TNS:operating system resource quota exceeded**

Cause   The current user has exceeded the allotted resource assigned in the operating system.

Action   Acquire more operating system resource, or perform a different function.

ORA–12550   **TNS:syntax error**

Cause   The supplied connect descriptor contains illegal syntax.

Action   Check the syntax of the connect descriptor in TNSNAMES.ORA.

ORA–12551   TNS:missing keyword

Cause   The supplied connect descriptor is missing one or more TNS keywords.

Action   Check the syntax, and ensure all required keywords are present.

ORA–12552   TNS:operation was interrupted

Cause   An internal operation was interrupted and could not complete.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12554   TNS:current operation still in progress

Cause   An internal operation is still in progress.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12555   TNS:permission denied

Cause   User has insufficient privileges to perform the requested operation.

Action   Acquire necessary privileges and try again.

ORA–12556   TNS:no caller

Cause   TNS detected an incoming connect request but there was no caller.

Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12557   TNS:protocol adapter not loadable

Cause   On some platforms (such as OS/2) protocol adapters are loaded at run–time. If the shared library (or DLL) for the protocol adapter is missing or one of its supporting libraries is missing then this error is returned.

Action   For further details, turn on tracing and reexecute the operation. The trace file will include the name of the shared library (or DLL) that could not be loaded.

ORA–12558   **TNS:protocol adpter not loaded**

Cause   On some platforms (such as OS/2) protocol adapters ae loaded at run–time. If the shared library (or DLL) for the protocol adapter has not been loaded, then this error is returned.

Action   For further details, turn on tracing and reexecute the operation. The trace file will have the name of the shared library (or DLL) that has not been loaded.

ORA–12560   **TNS:protocol adapter error**

Cause   A generic protocol adapter error occurred.

Action   Check addresses used for proper protocol specification. Before reporting this error, look at the error stack and check for lower level transport errors. For further details, turn on tracing and reexecute the operation. Turn off tracing when the operation is complete.

ORA–12561   **TNS:unknown error**

Cause   A generic protocol error occurred.

Action   For further details, turn on tracing and reexecute the operation.

ORA–12562   **TNS:bad global handle**

Cause   Internal error—bad ”gbh” argument passed to TNS from caller. System may have been linked with old libraries.

Action   Not normally visible to user. Contact Worldwide Customer Support.

ORA–12564   **TNS:connection refused**

Cause   The connect request was denied by the remote user (or TNS software).

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation.

ORA–12566   **TNS:protocol error**

Cause   An unexpected TNS protocol error has occurred.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12569   **TNS:packet checksum failure**

    Cause   The data received is not the same as the data sent.

    Action   Attempt the transaction again. If the error is persistent, turn on tracing and reexecute the operation.

ORA–12570   **TNS:packet reader failure**

    Cause   An error occurred during a data receive.

    Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12571   **TNS:packet writer failure**

    Cause   An error occurred during a data send.

    Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12574   **TNS:redirection denied**

    Cause   The connect request failed because it would have required redirection and the caller has requested no redirections.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12582   **TNS:invalid operation**

    Cause   An internal function received an invalid request.

    Action   Not normally visible to the user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12583   **TNS:no reader**

    Cause   A send operation has been requested but partner has already disconnected.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12585   **TNS:data truncation**

    Cause   A receive operation has completed with insufficient data to satisfy the user's request.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12589   **TNS:connection not bequeathable**

    Cause   An attempt to hand–off a connection from one process to another has failed because the protocol provider does not support it.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12590   **TNS:no I/O buffer**

    Cause   An attempt to perform an I/O operation failed because no buffer was available.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12591   **TNS:event signal failure**

    Cause   The TNS software is unable to signal an event occurrence.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12592   **TNS:bad packet**

    Cause   An ill–formed packet has been detected by the TNS software.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12593   **TNS:no registered connection**

    Cause   An attempt to solicit network event activity has failed because no connections are registered for event notification.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12595   TNS:no confirmation

Cause   TNS is unable to get requested confirmation acknowledgement from remote partner.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12596   TNS:internal inconsistency

Cause   TNS has detected an internal inconsistency

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12597   TNS:connect descriptor already in use

Cause   Internal error – illegal use of connect descriptor.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12598   TNS:banner registration failed

Cause   The registration of the product banner with the Oracle server failed.

Action   This is an error which is not normally visible externally. Enable tracing and attempt to repeat the error. If it occurs again, contact Worldwide Customer Support.

ORA–12599   TNS:cryptographic checksum mismatch

Cause   The data received is not the same as the dat sent.

Action   Attempt the transaction again. If error persists, check (and correct) the integrity of your physical connection.

ORA–12600   TNS:string open failed

Cause   The creation of the string in ORACLE NLS format failed.

Action   This is an internal error. Enable tracing and attempt to repeat the error. If it occurs again, contact Worldwide Customer Support.

ORA–12601   TNS:information flags check failed

Cause   The TNS information flags set by the process prior to connection negotiation were not present after the negotiation was finished.

Action   This is an internal error. Enable tracing and attempt to repeat the error. If it occurs again, contact Worldwide Customer Support.

ORA–12611   TNS:operation is not portable

Cause   Attempted operation is not portable

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12612   TNS:connection is busy

Cause   Attempted operation failed because it conflicts with an on–going action or status of the connection.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12615   TNS:preempt error

Cause   A request to service an event failed because no event notification has yet been posted.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12616   TNS:no event signals

Cause   The TNS software is unable to enable event signals.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12617   TNS:bad 'what' type

Cause   The operation failed because the type of data specified is unknown.

Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12618   **TNS:versions are incompatible**

    Cause   The two machines are running incompatible versions of TNS.

    Action   Check the version numbers, and upgrade the machine with the smaller one.

ORA–12619   **TNS:unable to grant requested service**

    Cause   The connect request failed because requested service could not be provided by the local TNS software.

    Action   If appropriate, reexecute with reduced service requirements.

ORA–12620   **TNS:requested characteristic not available**

    Cause   The connect request failed because a requested transport characteristic could not be supported by the remote TNS software.

    Action   If appropriate, reexecute with reduced requirements.

ORA–12622   **TNS:event notifications are not homogeneous**

    Cause   An attempt to register a connection for event notification failed because the event notification type conflicts with existing registrations.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

ORA–12623   **TNS:operation is illegal in this state**

    Cause   Connection is half–duplex and a full–duplex operation was attempted.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation. If error persists, contact Worldwide Customer Support.

ORA–12624   **TNS:connection is already registered**

    Cause   An attempt to register a connection for event notification failed because the connection is already registered.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

ORA–12625   **TNS:missing argument**

    Cause   An operation failed because an argument was missing.

    Action   Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

ORA–12626 **TNS:bad event type**

Cause An attempt to register a connection for event notification failed because the event type is unknown.

Action Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

ORA–12628 **TNS:no event callbacks**

Cause An attempt to register a connection for event modification failed because asynchronous callbacks are not available.

Action Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

ORA–12629 **TNS:no event test**

Cause An attempt to register a connection for event notification failed because the ability to test for events is not available.

Action Not normally visible to user. For further details, turn on tracing and reexecute the operation and contact Worldwide Customer Support.

NA Error Messages (ORA–12630 to 12699)

ORA–12630 **Native service operation not supported**

Cause An operation requested by a user is not supported by the native services component.

Action This may be an internal error if the operation should have been supported.

ORA–12631 **Username retrieval failed**

Cause The authentication service failed to retrieve the name of a user.

Action Enable tracing to determine which routine is failing.

ORA–12632 **Role fetch failed**

Cause The authentication service failed to retrieve one of the user's roles.

Action Enable tracing to determine which routine is failing.

ORA–12633   **No shared authentication services**

Cause   The list of authentication services specified by the user does not match those supported by the process.

Action   Either specify another list or relink the executable with the desired services.

ORA–12634   **Memory allocation failed**

Cause   Process was unable to allocate memory.

Action   Terminate other processes in order to reclaim needed memory.

ORA–12635   **No authentication adapters available**

Cause   The executable was not linked with any authentication service adapters but the sqlnet.ora parameter that determines whether or not authentication is required was set to true.

Action   Either disable the parameter or relink the executable with service adapters.

ORA–12636   **Packet send failed**

Cause   A process was unable to send a packet to another process. Possible causes are:

1. The other process was terminated.

2. The machine on which the other process is running went down.

3. Some other communications error occurred.

Action   If the cause is not obvious, contact Worldwide Customer Support.

ORA–12637   **Packet receive failed**

Cause   A process was unable to receive a packet from another process. Possible causes are:

1. The other process was terminated.

2. The machine on which the other process is running went down.

3. Some other communications error occurred.

Action   If the cause is not obvious, contact Worldwide Customer Support.

ORA–12638   **Credential retrieval failed**

Cause   The authentication service failed to retrieve the credentials of a user.

Action   Enable tracing to determine the exact error.

ORA–12639   **Authentication service negotiation failed**

Cause   No match was found between the types of authentication services that the client supports and those that the server is using.

Action   Possible solutions:

1. Change the entry in sqlnet.ora that determines which services are to be used.

2. Relink the client with at least one of the authentication service adapters that the server supports.

3. Relink the server with at least one of the authentication service adapters that the client supports.

4. Disable authentication on both the client and server.

ORA–12640   **Authentication service initialization failed**

Cause   The function specified in the authentication table entry for the service failed.

Action   Enable tracing to determine the exact error.

ORA–12641   **Authentication service failed to initialize**

Cause   The authentication service failed during initialization.

Action   Enable tracing to determine the exact error.

ORA–12642   **No session key**

Cause   A process has no session key associated with it because the authentication service being used does not use one.

Action   If a session key is required, use another authentication service.

ORA–12643   **Process communication failed**

Cause   A process was unable to communicate with another process. Possible causes are:

1. The other process was terminated.

2. The machine on which the other process is running went down.

3. Some other communications error occurred.

Action   If the cause is not obvious, contact Worldwide Customer Support.

ORA–12644   **Authentication service initialization failed**

     Cause   The routine called to initialize the authentication adapter failed.

     Action   Enable tracing to determine the exact error. A likely cause is that memory is exhausted.

ORA–12645   **Parameter does not exist**

     Cause   A sqlnet.ora parameter from which a value was needed does not exist.

     Action   Set the parameter in the parameter file.

ORA–12646   **Invalid value specified for boolean parameter**

     Cause   The value specified for a parameter was set to a value other than true/false or on/off.

     Action   Correct the value of the parameter.

ORA–12647   **Authentication required**

     Cause   The parameter that controls whether authentication is required was set to true, but the executable does not have an authentication service linked in.

     Action   Either re–link the executable with an authentication service adapter or disable the parameter.

ORA–12648   **Encryption or data integrity algorithm list empty**

     Cause   A SQL*Net list–of–algorithms parameter was empty, e.g. ”()”.

     Action   Change the list to contain the name of at least one installed algorithm, or remove the list entirely if every installed algorithm is acceptable.

ORA–12649   **Unknown encryption or data integrity algorithm**

     Cause   A SQL*Net list–of–algorithms parameter included an algorithm name that was not recognized.

     Action   Either remove that algorithm name, correct it if it was misspelled, or install the driver for the missing algorithm.

ORA–12650   **No common encryption or data integrity algorithm**

Cause   The client and server have no algorithm in common for either encryption or data integrity or both.

Action   Choose sets of algorithms that overlap. In other words, add one of the client's algorithm choices to the server's list or vice versa.

ORA–12651   **Encryption or data integrity algorithm unacceptable**

Cause   The algorithm the server chose to use for encryption or data integrity was not one of the choices acceptable to the client. This is either the result of an internal error, of a network data transmission error, or of deliberate tampering with the transmitted data.

Action   For further details, turn on tracing, re–execute the operation, and contact Worldwide Customer Support.

ORA–12652   **String truncated**

Cause   Not enough memory was allocated for a string so it had to be trucated.

Action   If it is OK that the string is truncated, then it is not an error. Otherwise, call the routine that reported the error again with a larger string buffer.

ORA–12653   **Authentication control function failed**

Cause   The control function utilized by the authentication service driver failed.

Action   Enable tracing to determine the exact error.

ORA–12654   **Authentication conversion failed**

Cause   The authentication service was unable to convert the credentials of a user from the format specific to the format into the ORACLE format.

Action   Enable tracing to determine the exact error.

ORA–12655   **Password check failed**

Cause   The authentication service being used was unable to verify the provided password.

Action   Enable tracing to determine the exact error.

ORA–12656   Cryptographic checksum mismatch

    Cause   The cryptographic checksum received with a packet of incoming data didn't match the checksum computed by the receiving end. This indicates that the packet was tampered with or otherwise corrupted in transit.

    Action   Look for sources of data corruption, perhaps including deliberate tampering.

ORA–12657   No algorithms installed

    Cause   The near side of the connection required the use of a service (either encryption or checksumming) when no algorithms for that service were installed.

    Action   Remove the ”ON” requirement for that service.

ORA–12658   Native service required but TNS version is incompatible

    Cause   A process that is running an earlier version of TNS attempted to connect but the connection failed because the server process required that a native service (authentication, encryption, etc.) be used.

    Action   Relink the calling executable and retry the connection or eliminate the requirement that the service be used on the server side.

ORA–12659   Error received from other process

    Cause   An error was received by one or more services from the process on the other side of the connection.

    Action   Enable tracing to determine the exact error(s). The error(s) is (are) not returned directly because an error generated by a server may not make sense on the client side and vice–versa.

ORA–12660   SNSparameters incompatible

    Cause   One side of the connection specified ”REQUIRED” for encryption or crypto–checksumming, while the other side specified ”REJECTED”.

    Action   Change the ”REQUIRED” side to ”REQUESTED” if you want encryption or crypto–checksumming to be optional, or change the ”REJECTED” side to ”ACCEPTED” if you do not want the service to be optional.

ORA–12661   **Protocol authentication to be used**

Cause   The SQL*Net authentication service has determined that the SQL*Net transport protocol in use is to be utilized to authenticate a user's identity.

Action   This error is used solely to communicate information between the authentication service and the SQL*Net session layer and should not be visible to the user. If the error is seen, contact Worldwide Customer Support.

ORA–12662   **proxy ticket retrieval failed**

Cause   The authentication adapter used by SQL*Net failed to retrieve the   credentials needed to authenticate a database link.

Action   Enable tracing to determine the exact error.

ORA–12663   **Services required by client not available on the server**

Cause   Service(s) that was (were) required by the client process were not available on the server process.

Action   Configure the server with the services required by the client (best solution) or delete the requirement from the configuration file of the client (least secure).

ORA–12664   **Services required by server not available on the client**

Cause   Service(s) that was (were) required by the server process were not available on the client process.

Action   Configure the client with the services required by the server (best solution) or delete the requirement from the configuration file of the server (least secure).

ORA–12665   **NLS string open failed**

Cause   A native service was unable to make a string available for use by the National Language Support component.

Action   Make sure the National Language Support component has been properly. If it has, enable tracing and report the problem to Customer Support.

ORA–12666   **Dedicated server: outbound transport protocol different from inbound**

Cause   The protocol specified for an externally–identified outbound connection from a dedicated server (database link) was not the same as that used for the inbound connection. It is not possible fo SQL*Net to authenticate a proxy connection that uses a protocol that is different from that which was used for the connection to the dedicated server.

Action   Specify the same protocol in the SQL*Net connect string or alias for the outbound connection as that used for the inbound connection.

ORA–12667   **Shared server: outbound transport protocol different from inbound**

Cause   The protocol specified for an externally–identified outbound connection from a shared server (database link) was not the same as as that used for the inbound connection. It is not possible for SQL*Net to authenticate a proxy connection that uses a protocol that is different from that which was used for the connection to the shared server.

Action   Specify the same protocol in the SQL*Net connect string or alias for the outbound connection as that used for the inbound connection

ORA–12668   **Dedicated server: outbound protocol does not support proxies**

Cause   The protocol specified to perform an externally–identified proxy connection (database link) from a dedicated server does not support proxy connections.

Action   Specify a protocol in the SQL*Net connect string or alias used for the connection that does support externally–authenticated proxy connections.

> **Note:** Because of a limitation in SQL*Net, the protocol used for the proxy connection must the same as that used for the connection from the client to the server.

ORA–12669   **Shared server: outbound protocol does not support proxies**

Cause   The protocol specified to perform an externally–identified proxy connection (database link) from a shared server does not support proxy connections.

Action   Specify a protocol in the SQL*Net connect string or alias used for the connection that does support externally–authenticated pro connections.

> **Note:** Because of a limitation in SQL*Net, the protocol used for the proxy connection must the same as that used for the connection from the client to the server.

ORA–12670   **Incorrect role password**

Cause   A password supplied for a role could not be validated by the authentication service.

Action   Supply the correct password.

ORA–12671   **Shared server: adapter failed to save context**

Cause   The adapter for the authentication service failed when it tried to save the data needed for proxy connections (database links) through the multi–threaded server.

Action   Enable tracing to determine the exact error. Contact Worldwide Customer Support if the reason is not obvious.

ORA–12672   **Database logon failure**

Cause   The authentication service adapter in use encountered an error it attempted to validate the logon attempt of a user.

Action   Enable tracing to determine the exact error encountered by the adapter.

ORA–12673   **Dedicated server: context not saved**

Cause   A connection was marked as being a proxy connection (database link) from a dedicated server but no inbound context was present.

Action   Before calling nsnainit(), call the routine that saves the context.

ORA–12674   **Shared server: proxy context not saved**

Cause   A connection was marked as being a proxy connection (database link) from a shared server but no inbound context was present.

Action   Before calling nsnainit(), call the routine that saves the context.

ORA–12675   **External user name not available yet**

Cause   The authentication service in use was not able to return the external name of a user of the ORACLE server because it is not available to the service yet.

Action   This is just an information message and should not normally be visible to the user. If the error does appear, contact Worldwide Customer Support.

ORA–12676   Server received internal error from client

Cause   The server process received an error from the client which indicated that an internal SQL*Net native services error had occurred.

Action   Enable tracing on both processes and attempt to recreate the problem. If the problem recurs, contact Worldwide Customer Support.

ORA–12677   Authentication service not supported by database link

Cause   The authentication service used by the proxy process (database link) was unable to find the adapter being used by the client in its list of authentication mechanisms.

Action   Specify an authentication adapter that is shared by the client and the server being used for the database link.

ORA–12678   Authentication disabled but required

Cause   The configuration parameters that control whether SQL*Net authentication is disabled or required were both set to TRUE.

Action   Set one or both of the parameters to FALSE.

ORA–12679   Native services disabled by other process but required

Cause   The remote process has disabled native services but the local process requires them.

Action   Enable native services on the remote process or disable them locally.

ORA–12680   Native services disabled but required

Cause   The process has disabled native services but at least one service is required.

Action   Enable native services or change the configuration file so that none of the available services are required.

ORA–12681   Login failed: the SecurID card does not have a pincode yet

Cause   The SecurID card that is used to logon to Oracle, does not have a pincode assigned to it.

Action   Use one of the programs supplied by Security Dynamics to assign a pincode to the card.

ORA–12682 **Login failed: the SecurID card is in next PRN mode**

Cause The SecurID card and the SecurID server are out of sync and the server requires the next cardcode to resynchronize the card.

Action Use one of the programs supplied by Security Dynamics to resynchronize the SecurID card.

ORA–12683 **Encryption/crypto–checksumming: no Diffie–Hellman seed**

Cause The ”sqlnet.crypto_seed” parameter is missing from the SQLNET.ORA parameters file for SQL*Net.

Action Add this line to SQLNET.ORA, perhaps by using Network Manager: sqlnet.crypto_seed = *randomly–chosen text*

ORA–12684 **Encryption/crypto–checksumming: Diffie–Hellman seed too small**

Cause The ”sqlnet.crypto_seed” parameter in the SQLNET.ORA parameter file for SQL*Net is too small.

Action Add more randomly–chosen text to it, perhaps using Network Manager.

ORA–12685 **Native service required remotely but disabled locally**

Cause A native service is required by the remote process but native services have been disabled locally.

Action Enable native services locally or change the configuration parameters on the remote host so that no native services are required.

ORA–12686 **Invalid command specified for a service**

Cause An operation which does not exist was specified for a native service.

Action This is a programing error and should not normally be visible to the user. If the error does appear, contact Worldwide Customer Support.

ORA–12687 **Database link failed: credentials expired**

Cause The credentials that are used to authenticate the user for the requested database link have expired.

Action Renew your credentials. Refer to the documentation specific for your Network Authentication Adapter on how to do this.

ORA–12688 **Login failed: the SecurID server rejected the new pincode**

Cause There are a number of reasons why the SecurID server would refuse a pincode:
– The user might not have permission to make up his own pincode.
– The pincode was either too short or too long. Valid pincodes consist of minimal four, but no more than eight characters.
– The pincode contains any non alpha–numeric characters.

Action Reexecute the operation and make sure to use a pincode that satisfies the above requirements. If the problem persists, turn on tracing at the Oracle Server side of the connection and examine the trace file for the exact error.

ORA–12689 **Server Authentication required, but not supported**

Cause Server Authentication is required for this connection, but not supported by both sides of the connection.

Action Make sure both sides of the connection have the correct version of Secure Network Services, and that the Authentication Adapter supports Server Authentication.

ORA–12690 **Server Authentication failed, login cancelled**

Cause Server Authentication is required, but the server's credentials were found invalid by the client.

Action Make sure that the server has a valid set of credentials. Refer to your authentication adapter specific documentation on how to do this.

ORA–12699 **Native service internal error**

Cause An internal error occurred in the native services component.

Action Enable tracing to determine the exact error. Contact Worldwide Customer Support.

Network Manager Error Messages

This chapter includes the error messages for the Oracle Network Manager. It contains error messages from three files.

- NMC messages are messages generated by the Oracle Network Manager that appear in response to user input to the tool. Only those messages that notify you of errors which require you to take actions that are not a logical continuation of your use of the tool are included in this chapter.

- NMO messages are messages from the network object layer. These messages appear only when unusual errors at the underlying object layer occur.

- NMR messages are messages from the object storage (ROS file) level of the Network Manager. Most of these are internal errors not normally visible to the user.

NMC Error Messages (NMC–00001 to 11000)

NMC–00005   Failed to save document

Cause   A File.Save or File.SaveAs failed. If more information is available, it will appear under this error.

Action   Make sure that the file exists and is both readable and writable by the application.

NMC–00010   Resource file cannot be opened

Cause   NetMan's resource file was not located or could not be opened.

Action   Consult the documentation for your platform to determine the proper location for this file, then be sure it has been installed there.

NMC–00011   Failed to initialize windowing system

Cause   Network Manager failed to initialize the windowing system.

Action   Make sure the Oracle Toolkit 2 product has been installed properly. If the error persists contact Worldwide Customer Support.

NMC–00012   The connection to the windowing system was refused

Cause   Network Manager failed to initialize the windowing system because it was refused a connection to it.

Action   Make sure your DISPLAY environment variable is set properly and that you have permission to run on the machine it points to.

NMC–00014   Unable to allocate memory

Cause   The application has run out of memory

Action   Add more memory or run fewer processes.

NMC–00015   Fatal error in property sheet; suggest you save immediately

Cause   Cause: An error was raised while processing a property sheet. If more information is available, it will appear under this error.

Action   Perform File.Save or File.SaveAs immediately, then exit the program.

NMC–00016   Unable to find prototype file *file*

Cause   Net Manager's prototype file was not located or could not be opened.

Action   Consult the documentation for your platform to determine the proper location for this file, then be sure it has been installed there.

NMC–00028   Resource file is invalid; version *version* is required

Cause   The resource file found was not the current version.

Action   Consult the documentation for your platform to determine the proper location for this file, then be sure the correct version has been installed there.

NMC–00031   Unable to locate online help file

Cause   The nmc help file was not found.

Action   Consult the documentation for your platform to determine the proper location for this file, then be sure the correct version has been installed there.

NMC–00032   Not enough memory to write to clipboard

Cause   On a Cut or Copy operation, there was insufficient memory.

Action   Add more memory or run fewer processes.

NMC–00033   Clipboard is empty

Cause   On a Paste, there was nothing on the clipboard.

Action   none

NMC–03750   Cannot export Oracle Names data

Cause   Export to Names has failed. This error is followed by detailed error information, if any.

Action   Restart Net Manager, after checking that the database schema is properly installed, and the database is online.

NMC–03751   ROS table *tablename* has not been installed

Cause   The application attempted to load a document and could not find a required system table inside that document. If the document is stored in a database, this error can also occur when the document database has not yet been installed.

Action   If the document is stored on a database, make sure the database schema has been properly installed, using the nmcbild.sql installation script.

NMC–03752   **Illegal Region delegation configuration**

Cause   The relationship among your regions is unacceptable.

Action   Contact Worldwide Customer Support for further information.

NMC–03901   **Could not access directory *directory_name***

Cause   Directory could not be accessed. If more information is available, it will appear under this error.

Action   Make sure that directory exists and is writable.

NMC–03902   **Error while writing file *filename***

Cause   Error while writing to the file. If more information is available, it will appear under this error.

Action   Make sure that the file can be created and written to in the appropriate export directory.

NMC–03903   **Error while removing directory *directory_name***

Cause   A old export directory could not be removed. If more information is available, it will appear under this error.

Action   Make sure that directory exists and is removable.

NMC–03904   **Error while creating directory *directory_name***

Cause   An export directory could not be created. If more information is available, it will appear under this error.

Action   Make sure that the directory is able to be created where specified.

NMC–03905   **Error while spawning a new process**

Cause   fork() failed while removing a previous export directory. If more information is available, it will appear under this error.

Action   Free memory to allow fork() to succeed. Alternatively, clear space for the export directory manually.

NMC–03906 Error while removing a directory

Cause   execl("/bin/rm",...) failed. If more information is available, it will appear under this error.

Action Follow OS–dependent procedures to allow execl("/bin/rm",...) to succeed. Alternatively, clear space for the export directory manually.

NMC–03907 Node *node_name* not found

Cause   Node not found in exported network or not fully–qualified.

Action Supply a correct and fully domain–qualified Node name.

NMC–03908 Client Profile *profile* not found

Cause   Client Profile not found in exported network or not fully–qualified.

Action Supply a correct and fully domain–qualified Client Profile name.

NMC–03910 Database *database* is not defined in this network

Cause   The network being exported is stored on a database not defined within it; as a result, names.ora cannot be correctly exported.

Action Store the network definition on a database defined within the network before exporting.

NMC–03952 Could not open V1 connect–string file *filename*

Cause   File could not be opened. If more information is available, it will appear under this error.

Action Make sure the file exists and is readable.

NMC–03953 File *filename* is not correctly formatted

Cause   At least one line from the file is not correctly formatted for V1 import.

Action Make sure that the file is, in fact, a V1 connect string file; if so, make sure that all lines are in correct import format ("<alias> = <V1–connect–string>" or "<alias> <V1–connect–string>"), are blank, or are commented (begin with a '#').

NMC–03954 File *filename* includes no valid V1 connect–strings

Cause   File is empty (or, perhaps, has only blank and commented lines).

Action Import a file with some valid connect–strings.

NMC–03976   **A value must be supplied for parameter *parameter***

Cause   A necessary parameter was not supplied to the program, either at the command line or at the parameter window.

Action   Supply a value for the parameter.

NMC–03978   **Could not find current directory**

Cause   Could not get name of current working directory. If more information is available, it will appear under this error.

Action

NMC–03979   **Could not open *filename* for output**

Cause   Couldn't open file for writing. If more information is available, it will appear under this error.

Action   Make sure that the file is in a directory that exists and is writable.

NMC–03980   **Error writing to *filename***

Cause   Couldn't write to the file. If more information is available, it will appear under this error.

Action   Make sure that the file exists and is writable.

NMC–03981   **Only one of node and client_profile can be specified**

Cause   Both node and client_profile are specified as parameters to netfetch.

Action   Supply a value for only one of these parameters.

NMC–03982   **Network *network_name* is invalid and cannot be exported**

Cause   Specified network is invalid and cannot be exported.

Action   Open network with Net Manager and correct the invalid objects.

NMC–04000   **A value for CONNECT must be supplied**

Cause   The database connect information has not been supplied.

Action   Restart the program with the parameter in the form
username/password@connect

NMC–04001   **A value for DEST_DIR must be supplied**

    Cause   The destination directory has not been supplied.

    Action   Restart the program with the destination directory parameter.

NMC–04002   **A value for NETWORK must be supplied**

    Cause   The network name has not been supplied.

    Action   Restart the program with the network name.

NMC–04500   **Network conversion has failed**

    Cause   A problem was found during conversion; see the rest of the message for more details.

    Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10002   **failed to start event loop**

    Cause   The user interface was unable to start up.

    Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10003   **failed to shutdown event loop**

    Cause   The user interface was unable to shut down properly.

    Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10006   **failed to destroy all windows**

    Cause   The user interface was unable to shut down properly.

    Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10007   **failed to quit the window system**

    Cause   The user interface was unable to shut down properly.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10012   **failed to create the application context**

    Cause   The user interface was unable to start up.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10013   **failed to shutdown the application**

    Cause   The user interface was unable to shutdown properly.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10017   **unable to process the dependencies for this change**

    Cause   During computation of the results of a user change, the program exceeded its maximum storage.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10018   **unable to record invalid status for object *object***

    Cause   An object was invalidated, but Net Manager was unable to record its status properly.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10019   **error reloading window, arguments [*argument*, *argument*]**

    Cause   A window could not be reloaded from the resource manager.

   Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10020 **error loading window, arguments [*argument*, *argument*]**

Cause A window could not be reloaded from the resource manager.

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10022 **error using internal cache, arguments [*argument*, *argument*]**

Cause Internal error; tried to reference an entry at first argument; second argument is maximum number.

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10023 **error rereading class *class***

Cause Could not reread a class that is already displayed.

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10025 **error running status window**

Cause An error was returned from Toolkit for the status window.

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10032 **create help session error, argument *argument***

Cause Help session create routine has returned an error

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10033 **show help screen error, argument *argument***

Cause Help session show routine has returned an error.

Action An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10034   **resource file error; can't find node in object** *object*

   Cause   Resource file has become corrupted since installation.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support. Then reinstall
the resource file.

NMC–10035   **resource file error; can't read analysis portion**

   Cause   Resource file has become corrupted since installation.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support. Then reinstall
the resource file.

NMC–10036   **resource file's analysis portion has incorrect version:** *version*

   Cause   Resource file has become corrupted since installation.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support. Then reinstall
the resource file.

NMC–10039   **cannot load menu** *menu*

   Cause   Unable to locate the specified menu in the resource file.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support. Then reinstall
the resource file.

NMC–10044   **resource manager returned** *error_number* **on startup**

   Cause   An error occurred on startup of Resource Manager.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support.

NMC–10045   **failed to load window** *window* **from resource file**

   Cause   Unable to locate the specified window in the resource file.

   Action   An internal error not normally visible to the user. Save the document using the
SAVE AS command, and contact Worldwide Customer Support.

NMC–10046   error starting the windowing system, arguments *number*

Cause   An error was encountered trying to start the windowing system.

Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMC–10047   can't initialize the clipboard

Cause   On startup, the clipboard could not be started.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10048   incomplete data on clipboard

Cause   Clipboard data was corrupted.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10049   failure in writing to clipboard

Cause   Unable to write data to the clipboard.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10050   version mismatch in clipboard formats

Cause   Unable to read data from the clipboard.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMC–10051   unable to load resource *resource* from resource file

Cause   Unable to load a resource from the resource file.

Action   Not normally visible to the user. Contact Worldwide Customer Support.

NMC–10060   **Control of newly created object is not allowed**

Cause   User tried to control an invalid object.

Action   Save and validate object.

NMC–10061   **Control of invalid object is not allowed.**

Cause   User tried to control an invalid object.

Action   Validate object.

NMC–10062   **Server Manager is not installed**

Cause   Server Manager is not installed on this machine.

Action   Install Server Manager.

NMC–10063   **Failed to start Server Manager**

Cause   Failed to start Server Manager.

Action   Check permissions on Server Manager executable. If the error persists, contact Worldwide Customer Support.

NMC–10065   **Failed to fork new process for Server Mnaager**

Cause   Network Manager failed to fork a new process for Server Manager.

Action   Check that thre are enough system resources to allow additional processes to be created.

NMC–10080   **Failed to construct the pathname of analysis.ora**

Cause   Network Manager failed to create the full pathname of the analysis.ora.

Action   Check to see ORACLR_HOME is set. If the error persists, contact Worldwide Customer Support.

NMC–10081   **Failed to open analysis.ora**

Cause   Network Manager failed to open analysis.ora.

Action   Check the permissions on the file. Contact Worldwide Customer Support.

NMC–10082   **Failed to read the number of classes from analysis.ora**

Cause   Network Manager failed to read the number of classes from analysis.ora.

Action   Contact Worldwide Customer Support.

NMC–10082   **Failed to read class details from analysis.ora.**

     Cause   Network Manager failed to read the class details from analysis.ora.

     Action   Contact Worldwide Customer Support.

NMO Error Messages (NMO–01001 to 01300)

NMO–01001   **out of memory**

     Cause   The application has run out of memory.

     Action   Add more memory or run fewer processes.

NMO–01002   **ROS table *table* has not been installed or is inaccessible**

     Cause   The application could not find a required ROS table. This error typically occurs when the document database has not yet been installed, or when the user does not have access privileges to the tables in the document database.

     Action   If the document is stored in a database, make sure the database tables have been properly installed, and access privileges properly granted. If the document is stored in a file, then this error should not occur. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01003   **error initializing ROS**

     Cause   The application was unable to initialize ROS during startup. If more information is available, it will appear under this error.

     Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01004   **error opening ROS file *filename***

     Cause   An error occurred while trying to open a document file The error almost always occurs when the file either does not exist, or cannot be read and written by the application. If more information is available, it will appear under this error.

     Action   Make sure that file exists and is both readable and writable by the application.

NMO–01005   **error opening ROS database using user ID *userid***

Cause   An error occurred while trying to connect to a document database. The error can occur when the ROS database tables have not been installed on the database, or if the database is currently unavailable, or if SQL*Net connectivity between the application and the database has been interrupted.

Action   Make sure that the ROS database tables have been correctly installed on your database, that the database is running and that there is SQL*Net connectivity between the application and the RDBMS.

NMO–01006   **cannot save an unnamed file**

Cause   The application attempted to save a document with no name.

Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMO–01007   **lock for document *document* has been stolen by *name***

Cause   While you were working on a document, someone else requested that your lock on the document be broken and then took over the document. You may no longer save the document under its current name.

Action   If you want to save the document, you must now do so under a new name.

NMO–01008   **document name length of *length* exceeds maximum of *length***

Cause   The maximum length of a document name was exceeded.

Action   Choose a shorter document name and retry the failing operation.

NMO–01009   **document *document* has been locked by user *name***

Cause   The document has been locked by another user, and may not be edited by anyone else until it has been unlocked.

Action   An internal error not normally visible to the user. Normally, a locked document is detected by the application, which then asks the user what action to take. Wait until the document is no longer being worked on, and contact Worldwide Customer Support.

NMO–01010 **document *document* already exists**

Cause You attempted to create a new document with the same name as that of an already existing document.

Action An internal error not normally visible to the user. Normally, an existing document is detected by the application, which then asks the user what action to take. Save the document under another name, and contact Worldwide Customer Support.

NMO–01011 **document has been corrupted**

Cause The application detected a corrupted document.

Action Make sure the document has not been accidentally corrupted. If the document appears correct, the error is internal and you should contact Worldwide Customer Support.

NMO–01012 **document *document* has version *version_number* but *version_number* is required**

Cause The document being opened is the wrong version and the application cannot interpret it.

Action Run the document conversion utility supplied with this product. The utility will upgrade old documents to a version which can be understood by the application.

NMO–01013 **document *document* not found**

Cause An attempt was made to open a nonexistent document.

Action Use the document list function to get a list of available documents.

NMO–01014 **database user ID length of *size* exceeds maximum of *size***

Cause The maximum length of a database user ID was exceeded.

Action Choose a shorter user ID and retry the failing operation.

NMO–01015 **file name length of *size* exceeds maximum of *size***

Cause The maximum length of a file name was exceeded.

Action Choose a shorter file name and retry the failing operation.

NMO–01016   cannot modify a read–only document

Cause   You attempted to modify a document which has been opened for reading only.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NMO–01017   cannot delete or rename the current document

Cause   You attempted to delete or rename the document that you are currently working on.

Action   Either close the current document, save it under another name, or open a new document and then delete or rename the old document.

NMO–01018   error loading meta data

Cause   The application failed to load document meta data while opening a new document. The error can occur if the document being opened has been corrupted in some way, but is usually an internal error.

Action   Be sure the document has not been accidentally corrupted. If the document appears correct, the error is internal and you should contact Worldwide Customer Support.

NMO–01019   error locking or unlocking document *document*

Cause   The application encountered an error while trying to lock or unlock a document. The error typically occurs when the document database has become unavailable, either because the database has shut down, or because SQL*Net connectivity between the database and the application has been interrupted.

Action   The error generally appears above a more specific error which will tell you the exact nature of the problem. Make sure the database is running and that you have SQL*Net connectivity to it.

NMO–01020   ORACLE error *error*

Cause   The application encountered an ORACLE error while trying to access the document database. The error typically occurs when the document database has become unavailable, either because the database has shut down, or because SQL*Net connectivity between the database and the application has been interrupted.

Action   Make sure the database is running and that you have SQL*Net connectivity to it.

NMO–01021   error initializing document context

Cause   The application could not create a new document context.

Action   The error appears above a more specific error which will tell you the exact nature of the problem.

NMO–01022   error copying document *document* from *filename* to database

Cause   The application encountered an error while trying to copy a document from a file to the document database. The error typically occurs when the document database has become unavailable, either because the database has shut down, or because SQL*Net connectivity between the database and the application has been interrupted.

Action   The error generally appears above a more specific error which will tell you the exact nature of the problem. Make sure the database is running and that you have SQL*Net connectivity to it.

NMO–01023   error copying document *document* from database to *filename*

Cause   The application encountered an error while trying to copy a document from the document database to a file. The error can occur when the document database has become unavailable, either because the database has shut down, or because SQL*Net connectivity between the database and the application has been interrupted. It can also occur if the file system has run out of space, or the file is not writable by the application.

Action   Make sure the database is running and that you have SQL*Net connectivity to it. Also make sure that there is disk space available, and that the application has permission to write the file.

NMO–01024   cannot rename a document onto itself

Cause   You attempted to rename a document its current name.

Action   You are not allowed to rename a document to its current name. Choose a different name and retry the operation.

NMO–01025   error creating new ROS file *filename*

Cause   The application failed to create a new ROS file by copying the current document to the new file. The error can occur if the new file is not writeable by the application, or if the file system runs out of space.

Action   Make sure the application has permission to write the new file, and that there is sufficient disk space available.

NMO–01026 **unable to generate temporary ROS file in directory** *directory*

Cause The application was unable to generate a temporary file name in the specified directory. The error usually occurs either because there are too many old temporary files in the directory, or because the application lacks write permission in the directory, or because the file system is out of space.

Action Remove old unused temporary files, make sure the file system has disk space, and that the application has permission to write files in the temporary file directory.

NMO–01027 **error from ROS data store**

Cause the application encountered an error while accessing the ROS data store. If the current document is stored in a database, the error can occur when the document database has become unavailable, either because the database has shut down, or because SQL*Net connectivity between the database and the application has been interrupted. If the document is stored in a file, the error can occur if the file system has run out of space. The error generally appears above a more specific error which will tell you the exact nature of the problem.

Action If your document is stored in a database, make sure the database is running and that you have SQL*Net connectivity to it. If the document is stored in a file, make sure that the application has permission to write the file.

NMO–01028 **document** *document* **is owned by** *name*

Cause You attempted to create a new document with the same name as a document that is owned by someone else.

Action Choose a different name. You may not overwrite someone else's document.

NMO–01029 **document conversion failed**

Cause Internal error while conversion was taking place.

Action Notify customer support and examine displayed error stack.

NMO–01030 **must specify both old name and new name**

Cause One of the fields (either old name or new name) was empty.

Action Specify a name in each of those fields.

NMO–01251   cannot open document, database context not initialized

Cause   The application attempted to operate on a document without first connecting to the document database.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01252   invalid class ID *id*

Cause   The application detected an invalid object class ID.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01253   invalid attribute ID *id*

Cause   The application detected an invalid object attribute ID.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01254   attribute name *name* not found

Cause   The application detected an invalid object attribute name.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01255   class ID *id* must be a CONCRETE class

Cause   The application detected use of an invalid object class ID.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01256   attribute ID *id* is read–only

Cause   The application detected an attempt to modify a read–only class attribute.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01257 **type mismatch when setting attribute with ID *id***

Cause The application detected an attempt to set an attribute to a val of the wrong type.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01258 **invalid instance ID *id***

Cause The application detected an invalid object instance ID.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01259 **instance with ID *id* not found**

Cause The application detected an invalid object instance ID.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01260 **current document *document* is not stored in a database**

Cause The application attempted to issue an operation restricted to documents stored in a database, and the current document is stored in a file.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01261 **instance ID *id* , attribute *attribute* length of *size* exceeds maximum of *size***

Cause An internal size limit was exceeded.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01262 **number of savepoints exceeds maximum of *number***

Cause The internal savepoint limit was exceeded.

Action An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMO–01263   **unable to record invalid status for object** *object*

    Cause   An object was invalidated but Network Manager was unable to record its status properly.

    Action   An internal error not normally visible to the user. Save the document using the SAVE AS command, and contact Worldwide Customer Support.

NMR Error Messages (NMR–00001 to 00500)

NMR–00001   **generic operation failure**

    Cause   A ROS operation failed.

    Action   The error generally appears below a more general error which will tell you where the problem is occurring. See the action text for that error.

NMR–00100   **unexpected end of file**

    Cause   A ROS file operation detected an end–of–file when it was not expecting one, probably because the file has become corrupted.

    Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00101   **object not found**

    Cause   A ROS fetch operation failed to find any objects.

    Action   The error generally appears below a more general error which will tell you where the problem is occurring. See the action text for that error.

NMR–00102   **object unexpectedly found**

    Cause   A ROS operation found an object when it was not expecting to.

    Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00103   value too big

   Cause   A ROS operation received an incorrect value.

   Action   An internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00104   invalid value

   Cause   A ROS operation received an invalid value. expecting one, probably because
                the file has become corrupted.

   Action   An internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00105   invalid data store

   Cause   A ROS operation detected an invalid data store, probably because the data
                store has become corrupted.

   Action   An internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00106   invalid object type

   Cause   A ROS operation received a value with an invalid type.

   Action   An internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00107   unexpected NULL value

   Cause   A ROS operation received an unexpected empty value.

   Action   n internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00108   undefined or invalid table name

   Cause   A ROS operation was performed on an invalid table.

   Action   An internal error not normally visible to the user. For further details, turn on
                tracing and re–execute the failing operation. If the error persists, contact
                Worldwide Customer Support.

NMR–00109   invalid argument

Cause   A ROS operation received an invalid argument.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00200   ROS file error

Cause   A ROS file operation detected an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00201   unique key violation

Cause   A ROS file operation detected a unique key constraint violation.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00205   page split occurred

Cause   A ROS file operation detected a page split.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00207   cannot close, commit is pending

Cause   The ROS user attempted to close a data store with a commit pending.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00210   error creating file

Cause   The ROS file store create operation failed.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00211   file version error

Cause   ROS detected a file store with an incorrect version.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00212   file already open read–only

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00213   file already open read–write

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00214   file write error

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00215   file read error

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00216   file close error

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00217   file write error, disk is full

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00218   file unique key violation

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00221   file header page size error

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00222   file error, commit is pending

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00223   file byte order conversion error

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00225   file error, translate check byte

Cause   A ROS file operation received an error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00226   **file index page is already free**

  Cause   A ROS file operation received an error.

  Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00230   **file state is inconsistent**

  Cause   A ROS file operation received an error.

  Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00240   **file shadow table overflow**

  Cause   A ROS file operation received an error.

  Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00300   **UPI error**

  Cause   A ROS database operation received an error.

  Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00301   **disk space exhausted**

  Cause   A ROS file operation received an error.

  Action   An internal error not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMR–00401   **memory allocation failed**

  Cause   The application has run out of memory.

  Action   Add more memory or run fewer processes.

NMR–00402   **memory allocation failed**

Cause   The application has run out of memory.

Action   Add more memory or run fewer processes.

NMR–00403   **memory free failed**

Cause   The application's memory heap has become corrupted.

Action   An internal error not normally visible to the user. For further details, turn on
tracing and re–execute the failing operation. If the error persists, contact
Worldwide Customer Support.

Oracle Names Error Messages

This chapter describes the messages generated by:

- the Oracle Names server
- the Oracle Names client, and those common to both client and server
- the Oracle Names Control Utility
- the Oracle Names server's Network Management Protocol, which is the part of the Names server that handles SNMP queries. Most of these are internal errors not normally visible to the user.
- Oracle Names server Network Presentation Layer. Most of these are internal errors not normally visible to the user.

Oracle Names Server (NNO–00050 to 00711)

NNO–00050   serious errors in configuration data, server cannot run

Cause   The server's configuration data has a problem of some sort which prevents the server from starting.

Action   Previous error messages in the log file will specify the exact problems leading to the shutdown. The problem most frequently occurs when the network is broken up into multiple administrative regions and the delegation points are incorrect. Read the Oracle Names documentation sections on region delegation and ensure that their directions are being followed correctly.

NNO–00051   domain count *num* exceeds maximum of *num,* first *num* will be loaded

Cause   The server's configuration contains more domains than the server can support.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00052   invalid domain description list

Cause   The server's configuration contains an invalid domain description list.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00053   duplicate domain description for domain *domain_name*

Cause   The server's configuration contains duplicate domain descriptions in the domain description list.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00054   invalid domain name *domain_name*

Cause   The server's configuration contains a domain description with an invalid name.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00055   invalid domain minimum TTL *num*

Cause   The server's configuration contains a domain description with an invalid minimum TTL.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00056   warning: domain minimum TTL must be between *num* and *num*, set to *num* seconds

Cause   The server's configuration contains a domain description with an invalid minimum TTL. This error is not fatal; the server will automatically set the TTL to a default value which is suitable for most uses.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00058   warning: cannot load topology data from configuration database

Cause   An error was encountered while trying to load the server's topology data from the configuration database. If more information is available, it will appear under this error. This error will cause the server to shut down.

Action   Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00059   cannot construct topology checkpoint file name

Cause   The server could not construct a system–dependent file name.

Action   An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00060   loading server topology from checkpoint file *checkpoint_file*

Cause   An informational message written to the log file when the server cannot load from the ROS data store and is instead reading from its most recent topology checkpoint file.

Action   While the message is informational in nature, it indicates that the server was unable to contact its ROS data store, which is not normal. If the ROS data store is a file, make sure that file is accessible to the server. The file's name is set in the Oracle Network Manager. If the ROS data store is an RDBMS, make sure that the RDBMS is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the RDBMS.

NNO–00062   cannot load domain data from configuration database

Cause   An error was encountered while trying to load the server's domain data from the configuration database. If more information is available, it will appear under this error. This error will cause the server to shut down.

Action   Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00063   cannot construct domain checkpoint file name

Cause   The server could not construct a system–dependent file name.

Action   An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00064   loading domain data from checkpoint file *checkpoint_file*

Cause   An informational message written to the log file when the server cannot load from the ROS data store and is instead reading from its most recent domain checkpoint file.

Action   While the message is informational in nature, it indicates that the server was unable to contact its ROS data store, which is not normal. If the ROS data store is a file, make sure that file is accessible to the server. The file's name is set in the Oracle Network Manager. If the ROS data store is an RDBMS, make sure that the RDBMS is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the RDBMS.

NNO–00068 **warning: administrative region reload check failed, next check in *num* seconds**

Cause This warning is issued whenever the server fails to connect to the ROS data store and see if any configuration data has changed. The server will automatically begin reissuing reload checks more frequently, and will eventually give up if connections fail continuously for three days.

Action If the ROS data store is a file, make sure that file is accessible to the server. The file's name is set in the Oracle Network Manager. If the ROS data store is an RDBMS, make sure that the RDBMS is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the RDBMS.

NNO–00069 **warning: too many administrative region check failures, checking disabled**

Cause A warning issued whenever the server has continuously failed for three days in its attempts to connect to the ROS data store. The server disables reload checking. Reload checking can later be re–enabled from the Oracle Network Manager or the Oracle Names control program.

Action If the ROS data store is a file, make sure that file is accessible to the server. The file's name is set in the Oracle Network Manager. If the ROS data store is an RDBMS, make sure that the RDBMS is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the RDBMS.

NNO–00080 **domain *domain_name* cannot be delegated because its parent is already delegated**

Cause An internal delegation error has occurred. Delegation is controlled by the Oracle Network Manager, which enforces correct delegation rules.

Action An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00081 **domain *domain_name* has no name servers**

Cause An internal configuration error has occurred. The Oracle Network Manager is responsible for configuring Oracle Names servers correctly.

Action An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00082   **domain *name* is missing my name *name* as a name server**

Cause   An internal configuration error has occurred. The Oracle Network Manager is responsible for configuring Oracle Names servers correctly.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00083   **domain *name* server *name* has no addresses**

Cause   An internal configuration error has occurred. The Oracle Network Manager is responsible for configuring Oracle Names servers correctly.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00084   **domain *name* is not in the authoritative domain list**

Cause   An internal configuration error has occurred. The Oracle Network Manager is responsible for configuring Oracle Names servers correctly.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00104   **line *num* syntax error, data ignored**

Cause   The server found a syntax error its domain data. This message will also appear if the server's internal checkpoint files become corrupted. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00105   **line *num* invalid name *name*, data ignored**

Cause   The server found an invalid global name in its domain data. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support

NNO–00106   **line *num* invalid TTL *num*, data ignored**

Cause   The server found an invalid TTL in its domain data. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00107   **line *num* ignoring stale checkpoint data**

   Cause   An informational message which appears during server startup when the server detects out–of–date cached data in its cache checkpoint file. The message is part of normal server startup.

   Action   None

NNO–00108   **line *num* TTL of *num* seconds below domain minimum *num* using minimum**

   Cause   The server found an invalid TTL value in its domain data. The record in question is not loaded, but the server continues to load data.

   Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00109   **line invalid data type name *name*, data ignored**

   Cause   The server found an invalid data type name in its domain data. The record in question is not loaded, but the server continues to load data.

   Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00110   **line *num* unknown data type *name*, data ignored**

   Cause   The server found an unknown data type in its domain data. The record in question is not loaded, but the server continues to load data.

   Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00111   **line *num* data type *name* has syntax *name*, should be *name*, data ignored**

   Cause   The server found an invalid data type syntax in its domain data. The record in question is not loaded, but the server continues to load data.

   Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00112   **line *num* ignored duplicate data of type *name***

   Cause   The server found a duplicate record in its domain data. The record in question is not loaded, but the server continues to load data.

   Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00113   **line *num* alias data already exists, all other data ignored**

  Cause   The server found a alias and non–alias data with the same global name in its domain data. The record in question is not loaded, but the server continues to load data.

  Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00114   **line *num* other data exists, alias data ignored**

  Cause   The server found a alias and non–alias data with the same global name in its domain data. The record in question is not loaded, but the server continues to load data.

  Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00115   **line *num* single–value data type *name*, other instances ignored**

  Cause   The server found more than one record with the same name and type, when the type allows only a single record with a particular name. The record in question is not loaded, but the server continues to load data.

  Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00116   **line *num* data type *name* not allowed here, data ignored**

  Cause   The server found a record with an invalid data type in its domain data. The record in question is not loaded, but the server continues to load.

  Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00117   **line *num* missing data type, data ignored**

  Cause   The server found a record with a missing data type in its domain data. The record in question is not loaded, but the server continues to load data.

  Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00118   **line *line_num* data length *num* exceeds maximum of *num*, data ignored**

Cause   The server found a record whose length exceeds an internal limit. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00119   **line *line_num* server not authoritative for name *num*, data ignored**

Cause   The server found a global name in its domain data for which it is not authoritative. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00120   **line *line_num* topology name *record_name* not allowed here**

Cause   The server found an invalid record in its domain data. The record in question is not loaded, but the server continues to load data.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00150   **warning: invalid hint list, no hints loaded**

Cause   The server's configuration contains an invalid hint description list. The server will continue to run, but will not load any hints.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00151   **warning: ignoring hint for domain *name*, server is authoritative**

Cause   The server's configuration contained a hint for a domain in the server's administrative region. The hint is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00152   **warning: hint count *num* exceeds maximum of *num*, first *num* will be loaded**

Cause   There are too many hints in the server's hint list. The server will load a specified maximum number of hints, ignore the rest, and continue running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00153   **warning: hint domain *name* has invalid name *name*, hint domain ignored**

Cause   The server's configuration contains a hint domain with an invalid name. The domain is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00154   **warning: hint *name* has invalid server name *name*, hint ignored**

Cause   The server's configuration contains a hint with an invalid server name. The hint is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00155   **warning: hint *name* has missing address, hint ignored**

Cause   The server's configuration contains a hint with no server address. The hint is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00156   **warning: hint *name* address length *num* exceeds maximum of *num*, hint ignored**

Cause   The server's configuration contains a hint whose address length exceeds an internal limit. The hint is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00157   **warning: hint *name* has invalid address, hint ignored**

Cause   The server's configuration contains a hint with an invalid address. The hint is ignored and the server continues to run.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00158   **warning: hint domain count *num* exceeds maximum of *num* first *num* will be loaded**

Cause   The server's hint domain list is too long. The server will load a specified maximum number of hint domains, ignore the rest, and continue running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00159   **warning: ignoring duplicate hint domain *name* name *name***

Cause   The server's hint domain list contains a duplicate domain. The duplicate is ignored and the server continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00160   **warning: ignoring duplicate hint server**

Cause   The server's hint server list contains a duplicate server. The duplicate is ignored and the server continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00250   **invalid administrative region description**

Cause   The server encountered an invalid administrative region description during startup. This error will prevent the server from starting. The administrative region description is stored in the server's names.ora configuration file.

Action   Make sure that the names.admin_region parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00251   **missing administrative region parameter *name***

Cause   The server's administrative region description is missing a required parameter. This error will prevent the server from starting. The administrative region description is stored in the server's names.ora configuration file.

Action   Make sure that the names.admin_region parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00252   **invalid administrative region parameter *name* value *name***

Cause   The server encountered an invalid administrative region parameter. This error will prevent the server from starting. The administrative region description is stored in the server's names.ora configuration file.

Action   Make sure that the names.admin_region parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00253   **administrative region parameter *name* length *num* exceeds maximum of *name***

    Cause   The server encountered an administrative region parameter whose length exceeds an internal limit. This error will prevent the server from starting. The administrative region description is stored in the server's names.ora configuration file.

    Action   Make sure that the names.admin_region parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00254   **warning: parameter *num* value must be between *num* and *num*, set to *num* seconds**

    Cause   The server encountered an administrative region parameter with an invalid value. The value is set to a default suitable for most applications, and the server continues running. The administrative region description is stored in the server's names.ora configuration file.

    Action   Make sure that the names.admin_region parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00255   **cannot initialize ROS**

    Cause   The server was unable to initialize ROS during startup. The error prevents the server from running.

    Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00257   **warning: cannot get serial number from configuration database**

Cause   The server encountered an error while trying to get the configuration database's serial number. The error occurs almost always because the server configuration has not been exported from the Oracle Network Manager. The error can also occur any time the server is unable to access the configuration database. If the error occurs during server startup, the server will shut down. If the error occurs during server operation (the server checks the serial number periodically to see if it should reload itself), then the server assumes a transient failure has occurred and repeats the operation a short while later. If the repetitions continue to fail for three days, the server will log another error and stop issuing the serial number load operation.

Action   First make sure that the Oracle Network Manager has exported a server configuration for this name server. Next, make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. If the error occurs during server startup, you can force startup anyway, with checkpoint data, by starting the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00258   **cannot load configuration from configuration database**

Cause   An error was encountered while trying to load the server's configuration from the configuration database. If more information is available, it will appear under this error. This error will cause the server to shut down.

Action   Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00259   **configuration tables have not been installed or are inaccessible**

Cause   The configuration database has not been properly installed.

Action   Make sure the Oracle Network Manager and its database have been properly installed.

NNO–00260 **loading configuration data from checkpoint file** *checkpoint_file*

Cause An informational message written to the log file when the server cannot load from the ROS data store and is instead reading from its most recent configuration checkpoint file.

Action While the message is informational in nature, it indicates that the server was unable to contact its ROS data store, which is not normal. If the ROS data store is a file, make sure that file is accessible to the server. The file's name is set in the Oracle Network Manager. If the ROS data store is an RDBMS, make sure that the RDBMS is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the RDBMS.

NNO–00261 **cannot construct configuration checkpoint file name**

Cause The server could not construct a system–dependent file name.

Action An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00262 **warning: cannot write checkpoint file** *checkpoint_file*

Cause The server was unable to write the named checkpoint file. This problem is typically due to the file system's protection settings. The error is not fatal; it simply means the server will not create any checkpoint data, and that ROS data store access failures during subsequent startups may prevent the server from running, because the server will have no checkpoint data on which to fall back.

Action Check to see that the server has permission to write the file named in the error message.

NNO–00263 **error from configuration database**

Cause The server encountered an error while accessing the configuration database. The error can occur when the database is unavailable, or SQL*Net connectivity to the database is interrupted.

Action Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00264 **configuration database query returned no data**

Cause The server attempted to fetch data from the configuration database and no data was found.

Action The error generally appears underneath a more specific error which will tell you the exact nature of the problem.

NNO–00265 **warning: cannot load data from checkpoint file**

Cause The server was started using checkpoint data, and was unable to read that data. The remaining errors below this one on the error stack provide more specific information about the problem.

Action Check to see that the named file exists and that the server has permission to read it.

NNO–00266 **cannot find document *document* in configuration database**

Cause The server encountered an error while trying to get its configuration ID from the configuration database. The error can occur any time the server is unable to access the configuration database. This error will cause the server to shut down.

Action Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00267 **warning: configuration database contains no data for server *server_name***

Cause The server successfully contacted the configuration database, but was unable to find any configuration information associated with the server's name. The name is specified in the server's names.ora configuration file. The error occurs almost always because the server configuration has not been exported from the Oracle Network Manager.

Action Make sure that the Oracle Network Manager has exported a server configuration for this names server.

NNO–00268 **warning: configuration database is not used, using checkpoint data instead**

Cause An informational message indicating that the server has been started with the names.no_region_database parameter set to TRUE, and that it will use checkpoint data rather than attempting to contact the configuration database.

Action None.

NNO–00269   **configuration database is version *version*, server requires version *version***

Cause   The server cannot use the specified configuration database because it is of an incorrect version.

Action   Run the document conversion utility supplied with the Oracle Network Manager and re–export your network. The conversion utility will upgrade old documents to a version which can be understood by the Names server.

NNO–00270   **ORACLE error *error***

Cause   An ORACLE error was encountered while accessing the configuration database. The error can occur when the database is unavailable, or SQL*Net connectivity to the database is interrupted.

Action   Make sure that the database is running, that its name and password as specified in the Oracle Network Manager are accurate, and that there is SQL*Net connectivity between the Oracle Names server and the database. To force the server to start up anyway, using its checkpoint data, start the server with the names.no_region_database parameter set to TRUE. If no checkpoint data is available, the server will shut down.

NNO–00300   **no listen addresses specified, at least one is required**

Cause   The server's configuration is missing addresses on which to listen.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00304   **listen address *address* length *length* exceeds maximum of *num***

Cause   The length of one of the server's listen addresses exceeds an internal limit.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00307   **invalid server name *server***

Cause   The server's name is invalid. The name is specified in the server's names.ora configuration file.

Action   Make sure that the names.server_name parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00311   invalid listen address list

Cause   The server's configuration contains an invalid listen address list.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00312   listen address *address* is invalid

Cause   The server's configuration contains an invalid listen address.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00313   server password length *num* exceeds maximum of *num*

Cause   The server's password length exceeds an internal limit.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00314   error changing trace level from *num* to *num*, level change ignored

Cause   The server encountered an error while changing its trace level in response to a request from the Oracle Names control program.

Action   An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00320   missing server name parameter

Cause   The server could not find a names.server_name parameter. The name is specified in the server's names.ora configuration file.

Action   Make sure that the names.server_name parameter in names.ora is correct. The names.ora file is automatically generated by the Oracle Network Manager, but administrators can edit the file at any time, introducing errors. If the file was never changed, contact Worldwide Customer Support.

NNO–00600   warning: forwarder count *num* exceeds maximum of *num*, first *num* will be loaded

Cause   The server's configuration contains too many default forwarders. The server loads a specified maximum number of forwarders, ignores the rest, and continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00601   **warning: no forwarders, DEFAULT–FORWARDERS–ONLY mode ignored**

Cause   The server's configuration enables DEFAULT–FORWARDERS–ONLY mode but the configuration contains no default forwarders. The server ignores the request and continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00602   **warning: forwarder *name* has invalid address, forwarder ignored**

Cause   One of the forwarders in the default forwarder list has an invalid address. The forwarder definition is ignored and the server continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00608   **received corrupted message**

Cause   The server received a corrupted request. The request is ignored.

Action   Corrupted requests are usually caused by transient network problems. If many corrupted messages are received, turn on tracing for further information. If the errors persist, contact Worldwide Customer Support.

NNO–00609   **warning: forwarder *name* address length *num,* exceeds maximum of *num,* ignored**

Cause   The server's configuration contains a forwarder address whose length exceeds an internal limit.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00610   **detected possible alias loop involving name *name***

Cause   The server detected an alias loop involving the specified name. An alias loop occurs when an alias "X" points to another alias "Y", which points back to "X" rather than to an address or other name server data. The loop can contain more hops but the basic idea remains the same.   Loops occur when administrators mis–enter network data, particularly when an alias in one administrative region points to data in another administrative region.

Action   Use the Oracle Names control program to query for the specified name. The control program will describe the alias path, and you can use that information to find which names are incorrect and what administrative regions the incorrect data belongs to.

NNO–00632   **warning: forwarder *name* has missing address, forwarder ignored**

Cause   The server's configuration contains a forwarder description with a missing address.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00633   **detected fatal delegation loop involving server *name***

Cause   The server detected a fatal delegation loop while forwarding a request. A loop occurs when the server's topology data indicates that it should forward a request to itself. The server immediately shuts down in response to this error.

Action   An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00634   **received authoritative name *name* when we are its authority**

Cause   A server "X" received authoritative data from another server "Y" when server "X" is also authoritative for the data. Such situations should never arise because if server "X" is authoritative for the requested data, it should never forward the request to another server.

Action   An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00635   **warning: ignoring duplicate forwarder *name***

Cause   The server's default forwarder list contains a duplicate server. The duplicate is ignored and the server continues running.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNO–00700   **warning: cannot checkpoint the cache, trying again in *num* seconds**

Cause   The server was unable to perform its normal periodic cache checkpointing, typically because the cache checkpoint file could not be written. The cache checkpoint file name appears as an informational message during server startup.

Action   Check to see that the server has permission to write the cache checkpoint file, and that there is sufficient disk space for the file to be written.

NNO–00701　**warning: cannot construct checkpoint file name, checkpointing disabled**

Cause　The server could not construct a system–dependent file name.

Action　An internal error not normally visible to the user. For further details, turn on tracing and restart the server. If the error persists, contact Worldwide Customer Support.

NNO–00705　**warning: cannot open checkpoint file name, checkpointing disabled**

Cause　The server was unable to open the named checkpoint file for writing. This problem is typically due to the file system's protection settings. The error is not fatal; it simply means the server will not checkpoint its cache.

Action　Check to see that the server has permission to write the file named in the error message.

NNO–00709　**failed delete of cache checkpoint file *checkpoint_file*, cache flush may not work**

Cause　The server attempted to flush its cache, which also deletes the cache checkpoint file. The file deletion failed, although the rest of the cache flush succeeded. Succeeding errors describe the reason for the deletion failure.

Action　This error typically occurs when two cache–flush operations are issued in succession without an intervening cache checkpoint operation (which would recreate the file). The first deletes the cache file, the second attempts to do so, but fails since the file has already been deleted. In such cases, the message is harmless and can be ignored. If, however, the error occurs because the server lacks permission to delete the file, then you must change the file system permissions so the server is allowed to delete the file.

Oracle Names Client and Client/Server (NNC–00001 to 00501)

NNC–00001   **maximum number of connections already open**

Cause   All available name service connections are handling requests.

Action   If the problem occurs when running a name server, increase the values of names.max_open_connections. If the problem occurs in a client program, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00002   **error listening on stream *num***

Cause   The name server was asked to listen on the specified address, and failed, probably because the address is malformed, or because it uses a SQL*Net protocol adaptor which has not been installed.

Action   Make sure the address is properly formed, and that it uses a protocol adaptor which has been installed on your system.

NNC–00003   **error opening stream *num***

Cause   A name server or client program attempted to open a connection to another server and failed, either because the server is down, or because the network path to that server is not working. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Make sure that the server being connected to is listening on the address used, and that there is network connectivity between the two end–points.

NNC–00004   **connection is broken**

Cause   The connection from a name server or client program to another server has been broken, either because that server has shut down, or because the network path to the server has stopped working. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Make sure that the server being connected to is running and listening on the address used, and that there is network connectivity between the two end–points.

NNC–00005   **cannot initialization stream subsystem**

Cause   The name service stream subsystem could not be started, probably because of a missing TNS error message file.

Action   Check that SQL*Net has been installed properly and that all message files are in their proper locations.

NNC–00050   message format error

Cause   A corrupted name server message was received by a name server or the name server program interface.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00051   message content error

Cause   A corrupted name server message was received by a name server or the name server program interface.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00052   client and server protocol versions are incompatible

Cause   A name server message with an incompatible protocol version was received by a name server or the name server program interface. This problem will occur when there are clients and servers with widely varying protocol versions that are trying to communicate.

Action   Upgrade older client and server software so it is compatible with newer software.

NNC–00053   ASN.1 error encountered while sending or receiving message

Cause   The name server or the name server program interface attempted to send or receive a message and failed because of an ASN.1 error.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00400   memory exhausted

Cause   The program interface has run out of memory.

Action   Add more memory or run fewer processes.

NNC–00401   **program interface initialization failed**

Cause   The name server program interface could not be initialised, probably because of a missing TNS or name server error message file.

Action   Check that SQL*Net has been installed properly and that all message files are in their proper locations.

NNC–00402   **program interface de–initialization failed**

Cause   An internal error occurred while the name server program interface was being de–initialised by an internal function.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00403   **program interface has not been initialised**

Cause   Cause: An internal function has attempted to de–initialise the name service program interface when it has not yet been initialised.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00404   **supplied buffer of size *num* is smaller than minimum size *num***

Cause   A caller supplied the name server program interface with a memory buffer too small for the interface's requirements. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00405   **network failure**

Cause   The network connection between the client program and the name server has failed, either because the server has shut down, or because the network path to the server has stopped working. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Contact your name server administrator to make sure that the server being connected to is running and listening on the address used, and that there is network connectivity between the two end–points.

NNC–00406   **name *name* does not exist**

Cause   The user asked for information associated with a global name that does not exist.

Action   Re–try the failing operation with a global name that exists.

NNC–00407   **alias loop in name request**

Cause   The name service detected an "alias loop" when trying to retrieve information associated with a global name. An alias loop occurs when an alias name X points to another alias name Y, which in turn points back to X, rather than eventually to a global name which contains data.

Action   Contact your name server administrator to have the alias loop investigated and fixed.

NNC–00408   **name *name* exists but desired data does not**

Cause   The user asked for information associated with a global name. The name in question exists, but does not contain the desired type of information.

Action   Re–try the failing operation with a type which the desired name does contain.

NNC–00409   **temporary name service failure**

Cause   There are no name servers available to handle a client request, or a name server was temporarily unable to handle a client request. This situation is almost always temporary, and occurs when the program interface has issued a name server request and not received a timely response from any of its preferred servers. Such delays can occur due to transient network or name server outages or heavy load.

Action   Re–try the failing operation. If the error persists, make sure there is network connectivity between the client and its preferred name servers, and contact your name server administrator to make sure that those name servers are running.

NNC–00410   **invalid preferred server address list**

Cause   The names.preferred_servers parameter in sqlnet.ora is malformed.

Action   Make sure the address list is properly formatted.

NNC–00411   **invalid default domain name *name***

Cause   The names.default_domain parameter in sqlnet.ora is invalid.

Action   Make sure the parameter value is a valid global name. See your documentation for the characters which may be used in a global name.

NNC–00412   invalid name *name*

Cause   The name server program interface was given an invalid global name to process.

Action   Supply a valid domain name. If the error is caused by an internal function, contact Worldwide Customer Support.

NNC–00413   general failure

Cause   A name server program interface error occured which did not fall under the heading of any other more specific error condition. The error will usually be followed by more specific lower–level information.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00414   invalid name–value binding string *name*

Cause   A caller provided the name server program interface with an invalid name–value binding string value.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid name–value binding string argument. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00415   section identifier *num* is invalid, must be between *num* and *num*

Cause   An internal function has called the name server program interface with illegal arguments.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00416   user callback function returned error number *num*

Cause   An internal function has called the name server program interface with illegal arguments.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00417   **name *name* already exists**

Cause   A caller has attempted to create a new global name, and that name already exists.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a name that does not already exist. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00418   **name *name* cannot be modified because it has children**

Cause   A caller has attempted to delete or rename a global name, and that name cannot be modified because it has child names underneath it in the name space.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a name that is a leaf node. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00419   **authoritative server is unreachable**

Cause   A name server request cannot be processed because the server which received the operation does not own the name specified in the request and cannot locate the server which does own the name. The error is almost always transient, and occurs either because the path between the server receiving the request and the request's final destination has been interrupted, or because the final destination is down.

Action   Not normally visible to the user, except when using the name server control program. Because the error is typically a transient one, retrying the failing operation will usually work. If the failure persists, the name server which is allowed to process the failing operation is probably shut down or unreachable. Contact your name server administrator to make sure that your site's name servers are running, and are properly configured.

NNC–00420   **operation not allowed**

Cause   A name server request cannot be processed because the server which received the operation is not allowed to process it. The problem typically occurs when an administrator has disabled request processing at a particular server for some reason.

Action   Contact your name server administrator to determine why server request processing has been disabled.

NNC–00421 **invalid modification directive *name,* must be between *num* and *num***

Cause An internal function has called the name server program interface with illegal arguments.

Action Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00422 **invalid data type name *name***

Cause A caller has provided an invalid data type name to the name server program interface.

Action Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid type name. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00423 **invalid data item syntax code *num***

Cause A caller has provided an invalid data type code to the name server program interface.

Action Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid type name. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00424 **invalid address *name***

Cause A caller provided the name server program interface with an invalid address value.

Action Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid address argument. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00425   meta–data violation

Cause   A caller issued a name server modification request and that request cannot be processed because it would violate data type meta–data constraints.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, examine the meta–data constraints for the data type being operated upon and don't violate them. Examples of typical constraint violations are attempts to add a new data item to a name which already contains alias information, or attempts to add alias information to a name which already contains other data, or attempts to replace a data item with another item that has the wrong syntax. If the error occurs outside the control program, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00426   no such data type

Cause   A caller attempted to create a data item, and could not because the data item's type does not exist.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the operation with an existent data type. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00427   server does not support this version of the protocol

Cause   A name server message with an incompatible protocol version was received by a name server or the name server program interface. This problem will occur when there are clients and servers with widely varying protocol versions that are trying to communicate.

Action   Upgrade older client and server software so it is compatible with newer software.

NNC–00428   invalid meta–data data item

Cause   A caller provided the name server program interface with an invalid meta–data data item.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid meta–data argument. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00429   invalid octet string literal *num*

Cause   A caller provided the name server program interface with an invalid octet string string value.

Action   Not normally visible to the user, except when using the name server control program. If the error occurs when using the control program, retry the failing operation with a valid octet string argument. Otherwise, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNC–00500   warning: *name* parameter value is illegal, setting to *name*

Cause   The named parameter value is invalid.

Action   Make sure the parameter value is formatted correctly. Valid choices for boolean parameter values are TRUE, FALSE, YES, NO, ON, and OFF.

NNC–00501   warning: *name* parameter value must be between *num* and *num,* setting to *num*

Cause   The named parameter value is invalid or outside legal boundary values.

Action   Make sure the parameter value is a number, and falls between valid minimum and maximum values, as specified in the error text.

Oracle Names Control Utility (NNL–00001 to 01073)

NNL–00001   **request argument *name* is invalid**

Cause   The user entered an invalid request command argument.

Action   Supply a valid argument.

NNL–00002   **request argument *name* is not allowed with this operation**

Cause   The user entered a request command argument which is not valid with the particular request command.

Action   Supply a valid argument.

NNL–00003   **memory exhausted**

Cause   The program has run out of memory

Action   Check the amount of available memory on your machine to ensure that there is enough memory to run this executable. If necessary, free up memory by running fewer programs, then try again.

NNL–00004   **invalid command argument *name***

Cause   The user entered an invalid command argument.

Action   Supply a valid argument.

NNL–00005   **no server has been set. Use the SET SERVER command first**

Cause   The user attempted to issue a command which requires that a default managed Oracle Names server be set first.

Action   Use the SET SERVER command to set your default server, then reissue the command. Alternatively, if the command allows, re–issue it with a specific server name so the control program does not need to use the default.

NNL–00006   timeout, server is not responding

Cause   The control program issued a request to an Oracle Names server and no response arrived in a timely fashion. The network connection between the control program and the server may be faulty, the server may be very heavily loaded, or there may be substantial network delays between the control program and the server. The latter is especially true for WAN links.

Action   Reissue the command; if it continues to fail, check to see that the server being managed is running correctly and that the network connection between the server and the control program is working correctly.

NNL–00007   server responded with an error

Cause   The control program issued a request to an Oracle Names server and the server responded with an error.

Action   For further details, turn on tracing and re–execute the failing operation. If the error persists, contact your customer service representative.

NNL–00008   request not understood by server

Cause   The control program issued a request to an Oracle Names server and the server did not understand the request.

Action   If the server and the control program have different versions, they may be unable to communicate. Check your documentation for version compatibility constraints. If the server and control program are compatible, turn on tracing for further details, and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NNL–00009   encryption of server password failed

Cause   The control program attempted and failed to encrypt a server password, supplied either through the SET PASSWORD command or the namesctl.server_password configuration parameter.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNL–00010   error getting address for server *name*

Cause   The control program attempted to translate a server name to its corresponding address, and failed. There are a large number of possible causes for the failure. The control program's SQLNET.ORA file must exist in the correct system–specific location, and must be readable by the control program. The file must contain a names.preferred_servers entry with valid name server addresses. If the user has changed managed servers with the SET SERVER command, the new server must be running, and must be able to resolve the address or forward the request to another server which can resolve the address. Alternatively, a TNSNAMES.ORA file with valid name server names and addresses must exist in the correct system–specific location.

Action   For further details, turn on tracing and re–execute the failing operation. If the error persists, contact your customer service representative.

NNL–00011   no server with name *name* exists

Cause   The user issued a SET SERVER request and the current managed Oracle Names server was unable to translate that name into an address. Alternatively, the user issued a control program request to a specific server, and that server's name could not be translated into an address. Both problems are almost always caused by mis–typing the server name.

Action   Re–issue the request with a valid server name.

NNL–00012   invalid *name* value *name*

Cause   The first argument is a data type, the second is a value. The user supplied an invalid data value of the specified type.

Action   Re–issue the failing operation with correct data.

NNL–00013   not performed, permission denied for supplied password

Cause   The user issued a request to an Oracle Names server, and the password supplied with the request was incorrect.

Action   Check to see that the password sent by the control program to the server is correct for that server. You can set a new password with the SET PASSWORD control program command.

NNL–00014   **unknown data type** *name*

Cause   The user issued a name server request which contained an unknown data type.

Action   It is possible that the server had no information on the type, but automatically fetched it in response to the failing request. Re–issue the failing request; if the server has in the meantime fetched the appropriate data type information, the error will go away. If the error persists, the data type is probably invalid.

NNL–00015   **type** *data_type* **has** *name* **syntax, which has no textual representation**

Cause   Not all data type syntaxes can be represented as text. This message indicates that the user issued a name server request for a type with an non–textual representation.

Action   Re–issue the operation with a data type that has a syntax with a textual representation.

NNL–00016   **cannot start server, error getting program directory's name**

Cause   The user issued a STARTUP request, but the control program was unable to start the server because it was unable to find the name of the directory where the server executable resides.

Action   An internal error not normally visible to the user. Contact Worldwide Customer Support.

NNL–00017   **cannot start server, program** *program_name* **does not exist**

Cause   The user issued a STARTUP request, but the control program was unable to start the server because it was unable to find the server executable.

Action   Make sure that a copy of the server executable exists in your system's oracle executable directory.

NNL–00018   **warning: could not contact default name server**

Cause   The control program was unable to contact its default name server during startup. There are a number of possible causes for this error. The control program's SQLNET.ORA file must exist in the correct system–specific location, and must be readable by the control program. The file must contain a names.preferred_servers entry with valid name server addresses. The first server in the preferred–server list must be running, and there must be network connectivity between the control program and that server.

Action   Check to see that all of the above are true. If the control program is still unable to contact its default server, turn on tracing and restart the control program. If the error persists, contact Worldwide Customer Support.

NNL–00019   **warning: server either changed or ignored your request**

Cause   The user issued a request to an Oracle Names server and that request was altered in some way. Typically the user specified an invalid argument of some sort, and the server either ignored the request, or replaced the invalid argument with a reasonable default.

Action   Use the control program to check the current state of the value that you attempted to change. The server's log file may also contain information about the exact cause of the problem. Re–issue the operation with correct arguments.

NNL–00020   **warning: no TNSNAMES.ORA file and no preferred name servers in SQLNET.ORA**

Cause   The control program was unable to find a TNSNAMES.ORA file and was unable to find a default name server in SQLNET.ORA. The control program will operate in this state, but will be unable to resolve any names until a default server has been set, and that server must be set using its raw TNS address.

Action   The control program's SQLNET.ORA file must exist in the correct system–specific location, and must be readable by the control program. The file must contain a names.preferred_servers entry with valid name server addresses. The first server in the preferred–server list must be running, and there must be network connectivity between the control program and that server. Alternatively, a TNSNAMES.ORA file with valid name server information must exist in the correct system–specific location.

NNL–00022   **error changing trace level from *num* to *num* level change ignored**

Cause   The user attempted to change the control program's local trace level, and the program encountered an error while changing the level. Usually the problem is that tracing was enabled for the first time (by changing the trace level from OFF to something else) and the trace file is not writeable by the control program.

Action   Check to see that the trace file is writeable. Your documentation will tell you the name of the trace file.

NNL–00023   **SET command is missing an argument**

Cause   The user attempted to issue a SET command with no argument.

Action   Supply a valid argument to the SET command.

NNL–00024   warning: no preferred name servers in SQLNET.ORA

Cause   The control program was unable to find any preferred name servers in SQLNET.ORA, and will therefore not connect to a default server.

Action   Make sure that the SQLNET.ORA file contains a valid names.preferred_servers entry.

Oracle Names Server Network Management Protocol (NMP–00001 to 00011)

NMP–00001   value too big

Cause   The SNMP program interface received a value too large for it to process. This error is usually displayed underneath an error which describes in more detail the value which caused the problem.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support

NMP–00002   no such SNMP variable name

Cause   An SNMP request was not processed because one or more of the variable names in the request does not exist. This error is not normally visible to the user except in a trace file, where it is usually part of a "soft" error condition which is normal.

Action   The error may indicate that a managed server does not support an operation requested by its control program, perhaps because of version incompatibility. For further details, turn on tracing and re–execute the failing operation. If the error persists, and does not occur as part of a "soft" error condition as noted in the trace file, contact Worldwide Customer Support.

NMP–00003   bad SNMP variable value

Cause   The SNMP program interface received a variable value which has an unsupported data type. This error may occur if a standard SNMP network monitor is sending requests to an Oracle service through an SNMP–to–TNS gateway, and that service cannot understand the requests.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, and occurs when an Oracle control program sends requests to an Oracle service, contact Worldwide Customer Support.

NMP–00004   SNMP variable is read only

Cause   The user attempted to change a variable value at a remote server, and that variable is read–only. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Read–only variables may never be modified.

NMP–00005   general SNMP error

Cause   An SNMP error occured which did not fall under the heading of any other more specific error condition. This error may occur if a standard SNMP network monitor is sending requests to an Oracle service through an SNMP–to–TNS gateway, and that service cannot understand the requests.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, and occurs when an Oracle control program sends requests to an Oracle service, contact Worldwide Customer Support.

NMP–00006   uninitialized SNMP context

Cause   An internal function attempted to use an uninitialize SNMP handle.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMP–00007   I/O failure

Cause   The SNMP program interface attempted to send or receive an SNMP request and was unable to do so because of a network failure of some sort. This error is usually displayed underneath an error which describes the problem in more detail. The problem typically occurs when a control program is attempting to communicate with a service and either that service has unexpectedly terminated or the network path between the control program.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NMP–00008   **SNMP message has incorrect version, version 0 is required**

Cause   The SNMP program interface received a protocol request with an illegal version number. This error may occur if a standard SNMP network monitor is sending malformed requests to an Oracle service through an SNMP–to–TNS gateway.

Action   Ensure that the management platform in question is sending SNMP requests with the correct version number. If the error persists, and occurs when an Oracle control program sends requests to an Oracle service, contact Worldwide Customer Support.

NMP–00009   **SNMP initialization failure**

Cause   The SNMP program interface could not be initialized, either because its error message file could not be found, or because there is a malformed snmp.communities parameter value in the parameter table.

Action   Check that SQL*Net has been installed properly and that all message files are in their proper locations. Turn on tracing and look for parameter table load errors.

NMP–00010   **memory exhausted**

Cause   The program interface has run out of memory.

Action   Add more memory or run fewer processes.

NMP–00011   **internal SNMP program interface error**

Cause   An internal error occurred inside the SNMP program interface. This error is usually displayed underneath an error which describes the problem in more detail.

Action   Not nomally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

Oracle Names Server Network Presentation Layer (NPL–00100 to 00420)

NPL–00100   cannot initialize ASN.1 context

Cause   The ASN.1 program interface could not be initialized, probably because its error message file could not be found.

Action   Check that SQL*Net has been installed properly and that all message files are in their proper locations.

NPL–00101   uninitialized ASN.1 context

Cause   The ASN.1 program interface received an uninitialized ASN.1 handle.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00102   missing stream functions in ASN.1 context initialization

Cause   An internal function improperly attempted to initialize an ASN.1 handle.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support

NPL–00103   unusable ASN.1 context

Cause   The ASN.1 program interface received an unusable ASN.1 handle.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00300   maximum ASN.1 element nesting depth *num* exceeded on read

Cause   An ASN.1 construct is too complex for the program interface to read.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00301   **maximum ASN.1 element nesting depth *num* exceeded on write**

Cause   An ASN.1 construct is too complex for the program interface to write.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00302   **ASN.1 type tag is greater than maximum of 16383**

Cause   An internal function attempted to create an illegal ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00303   **uninitialized ASN.1 class attribute**

Cause   An internal function attempted to create an illegal ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00304   **uninitialized ASN.1 tag attribute**

Cause   An internal function attempted to create an illegal ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists contact Worldwide Customer Support.

NPL–00305   **unsupported ASN.1 \"UNIV\" type *name***

Cause   An internal function attempted to create an illegal ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00307   **ASN.1 sequence has already been ended on write**

Cause   An internal function attempted to end an ASN.1 construct prematurely.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00308   **requested ASN.1 class *name* does not match received class *name***

Cause   An internal function requested an ASN.1 construct different from that received by the ASN.1 protocol engine.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00309   **requested ASN.1 type tag *name* does not match received type tag *name***

Cause   An internal function requested an ASN.1 construct different from that received by the ASN.1 protocol engine.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00310   **ASN.1 sequence has already been ended on read**

Cause   An internal function attempted to finish reading an ASN.1 construct which has already been completely read.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00311   **cannot end constructed ASN.1 encoding, *num* encoding octets unread**

Cause   An internal function attempted to finish reading an ASN.1 construct prematurely.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00312   **attempt to put ASN.1 \"UNIV\" type with illegal tag *num***

Cause   An internal function attempted to finish reading an ASN.1 construct prematurely.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00313 **requested form *name* does not match actual form *name***

Cause   An internal function received an ASN.1 construct different from that expected.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00410 **incoming ASN.1 value too large (*num* octets) to store locally**

Cause   The ASN.1 protocol engine was unable to translate an ASN.1 construct to its host representation because the construct was too big.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00411 **incoming ASN.1 NULL encoding has nonzero length of *num***

Cause   The ASN.1 protocol engine received a corrupted ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00412 **incoming ASN.1 BOOLEAN encoding has incorrect length of *num***

Cause   The ASN.1 protocol engine received a corrupted ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00413 **incoming ASN.1 encoding has length *num,* maximum allowed is *num***

Cause   The ASN.1 protocol engine received an ASN.1 construct too large for it to process.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00414 **incoming ASN.1 type tag is greater than maximum of 16383**

Cause   The ASN.1 protocol engine received an illegal ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00415   received unsupported ASN.1 INDEFINITE–LENGTH encoding

Cause   The ASN.1 protocol engine received an ASN.1 encoding which it could not process because its implementation does not support it.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00416   received illegal ASN.1 encoding length of *num*

Cause   The ASN.1 protocol engine received a corrupted ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00417   received ASN.1 length octet count greater than maximum of *num*

Cause   The ASN.1 protocol engine received an ASN.1 encoding which it could not process because its implementation does not support it.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00418   received malformed ASN.1 object identifier

Cause   The ASN.1 protocol engine received a corrupted ASN.1 construct.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00419   received ASN.1 object identifier with sub–identifier that is too large

Cause   The ASN.1 protocol engine received an ASN.1 encoding which it could not process because its implementation does not support it.

Action   Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

NPL–00420 **received ASN.1 object identifier with more than 256 sub–identifiers**

Cause The ASN.1 protocol engine received an ASN.1 encoding which it could not process because its implementation does not support it.

Action Not normally visible to the user. For further details, turn on tracing and re–execute the failing operation. If the error persists, contact Worldwide Customer Support.

9

SNMP Support Error Messages

This chapter describes the messages generated by SNMP Support. The messages include:

- configuration and startup errors. These messages may be generated by any service using SNMP support.

- database subagent error messages. These messages are specific to the database.

Configuration and Startup Error Messages—All Services (NMS–00000 to 00050)

NMS–00001   *service* **unable to connect to SNMP master agent**

Cause   The specified service could not contact the SNMP master agent.The master agent supported by Oracle for this platform is not installed, or has not been started. Messages specific to this platform follow.

Action   Consult Oracle documentation for your platform, and then make sure that the correct SNMP master agent is installed and started.

NMS–00002   *service* **failed to allocate memory for snmp.ora parameters**

Cause   The specified service was unable to allocate enough memory to hold all all the snmp.ora parameters. This may indicate that the parameters are too big, but more likely is a system error.

Action   Check system configuration and if possible, reduce the number of the processes running. If this does not fix the problem, report as a bug.

NMS–00003   *service* **could not find snmp.ora file, or it was malformed**

Cause   The snmp.ora file could not be opened and read by the specified service. The location of this file varies by platform, but normally it must be in the same directory as other SQL*Net paramter files. Detailed error messages may follow this one, if the problem could be traced to a specific parameter.

Action   Consult the documentation for your platform, then create the file in the proper location, and restart the program.

NMS–00004   *service* **unable to register MIB or MIB row**

Cause   The specified service was unable to register its MIB or MIB row with the master agent.

Action   Consult the documentation for SNMP on your platform. If the messages indicate that another program already has that MIB or MIB row registered, you may want to terminate that program, then retry.

NMS–00005   **snmp.visible services parameter in snmp.ora is missing or empty**

Cause   The snmp.ora file does not contain a filled–in snmp.visibleservices parameter, or it's empty.

Action   Edit or create the snmp.ora file and try again.

NMS–00006 **Required parameter *parameter* was not found in snmp.ora**

Cause The snmp.ora file did not contain the indicated parameter, which was required. Normally this would happen because one of the services mentioned in snmp.visible services required one or more detail parameters to be supplied, such as the one indicated.

Action Edit or create the snmp.ora file and try again.

NMS–00007 ***service* failed to allocate memory**

Cause The specified service was unable to allocate memory.

Action Check system configuration and if possible, reduce the number of the processes running. If this does not fix the problem, report as a bug.

Database Subagent Errors (NMS–00200 to 00250)

NMS–00202 **Failure to connect to the database**

Cause The database subagent was unable to connect to the database. The detailed error message, which is documented in Oracle7 Server manuals, follows.

Action Consult Oracle7 Server documentation for the detailed error message.

NMS–00203 **Error *number* disconnecting from the database: *error text***

Cause The database subagent was unable to connect to the database, and received the specified error number and text message. The detailed error message, which is documented in Oracle7 Server manuals, follows.

Action Consult Oracle7 Server documentation for the detailed error message.

NMS–00204 **Failure to listen on address *address***

Cause The database subagent was unable to listen on the specifiedTNS address, possibly because another instance of the database agent has already claimed the address. If more information is available, it will appear under this error.

Action If another instance of the database agent is already running, either allow it to continue running or bring it down and try again. Otherwise, see "Actions" for the other TNS errors.

NMS–00205 **Failure to connect to database *SID* with username/password**
username/password

Cause The database subagent was unable to listen on the specified TNS address, possibly because another instance of the database agent has already claimed the address. If more information is available, it will appear under this error.

Action If another instance of the database agent is already running, either allow it to continue running or bring it dow and try again. Otherwise, see "Actions" for the other TNS errors.

Selected Database Subagent Log Messaages (NMS–00250 to 00275)

Log messages are informational only and do not indicate an error condition. Most log messages are self–explanatory and are not listed here. Only those that may require some explanation are listed in this section.

NMS–00253 **Connected successfully to database *Oracle_SID***

Cause The subagent successfully logged on to the specified database. This message may also be output if the database goes down and comes back up.

Action None

NMS–00255 **Database *Oracle_SID* became unreachable; trap sent**

Cause The specified database became inaccessible, and the subagent then sent an SNMP trap. This may not indicate a problem, since the database may have been shut down deliberately (the subagent is unable to distinguish the cause of the inaccessibility).

Action Consult the Oracle7 Server documentation, if the shutdown was not deliberate. If traps are not being received at your management station(s), consult the platform SNMP documentation and ensure that the management station's address is configured properly for the master agent.

Trace and Log Parameter Reference

This appendix provides a complete reference to the valid parameters used in controlling tracing and logging in a SQL*Net network. This information is intended to supplement the information presented in Chapter 2, "Logging," and Chapter 3,"Tracing." This chapter includes the following information:

- client trace and log parameters

- server trace and log parameters

- TNSPING trace parameters

- listener trace and log parameters

- Connection Manager trace and log parameters

- Navigator trace and log parameters

- Names Server trace and log parameters

- NAMESCTL trace parameters

The name of the component configuration files is of the form *component_name*.ORA, as in SQLNET.ORA, LISTENER.ORA, INTCHG.ORA, or NAMES.ORA. The actual name of the file may vary on the distribution media for your operating system. For simplicity, this guide consistently refers to SQLNET.ORA, LISTENER.ORA, INTCHG.ORA, and NAMES.ORA files as the configuration files.

Any variations in the filenames and the expected locations of these configuration files and the trace output files are documented in the Oracle operating system–specific manuals for your platform.

OS Doc

Specifying Values in the Component Configuration File

The component configuration file is a short text file that contains a list of parameters and a value for each parameter. Create and modify the configuration files by using Oracle Network Manager. See the *Oracle Network Manager Administrator's Guide* for information about how to enter or edit information about tracing and logging parameters in the configuration files.

NetMan

Oracle Network Manager creates lines in the configuration files that look similar to this:

```
TRACE_LEVEL_CLIENT = ADMIN
TRACE_FILE_CLIENT = CTRACE
```

> **Note:** There are some parameters in SQLNET.ORA that can be entered and modified through the SQLNET.ORA Editor as well as through Oracle Network Manager. Other parameters can be added or changed only by editing the SQLNET.ORA file with a text editor. These include all parameters for the server, and trace parameters for the NAMESCTL utility.

The following rules govern how you specify parameters in the component configuration files:

- Only parameters and comments should appear in the component configuration file.

- If the configuration file omits a parameter, then the parameter's default value is in effect.

- Parameters can be specified in any order.

- Parameter names are shown in this appendix and this guide in uppercase for readability. Case (upper or lower) is only significant in values if case is significant on the host operating system. Refer to your operating system–specific documentation if you require more information.

OS Doc

- A pound sign (#) is used to start each line that contains a comment.

- Double quotes can surround parameter values, such as filenames. This syntax option is useful for values that contain special characters.

See How to Set Trace Parameters, in Chapter 3.

Client Trace and Log Parameter Descriptions

TRACE_LEVEL_CLIENT   This parameter determines the level of trace detail produced for a client application. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	SQLNET.ORA
Default value:	OFF
OK to change?	yes
Range of values:	[OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors
- server installation errors
- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)
- protocol-specific errors
- configuration inconsistencies
- server installation errors
- errors in interaction with third-party software

| TRACE_FILE_CLIENT | This parameter controls the trace output filename for a TNS client application. By default, the filename on most operating systems is SQLNET.TRC. A new trace output file is generated for each trace session. A trace session begins when the TNS client application is initiated with valid trace parameters. |

> **Note:** Unless a new value for the TRACE_FILE_CLIENT parameter is specified or the old trace file is renamed, or the TRACE_UNIQUE_CLIENT parameter (described next) is set to ON, the new trace output file replaces the old trace output file.

Configuration file: SQLNET.ORA
Default value: SQLNET
OK to change?   yes
Ranges of values: valid filename

Example:

```
TRACE_FILE_CLIENT = CLIENTA
```

This example generates a trace file called CLIENTA.TRC

> **Note:** On most operating systems, TNS appends the .TRC suffix to the trace filename, so there is no need to specify it in the configuration file.

| TRACE_UNIQUE_CLIENT | This parameter determines whether or not a unique trace file is created for each client. By default, the value is OFF, and only one trace file is created for a client. If the value is OFF, when a new trace file is created for a client, it overwrites the existing file. If the value is set to ON, a process identifier is appended to the name of each trace file generated so that several can coexist. |

Configuration file: SQLNET.ORA
Default value: OFF
OK to change?   yes
Ranges of values: ON | OFF or TRUE | FALSE

OS Doc The format of the appended process identifier is platform specific and is described in the Oracle operating system–specific manual for your platform. For example, on a UNIX machine the format would be similar to the following:

```
CLIENTA_3123.TRC
```

> **Note:** Trace files are usually very large. If this parameter is set to ON (or TRUE), the number of large trace files could interfere with machine performance. Therefore use it carefully.

TRACE_DIRECTORY_
CLIENT

This parameter is used to override the default placement of the trace output file for an Oracle client. By default, the trace output is written in the directory in hich the executable resides. .

Configuration file: SQLNET.ORA
Default value: See your Oracle platform–specific documentation.
OK to change?   yes
Ranges of values: valid directory

Example: See your Oracle platform–specific documentation.

OS Doc

LOG_FILE_CLIENT

This parameter controls the log output filename for an Oracle client. By default the log file generated is called SQLNET.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

Configuration file: SQLNET.ORA
Default value: SQLNET
OK to change?   yes
Ranges of values: valid filename

Example:

```
LOG_FILE_CLIENT = CLIENT
```

This example generates a log file called CLIENT.LOG.

> **Note:** On most operating systems, TNS appends the .LOG suffix to the log filename, so there is no need to specify it in the configuration file.

LOG_DIRECTORY_
CLIENT

This parameter is used to override the default placement of the log output file for an Oracle client. By default, the log file is written in the current directory.

Configuration file: SQLNET.ORA
Default value: See your Oracle platform–specific documentation.
OK to change?   yes
Ranges of values: valid directory

Example: See your Oracle platform–specific documentation.

OS Doc

Server Trace and Log Parameter Descriptions

TRACE_LEVEL_SERVER   This parameter determines the level of trace detail produced for an Oracle server. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	SQLNET.ORA
Default value:	OFF
OK to change?	yes
Range of values:	[OFF	USER	ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors

- server installation errors

- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- server installation errors

- errors in interaction with third-party software

TRACE_FILE_SERVER   This parameter controls the trace output filename for a TNS client application. By default, the filename on most operating systems is SQLNET.TRC. A new trace output file is generated for each trace session. On most operating systems, each trace file automatically appends the process identifier of the current process to the filename so that previous files are not overwritten. The format of the appended process identifier is platform specific and is described in the Oracle operating system–specific manual for your platform.

OS Doc

Configuration file:	SQLNET.ORA
Default value:	SQLNET
OK to change?	yes
Ranges of values	valid filename

Example:

```
TRACE_FILE_SERVER = SERVERA
```

On a UNIX machine, this example might generate a trace file called SERVERA_5798.TRC.

> **Note:** On most operating systems, TNS appends the .TRC suffix to the trace filename, so there is no need to specify it in the configuration file.

TRACE_DIRECTORY_
SERVER

This parameter is used to override the placement of the trace output file for an Oracle server. The default location is specific to each operating system. See the Oracle operating system–specific manual for your platform for details.

Configuration file:	SQLNET.ORA
Default value:	See your Oracle platform–specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	See your Oracle platform–specific documentation.

OS Doc

LOG_FILE_SERVER

This parameter controls the log filename for an Oracle server. By default the log file generated is called SQLNET.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

Configuration file:	SQLNET.ORA
Default value:	SQLNET
OK to change?	yes
Ranges of values:	valid filename

Example:

```
LOG_FILE_SERVER = SERVER
```

This example generates a log file called SERVER.LOG

> **Note:** On most operating systems, TNS appends the .LOG suffix to the log filename, so there is no need to specify it in the configuration file.

LOG_DIRECTORY_
SERVER

This parameter is used to override the placement of the log output file for an Oracle server. The default location is specific to each operating system.

Configuration file:	SQLNET.ORA
Default value:	See your Oracle platform–specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	See your Oracle platform–specific documentation.

OS Doc

TNSPING Utility Trace Parameter Descriptions

TNSPING.TRACE_
LEVEL

This parameter determines the level of trace detail produced for the TNSPING utility. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	SQLNET.ORA
Default value:	OFF
OK to change?	yes
Range of values:	[OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors

- server installation errors

- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- server installation errors

- errors in interaction with third-party software

TNSPING.TRACE_
DIRECTORY

This parameter is used to override the placement of the trace output file for the TNSPING utility. The default location is specific to each operating system. See the Oracle platform-specific documentation for details.

Configuration file:	SQLNET.ORA
Default value:	See your Oracle platform-specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	.

OS Doc

```
TNSPING.TRACE_LEVEL = ADMIN
TNSPING.TRACE_DIRECTORY = /usr/bin
```

Listener Trace and Log Parameter Descriptions

TRACE_LEVEL_
LISTENER

This parameter determines the level of trace detail produced for the network listener. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	LISTENER.ORA
Default value:	OFF
OK to change?	yes
Range of values:	[OFF	USER	ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors

- listener installation errors

- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of

"finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- listener installation errors

- errors in interaction with third-party software

TRACE_FILE_LISTENER   This parameter controls the trace filename for the listener. By default the trace file generated by the listener is called LISTENER.TRC. Note that for each trace session a trace output file is generated. Unless a new value for TRACE_FILE_LISTENER parameter is specified or the old trace file is relocated or renamed, the new trace output file overwrites the old trace output file.

> **Note:** On most operating systems, the .TRC suffix is automatically appended to the trace filename, so there is no need to specify it in the configuration file.

Configuration file: LISTENER.ORA
Default value: LISTENER
OK to change?   yes
Range of values   valid filename

Example:

```
TRACE_FILE_LISTENER = LSNRA
```

This example generates a trace file called LSNRA.TRC.

> **Note:** If you use a name for the listener other than the default name for the listener (that is, LISTENER), the trace filename would be the name of the non–default listener; for example, LISNAGAIN.TRC.

TRACE_DIRECTORY_   This parameter is used to override the placement of the trace output
LISTENER   file for the TNS Listener. The default location is specific to each operating system.

Configuration file: LISTENER.ORA
Default value: See your Oracle platform–specific documentation
OK to change?   yes
Range of values: valid directory

| | Example: | See your Oracle platform–specific documentation. |

LOG_FILE_LISTENER

This parameter controls the log output filename for the Listener. By default the log file generated is called LISTENER.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

> **Note:** If you use a name for the listener other than the default name for the listener (that is, LISTENER), the trace filename would be the name of the non–default listener; for example, LISNAGAIN.TRC.

Configuration file:	LISTENER.ORA
Default value:	LISTENER
OK to change?	yes
Ranges of values:	valid filename

Example:

```
LOG_FILE_LISTENER = LSNR
```

This example generates a log file called LSNR.LOG

> **Note:** On most operating systems, TNS appends the .LOG suffix to the log filename, so there is no need to specify it in the configuration file.

LOG_DIRECTORY_ LISTENER

This parameter is used to override the placement of the log output file for the listener. By default the log is written in the current working directory.

Configuration file:	LISTENER.ORA
Default value:	See your Oracle platform–specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	See your Oracle platform–specific documentation.

OS Doc

Connection Manager and Pump Trace and Log Parameter Descriptions

TRACE_LEVEL_ CMANAGER

This parameter determines the level of trace detail produced for the Connectio Manager. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	INTCHG.ORA
Default value:	OFF
OK to change?	yes
Range of values:	[OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = User level: The tracing at this level is limited.

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (lookup files, and so on)
- protocol-specific errors
- configuration inconsistencies
- Interchange installation errors
- errors in interaction with third-party software

This parameter controls the trace output filename for a TNS client application. By default, the filename on most operating systems is SQLNET.TRC. A new trace output file is generated for each trace session. On most operating systems, each trace file automatically appends the process identifier of the current process to the filename so that previous files are not overwritten. The format of the appended process identifier is platform specific and is described in the Oracle operating system–specific manual for your platform.

OS Doc

TRACE_FILE_ CMANAGER

This parameter controls the trace filename for the Connection Manager. By default the trace file generated by the Connection Manager is called CMG.TRC. A new trace output file is generated for each trace session. On most operating systems, each trace file automatically appends the process identifier of the current process to the filename so that previous files are not overwritten. The format of the appended process identifier is platform specific and is described in the Oracle platform–specific documentation.

OS Doc

Configuration file:	INTCHG.ORA
Default value:	CMG
OK to change?	yes
Range of values	string

Example:

```
TRACE_FILE_CMANAGER = CMANAGER
```

On a UNIX machine, this example might generate a trace file called CMANAGER_4321.TRC, and a pump trace file called PMP_3198.TRC.

> **Note:** On most operating systems, the .TRC suffix is appended to the trace filename automatically, so there is no need to specify it in the configuration file.

> **Note:** All pump trace properties are determined by the corresponding Connection Manager parameters, although a separate trace file is created for a pump. The default name for a pump trace file, PMP_*pid*.TRC, cannot be changed.

TRACE_DIRECTORY_ CMANAGER

This parameter is used to override the placement of the trace output file for the Connection Manager. The default locaton is specific to each operating system.

Configuration file:	INTCHG.ORA
Default value:	See your Oracle platform-specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	See your Oracle platform-specific documentation.

OS Doc

LOG_FILE_CMANAGER

This parameter controls the log output filename for the Connection Manager. By default, the log file generated is called INTCHG.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

> **Note:** On most operating systems, the .LOG suffix is appended to the log filename automatically, so there is no need to specify it in the configuration file.

Configuration file:	INTCHG.ORA
Default value:	INTCHG
OK to change?	yes
Range of values:	string

Example:

```
LOG_FILE_CMANAGER = CMANAGER
```

This example generates a log file called CMANAGER.LOG.

> **Note:** Pump statistics are included in the log file for the Connection Manager.

LOG_DIRECTORY_
CMANAGER

This parameter is used to override the placement of the log output file for the Connection Manager. By default, the log is written in the current working directory.

Configuration file:	INTCHG.ORA
Default value:	See your Oracle platform-specific documentation.
OK to change?	Not configurable using Network Manager
Range of values:	valid directory
Example:	See your Oracle platform-specific documentation.

OS Doc

LOGGING_
CMANAGER

This parameter indicates whether the Connection Manager should log information to the log file to maintain Interchange statistics. This is an optional parameter.

Configuration file:	INTCHG.ORA
Default value:	OFF
OK to change?	Use Logging Level field in Network Manager.
Ranges of values:	[OFF	ON]

LOG_INTERVAL_
CMANAGER

This parameter indicates the interval between logs of the Interchange statistics in the INTCHG.LOG file.

> **Note:** Setting the log interval to a low value adversely affects Interchange performance, and the log file may become quite large.

Configuration file:	INTCHG.ORA
Default value:	60 minutes
OK to change?	yes
Ranges of values:	1–99

Navigator Trace and Log Parameter Descriptions

TRACE_LEVEL_
NAVIGATOR

This parameter determines the level of trace detail produced for the Navigator. Setting the trace level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

The Interchange is not intended to be traced by anyone other than an administrator; so the ADMIN level is recommended for Interchange modules.

Configuration file:	INTCHG.ORA
Default value:	OFF

OK to change?   yes
Ranges of values: [OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = User level: The tracing at this level is limited.

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- Navigator installation errors

- errors in interaction with third-party software

- Navigator queries and answers

TRACE_FILE_NAVIGATOR

This parameter controls the trace filename for the Navigator. By default, the trace file generated by the Navigator is called NAV.TRC. Note that for each trace session a trace output file is generated. Each time a new trace file is created, a process identifier is appended to the name of the trace file so that it is unique. The format of the appended process identifier is platform specific and is described in the Oracle platform-specific documentation.

OS Doc

Configuration file: INTCHG.ORA
Default value: NAV
OK to change?   yes
Ranges of values: string

Example:

```
TRACE_FILE_NAVIGATOR = NAVTEST
```

On a UNIX machine, this example might generate a trace file called NAVTEST_5234.TRC.

> **Note:** On most operating systems, the .TRC suffix is appended to the trace filename automatically, so there is no need to specify it in the configuration file.

TRACE_DIRECTORY_
NAVIGATOR

This parameter is used to override the placement of the trace output file for the Navigator. The default value is specific to each operating system.

Configuration file:	INTCHG.ORA
Default value:	See your Oracle platform–specific documentation.
OK to change?	yes
Range of values:	valid directory
Example:	See your Oracle platform–specific documentation.

OS Doc

LOG_FILE_NAVIGATOR

This parameter controls the log output filename for the Navigator. By default the log file generated is called NAV.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

Configuration file:	INTCHG.ORA
Default value:	NAVGATR
OK to change?	yes
Range of values:	string

Example:

```
LOG_FILE_NAVIGATOR = NAVIGATOR
```

This example generates a log file called NAVIGATOR.LOG

> **Note:** On most operating systems, the .LOG suffix is appended to the log filename automatically, so there is no need to specify it in the configuration file.

LOG_DIRECTORY_
NAVIGATOR

This parameter is used to override the placement of the log output file for the Navigator. By default, the log is written in the current working directory.

Configuration file:	INTCHG.ORA
Default value:	See your Oracle platform–specific documentation.
OK to change?	Not configurable using Network Manager
Range of values:	valid directory
Example:	See your Oracle platform–specific documentation.

OS Doc

LOGGING_
NAVIGATOR

This parameter determines whether the Navigator logs navigation requests. This is an optional parameter.

Configuration file:	INTCHG.ORA
Default value:	OFF

OK to change?	Use Logging Level field in Network Manager.
Range of values:	[OFF | ON]

LOG_LEVEL_
NAVIGATOR

This parameter takes effect only when the LOGGING_NAVIGATOR parameter is set to ON. LOG_LEVEL_NAVIGATOR determines what requests are logged. Choices are ERRORS and ALL. If ERRORS, then all errors in navigation are logged. If ALL, then all navigation requests are logged.

Configuration file:	INTCHG.ORA
Default value:	ERRORS
OK to change?	yes
Range of values:	[ERRORS | ALL]

Names Server Trace and Log Parameter Descriptions

NAMES.TRACE_
LEVEL

This parameter controls the level of trace detailproduced for the Names Server. Setting the level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	NAMES.ORA
Default value:	OFF
OK to change?	yes
Ranges of values:	[OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors

- server installation errors

- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- server installation errors

- errors in interaction with third-party software

NAMES.TRACE_FILE   This parameter generates the name of the output file from a Names
Server trace session. By default the trace file generated by the Names
Server is called NAMES. Note that for each trace session a trace output
file is generated. On most operating systems, if
NAMES.TRACE_UNIQUE is set to ON or TRUE in the NAMES.ORA
configuration file, each trace file appends the process identifier of the
current process to the filename so that previous files are not
overwritten. If files are not overwritten with the process identifier,
many files accumulate, which uses up alot of disk space. The format of
the appended process identifier is platform specific and is described in
OS Doc   Oracle platform-specific documentation.

Configuration file: NAMES.ORA
Default value: names
OK to change?   yes
Ranges of values   valid filename

Example:

```
NAMES.TRACE_FILE = NAMES_SUN_03
NAMES.TRACE_UNIQUE = TRUE
```

On a UNIX machine, this example might generate a trace file called
NAMES_5798.TRC.

> **Note:** On most operating systems, TNS appends the .TRC
> suffix to the trace filename, so there is no need to specify it in
> the configuration file.

NAMES.TRACE_   This parameter determines the name of the directory to which trace
DIRECTORY   files from a Names Server trace session are written. The default value is
                    specific to each operating system.

> **Note:** You must set NAMES.TRACE_DIRECTORY in
> NAMES.ORA, then restart the Names Server. You cannot set
> this from NAMESCTL.

Configuration file: NAMES.ORA
Default value: names
OK to change?   yes
Range of values: valid directory

Examples: See your Oracle platform–specific documentation.

NAMES.TRACE_UNIQUE

This parameter determines whether or not a unique trace file is created for each Names Server. By default, the value is OFF, and only one trace file is created for a Names Server. If the value is OFF, when a new trace file is created for a Names Server, it overwrites the existing file. If the value is set to ON, a process identifier is appended to the name of each trace file generated so that several can coexist.

The format of the appended process identifier is platform specific and is described in the Oracle operating system–specific manual for your platform. For example, on a UNIX machine the format would be similar to the following:

```
SERVERA_3123.TRC
```

> **Note:** Trace files are usually very large. If this parameter is set to ON (or TRUE), the number of large trace files could interfere with machine performance. Therefore use it carefully.

NAMES.LOG_FILE

This parameter controls the log filename for an Oracle server. By default the log file generated is called SQLNET.LOG. Log files always append new information to the end of the existing log until the administrator prunes the log file.

> **Note:** On most operating systems, TNS appends the .LOG suffix to the log filename, so there is no need to specify it in the configuration file.

Configuration file: NAMES.ORA
Default value: NAMES.LOG
OK to change?   yes
Ranges of values: valid filename

Example:

```
NAMES.LOG_FILE = names_server2
```

This example generates a log file called NAMES_SERVER2.

NAMES.LOG_DIRECTORY

This parameter is used to override the placement of the log output file for a Names Server. The default location is specific to each operating system.

Configuration file: NAMES.ORA
Default value: See your Oracle operating system documentation.
OK to change?   yes
Range of values: valid directory

| | Example: | See your Oracle platform-specific documentation. |

NAMESCTL Utility Trace Parameter Descriptions

NAMESCTL.TRACE_
LEVEL

This parameter indicates the level at which the NAMESCTL program should be traced. It should only be used if NAMESCTL is suspected of causing problems. Setting the level to OFF disables trace. Trace should be OFF except for short diagnostic sessions.

Configuration file:	SQLNET.ORA
Default value:	OFF
OK to change?	yes
Ranges of values:	[OFF | USER | ADMIN]

OFF = No user-specified tracing. This value can be used to disable trace.

USER = End–user level: Trace to provide additional information to identify user-induced error conditions such as:

- addressing errors

- installation errors

- runtime show–stopper errors (for example, protocol stack not loaded)

ADMIN = Administrator level: Trace to identify installation-specific problems, for substantiation of "finger pointing" in case of third-party stacks, and for the following situations:

- site configuration–specific failures (for example, lookup files)

- protocol-specific errors

- configuration inconsistencies

- installation errors

- errors in interaction with third-party software

NAMESCTL.TRACE_
FILE

This parameter generates the file in which the NAMESCTL trace output is placed. Note that for each trace session a trace output file is generated. On most operating systems, each trace file appends the

process identifier of the current process to the filename so that previous files are not overwritten (if NAMESCTL.TRACE_UNIQUE is set to ON). The format of the appended process identifier is platform specific and is described in the Oracle operating system-specific manual for your platform.

Configuration file: SQLNET.ORA
Default value: namesctl
OK to change?   yes
Ranges of values   valid filename

Example:

```
NAMESCTL.TRACE_FILE = NC
NAMESCTL.TRACE_UNIQUE = TRUE
```

On a UNIX machine, this example might generate a trace file called NC_5684.TRC.

> **Note:** On most operating systems, TNS appends the .TRC suffix to the trace filename, so there is no need to specify it in the configuration file.

NAMESCTL.TRACE_ DIRECTORY

This parameter determines the name of the directory to which trace files from a NAMESCTL trace session are written. The default value is specific to each operating system.

Configuration file: SQLNET.ORA
Default value: none
OK to change?   yes
Range of values: valid directory

Example: See your Oracle platform-specific documentation.

NAMESCTL.TRACE_ UNIQUE

This parameter determines whether or not a unique trace file is created for NAMESCTL. By default, the value is OFF, and only one trace file is created for NAMESCTL. If the value is OFF, when a new trace file is created for NAMESCTL, it overwrites the existing file. If the value is set to ON, a process identifier is appended to the name of each trace file generated so that several can coexist.

The format of the appended process identifier is platform specific and is described in the Oracle operating system–specific manual for your platform. For example, on a UNIX machine the format would be similar to the following:

```
SERVERA_3123.TRC
```

You must set the NAMESCTL_TRACE_UNIQUE parameter from the SQLNET.ORA configuration file. You cannot set it from NAMESCTL.

> **Note:** Trace files are usually very large. If this parameter is set to ON (or TRUE), the number of large trace files could interfere with machine performance. Therefore use it carefully.

Index

A

applications, error messages from, 1 – 7

Audit Trail, 1 – 2, 2 – 6
  data format, 2 – 6
  database for, 2 – 7
  examples, 2 – 6
  script for, 2 – 7

authentication
  in error stack, 1 – 8
  setting using SQLNET.ORA Editor, 4 – 31 to
    4 – 33

Automatic IPC, setting with SQLNET.ORA
    Editor, 4 – 10

automatic IPC, setting with SQLNET.ORA
    Editor, 4 – 27

B

BIND/DNS adapter messages, 10 – 5

C

client authentication, setting with
    SQLNET.ORA Editor, 4 – 13, 4 – 31

client checksumming, setting with
    SQLNET.ORA Editor, 4 – 13, 4 – 30

client encryption, setting with SQLNET.ORA
    Editor, 4 – 29 to 4 – 31

client encryption parameters, setting with
    SQLNET.ORA Editor, 4 – 12

client logging parameters, setting with
    SQLNET.ORA Editor, 4 – 10, 4 – 26

client name resolution, setting with
    SQLNET.ORA Editor, 4 – 14, 4 – 32

Client registration field, in SQLNET.ORA
    Editor, 4 – 10, 4 – 27

Client Status Monitor
  for MS Windows, 4 – 19 to 4 – 37
  for UNIX platforms, 4 – 4 to 4 – 20
  functions of, 4 – 1
  how to run, 4 – 3

client tracing parameters, setting with
    SQLNET.ORA Editor, 4 – 10, 4 – 27 to
    4 – 29

component configuration file. *See* configuration
    files

configuration files
  names of, A – 1
  syntax of, A – 2

Customer Support, information needed by,
    1 – 14

D

DCE CDS adapter messages, 10 – 3

dedicated server, setting SQLNET.ORA Editor,
    4 – 27

default domain, changing using the
    SQLNET.ORA Editor, 4 – 27

default trace file values, 3 – 7

NAMESCTL.TRACE_FILE parameter, A – 20
NAMESCTL.TRACE_LEVEL parameter,
     A – 20
NAMESCTL.TRACE_UNIQUE parameter,
     3 – 9, A – 21
native naming adapter messages, 10 – 1
NAU (authentication) layer in error stack, 1 – 8
NAV.TRC file, A – 15
NAVGATR.LOG file, 2 – 3, 2 – 4
NIS adapter messages, 10 – 4
NN (naming) layer in error stack, 1 – 8
NR (routing) layer in error stack, 1 – 8
NS (session) layer in error stack, 1 – 8
NT (transport) layer in error stack, 1 – 8

O

Oracle Customer Support, information needed
     by, 1 – 14
Oracle Names, in error stack, 1 – 8
Oracle Network Manager, A – 2
   parameters not created by, A – 2
Oracle Protocol Adapters, in error stack, 1 – 8
OSN (SQL*Net Interface) layer in error stack,
     1 – 8

P

performance, effect of trace facility on, 1 – 3
PMP.TRC, 3 – 8
prefixes, of error messages, 1 – 10
problem severity, 1 – 14

R

registration, of a client using the SQLNET.ORA
     Editor, 4 – 10, 4 – 27

S

SNMP support, 9 – 1
sqlload, Audit Trail script, 2 – 7

SQLNET.LOG file, 1 – 4, 2 – 3
   sample error stack in, 1 – 9
SQLNET.ORA Editor
   for Microsoft Windows 3.1, 4 – 25 to 4 – 31
   for UNIX platforms, 4 – 9 to 4 – 15
   in command line mode, 4 – 39 to 4 – 41
SQLNET.ORA file, 3 – 4, 3 – 9
syntax, of configuration files, A – 2

T

TNSPING, trace parameters for, 3 – 11
TNSPING.TRACE_DIRECTORY parameter,
     A – 9
TNSPING.TRACE_LEVEL parameter, A – 8
trace configuration file, 3 – 4, 3 – 5
trace facility, 1 – 3
   client, 3 – 4, 3 – 14
   components, 3 – 3
   components affected by, 1 – 3
   Connection Manager, 3 – 4
   effect on system performance, 1 – 3
   examples, 3 – 13
   how to use, 3 – 3
   Interchange, 3 – 20
   levels, 3 – 7
   listener, 3 – 4, 3 – 15, 3 – 17
   Names Control Utility, 3 – 5
   Names Server, 3 – 5
   Navigator, 3 – 5, 3 – 19
   output file, 1 – 3
   server, 3 – 4, 3 – 16, 3 – 17
   TNSPING, 3 – 11
   usage, 1 – 3
trace file
   example, 1 – 5, 3 – 21
   SQLNET.TRC, 1 – 5
trace output file
   location, 3 – 8
   names, 3 – 7
trace parameters, 3 – 7
   default values, 3 – 7
Trace Route Utility
   description of, 5 – 1
   effect on performance, 5 – 2

U

Reader's Comment Form

Name of Document: Oracle® Network Products Troubleshooting Guide
Part No. A42483–1

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

- Did you find any errors?

- Is the information clearly presented?

- Do you need more information? If so, where?

- Are the examples correct? Do you need more examples?

- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the topic, chapter, and page number below:

_____

_____

_____

_____

_____

_____

_____

_____

Please send your comments to:

Oracle Network Products Documentation Manager
Oracle Corporation
500 Oracle Parkway
Redwood City, CA 94065   U.S.A.
Fax: (415) 506–7200

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

_____

_____

_____

Thank you for helping us improve our documentation.