

# Oracle® Rdb

Oracle SQL/Services Release 7.3.2.0 Release Notes

October 2013

This document contains release note information specific to Oracle SQL/Services, release 7.3.2.0 for OpenVMS Alpha and HP OpenVMS Industry Standard 64 for Integrity Servers operating systems. Also included in this document are release notes pertaining to OCI Services for Oracle Rdb release 7.3.2.0.

**ORACLE®**

Oracle SQL/Services Release 7.3.2.0 Release Notes

Copyright © 2011, 2013, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable.

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle, Java, Oracle Rdb, Oracle SQL/Services, and SQL\*Net are trademarks or registered trademarks of Oracle and / or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

---

---

# Contents

<b>Send Us Your Comments .....</b>	<b>xi</b>
<b>Preface.....</b>	<b>xiii</b>
Intended Audience .....	xiii
Access to Oracle Support.....	xiii
Operating System Information .....	xiv
Structure.....	xiv
Related Manuals .....	xiv
Conventions .....	xv
<b>1 Oracle SQL/Services: New and Changed Features</b>	
1.1 Documentation .....	1-1
1.2 Summary of Oracle SQL/Services Server New and Changed Features for Release 7.3.2.0 ...	1-1
1.2.1 Oracle 10.2.0.5 SQL*Net Transport Support .....	1-1
1.2.2 Updated Oracle SQL/Services Server Configuration Guide.....	1-2
1.2.3 Updated Help for SQLSRV_MANAGE.....	1-2
1.3 Summary of Oracle SQL/Services Client API New and Changed Features for Release 7.3.2.0.....	1-2
1.3.1 New Oracle SQL/Services Client API Kit for 64-Bit Linux Platforms .....	1-2
1.3.2 Updated Oracle SQL/Services Client API Kit for 32-Bit Linux Platforms .....	1-2
1.3.3 Updated Oracle SQL/Services Client API Kits for Windows Platforms.....	1-3
1.3.4 Desupport of HP Tru64 Unix Platform.....	1-4
1.3.5 Updated Guide to Using the Oracle SQL/Services Client API.....	1-4
1.3.6 Updated Help For SQL/Services.....	1-4

<b>2</b>	<b>Oracle SQL/Services: Software Errors Fixed</b>	
2.1	Oracle SQL/Services Errors Fixed in Release 7.3.2.0.....	2-1
2.1.1	Oracle SQL/Services PID Output Now Always Displayed in HEX.....	2-1
<b>3</b>	<b>Oracle SQL/Services: Known Problems</b>	
3.1	Oracle SQL/Services Release 7.3.2.0 Server Known Problems and Restrictions.....	3-1
3.1.1	SQL/Services Process Priority Settings .....	3-1
3.1.2	Support for OpenVMS VAX and Standard Kits .....	3-1
3.1.3	Concealed Attributes are Required for Rooted Directory Logicals .....	3-1
3.1.4	Do Not Kill Oracle SQL/Services Processes .....	3-3
3.1.5	Do Not Shut Down or Restart the SQLSRV_MANAGE System Management Service..	3-3
3.1.6	Management Utilities Allow Multiple Dispatchers With the Same Port IDs .....	3-3
3.1.7	Database Service Attached to Remote Database Does Not Know If Database is Closed	3-3
3.1.8	Process Startup Fails Due to Errors in Systemwide OpenVMS Login Procedure.....	3-5
3.1.9	Implicit Attach Using the SQL\$DATABASE Logical Name Not Supported .....	3-5
3.1.10	Problems That Exist for NO_SERVICE and SVCNOTRUN Error Returns .....	3-5
3.1.11	Some Error Messages Are Missing Object Names .....	3-6
3.2	Oracle SQL/Services Release 7.3.2.0 Client Known Problems and Restrictions .....	3-6
3.2.1	Problem Using Statement With No Parameter Markers in Batched Execution.....	3-6
3.2.2	Incorrect Error Message is Returned if a Client Cancels Batched Execution.....	3-6
<b>4</b>	<b>OCI Services for Oracle Rdb: Release Notes</b>	
4.1	Software Requirements .....	4-1
4.2	Installing OCI Services for Oracle Rdb.....	4-1
4.2.1	Problem Reporting .....	4-1
4.3	New and Changed Features for OCI Services for Oracle Rdb Release 7.3.2.0 .....	4-2
4.3.1	Oracle 10.2.0.5 Library Support.....	4-2
4.3.2	Enhancements to OCI Logging .....	4-2
4.3.3	Retries for Preparing or Upgrading a Database .....	4-3
4.4	OCI Services for Oracle Rdb Problems Fixed for Release 7.3.2.0 .....	4-4
4.4.1	ALTER SESSION REMOTE_DEPENDENCIES Setting Now Accepted .....	4-4
4.4.2	Insert Returning into a Variable .....	4-4
4.4.3	Unexpected Read Only Transaction Error .....	4-4
4.5	Known Problems and Restrictions .....	4-5

4.5.1	Support for OpenVMS VAX and Standard Kits.....	4-5
4.5.2	Character Sets .....	4-5
4.5.3	Dates.....	4-5
4.5.4	Transaction Reusable Services.....	4-5
4.5.5	Database Access by Service Owner.....	4-5
4.5.6	Grant Use on OCI Services .....	4-6
4.5.7	Multischema Databases.....	4-6
4.5.8	Error Mapping is Not Exact .....	4-6
4.5.9	SQL Dialect.....	4-6
4.5.10	Multisession Server is Not Supported.....	4-6
4.5.11	Cursors .....	4-6
4.5.12	ROWID Support .....	4-6
4.5.13	Piecewise Inserts.....	4-7
4.5.14	RAW and VARCHAR Data .....	4-7
4.5.15	Determining a NOT NULL Constraint Through a Describe Call.....	4-7
4.5.16	OCI Error When Attempting to Fetch a Binary ROWID .....	4-7
4.5.17	SYSDATE Function is Available From a Dblink Connection .....	4-7
4.5.18	Storing and Retrieving Long Raw Data Using Thin JDBC Driver.....	4-7

## 5 Previous Releases: New Features and Fixed Problems

5.1	New and Changed General Features in Previous Releases of Oracle SQL/Services.....	5-1
5.1.1	Symbol Tables Added For SQLSRV_NATCONN73.EXE & RMUEXEC73.EXE .....	5-1
5.1.2	Enhanced Help Text for Error Messages .....	5-2
5.1.3	Reporting More Information About Client Connections Flagged As Intruders .....	5-2
5.1.4	Text Displayed For SQLSRV\$_SM_NOSUCHDISP Message Has Been Enhanced .....	5-3
5.1.5	Improved SYS\$HELP:SQLSRV_MESSAGES73.TXT Formatting and Context .....	5-4
5.1.6	Updated Oracle SQL/Services Server Configuration Guide.....	5-4
5.1.7	Updated Help for SQLSRV_MANAGE.....	5-4
5.1.8	SQLSRV\$CHECK_EXPIRED_PASSWORDS Logical No Longer Supported.....	5-4
5.1.9	Oracle 10.2.0.4 SQL*Net Transport Support .....	5-4
5.1.10	Provide Error Text for Rdb Errors While Registering Users.....	5-4
5.1.11	SQL/Services Now Supports SQLDA ROWID Type .....	5-5
5.1.12	Severity of EXECIDLETIMEOUT Message Has Been Modified .....	5-5
5.1.13	Provide Sample Application When Installing Client Kit With Server on OpenVMS .....	5-5
5.1.14	Scan Intrusion Security Now Supported.....	5-5

5.1.15	Configurable SYSUAF Last Noninteractive Login Update Frequency .....	5-6
5.1.16	Shared Memory Usage Information Added to Bugcheck Output .....	5-6
5.1.17	Link Time Information Added to Bugcheck Output .....	5-6
5.1.18	Image Name, User and Link Directory Information Added to Bugcheck Output .....	5-7
5.1.19	Enhanced Dispatcher and Executor Process Logging .....	5-7
5.1.20	Support for Configurable Server Dump Path Argument in SQLSRV_MANAGE .....	5-8
5.1.21	Enhanced Tracking of SQL/Services User Activity in SYSUAF .....	5-8
5.1.22	Oracle 10gR2 SQL*Net Transport Support .....	5-8
5.1.23	Performance Improvement on OpenVMS I64 Platform .....	5-8
5.1.24	Support for New SQLSRV_EXT_CONFIG70TO73.COM Command Procedure .....	5-9
5.1.25	Insufficient Shared Memory Conditions Now Logged .....	5-9
5.1.26	Connect State Logging Enhanced .....	5-9
5.1.27	VMS Mixed Case Passwords Supported .....	5-9
5.1.28	Support for New SQLSRV_EXT_CONFIG70TO72.COM Command Procedure .....	5-10
5.1.29	Enhanced Logging in SQL/Services Log Files .....	5-10
5.1.30	Enhanced Error Reporting Creating & Opening Process Command Procedures .....	5-10
5.1.31	Oracle SQL/Services Available on OpenVMS I64 .....	5-11
5.2	Oracle SQL/Services Client API New and Changed Features in Previous Releases .....	5-11
5.2.1	Help for Windows Client Kits Replaced .....	5-11
5.2.2	Updated Linux Client API .....	5-11
5.2.3	Updated Guide to Using the Oracle SQL/Services Client API .....	5-12
5.2.4	Updated Help For SQL/Services .....	5-12
5.2.5	SQLSTATE Now Available Through SQL/Services Client API .....	5-12
5.2.6	Updated SQL/Services Client API Kit for 32-bit Windows Platforms .....	5-12
5.2.7	New SQL/Services Client API Kit for 64-bit Windows Platforms .....	5-12
5.2.8	New SQL/Services Client API Routines .....	5-12
5.2.9	Configurable Port Id and DECnet Object Name For Each Association .....	5-13
5.2.10	DECnet No Longer Supported on Windows Platforms .....	5-14
5.3	Oracle SQL/Services Errors Fixed in Prior Releases .....	5-14
5.3.1	Excessive Connection Logging Occurs For Transaction Reusable Services .....	5-14
5.3.2	Query on Bigint and Double Precision Columns Got Alignment Faults .....	5-14
5.3.3	Specifying Dispatcher Log File Required a Colon in Logical Names .....	5-14
5.3.4	SHOW SERVICES Command Displays Two Lines for Services With Long Names .....	5-15
5.3.5	SQL/Services Bugchecked After an RMS-E-FLK Error .....	5-16
5.3.6	Cannot Attach to Service When User Account Has No Password .....	5-16

5.3.7	Access Violations During OCI Services Bugchecks .....	5-16
5.3.8	SQLSRV-E-PWDEXPIRED Error Restored.....	5-16
5.3.9	Clarification of the BYTLM Check During Oracle SQL/Services Installation.....	5-17
5.3.10	Dispatcher Failed on Alpha When a Listener Failed to Start .....	5-17
5.3.11	Server Bugcheck Occurred After Server Client Aborted With Ctrl C.....	5-18
5.3.12	SQLSRV_MANAGE CONNECT SERVER Got SYSTEM-F-RANGEERR Error.....	5-19
5.3.13	Problem Processing SQL Initialization File.....	5-19
5.3.14	Security Problem Fixed.....	5-20
5.3.15	Problem With Error Message Truncation .....	5-20
5.3.16	CMA Errors Now Display Secondary Error Message .....	5-20
5.3.17	SQL/Services Configuration File Upgrade Between 71 and 72 Releases .....	5-20
5.3.18	SQLSRV_CREATEEnn.SQS Missing SQL Version .....	5-21
5.3.19	Improved Logging on Dispatcher Listener Startup Failure .....	5-21
5.3.20	SQLSRV_MANAGE EXTRACT Command Truncates Port Names .....	5-21
5.3.21	Security Problems Fixed .....	5-22
5.3.22	Shared Memory Leak Using Universal Services Fixed .....	5-22
5.3.23	Problem Using Persona Feature With JDBC Dispatchers .....	5-22
5.3.24	Poor Performance From OCI Queries.....	5-22
5.3.25	Misleading Dispatcher Logging Entries Removed .....	5-23
5.3.26	SQLSRV\$MOD*.EXE Files Removed From the SQL/Services Kit .....	5-23
5.3.27	Failure to Start 2PC Using OCI Universal Services .....	5-24
5.3.28	Occasional Access Violations During OCI Bugcheck Dumps .....	5-24
5.3.29	SQL/Services Installation Procedure Fixes SQL Version Specified .....	5-24
5.3.30	Monitor and Dispatcher Processes in CPU Loop.....	5-24
5.3.31	PROCESS_INIT Defined as Keyword LOGIN Could Fail.....	5-24
5.3.32	Monitor Aborts When Connection Cancelled.....	5-25
5.4	New and Changed Features for Previous OCI Services for Oracle Rdb Releases.....	5-25
5.4.1	SET CONSTRAINTS Command Now Translated to Oracle Rdb Format.....	5-25
5.4.2	SYSTIMESTAMP Now Defined.....	5-25
5.4.3	RDB_NATCONN Checks If SYS\$DECDTM_NODE_NAME Logical Exists .....	5-26
5.4.4	Oracle Database Name Logged When Linked Via DBlink .....	5-26
5.4.5	Oracle 10.2.0.4 Library Support .....	5-27
5.4.6	Fractional Seconds for Timestamp Data in TO_CHAR .....	5-27
5.4.7	ALL_OBJECTS Now Includes Indexes and Triggers.....	5-27
5.4.8	New Dictionary Definitions: OBJ\$, IND\$, COL\$, and ICOL\$.....	5-27

5.4.9	Partial Support for CREATE OR REPLACE Syntax .....	5-28
5.4.10	Client Process ID Now Displayed in Executor Log for OCI Services.....	5-28
5.4.11	Performance Improvement For TO_CHAR Function When Handling Dates .....	5-29
5.4.12	DBTIMEZONE, SESSIONTIMEZONE and TZ_OFFSET Implemented .....	5-29
5.4.13	TO_TIMESTAMP Function Implemented .....	5-29
5.4.14	V\$PARAMETER Table Support Enhanced .....	5-30
5.4.15	OCI Services Server Configuration Test Tool .....	5-30
5.4.16	Statistics Now Returned for Selects Using a DBLINK.....	5-30
5.4.17	Optimized Memory Use in OCI Executor When Using a DBLINK.....	5-31
5.4.18	Unique Bind Variable Names .....	5-31
5.4.19	Dictionary Enhancements .....	5-31
5.4.20	Enhanced OCI Executor Logging .....	5-32
5.4.21	Enhanced Index Statistics for OCI Describe Index.....	5-32
5.4.22	Oracle Metadata Updated.....	5-32
5.4.23	Oracle 10gR2 Library Support.....	5-32
5.4.24	Performance Improvement on OpenVMS I64 Platform .....	5-32
5.4.25	Oracle Metadata Updated.....	5-32
5.4.26	VMS Mixed Case Passwords Supported.....	5-33
5.4.27	New NLS Parameters .....	5-33
5.4.28	Greater Precision in Timestamp for Logging.....	5-33
5.4.29	Data Dictionary Support for Oracle 10g Applications.....	5-33
5.4.30	Table and View Changes to Comply with Oracle 10g.....	5-34
5.4.31	Changes for Oracle JDBC Release 10.2 Thin Driver.....	5-34
5.4.32	New Datatype: New Formats for Oracle Rowids.....	5-34
5.4.33	Security Enhancements .....	5-34
5.4.34	OCI Services for Oracle Rdb Available on OpenVMS I64 .....	5-35
5.5	Software Errors Fixed in Previous OCI Services for Oracle Rdb Releases .....	5-35
5.5.1	Privileges Needed for RDB_NATCONN Commands Documented.....	5-35
5.5.2	SQL-F-BAD_TXN_STATE On Connect Via OCI Services.....	5-35
5.5.3	Prefetching Does Not Work With OCI Services.....	5-36
5.5.4	TO_CHAR With DATE VMS Data With Time 0 Gets ORA-01821 Error.....	5-36
5.5.5	Cannot Use TO_TIMESTAMP in Insert or Update Statement Over a DBLINK.....	5-36
5.5.6	OCI Universal Service Returns ORA-900 .....	5-36
5.5.7	OCIStmtExecute Returns ORA-03106 .....	5-37
5.5.8	Errors Retrieving Segmented String Data.....	5-37



5.5.9	Problems Fixed for RDB\$NATCONN_CHECK_SETUP.COM .....	5-37
5.5.10	Message Warning That SQL Functions Not Installed .....	5-37
5.5.11	Message in Executor Log if Database Not Prepared .....	5-38
5.5.12	Data Not Being Returned to a Business Objects Application.....	5-38
5.5.13	Version Data Now Sized to Buffer .....	5-39
5.5.14	Memory Leak Removed.....	5-39
5.5.15	Error with Literals in a Date Format String .....	5-39
5.5.16	RDB\$NATCONN Gets RMS-E-PRV Error for Privileged User .....	5-39
5.5.17	Bugchecks in OCI Services.....	5-40
5.5.18	Execution of Remote Functions Implemented.....	5-40
5.5.19	Bugcheck With Select For Update.....	5-41
5.5.20	Two Task Error ORA-3106 Using Cursors .....	5-41
5.5.21	Slow Execution of a Query With an Outer Join.....	5-41
5.5.22	Security Change .....	5-41
5.5.23	Unable to Use Floating Point Parameters With Comma as Decimal Separator .....	5-41
5.5.24	Wrong Data Returned by TO_CHAR Function.....	5-42
5.5.25	Invalid Transaction State After DESCRIBE of Non-existent Object Using Dblink .....	5-42
5.5.26	RDB\$NATCONNnn.COM Did Not Check if Database Had Been Upgraded.....	5-42
5.5.27	OCI Bugchecks With Oracle 10GR2 Clients Doing ClientID Propagation .....	5-43
5.5.28	Check for Error on Grant All in Metadata Program .....	5-43
5.5.29	ORA-3106 Error Using PL/SQL Package Through a Dblink.....	5-43
5.5.30	SQL_SYNTAX_ERR or SQL_CORNAMREQ Errors.....	5-44
5.5.31	Error Accessing PRODUCT_USER_PROFILE.....	5-44
5.5.32	Error in ORASTATE Returning State .....	5-44
5.5.33	Max Cursors Exceeded .....	5-44
5.5.34	Data Not Retrieved in Reports 10gR2 .....	5-45
5.5.35	Improved OCI Services Executor Logging Disk I/O Performance .....	5-45
5.5.36	FORMS Fail With Rowid Truncation Error .....	5-45
5.5.37	SELECT INTO Getting Invalid ORA-1403 Errors .....	5-46
5.5.38	Triggers Added to USERS\$ .....	5-46
5.5.39	Rows in ORA_COMM_TRANS Not Deleted.....	5-46
5.5.40	Create User RDB_SCHEMA Fails .....	5-46
5.5.41	Form With Scroll Region Fails .....	5-47
5.5.42	Error Message NOLOGNAM at Start Transaction.....	5-47
5.5.43	Problem Describing Column With Name Longer Than 30 Characters .....	5-47

5.5.44	Modified Transaction Control to Better Fit XA Model .....	5-48
5.5.45	ADD_USER Failed When Database Default Character Set Was ISOLATINGGREEK ..	5-48
5.5.46	SELECT INTO Commands Are Stripped of INTO When Passed to Rdb.....	5-48
5.5.47	ADD_USER Command Does Not Work for Non-Privileged Users.....	5-49
5.5.48	Queries With TO_NUMBER() Function Calls Are Slow.....	5-49
5.5.49	Random Error Message When SQLNET_DEBUG_FLAGS is HT.....	5-50
5.5.50	Query Hangs With a Variable Comparison Using Oracle 10G SQL*Plus .....	5-50
5.5.51	Failure Upgrading Database After Upgrading to Release 7.1.6 Update03 .....	5-50
5.5.52	Reference to Obsolete Procedure in Error Message in Log .....	5-50
5.5.53	Returning ROWID in an Insert Statement Caused Error ORA-00900 .....	5-51
5.5.54	Declare Transaction in SQL Init File Being Overridden .....	5-51
5.5.55	Problem With Master/Detail Records .....	5-51
5.5.56	Prefetch in a Pro*C Program Using WHERE CURRENT OF CURSOR .....	5-52

# Send Us Your Comments

Oracle SQL/Services Release Notes

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this document. 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?

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

- Electronic mail: [nedc-doc\\_us@oracle.com](mailto:nedc-doc_us@oracle.com)
- FAX: 603.897.3825 Attn: Oracle Rdb
- Postal service:

Oracle Corporation  
Oracle Rdb Documentation  
One Oracle Drive  
Nashua, NH 03062-2804  
USA

If you would like a reply, please give your name, address, telephone number, and (optionally) electronic mail address.

If you have problems with the software, please contact your local Oracle Support Services.



---

---

# Preface

Oracle SQL/Services software is a client/server component of Oracle Rdb. Oracle SQL/Services lets you develop client application programs on a variety of desktop and mainframe systems so that you can access Oracle Rdb databases.

Oracle ODBC Driver for Rdb is available in a separate kit. The Oracle ODBC Driver for Rdb allows ODBC applications on these clients read and write access to Oracle Rdb databases using TCP/IP and Oracle Net.

This manual describes new and changed features; problems fixed in this release; and current problems, restrictions, and other notes.

## Intended Audience

These release notes are intended for all users of Oracle SQL/Services and OCI Services for Oracle Rdb (formerly known as SQL\*Net for Rdb) and should be read to supplement information contained in the *Oracle SQL/Services Installation Guide*, the *Oracle SQL/Services Server Configuration Guide*, and the *Guide to Using the Oracle SQL/Services Client API*.

To get the most out of this manual, you should be familiar with Oracle SQL/Services, data processing procedures, and basic database management concepts and terminology.

## Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## Operating System Information

Information about the versions of the operating system and related software that are compatible with this version of Oracle SQL/Services and OCI Services for Oracle Rdb is included in the *Oracle SQL/Services Installation Guide*.

## Structure

This manual contains five chapters

- [Chapter 1](#) Describes the new and changed features of Oracle SQL/Services.
- [Chapter 2](#) Describes known software errors fixed in release 7.3.2.0 of Oracle SQL/Services.
- [Chapter 3](#) Describes problems, restrictions, and workarounds known to exist in Oracle SQL/Services release 7.3.2.0.
- [Chapter 4](#) Describes release notes that pertain to OCI Services for Oracle Rdb release 7.3.2.0.
- [Chapter 5](#) Describes new features and problems fixed in previous releases.

## Related Manuals

For more information on Oracle SQL/Services and OCI Services for Oracle Rdb, see the following manuals in this documentation set, especially the following:

- *Oracle SQL/Services Installation Guide*
- *Oracle SQL/Services Server Configuration Guide*
- *Guide to Using the Oracle SQL/Services Client API*

The *Oracle SQL/Services Release Notes* are provided as part of the software kit. Adobe Portable Document Format (.pdf) files for the release notes are available in SYS\$HELP.

The remaining manuals are provided with the kit and are also available with all the Oracle Rdb documentation on My Oracle Support and the Oracle Rdb OTN web site.

## Conventions

In this manual, Oracle Rdb refers to Oracle Rdb for OpenVMS software.

HP OpenVMS Industry Standard 64 for Integrity Servers is often referred to as OpenVMS I64.

OpenVMS means both the OpenVMS Alpha and the OpenVMS I64 operating systems.

The SQL interface to Oracle Rdb is referred to as SQL. This interface is the Oracle Rdb implementation of the SQL standard adopted in 1999, in general referred to as the ANSI/ISO SQL standard or SQL:1999. See the *Oracle Rdb Release Notes* for additional information about this SQL standard.

Oracle ODBC Driver for Rdb software is referred to as the ODBC driver.

In examples, an implied carriage return occurs at the end of each line, unless otherwise noted. You must press the Return key at the end of a line of input.

Often in examples the prompts are not shown. Generally, they are shown where it is important to depict an interactive sequence exactly; otherwise, they are omitted in order to focus full attention on the statements or commands themselves.

The following conventions are also used in this manual:

---

[ ]	In text, brackets enclose optional information from which you can choose to use or not.
\$	The dollar sign represents the DIGITAL Command Language prompt in OpenVMS.
>	The right angle bracket represents the MS-DOS command prompt. This symbol indicates that the MS-DOS command language interpreter is ready for input.
<b>boldface text</b>	Boldface type in text indicates a term defined in the text.

---





---

---

# Oracle SQL/Services: New and Changed Features

This chapter describes the new features and technical changes to Oracle SQL/Services in release 7.3.2.0. It also describes installation requirements in addition to those documented in the *Oracle SQL/Services Installation Guide*, obsolete routines, structures, and features, and provides a summary of additions and changes to the documentation. Refer to the *Oracle SQL/Services Installation Guide* for installation information. See [Chapter 4, "OCI Services for Oracle Rdb: Release Notes"](#), for descriptions of new and changed features for OCI Services for Oracle Rdb.

## 1.1 Documentation

Documentation for Oracle SQL/Services and OCI Services for Oracle Rdb is available in Adobe Acrobat (PDF) formats on My Oracle Support and OTN. Adobe Acrobat files ending with extension .PDF can be read with an Adobe Reader. Readers for many platforms are available without fee from the Adobe web site.

## 1.2 Summary of Oracle SQL/Services Server New and Changed Features for Release 7.3.2.0

The following sections describe new and changed features for Oracle SQL/Services server release 7.3.2.0.

### 1.2.1 Oracle 10.2.0.5 SQL\*Net Transport Support

Oracle SQL/Services release 7.3.2.0 emulates the Oracle 10.2.0.5 SQL\*Net transport for SQL\*Net dispatchers.

## 1.2.2 Updated Oracle SQL/Services Server Configuration Guide

The Oracle SQL/Services Server Configuration Guide has been updated for Oracle SQL/Services release 7.3.2.0.

## 1.2.3 Updated Help for SQLSRV\_MANAGE

The information provided by the HELP command in the SQLSRV\_MANAGE utility has been updated in Oracle SQL/Services release 7.3.2.0 to reflect updates to the Oracle SQL/Services Server Configuration Guide.

# 1.3 Summary of Oracle SQL/Services Client API New and Changed Features for Release 7.3.2.0

The following sections describe new and changed features for Oracle SQL/Services client API release 7.3.2.0.

## 1.3.1 New Oracle SQL/Services Client API Kit for 64-Bit Linux Platforms

Beginning with release 7.3.2.0, Oracle SQL/Services provides a 64-bit Linux client API kit. This kit supports the following 64-bit Linux platforms and releases.

- \* 64-bit Oracle Enterprise Linux 6.3 or later
- \* 64-bit openSUSE 12.1 or later
- \* 64-bit Red Hat Enterprise Linux 6.3 or later
- \* SUSE Linux Enterprise 11 SP2 or later

The Oracle SQL/Services Client APIs kit now includes a Linux64 kit directory containing the 64-bit Linux client API kit. See the installation guide provided in the Linux64 kit directory for details on installing this client kit. See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information.

## 1.3.2 Updated Oracle SQL/Services Client API Kit for 32-Bit Linux Platforms

In release 7.3.2.0, Oracle SQL/Services provides an updated 32-bit Linux client API kit. The openSUSE and SUSE Linux Enterprise operating systems are now supported. This kit supports the following 32-bit Linux platforms and releases.

- \* 32-bit Oracle Enterprise Linux 5.0 or later
- \* 32-bit openSUSE 12.1 or later

- \* 32-bit Red Hat Enterprise Linux 5.0 or later
- \* 32-bit SUSE Linux Enterprise 11 SP2 or later

The Oracle SQL/Services Client APIs kit now includes a Linux32 kit directory containing the 32-bit Linux client API kit. See the installation guide provided in the Linux32 kit directory for details on installing this client kit. See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information.

### 1.3.3 Updated Oracle SQL/Services Client API Kits for Windows Platforms

Oracle SQL/Services client API kits release 7.3.2.0 now supports the Windows 8 and Windows 8 X64 platforms. The Windows 2000 platform is no longer supported.

For installation on the Windows 8 platform, see the installation guide provided in the Windows32 kit directory for details on installing this client kit. For installation on the Windows 8 X64 platform, see the installation guide provided in the Windows64 kit directory for details on installing this client kit. See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information.

There is a problem running the Oracle SQL/Services IVP on Windows8 and Windows 8 X64, as seen below:

```
Enter the node name where the server resides: MYNODE
Enter the Network Transport [DECNET/TCPIP/NAMEPIPE]: TCPIP
Enter the username: SMITH
Enter the password: ***
Enter a list of service names to be tested, separated by comma [GENERIC]:

***** Connecting to GENERIC service *****

***** Oracle SQL/Services IVP Error *****

SQLCA: SQLCODE: -2012
  SQLERRD[0]: 13 SQLERRD[2] 0

*** Oracle SQL/Services IVP failed when accessing the GENERIC service ***
```

For Oracle SQL/Services release 7.3.2.0, you can workaroud this problem by following these steps:

1. Right-click on the Oracle SQL/Services IVP shortcut and choose "Properties".
2. When the Properties dialog box appears, click the "Compatibility" tab.
3. Click the "Run this program as an administrator" box.
4. Click "OK" and then run the SQL/Services IVP.

### **1.3.4 Desupport of HP Tru64 Unix Platform**

The HP Tru64 Unix platform has been desupported in Oracle SQL/Services release 7.3.2.0. This platform was desupported by HP on December 31, 2012. The HP Tru64 Unix kit will no longer be included in the Oracle SQL/Services Client APIs kit.

### **1.3.5 Updated Guide to Using the Oracle SQL/Services Client API**

The Guide to Using the Oracle SQL/Services Client API has been updated for Oracle SQL/Services release 7.3.2.0.

### **1.3.6 Updated Help For SQL/Services**

The SQL\_SERVICES73 help topic has been updated for Oracle SQL/Services release 7.3.2.0 to reflect changes made in the Guide to Using the Oracle SQL/Services Client API.

---

---

## Oracle SQL/Services: Software Errors Fixed

This chapter describes problems with Oracle SQL/Services software that are fixed in this release.

### 2.1 Oracle SQL/Services Errors Fixed in Release 7.3.2.0

The following known problems found in the Oracle SQL/Services OpenVMS server have been fixed for this release.

#### 2.1.1 Oracle SQL/Services PID Output Now Always Displayed in HEX

In prior releases, logging of process IDs (PID) was sometimes done in decimal, rather than hexadecimal characters. In release 7.3.2 and later, all process IDs will be displayed as a hexadecimal value.



---

---

## Oracle SQL/Services: Known Problems

This chapter describes problems and restrictions relating to Oracle SQL/Services release 7.3.2.0.

### 3.1 Oracle SQL/Services Release 7.3.2.0 Server Known Problems and Restrictions

The following sections describe Oracle SQL/Services release 7.3.2.0 server restrictions and known problems.

#### 3.1.1 SQL/Services Process Priority Settings

SQL/Services processes, including executors, dispatchers and the monitor, must all run at the same priority. Semaphores are used for communication between processes and VMS requires that processes communicating via semaphores must run at the same priority.

#### 3.1.2 Support for OpenVMS VAX and Standard Kits

Oracle SQL/Services release 7.3.2.0 and OCI Services for Oracle Rdb release 7.3.2.0 are not supported on OpenVMS VAX.

Also, standard kit installation is not supported with this release. Only multiversion kits are available.

#### 3.1.3 Concealed Attributes are Required for Rooted Directory Logicals

When Oracle SQL/Services starts a new monitor, dispatcher or executor process, it uses the SET DEFAULT DCL command to set the initial default disk and directory for the process. In addition, when a new client connects to a universal service with database authorization set to connect user, Oracle SQL/Services calls the SYSS\$SETDDIR OpenVMS system service to

set the default disk and directory for the executor process. To set default to a disk and directory combination that includes a rooted directory logical name, the OpenVMS operating system requires that the rooted directory logical name be defined with the CONCEALED attribute.

Consider a rooted directory logical name ALL\_USERS used to reference user directories in the following example:

```
Root top-level user directory:    $1$DKA100:[USERS]
Specific user directory:         $1$DKA100:[USERS.FRED]
```

In this example, the ALL\_USERS rooted directory logical name must be defined as follows (the /EXECUTIVE switch may also be used for greater security):

```
$ DEFINE/SYSTEM ALL_USERS $1$DKA100:[USERS.]/TRANSLATION_ATTRIBUTE=CONCEALED
```

The default disk and directory for user FRED can then be specified as follows:

```
ALL_USERS:[FRED]
```

If a rooted directory logical name is not defined with the CONCEALED attribute, then the SET DEFAULT DCL command executed during monitor or dispatcher process creation fails as follows if the monitor is started from an account that specifies the rooted directory logical name. Likewise, the SET DEFAULT DCL command executed during executor process creation will also fail in the same way if the service owner user name account specifies the rooted directory logical name.

```
$ DEFINE SYS$LOGIN ALL_USERS:[FRED]
$ SET DEFAULT SYS$LOGIN
%DCL-W-DIRECT, invalid directory syntax - check brackets and other delimiters
```

In addition, if a rooted directory logical name specified for a client account is not defined with the CONCEALED attribute, then an executor process will bugcheck and exit with the following error message in the executor log if the user connects to a universal service with database authorization set to connect user:

```
-----EVENT BEGIN:  EVENT_LOG at Wed Sep 24 1997
14:05:33.914-----%SQLSRV-I-EVENT_LOG, event logged at line 1636 in file
DBS_PROT_VMS.C;1
Error setting VMS process user name
%RMS-F-DIR, error in directory name
-----EVENT END   :  EVENT_LOG at Wed Sep 24 1997 14:05:33.930-----
```

See the *Guide to OpenVMS File Applications* in the OpenVMS documentation set for more information on how to define and use rooted directory logical names.



### 3.1.4 Do Not Kill Oracle SQL/Services Processes

Under certain circumstances, the entire Oracle SQL/Services server shuts down if an Oracle SQL/Services dispatcher or executor is abnormally terminated. You should never use the DCL STOP/ID command on OpenVMS systems to stop an Oracle SQL/Services dispatcher or executor process. The Oracle SQL/Services system management command SHUTDOWN DISPATCHER or SHUTDOWN SERVICE should be used to stop dispatchers and executors. If an executor does not terminate after issuing the SHUTDOWN SERVICE command, or if you do not want to shut down the entire service, the Oracle SQL/Services system management command, KILL EXECUTOR, should be used instead.

Note that the RMU CLOSE command can have the same effect as the STOP/ID or kill command by terminating Oracle SQL/Services executors attached to the database being closed. Before using the RMU CLOSE command, ensure that no Oracle SQL/Services executors currently have the database open. Any executors you find that do have the database open should be terminated with either the Oracle SQL/Services system management command SHUTDOWN SERVICE or the KILL EXECUTOR command.

### 3.1.5 Do Not Shut Down or Restart the SQLSRV\_MANAGE System Management Service

If you shut down or restart the SQLSRV\_MANAGE system management service using the SQLSRV\_MANAGE utility, then subsequent attempts to connect to the server are rejected and you render the server unmanageable. If you do accidentally shut down or restart the SQLSRV\_MANAGE service, then you must find and kill the Oracle SQL/Services monitor process, then restart the server.

### 3.1.6 Management Utilities Allow Multiple Dispatchers With the Same Port IDs

Oracle SQL/Services allows you to define multiple dispatchers, each listening on different network ports. Currently, SQLSRV\_MANAGE does not ensure that multiple dispatchers do not use the same port numbers or names. If multiple dispatchers are defined to use the same ports, the second dispatcher to be started fails.

### 3.1.7 Database Service Attached to Remote Database Does Not Know If Database is Closed

It is possible for Oracle SQL/Services database services to be preattached to a remote database. For example, the payroll service defined below attaches to the database "payroll" on node "REMOTE".

```
create service payroll autostart on
```

```
reuse session
sql version 7.2
attach 'filename REMOTE::payroll'
owner 'payrollacct'
database authorization service owner
min_executors 5
max_executors 5;
```

If the payroll database on node REMOTE is closed, the Oracle SQL/Services payroll service has no way of knowing that the database has been closed. The payroll service continues to run, even though it is no longer attached to the database. The service is useless and must be shut down and restarted after the database is reopened. Any clients attached to the service while it is in this state get a SQLCODE of -1 with the following errors when they attempt to access the database:

```
%RDB-F-IO_ERROR, input or output error
-SYSTEM-F-LINKABORT, network partner aborted logical link
```

All Oracle SQL/Services services that are preattached to a remote database should be shut down before the database is closed. If this is not possible, there is a workaround for database services. Rather than defining session reusable database services, you can define a transaction reusable database service with CLIENTS\_PER\_EXECUTOR set to 1.

```
create service payroll autostart on
reuse transaction
sql version 7.2
attach 'filename REMOTE::payroll'
owner 'payrollacct'
database authorization service owner
min_executors 5
max_executors 5
clients_per_executor 1;
```

The service definition previously shown gives you essentially the same behavior as the previous session reusable database service. However, Oracle SQL/Services executes a "get diagnostics ? = transaction\_active" statement to detect the end of a transaction for transaction reusable services. Because this requires a call to the Oracle Rdb engine, it fails and Oracle SQL/Services bugchecks and shuts down the executor. If this brings the executor count below the MIN\_EXECUTORS value defined for the service, the Oracle SQL/Services monitor attempts to create a new executor process. If the monitor fails to start a new executor process after two attempts, it shuts down the service. Note that this workaround generates executor bugcheck dumps that need to be cleaned up.

### 3.1.8 Process Startup Fails Due to Errors in Systemwide OpenVMS Login Procedure

All processes in the Oracle SQL/Services server environment on OpenVMS are created running the SYS\$SYSTEM:loginout image with a process-specific command procedure as SYS\$INPUT. Because the loginout image is used to create the process, the systemwide login procedure will be executed by the loginout image during process creation. If this procedure fails for some reason, then the Oracle SQL/Services process will fail to start. By default, any DCL command or image that completes with a failure status with a severity level of error or fatal can cause the procedure to fail unless it is handled using the DCL ON or SET NOON commands.

All Oracle SQL/Services processes start by executing the following DCL commands during process creation:

```
$ DELETE/SYMBOL/ALL
$ VRFY_SAVE = F$VERIFY(1)
$ DELETE <disk>:[directory]SQS_<node>_<component>.COM;
$ DEFINE SQS$DBSERVER TRUE
$ DEFINE SYS$LOGIN "<disk>:[directory]"
$ SET DEFAULT SYS$LOGIN
$ DEFINE SYS$SCRATCH "<disk>:[directory]"
```

If an Oracle SQL/Services process fails before executing these commands, please review the systemwide login procedure to determine the reason for the failure.

### 3.1.9 Implicit Attach Using the SQL\$DATABASE Logical Name Not Supported

Oracle SQL/Services does not support the use of the SQL\$DATABASE logical name on OpenVMS to implicitly attach to a database. For example, if you define the SQL\$DATABASE logical name, a client application must still issue an explicit SQL ATTACH statement. For example, use ATTACH 'FILENAME SQL\$DATABASE', to attach to the database. If a client application connected to a universal service issues a DML statement before attaching to a database, then the executor will return a status code of -1, with an associated "%SQL-F-NODEFDB, There is no default database" error message.

### 3.1.10 Problems That Exist for NO\_SERVICE and SVCNOTRUN Error Returns

Clients may see the NO\_SERVICE error returned when the service exists, but has not been started.

Clients may see the SVCNOTRUN (service not running) error when, in fact, the service does not even exist.

### 3.1.11 Some Error Messages Are Missing Object Names

Some error messages from `SQLSRV_MANAGE` are intended to display the object name that is the source of the error. However, the name is lost and no name is displayed.

## 3.2 Oracle SQL/Services Release 7.3.2.0 Client Known Problems and Restrictions

The following information describes Oracle SQL/Services release 7.3.2.0 client known problems and restrictions.

### 3.2.1 Problem Using Statement With No Parameter Markers in Batched Execution

If an application executes a prepared statement using the `SQLSRV_EXE_BATCH` flag, but the statement does not contain any parameter markers, the statement is incorrectly executed as if the `SQLSRV_EXE_W_DATA` flag had been specified. That is, the Oracle SQL/Services client API immediately sends an execute request message to the server to execute the statement. At this point, subsequent calls to any API routine, including `sqlsrv_execute_in_out` and `sqlsrv_execute`, all fail with `SQLSRV_INTERR (-2011)` or `SQLSRV_MULTI_ACT (-2016)` errors. Once the client API has entered this error state, only the `sqlsrv_abort` routine functions correctly. Therefore, client applications must not execute SQL statements that do not contain parameter markers using batched execution.

### 3.2.2 Incorrect Error Message is Returned if a Client Cancels Batched Execution

If an application calls `sqlsrv_execute_in_out` or `sqlsrv_execute` with the execute flag set to `SQLSRV_EXE_WO_DATA` before calling `SQLSRV_EXECUTE_IN_OUT` or `SQLSRV_EXECUTE` with the execute flag set to `SQLSRV_EXE_BATCH`, the client API incorrectly sends an execute request message to the server with no statement ID. Upon receipt of this message, the server returns an `SQLSRV_INVSTMID (-2008)` error back to the client with the following error message:

```
%SQLSRV-F-INVSTMID, Invalid statement id: 0
```

In this situation, the `SQLSRV_INVSTMID` error may be ignored.

---

---

# OCI Services for Oracle Rdb: Release Notes

This chapter highlights release notes that pertain to OCI Services for Oracle Rdb (formerly known as SQL\*Net for Rdb) for release 7.3.2.0. It contains information about installation, new and changed features, known problems, software fixes, and documentation changes.

## 4.1 Software Requirements

OCI Services for Oracle Rdb release 7.3.2.0 requires OpenVMS Alpha Version 8.3 or higher, or OpenVMS I64 Version 8.3 or higher software.

## 4.2 Installing OCI Services for Oracle Rdb

The installation for OCI Services for Oracle Rdb is part of the installation for Oracle SQL/Services release 7.3.2.0. Refer to the following documentation for information on installing OCI Services for Oracle Rdb.

- `SY$HELP:SQLSRV073_INSTALL_GUIDE.PDF`

This document is the *Oracle SQL/Services Installation Guide*. The information required to install OCI Services for Oracle Rdb is in this guide.

- *Oracle SQL/Services Server Configuration Guide*

The information required to configure OCI Services for Oracle Rdb can be found in this guide, which can be found on MyOracleSupport and the OTN web site.

### 4.2.1 Problem Reporting

If an error occurs while you are using OCI Services for Oracle Rdb and you believe that the error is caused by a problem with this Oracle product, contact your Oracle support representative for assistance.

When you experience a reproducible problem, it is important to provide as much detailed information as possible. Use the ALTER SESSION LOG FULL, HEADER [,TIMESTAMP] statement or define SQLNET\_DEBUG\_FLAGS "HTF" to collect detailed information about the current OCI Services for Oracle Rdb session. By providing the logged information with your problem report, you supply important data that can help solve the problem. See the *Oracle SQL/Services Server Configuration Guide* for more information about using the ALTER SESSION LOG statement and defining the SQLNET\_DEBUG\_FLAGS logical.

## 4.3 New and Changed Features for OCI Services for Oracle Rdb Release 7.3.2.0

The following sections describe new or changed features for OCI Services for Oracle Rdb release 7.3.2.0.

### 4.3.1 Oracle 10.2.0.5 Library Support

OCI Services for Oracle Rdb release 7.3.2.0 now emulates the Oracle RDBMS release 10.2.0.5 libraries and identifies itself as an Oracle RDBMS release 10.2.0.5 database to the client. This allows applications to use new features in Oracle RDBMS release 10.2.0.5. OCI Services for Oracle Rdb supports OCI client releases as supported by Oracle RDBMS release 10.2.0.5.

### 4.3.2 Enhancements to OCI Logging

Bug 15866472

In OCI Services for Oracle Rdb release 7.3.2.0, there are 2 new OCI Services debug flags, B and Y, that provide reduced logging of SQL statements and their parameters and of transactions. They may be used separately or together, and also may be used with the debug flag T which prepends a timestamp to the beginning of each log message. Debug flag B specifies that SQL statements and their parameters are to be logged in abbreviated logging messages. Debug flag Y specifies that abbreviated logging is to be done for 2pc transactions.

Following are 2 sections of a log file with both B and Y debug flags set:

Example 1: Logging of a 2pc transaction from the begin transaction to the commit

```
gtabegn: begin transaction id: ORA92.5e776ab6.1299.18.298503,
        bid = 13051200078e04000104
gtapars: stmt(1): SELECT * FROM "R_TRANSP_MODE"
gtapars: stmt(1): SELECT "A1"."TDESC_TRMO", "A1"."TSDESC_TRMO"
        FROM "R_TRANSP_MODE" "A1" WHERE "A1"."CMODE_TRANSP"='1'
gtapars: stmt(2): SELECT * FROM "R_TRANSP_MODE"
```

```

gtapars: stmt(2): UPDATE "R_MODE" "A1"
      SET "TRMO1" = :B1 :I1,"TRMO2" = :B2 :I2
      WHERE "A1"."TRANSP"='1'
Stmt 2, param[0]: type: 449, name: B1, val: test 1
Stmt 2, param[1]: type: 449, name: B2, val: Test2
gtaprtr: prepare transaction id: ORA92.5e776ab6.1299.18.298503
gtapare: stmt: set all constraints immediate
gtacomm: commit transaction id: ORA92.5e776ab6.1299.18.298503,
      bid = 13051200078e04000104

```

Example 2: Logging of a SQL statement with multiple bind variables executed several times

```

gtapars: stmt(1): CREATE TABLE OTST (T1 CHAR(10), T2 VARCHAR(10), N1 INT)
gtapars: stmt(2): INSERT INTO OTST (T1, T2, N1)
      VALUES (:T1, :T2, :N1) RETURNING DBKEY INTO :ORA_DBKEY
Stmt 2, param[0]: type: 449, name: T1, val: A2345
Stmt 2, param[1]: type: 449, name: T2, val: A2345
Stmt 2, param[2]: type: 453, name: N1, val: 1
Stmt 2, param[0]: type: 449, name: T1, val: A234567890
Stmt 2, param[1]: type: 449, name: T2, val: A234567890
Stmt 2, param[2]: type: 453, name: N1, val: 22
Stmt 2, param[0]: type: 449, name: T1, val: A234567890
Stmt 2, param[1]: type: 449, name: T2, val: A23456
Stmt 2, param[2]: type: 453, name: N1, val: 333

```

### 4.3.3 Retries for Preparing or Upgrading a Database

Bug 14117212

In order to prepare or upgrade a database for OCI Services, the dictionary program must get restricted access to the database. If other users are attached to the database, the prepare or upgrade will fail. With Oracle SQL/Services release 7.3.2.0, there is a mechanism to retry the attach for a defined number of retries and a defined pause between each retry.

The logical `SQLNET_DIC_RETRY_COUNT` defines how many times the attach is to be retried. A value of -1 means retry until success. The logical `SQLNET_DIC_RETRY_PAUSE` defines the number of seconds to wait between each attempt to attach. The default `RETRY_PAUSE` is 15 seconds, if `RETRY_COUNT` is defined. The default `RETRY_COUNT` is 10, if `RETRY_PAUSE` is defined. If neither logical is defined, the prepare or upgrade will fail immediately.

For example:

```

$ DEFINE SQLNET_DIC_RETRY_COUNT 10
$ DEFINE SQLNET_DIC_RETRY_PAUSE 20
$ @SYS$LIBRARY:RDB_NATCONN73 PREPARE MF_PERSONNEL

```

## 4.4 OCI Services for Oracle Rdb Problems Fixed for Release 7.3.2.0

This section highlights software errors relating to OCI Services for Oracle Rdb release 7.3.2.0 that have been fixed.

### 4.4.1 ALTER SESSION REMOTE\_DEPENDENCIES Setting Now Accepted

Bug 16954563

Starting with OCI Services for Oracle Rdb release 7.3.2.0, the setting of REMOTE\_DEPENDENCIES\_MODE in an ALTER SESSION command will now be ignored and not reported as an error. Any value may be specified as the new setting and it will be ignored. A status of success for the ALTER SESSION command is returned, although no action is taken.

### 4.4.2 Insert Returning into a Variable

Bug 13515112

Beginning with OCI Services for Oracle Rdb release 7.3.2.0, a SQL insert statement including a 'returning' clause will now return the correct value into the specified variable, EXCEPT in the case where the variable is used as both an input and an output parameter. In that case, the value will NOT be returned into the variable and no error will be returned. Errors can be seen in the executor log, but are not visible to the client application.

The following are examples of statements that work correctly:

```
insert into tabl (id,name) values (:id,:nm) returning id into :ii;  
insert into tabl (id,name) values (:ii,:name) returning name into :nm;
```

Following are examples of statements that do not return the correct values:

```
insert into tabl (id,name) values (:id,:nm) returning id into :id;  
insert into tabl (id,name) values (:id,:nm) returning name into :nm;
```

### 4.4.3 Unexpected Read Only Transaction Error

Bug 17176647

In OCI Services for Oracle Rdb releases prior to 7.3.2.0, if the SQL initialization file for an OCI service contained the statement "alter session set schema emulation strict" or "alter session set schema emulation relaxed", it would cause the OCI service to set the service connection to the database as read only, and any statement causing a change to the database would be rejected as invalid in a read only transaction. Executing the same statement after session initialization time did not cause the read only behavior. For release 7.3.2.0 and later,



the alter session statement can now be executed in the SQL initialization file or at any time during the session and will not cause the read only behavior.

The default for schema emulation is "strict", so it is not necessary to alter the session to set strict emulation. Relaxed emulation can be set in the SQL initialization file and will not cause the read only behavior.; or it can be set at any time during the session.

## 4.5 Known Problems and Restrictions

This section highlights problems and restrictions relating to OCI Services for Oracle Rdb and includes workarounds where appropriate.

### 4.5.1 Support for OpenVMS VAX and Standard Kits

Oracle SQL/Services release 7.3.2.0 and OCI Services for Oracle Rdb release 7.3.2.0 are not supported on OpenVMS VAX.

Standard kit installation is not supported with this version. Only multiversion kits are available.

### 4.5.2 Character Sets

The Oracle US7ASCII and DEC\_MCS character sets are supported by default. See the *Oracle SQL/Services Server Configuration Guide* for information about using other character sets.

### 4.5.3 Dates

Oracle dates can pre-date the OpenVMS 17-NOV-1858 date. Such dates are not supported by Oracle Rdb or OCI Services for Oracle Rdb.

### 4.5.4 Transaction Reusable Services

Oracle SQL/Services transaction reusable services are not supported. Only session reusable services are supported.

### 4.5.5 Database Access by Service Owner

Oracle SQL/Services services with database access by service owners are not supported. Only services with database access by connect user are supported.

#### **4.5.6 Grant Use on OCI Services**

Grant use on OCI services is not supported. All users have access to OCI services. However, the database is still protected because access to the database must be through connect (client) username.

#### **4.5.7 Multischema Databases**

OCI Services for Oracle Rdb does not support multischema Oracle Rdb databases. However, OCI Services for Oracle Rdb adds an emulation layer that provides a multischema environment that is similar to what you get with Oracle.

#### **4.5.8 Error Mapping is Not Exact**

The Oracle error codes do not always map well to Oracle Rdb message vectors. As a result, OCI Services for Oracle Rdb might issue error code 32800. Error code 32800 is a generic server error code that does not convey any information about the error. The text accompanying the message provides more information about handling this error.

#### **4.5.9 SQL Dialect**

OCI Services for Oracle Rdb sets the Oracle Level1 or Oracle Level2 dialect and requires the dialect to perform its tasks. Changing the dialect may result in unexpected OCI Services for Oracle Rdb failures.

#### **4.5.10 Multisession Server is Not Supported**

The Oracle server can support multiple sessions from multiple client applications in one server process. OCI Services for Oracle Rdb cannot because of the locking differences between the two database products.

#### **4.5.11 Cursors**

The maximum number of open cursors is currently 998.

#### **4.5.12 ROWID Support**

ROWID support exists only if there are less than 2.1 billion pages in a logical area. Logical areas greater than 2.1 billion pages are not likely to occur unless you implement VLDB with a single-file database.

### 4.5.13 Piecewise Inserts

Piecewise inserts (specific to Oracle SQL) are not supported in this release.

### 4.5.14 RAW and VARCHAR Data

Oracle Rdb does not differentiate between RAW (binary) and VARCHAR (text) data. If you use the VARCHAR data type in place of the RAW data type, your application works with one exception. OCI Services for Oracle Rdb does not convert the binary data to text data if you select the data using the VARCHAR2 data type. You must explicitly convert the data using the HEXTORAW or RAWTOHEX SQL function. Explicitly converting the data works with both Oracle Rdb and Oracle RDBMS.

### 4.5.15 Determining a NOT NULL Constraint Through a Describe Call

If the statement `SELECT col1 FROM tab1` were parsed and described in OCI, the Oracle server returns a message that col1 either does or does not have a NOT NULL constraint. OCI Services for Oracle Rdb does not return this information in the describe call. You can, however, obtain this information from the metadata tables. This restriction causes applications like SQL\*Plus to always describe a column as not having a NOT NULL constraint when it in fact may have a NOT NULL constraint.

### 4.5.16 OCI Error When Attempting to Fetch a Binary ROWID

The OCI FETCH routine returns the ORA-03106 error when you attempt to fetch a binary ROWID (data type DTYRID).

To work around this problem, fetch a ROWID in text.

### 4.5.17 SYSDATE Function is Available From a Dblink Connection

The SYSDATE function is available from a dblink connection. When used in this way, SYSDATE is evaluated by the Oracle Rdb Server, which is not standard Oracle semantics. Please be aware of this difference and certain that you want to use SYSDATE in this way.

### 4.5.18 Storing and Retrieving Long Raw Data Using Thin JDBC Driver

There are several restrictions using the thin JDBC driver to store and retrieve long raw (image) data with OCI Services for Oracle Rdb:

- Image data must be defined as BinaryStream data and should be stored using `setBinaryStream` and retrieved using `getBinaryStream`.

- For the thin JDBC driver, use of the 'blob' datatype is not yet supported. The logical SQLNET\_BLOB must not be defined or must be defined as "N".
- The default maximum size of long raw data is 100,000 bytes. If your long raw data is longer or significantly shorter than that, you should define the logical SQLNET\_MAXLONGRAW to the value of your longest long raw data. Long raw data must be stored in a single insert statement and retrieved in a single get statement. The SQLNET\_MAXLONGRAW value is used to allocate the buffer to hold the data, so it must be large enough to hold the entire value of the image data.

---



---

## Previous Releases: New Features and Fixed Problems

This chapter describes the new features and technical changes to previous releases of Oracle SQL/Services and OCI Services for Oracle Rdb. It also describes problems that were fixed in these products.

### 5.1 New and Changed General Features in Previous Releases of Oracle SQL/Services

This section highlights new and changed general features that were added in previous releases.

#### 5.1.1 Symbol Tables Added For SQLSRV\_NATCONN73.EXE & RMUEXEC73.EXE

Bugs 13068340 & 13640572

In releases of Oracle SQL/Services prior to 7.3.1.1, symbol tables were not provided for the SQLSRV\_NATCONN73.EXE and RMUEXEC73.EXE images. Without the symbol tables, bugcheck dumps and traceback information did not provide detailed information for debugging problems in those images.

For instance, a bugcheck occurring in the SQLSRV\_NATCONN73.EXE image would look like the following, where details are missing only for that image.

```
*****
*****SECTION HEADER: MINIMAL STACK DUMP*****
*****
PC = 003E86B0 : SQLSRV_NATCONN73
PC = 00395760 : SQLSRV_NATCONN73
PC = 00388290 : SQLSRV_NATCONN73
```

```
PC = 00070EB0 : RDB$NATCONN73\gtwmai
Module GTWMAI + 00000EB0; line 408326
PC = 00070220 : RDB$NATCONN73\main
Module GTWMAI + 00000220; line 408062
PC = 000700E0 : RDB$NATCONN73\__main
Module GTWMAI + 000000E0; line 408034
PC = 845446B0 : PTHREAD$RTL\thdBase
Module THD_THREAD + 00005BF0; line 245127
PC = 844FA6C0 : PTHREAD$RTL\pthread_main
Module THD_INIT + 000006C0; line 244926
PC = 80BD9B80 :
PC = 7ADDBB00 : Image DCL + 0006BB00
```

In Oracle SQL/Services release 7.3.1.1, symbol tables have been included for the SQLSRV\_NATCONN73.EXE and RMUEXEC73.EXE images.

## 5.1.2 Enhanced Help Text for Error Messages

In release 7.3.1.1, help text for Oracle SQL/Services error messages has been enhanced to provide more useful information. This should aid in determining the cause of problems being raised.

## 5.1.3 Reporting More Information About Client Connections Flagged As Intruders

Bug 12910694

In release 7.3.1.1, Oracle SQL/Services and OCI Services for Oracle Rdb have been enhanced to log the user name, node, client PID, program name and time, when an authorization failure occurs.

For an OCI Services type service, you should see output like the following in the executor log for the service, if a user fails authorization.

```
gta.gtagetpsw: Password for user INVALID_USER not found in table USER$.
Please run RDB_NATCONN73.COM ADDUSER or call ORA_CREATE_USER
to add username and password to the database.
```

```
>>>> FAILURE FOR USER: INVALID_USER NODE: ALPHA22 PID: 236002E5
PROGRAM: $1$DGA227:[ORA92.] [bin]SQLPLUS.EXE;1 AT wed sep 14 16:15:46 <<<
```

For a SQL/Services service, you should see output like the following in the dispatcher log, if a user fails authorization.

```

---EVENT BEG: EVENT_LOG ----- Wed Sep 14 16:21:15.860 2011---
%SQLSRV-I-EVENT_LOG, event logged at line 1087 in file DBS_SECURITY.C;1
%SQLSRV-E-AUTH_FAILURE, Authentication/authorization failure
---EVENT END: EVENT_LOG ----- Wed Sep 14 16:21:15.860 2011---

---EVENT BEG: EVENT_LOG ----- Wed Sep 14 16:21:15.870 2011---
%SQLSRV-I-EVENT_LOG, event logged at line 4448 in file CMD.C;1
%SQLSRV-I-USERNAME, User name: invalid_user
%SQLSRV-I-CONNECTNAME, Connect : CONNECT_0000003
%SQLSRV-I-CONNECTSTATE, Connect state: 1 (ALLOC)
%SQLSRV-I-NODENAME, Node : 10.123.456.789
%SQLSRV-I-APPLNAME, Application : odbcad32
%SQLSRV-I-SERVICENAME, Service : ODBC_TST
---EVENT END: EVENT_LOG ----- Wed Sep 14 16:21:15.870 2011---

```

## 5.1.4 Text Displayed For SQLSRV\$\_SM\_NOSUCHDISP Message Has Been Enhanced

Bug 13447144

In Oracle SQL/Services releases prior to 7.3.1.1, if you attempted to shutdown a SQL/Services dispatcher that was inactive, the SQLSRV\$\_SM\_NOSUCHDISP message was displayed with an unclear error text. This can be seen in the following example.

```

SQLSRV> shut disp SQLSRV_DISP;
%SQLSRV-E-SM_NOSUCHDISP, Dispatcher SQLSRV_DISP does not exist
SQLSRV> show disp SQLSRV_DISP;
Dispatcher SQLSRV_DISP
  State:                               INACTIVE
  Autostart:                            on
  Max connects:                          100 clients
  Idle User Timeout:                     <none>
  Max client buffer size:                 5000 bytes
  Network Ports:
    DEcnet object 183                    (State) (Protocol)
    TCP/IP port 1183                     Unknown  SQL/Services
  Log path:                               SYS$MANAGER:
  Dump path:                              SYS$MANAGER:

```

In release 7.3.1.1, the message displayed has been changed to the following.

```

SQLSRV> shut disp SQLSRV_DISP;
%SQLSRV-E-SM_NOSUCHDISP, Dispatcher SQLSRV_DISP does not exist or has not been
started

```

### 5.1.5 Improved SYS\$HELP:SQLSRV\_MESSAGES73.TXT Formatting and Context

Bug 11924731

Beginning with release 7.3.1.1, Oracle SQL/Services generates the file SYS\$HELP:SQLSRV\_MESSAGES73.TXT using the same tool as Oracle Rdb, so the formats are now equivalent. The text context has also been updated.

### 5.1.6 Updated Oracle SQL/Services Server Configuration Guide

The Oracle SQL/Services Server Configuration Guide has been updated for Oracle SQL/Services release 7.3.1.1.

### 5.1.7 Updated Help for SQLSRV\_MANAGE

The information provided by the HELP command in the SQLSRV\_MANAGE utility has been updated in Oracle SQL/Services release 7.3.1.1 to reflect updates to the Oracle SQL/Services Server Configuration Guide.

### 5.1.8 SQLSRV\$CHECK\_EXPIRED\_PASSWORDS Logical No Longer Supported

Support for the SQLSRV\$CHECK\_EXPIRED\_PASSWORDS logical was deprecated in release 7.3.0.3. Rather than using this logical, users can log into OpenVMS and modify their password, so that it will no longer be expired. Another option is to have the system manager modify a user's account to set the /NOPWDLIFETIME flag.

### 5.1.9 Oracle 10.2.0.4 SQL\*Net Transport Support

Oracle SQL/Services release 7.3.1 emulates the Oracle 10.2.0.4 SQL\*Net transport for SQL\*Net dispatchers.

### 5.1.10 Provide Error Text for Rdb Errors While Registering Users

ER 11677147

In releases prior to 7.3.1, Oracle SQL/Services logged Oracle Rdb errors incurred while registering users by displaying the status code but not the error text as shown in the following example.

```
---EVENT BEG: EVENT_LOG ----- Sun Aug 29 08:53:52.580 2010---
%SQLSRV-I-EVENT_LOG, event logged at line 758 in file SRVEXEUTL.C;1
%SQLSRV-F-INTERRSTS, Internal error; status code of 013881BA
%SQLSRV-E-EXECINITFAILED, Executor initialization failed; process terminating
---EVENT END: EVENT_LOG ----- Sun Aug 29 08:53:52.580 2010---
```



In Oracle SQL/Services release 7.3.1, the text of the Oracle Rdb error will also be displayed.

### 5.1.11 SQL/Services Now Supports SQLDA ROWID Type

Bug 7022262

In releases prior to 7.3.1, Oracle SQL/Services did not support the SQLDA ROWID type through the Client API when the dialect was set to ORACLE LEVEL1. Furthermore, if the user used the SQL SET SQLDA 'enable rowid type' command, the executor would fail.

### 5.1.12 Severity of EXECIDLETIMEOUT Message Has Been Modified

Enhancement Request 8938388

In Oracle SQL/Services release 7.3.0.3, the SQLSRV\$\_EXECIDLETIMEOUT message has been modified in severity from an error to a warning. Since it is quite common for an executor to be terminated due to inactivity, this error message is often found in SQL/Services executor log files. When a user is searching log files for problems, it is preferable that this message not be displayed in the search. The message is displayed in the log file to document that the executor is being shut down due to inactivity and is not necessarily an error. Therefore, its status has been downgraded to a warning. The message will now be displayed in executor log files as follows.

```
---EVENT BEG: EVENT_LOG ----- Fri Apr  2 13:51:15.160 2010---
%SQLSRV-I-EVENT_LOG, event logged at line 7595 in file CMD.C;1
%SQLSRV-W-EXECIDLETIMEOUT, Executor idle time out exceeded
---EVENT END: EVENT_LOG ----- Fri Apr  2 13:51:15.160 2010--
```

### 5.1.13 Provide Sample Application When Installing Client Kit With Server on OpenVMS

On HP OpenVMS, when the Oracle SQL/Services server kit is installed, the client kit is also installed. Prior to Oracle SQL/Services release 7.3.0.3, the sample application was included in the kit savesets but it wasn't copied onto the system. The sample application files are now provided during server kit installations in SYS\$COMMON:[SYSHLP.EXAMPLES.SQLSRV].

### 5.1.14 Scan Intrusion Security Now Supported

Enhancement Request 9359432

Oracle SQL/Services release 7.3.0.3 now supports intrusion detection via the OpenVMS Security Services. See the "OpenVMS Guide to System Security" manual for more information on this feature.

Customers are encouraged to upgrade to this release to pick up this security enhancement.

### 5.1.15 Configurable SYSUAF Last Noninteractive Login Update Frequency

Bug 8533381

Beginning with release 7.3.0.1, Oracle SQL/Services updates the last non-interactive login information in the system authorization file whenever a user makes a connection. With release 7.3.0.2, the frequency that the information is updated is now configurable and will no longer default to updating the information for every connection. See the Oracle SQL/Services Server Configuration Guide for more information on how to configure the frequency that the information is updated.

### 5.1.16 Shared Memory Usage Information Added to Bugcheck Output

Bug 7113375

Shared memory usage information has now been added at the beginning of bugcheck files, using the same format as the SQLSRV\_MANAGE SHOW SERVER command. This will enable users to diagnose when shared memory is low and possibly a cause of the problem reported in the bugcheck file.

This feature was added in Oracle SQL/Services release 7.3.0.2.

### 5.1.17 Link Time Information Added to Bugcheck Output

Bug 3769341

Oracle SQL/Services release 7.3.0.2 bugcheck dumps have now been enhanced to dump the link date for all images listed in the loaded image section. The following is a sample extract from a bugcheck file.

```
*****
*****SECTION HEADER: LOADED IMAGE INFO*****
*****
Active Image list:
  Total active images = 23
  image name          start      end      link date
-----
  DCL                  7AE6A000  7AF3C9FF  14-OCT-2008 10:39:02.13
```

SQLSRV_DISP73	00010000	001649FF	5-NOV-2008	17:33:59.19
DECC\$SHR_EV56	7BE54000	7BEF9FFF	14-OCT-2008	10:31:25.44
DPML\$SHR	7BAE2000	7BB27FFF	14-OCT-2008	10:30:50.06
CMA\$TIS_SHR	7B8FC000	7B90DFFF	14-OCT-2008	10:30:32.98
SORTSHR	7B7D6000	7B877FFF	14-OCT-2008	10:32:02.16
LIBRTL	7B5BA000	7B60BFFF	14-OCT-2008	10:30:17.98
LIBOTS	7B60C000	7B613FFF	14-OCT-2008	10:30:14.17
SECURESHRP	7B33C000	7B3BDFFF	14-OCT-2008	10:30:47.59
SYS\$BASE_IMAGE	81824670	81839E60	17-NOV-1858	00:00:00.00
SYS\$PUBLIC_VECTORS	81804ED8	818077C8	17-NOV-1858	00:00:00.00
SQLSRV_PRVSHR73	00198000	0023A340	5-NOV-2008	17:33:37.85
SQLSRV_SQLNETSHR73	002B8000	015277FF	17-SEP-2008	11:40:05.26
TRACE	7BEFA000	7BF6BFFF	14-OCT-2008	10:32:52.23
PTHREAD\$RTL	7BB28000	7BB51FFF	14-OCT-2008	10:32:02.51
TCPIP\$IPC_SHR	01906000	019A75FF	4-SEP-2008	02:26:54.85
TCPIP\$ACCESS_SHR	019A8000	01A489FF	4-SEP-2008	02:26:54.32
SQLSRV_MESSAGES	01A6C000	01A73FFF	17-SEP-2008	11:35:26.66
SHRIMGMSG	01A74000	01A7A9FF	14-OCT-2008	10:38:50.18
SORTMSG	01A7C000	01A8C1FF	14-OCT-2008	10:32:04.12
DECC\$MSG	01A8E000	01A91FFF	14-OCT-2008	10:37:52.45
DBGTBKMSG	01A92000	01A9F9FF	14-OCT-2008	10:38:49.09
TCPIP\$MSG	01AA0000	01AB63FF	4-SEP-2008	02:26:52.02

### 5.1.18 Image Name, User and Link Directory Information Added to Bugcheck Output

Bug 3769341

Oracle SQL/Services release 7.3.0.2 now includes the name of the image which is bugchecking, the user who linked the image and the link directory in the header of bugcheck dump files. This information will make it easier to identify the image that is bugchecking, whether or not the image is a special image and which special image it is.

### 5.1.19 Enhanced Dispatcher and Executor Process Logging

Bugs 6008742 and 3114572

Oracle SQL/Services release 7.3.0.1 has been enhanced to enable users to more easily track application connections and the executors that processed those connections. The name and process ID (PID) of the executor handling a given connect will be entered in the dispatcher log file when the connect is logged. The PID of the executor will be logged in the executor log file, so users will be able to associate a given connect to a specific executor and its log file. In addition, whenever a connect occurs, an entry will be made in the log file for the executor handling that connect, specifying the connect name. With this information, a user will be able to determine the specific section of the executor log that contains the logging

information for a given connect, since an executor can process multiple connects. Given the information in the executor log file, a user will also be able to link a connect to the information in the dispatcher log, including the node name, user name, and application for the client.

### **5.1.20 Support for Configurable Server Dump Path Argument in SQLSRV\_MANAGE**

Bugs 5745868 and 5745899

The ability to create, alter and extract a user-specified server dump path has been added to Oracle SQL/Services release 7.3.0.1. The ALTER SERVER and CREATE SERVER commands have been enhanced to add a new DUMP PATH argument. The Oracle SQL/Services Server Configuration Guide had been updated to include this new argument for both commands. It has also been updated to remove the erroneous ALTER and CREATE SERVER LOG PATH argument.

### **5.1.21 Enhanced Tracking of SQL/Services User Activity in SYSUAF**

Bug 5001258

Oracle SQL/Services release 7.3.0.1 has been enhanced to update the last non-interactive login information in the system authorization file (SYSUAF), when a user makes a connection. For accounting and management reasons, it is useful to see when a user account was last used. Often users have created VMS user accounts used only by SQL/Services clients. System managers had no way to determine if those user accounts were actually being used by looking at the account information in the SYSUAF. By tracking the last non-interactive login, system managers will now be able to determine when those user accounts were last utilized.

### **5.1.22 Oracle 10gR2 SQL\*Net Transport Support**

Oracle SQL/Services release 7.3 emulates the Oracle 10gR2 SQL\*Net transport for SQL\*Net dispatchers.

### **5.1.23 Performance Improvement on OpenVMS I64 Platform**

On the OpenVMS I64 platform, Oracle SQL/Services release 7.3 uses native Oracle RDBMS 10gR2 SQL\*Net transport functionality. In 7.2 releases, a translated SQLSRV\_SQLNETSHR image was used. Performance has been significantly enhanced using the native image.

### 5.1.24 Support for New SQLSRV\_EXT\_CONFIG70TO73.COM Command Procedure

Bug 5745427

A new command procedure, SQLSRV\_EXT\_CONFIG70TO73.COM, has been added for Oracle SQL/Services release 7.3. This command procedure is used to upgrade release 7.0 configuration files to release 7.3.

### 5.1.25 Insufficient Shared Memory Conditions Now Logged

In SQL/Services release 7.3, insufficient memory errors are now written into the executor, dispatcher and monitor log files, in addition to the bugcheck dump file. In some cases, the error is recoverable and does not cause a bugcheck. For instance, a dispatcher may not be able to create a new executor because of insufficient shared memory. This is not a fatal error, because other executors may terminate, freeing up memory for subsequent executors to be created. The insufficient memory problem may have been a temporary condition. In those cases, it is helpful to log the problem, so users are aware that they have reached the shared memory threshold and may need to increase the value.

### 5.1.26 Connect State Logging Enhanced

Bug 6354902

SQL/Services release 7.3 has been enhanced to log a text value for the connect state, in addition to the numerical value, whenever the connect state is being logged. The following is an example of the enhanced logging.

```
---EVENT BEG: EVENT_LOG ----- Mon Dec 17 12:31:21.590 2007---
%SQLSRV-I-EVENT_LOG, event logged at line 2915 in file CMD.C;6
%SQLSRV-I-CONNECTNAME, Connect : CONNECT_0000001
%SQLSRV-I-CONNECTSTATE, Connect state: 3 (RUNNING)
%SQLSRV-I-SERVICENAME, Service : TST_I73
---EVENT END: EVENT_LOG ----- Mon Dec 17 12:31:21.600 2007---
```

### 5.1.27 VMS Mixed Case Passwords Supported

Enhancement request: 5916102

In prior releases of Oracle SQL/Services and OCI Services for Oracle Rdb, using mixed case passwords would fail even when the OpenVMS /FLAGS=PwdMix flag was specified for the user in the system authorization file (UAF).

Support for this OpenVMS version 7.3-2 feature has been included in Oracle SQL/Services and OCI Services for Oracle Rdb release 7.2.0.2.

Support for this feature has also been included in Oracle Rdb release 7.2.1.2. Oracle SQL/Services and OCI Services for Oracle Rdb requires that this or a subsequent release of Oracle Rdb be installed in order to take advantage of this feature. The feature is implemented in a version independent image for Oracle Rdb. Therefore, the feature can be used in Oracle SQL/Services and OCI Services for Oracle Rdb executing against a prior Oracle Rdb 7.0 or 7.1 release, as long as the required Oracle Rdb release has been installed on the system.

Refer to OpenVMS version 7.3-2 documentation for more information on the HP OpenVMS Authorize Utility PwdMix flag for user accounts.

### 5.1.28 Support for New SQLSRV\_EXT\_CONFIG70TO72.COM Command Procedure

Bug 5745427

A new command procedure, SQLSRV\_EXT\_CONFIG70TO72.COM, has been added for Oracle SQL/Services release 7.2.0.2. This command procedure is used to upgrade release 7.0 configuration files to release 7.2.

### 5.1.29 Enhanced Logging in SQL/Services Log Files

Enhancement request: 5388589

SQL/Services log files did not identify the SQL/Services version, current time stamp, hardware type or operating system version. This identifying information is often useful to track problems.

With SQL/Services release 7.2.0.1 and later, the following header will now appear in SQL/Services executor, dispatcher and monitor log files to record that information.

```
$! -----  
$!  
$! Oracle SQL/Services V7.2-01 executor log file  
$! Wed Jul 19 11:41:27 2006  
$!  
$! -----  
$!  
$! This is a AlphaServer 4X00 5/533 4MB running VMS V7.3-2  
$!
```

### 5.1.30 Enhanced Error Reporting Creating & Opening Process Command Procedures

Enhancement request: 5388540

When an error occurred creating or opening a command procedure used to create monitor, dispatcher and executor processes, SQL/Services logged the error returned by the CC creat builtin function. This error was not the specific VMS error and was not always useful in diagnosing problems.

With SQL/Services release 7.2.0.1 and later, the OpenVMS error will also be logged. The following is a sample extract from a log file, containing such an error condition.

```
---EVENT BEG: EVENT_LOG ----- Mon Jul 17 16:58:45.010 2006---
%SQLSRV-I-EVENT_LOG, event logged at line 1122 in file DBS_PROCESS_VMS.C;5
%SQLSRV-E-SM_FOPEN_ERR, Error opening DISK2:[JONES]SQS_NODE_SVC040000171.COM;
%SQLSRV-E-ERROR_TEXT, Error text: permission denied
%RMS-E-PRV, insufficient privilege or file protection violation
---EVENT END: EVENT_LOG -----
```

### 5.1.31 Oracle SQL/Services Available on OpenVMS I64

Oracle SQL/Services release 7.2 is available on the HP OpenVMS Industry Standard 64 for Integrity Servers operating system.

## 5.2 Oracle SQL/Services Client API New and Changed Features in Previous Releases

### 5.2.1 Help for Windows Client Kits Replaced

Bug 12424944

The outdated, unsupported Microsoft format HELP file has been replaced with the Guide to Using the Oracle SQL/Services Client API manual in PDF format on the Oracle SQL/Services Windows client kits in Oracle SQL/Services release 7.3.1.1.

### 5.2.2 Updated Linux Client API

Oracle SQL/Services release 7.3.1 includes a new, updated Linux Client API. The Oracle SQL/Services Linux Client API now supports the Red Hat Linux and Oracle Linux operating systems release 5.0 and later. Release 5.0 is now the minimum supported release for these two operating systems. See the *Guide to Using the Oracle SQL/Services Client API* and the *Installing the Oracle SQL/Services Linux Client API* manuals for more information.

### 5.2.3 Updated Guide to Using the Oracle SQL/Services Client API

The Guide to Using the Oracle SQL/Services Client API has been updated for Oracle SQL/Services release 7.3.1.

### 5.2.4 Updated Help For SQL/Services

The SQL\_SERVICES73 help topic has been updated for Oracle SQL/Services release 7.3.1 to reflect changes made in the Guide to Using the Oracle SQL/Services Client API.

### 5.2.5 SQLSTATE Now Available Through SQL/Services Client API

Bug 2247393

A new routine SQLSRV\_SQLCA\_SQLSTATE has been added to the Oracle SQL/Services Client API, in Oracle SQL/Services release 7.3.1. This routine can be used to retrieve the SQLSTATE for the last statement executed. See the *Guide to Using the Oracle SQL/Services Client API* for more information on this routine.

### 5.2.6 Updated SQL/Services Client API Kit for 32-bit Windows Platforms

The Oracle SQL/Services Client API kit for 32-bit Windows platforms has been updated for Oracle SQL/Services release 7.3.0.3 and is equivalent in functionality to the client API kits for all the other supported platforms. Support has also been added for Windows 7, Server 2003 and Server 2008. See the installaton guide provided in the Windows32 kit directory for details on installing this client kit.

### 5.2.7 New SQL/Services Client API Kit for 64-bit Windows Platforms

Support for a new Oracle SQL/Services Client API kit for Windows 64-bit platforms has been added in Oracle SQL/Services release 7.3.0.3. Windows XP X64, Vista X64, 7 X64, Server 2003 X64, and Server 2008 X64 servers are all supported by this kit. See the installaton guide provided in the Windows64 kit directory for details on installing this client kit.

See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information.

### 5.2.8 New SQL/Services Client API Routines

Enhancement Request 8826734



The following new Oracle SQL/Services client API routines have been added in Oracle SQL/Services release 7.3.0.3.

```
sqlsrv_sqlda_sqld73
sqlsrv_sqlda2_sqld73
sqlsrv_sqlda_column_name73
sqlsrv_sqlda2_column_name73
sqlsrv_sqlda_column_type73
sqlsrv_sqlda2_column_type73
sqlsrv_sqlda_bind_data73
sqlsrv_sqlda2_bind_data73
sqlsrv_sqlda_unbind_sqlda73
sqlsrv_sqlda2_unbind_sqlda73
sqlsrv_sqlda_ref_data73
sqlsrv_sqlda2_ref_data73
sqlsrv_sqlda_unref_data73
sqlsrv_sqlda2_unref_data73
sqlsrv_sqlda_get_data73
sqlsrv_sqlda2_get_data73
sqlsrv_sqlda_set_data73
sqlsrv_sqlda2_set_data73
sqlsrv_sqlda_set_sqllen73
sqlsrv_sqlda2_set_sqllen73
sqlsrv_sqlda2_char_set_info73
```

These routines are identical to the similarly named routines without the "73", except for the addition of an `associate_id` parameter. The use of this parameter improves the execution and performance of the specific routines. Oracle highly recommends the use of these new routines.

The sample application, `SQLSRV$DYNAMIC.C`, has been updated to use these new Oracle SQL/Services client API routines.

See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information about these new routines.

## 5.2.9 Configurable Port Id and DECnet Object Name For Each Association

Enhancement Request 8826600

In Oracle SQL/Services release 7.3.0.3, the `associate_str` association structure has been modified to include `port_id` and `objnam` fields where the TCPIP port id and DECnet object name can be specified for a given association. Use of these new fields requires that the new `associate_str` structure version, `SQLSRV_V730`, be specified in the structure.

See the latest Guide to Using the Oracle SQL/Services Client API for more detailed information about the new `associate_str` structure.

### 5.2.10 DECnet No Longer Supported on Windows Platforms

The Oracle SQL/Services Client API no longer supports DECnet on Windows platforms, beginning with release 7.3.0.3. HP will be desupporting Pathworks 32 as of May 31, 2010.

## 5.3 Oracle SQL/Services Errors Fixed in Prior Releases

The following known problems found in the Oracle SQL/Services OpenVMS server have been fixed in previous releases.

### 5.3.1 Excessive Connection Logging Occurs For Transaction Reusable Services

Bug 12910614

In Oracle SQL/Services releases prior to 7.3.1.1, every time a connect user bound to an executor that fact was logged. For transaction reusable services, this happens often. Logging like the following would be seen several times for each user connected via a transaction reusable service.

```
---EVENT BEG: EVENT_LOG ----- Wed Aug 24 08:59:21.990 2011---
%SQLSRV-I-EVENT_LOG, event logged at line 291 in file EXEC.C;1
%SQLSRV-I-CONNECTNAME, Connect : CONNECT_0000001
---EVENT END: EVENT_LOG ----- Wed Aug 24 08:59:21.990 2011---
```

In Oracle SQL/Services release 7.3.1.1, logging will now only be done the first time a connect user is bound, for transaction reusable services.

### 5.3.2 Query on Bigint and Double Precision Columns Got Alignment Faults

Bug 9219886

Performing a query on bigint or double precision columns resulted in alignment faults when executing on an Itanium system.

This problem has been corrected in Oracle SQL/Services release 7.3.1.

### 5.3.3 Specifying Dispatcher Log File Required a Colon in Logical Names

Bug 9442074

If a logical was used to specify the location of a dispatcher log file, the dispatcher log path had to be specified with a colon (:) appended to the logical name. Otherwise, the dispatcher failed to start, as shown in the following example.

```
$ define/system log_here USERS:[JONES]
$ sqlsrv_manage73
SQLSRV> alter disp oci_disp log path 'log_here';
%SQLSRV-S-ALTER_RESTART, Restart object to have altered settings take effect
SQLSRV> shutdown dispatcher oci_disp;
SQLSRV> start dispatcher oci_disp;
%SQLSRV-E-SM_DISPSTARTFAI, Dispatcher OCI_DISP could not be started
SQLSRV> alter disp oci_disp log path 'log_here: ';
SQLSRV> start dispatcher oci_disp;
SQLSRV> show disp oci_disp full;
Dispatcher OCI_DISP
  State:                RUNNING
  Autostart:            on
  Max connects:         100 clients
  Idle User Timeout:    <none>
  Max client buffer size: 5000 bytes
  Network Ports:
    SQL*Net listener oci_listener          (State) (Protocol)
                                           Running  OCI clients
  Log path:             LOG_HERE:
  Dump path:           SYS$MANAGER:
  Log File:            USERS:[JONES]SQS_NODE_OCI_DISP00D73.LOG;
  Dump File:          SYS$SYSROOT:[SYSMGR]SQS_NODE_OCI_DISP00D.DMP;
```

This problem has been corrected in Oracle SQL/Services release 7.3.1. A colon will no longer be required in the specification of the dispatcher log path.

### 5.3.4 SHOW SERVICES Command Displays Two Lines for Services With Long Names

Bug 8333899

The SQLSRV\_MANAGE SHOW SERVICES command splits the output into two lines if the service name is very long. For example:

Name	State	Per-Exec	Max	Active	Min	Max	Running
THIS_HAS_VERY_LONG_NAME	INACTIVE	1	1	0	0	1	0

Using multiple lines to display the information for one service makes it difficult for other utilities to analyze the output. The Oracle Rdb Extension to Oracle Enterprise Manager is one example of a utility that fails when two lines are used in the display.

This problem has been corrected in Oracle SQL/Services release 7.3.1. The output for SHOW SERVICES was modified to accommodate the maximum length service name (31 characters) to always fit in one line.

### 5.3.5 SQL/Services Bugchecked After an RMS-E-FLK Error

Bug 9543460

In releases prior to 7.3.1, attempts to read or write into the System User Authorization File (SYSUAF) that failed with an RMS-E-FLK error caused a fatal bugcheck.

For example, on an attempt to write into the SYSUAF, the following error was displayed in the executor log.

```
---EVENT BEG: EVENT_LOG ----- Thu Mar 18 02:51:44.670 2010---
%SQLSRV-I-EVENT_LOG, event logged at line 1663 in file DBS_PROT_VMS.C;1
Error setting VMS process user name
%RMS-E-FLK, file currently locked by another user
---EVENT END: EVENT_LOG ----- Thu Mar 18 02:51:44.670 2010---
```

This error was followed by a bugcheck dump.

Oracle SQL/Services release 7.3.1 will now retry if it fails to update or read the SYSUAF information. It will no longer bugcheck if the operation fails.

### 5.3.6 Cannot Attach to Service When User Account Has No Password

Bug 9849082

In release 7.3.0.3, users who had /NOPASSWORD set in the System User Authorization File (SYSUAF) were unable to connect. They failed account authorization checks.

This problem has been fixed in Oracle SQL/Services release 7.3.1.

### 5.3.7 Access Violations During OCI Services Bugchecks

Access violations sometimes occurred while OCI Services was dumping information for a bugcheck.

This problem has been fixed in Oracle SQL/Services and OCI Services for Oracle Rdb release 7.3.1.

### 5.3.8 SQLSRV-E-PWDEXPIRED Error Restored

Bug 11831591

In Oracle SQL/Services releases prior to 7.3.0.3, if a user account's password was expired, an attempt to connect got the SQLSRV-E-PWDEXPIRED error. When intrusion detection was added in release 7.3.0.3, this error changed to SQLSRV-F-GETACCINF. Therefore, applications were unable to trap expired password errors in order to prompt the user for a new password.

In Oracle SQL/Services release 7.3.1, the SQLSRV-E-PWDEXPIRED error has been restored and the SQLSRV-F-GETACCINF error will no longer be returned in this case. This fix also requires the installation of the RDB\$COSIP.EXE image from the Oracle Rdb release after 7.2.4.2 or a special image kit available from Oracle Support.

### 5.3.9 Clarification of the BYTLM Check During Oracle SQL/Services Installation

Bug 9034427

In Oracle SQL/Services release 7.3.0.3, the installation procedure and the documentation have been modified to make it clear that the minimum BYTLM requirement is for the installing user's currently available quota rather than the limit set in the system authorization file.

### 5.3.10 Dispatcher Failed on Alpha When a Listener Failed to Start

Bugs 7380055 & 7380344

If a dispatcher was defined using multiple listeners and any one of those listeners failed to start, the dispatcher failed to start on Alpha. The dispatcher would log an error and continue to start on Itanium, if at least one valid ADDRESS line was found. This behaviour made it impossible to have one LISTENER.ORA and one Oracle SQL/Services configuration file for an entire cluster.

The following are the errors found in the dispatcher log file, when this failure occurred:

```
---EVENT BEG: EVENT_LOG ----- Thu Aug 28 04:19:10.880 2008---
%SQLSRV-I-EVENT_LOG, event logged at line 714 in file COM_TNS.C;1
%SQLSRV-E-TNSFAILURE, Oracle Net TNS nslisten() service has failed
%SQLSRV-E-TNSEXTENDED, Oracle Net TNS error codes: primary (12545) secondary
(12560)
---EVENT END: EVENT_LOG ----- Thu Aug 28 04:19:10.900 2008---

---EVENT BEG: EVENT_LOG ----- Thu Aug 28 04:19:10.970 2008---
%SQLSRV-I-EVENT_LOG, event logged at line 10740 in file CMD.C;1
%SQLSRV-E-TNSFAILURE, Oracle Net TNS oci_listener_2() service has failed
---EVENT END: EVENT_LOG ----- Thu Aug 28 04:19:10.970 2008---

---EVENT BEG: EVENT_LOG ----- Thu Aug 28 04:19:10.970 2008---
```

```
%SQLSRV-I-EVENT_LOG, event logged at line 10792 in file CMD.C;1
%SQLSRV-E-NOLISCREATED, No listeners could be created
---EVENT END: EVENT_LOG ----- Thu Aug 28 04:19:10.970 2008---
```

For example, if the OCI dispatcher were defined as

```
SQLSRV> create dispatcher OCI_DISP
SQLSRV_      autostart on
SQLSRV_      network_port sqlnet listener "oci_listener_1" protocol oci
SQLSRV_      network_port sqlnet listener "oci_listener_2" protocol oci
SQLSRV_ ;
```

and the listeners were defined in LISTENER.ORA as

```
OCI_LISTENER_1 =
  (ADDRESS_LIST =
    (ADDRESS =
      (COMMUNITY = TCP_COM.world)
      (PROTOCOL = TCP)
      (Host = NODE_A)
      (Port = 1527)
    )
  )
OCI_LISTENER_2 =
  (ADDRESS_LIST =
    (ADDRESS =
      (COMMUNITY = TCP_COM.world)
      (PROTOCOL = TCP)
      (Host = NODE_B)
      (Port = 1527)
    )
  )
```

An attempt to start up OCI\_DISP on NODE\_A would fail due to the errors when OCI\_LISTENER\_2 failed to start up.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.2. If at least one of the listeners specified for the dispatcher starts up successfully, the OCI dispatcher startup is successful.

### 5.3.11 Server Bugcheck Occurred After Server Client Aborted With Ctrl C

Bug 8265245

If a request was aborted by a control C command, a subsequent request from the same client would sometimes result in a bugcheck and shutdown of the SQL/Services server.

The following is an example of this problem, where a user had over 300 services to be displayed.

```
$ SQLSRV_MANAGE73
SQLSRV> connect server;
SQLSRV> show services;
^C
$ SQLSRV_MANAGE73
SQLSRV> connect server;
SQLSRV> show services;
%SQLSRV-E-READERR, Error on read
%SYSTEM-F-LINKDISCON, network partner disconnected logical link
%SQLSRV-E-READERR, Error on read
```

At this point, the SQL/Services server has shutdown.

This problem has been corrected in Oracle SQL/Services release 7.3.0.2.

### 5.3.12 SQLSRV\_MANAGE CONNECT SERVER Got SYSTEM-F-RANGEERR Error

Bug 6188111

If you specified keyword USING rather than USER before the username, the SQLSRV\_MANAGE CONNECT SERVER command got the following errors.

```
SQLSRV> CONNECT SERVER USING "name" USING "password";

%SYSTEM-F-RANGEERR, range error, PC=000000000078568, PS=0000001B

Improperly handled condition, image exit forced by last chance handler.
...
```

This problem has been corrected in Oracle SQL/Services release 7.3.0.1.

### 5.3.13 Problem Processing SQL Initialization File

Bug 5590529

For universal non-OCI services, the SQL initialization file would fail on commands which required that the database already be attached, due to the fact that it was being executed prior to attaching to the database.

This problem has been corrected in release 7.3. The database attach will now be done prior to executing the SQL initialization file.

### 5.3.14 Security Problem Fixed

By emulating the Oracle 10gR2 listener, Oracle SQL/Services release 7.3 and later now have tighter security via the listener. Problems that caused denial-of-service problems in prior releases have now been resolved with this new listener.

### 5.3.15 Problem With Error Message Truncation

Bug 6374049

In some cases, error messages were being written to a buffer which was not large enough to accommodate the entire error message text and the error message was truncated. The incomplete message text was then written to the SQL/Services log files.

This problem has been corrected in release 7.3.

### 5.3.16 CMA Errors Now Display Secondary Error Message

On Itanium systems, exceptions are processed through pthreads, which envelops the SQL/Services error with a CMA error. In some cases, the SQL/Services error was displayed as an object number, rather than a text error message, such as the following.

```
%SQLSRV-W-EXCEPTION_RAISE, Exception raised: %CMA-F-EXCEPTION, exception raised;  
address of exception object 00050C00
```

Since this type of error message is not useful in diagnosing a problem SQL/Services release 7.3 has been modified to make all object type messages into useful text messages. The above example will now be displayed as follows.

```
%SQLSRV-W-EXCEPTION_RAISE, Exception raised: %CMA-F-EXCCOPLOS, exception raised;  
some information lost, -SQLSRV-F-INSUFFICIENT_ME, UTL_INSUFFICIENT_MEMORY
```

### 5.3.17 SQL/Services Configuration File Upgrade Between 71 and 72 Releases

Bug 5765415

In Oracle SQL/Services 7.2 releases prior to 7.2.0.2, a user was required to create a new configuration file (SQLSRV\_CONFIG\_FILE72.DAT) for the first release 7.2 installation.

Beginning with Oracle SQL/Services release 7.2.0.2, SQLSRV\_CONFIG\_FILE71.DAT can now be copied to SQLSRV\_CONFIG\_FILE72.DAT and SQL/Services will execute successfully with this new configuration file, without any other modifications to the configuration file.

This problem has been corrected in release 7.2.0.2.



### 5.3.18 SQLSRV\_CREATEnn.SQS Missing SQL Version

Bugs 5978019, 5741971

In release 7.2.0.1, when the Oracle SQL/Services installation generated the SQLSRV\_CREATEnn.SQS file for the creation of the RMU\_SERVICE and OCI\_SAMPLE services, the SQL VERSION was missing. This caused the creation of those services to fail, during the creation of a new configuration file.

This problem has been corrected in Oracle SQL/Services release 7.2.0.2.

### 5.3.19 Improved Logging on Dispatcher Listener Startup Failure

Bug 557878

In releases prior to 7.2.0.2, when Oracle SQL/Services was unsuccessful in starting up an OCI dispatcher due to problems finding the LISTENER.ORA file or the dispatcher service definition in that file, the information logged to the dispatcher log file was not helpful in diagnosing the problem.

```
-----EVENT BEGIN:  EVENT_LOG at Mon Sep 29 1997 10:25:15.942-----
%SQLSRV-I-EVENT_LOG, event logged at line 990 in file COM_TNS.C;1
%SQLSRV-E-TNSFAILURE, Oracle SQL*Net TNS nlpagas() service has failed
%SQLSRV-E-ERROR_TEXT, Error text: oci_listener
-----EVENT END   :  EVENT_LOG at Mon Sep 29 1997 10:25:15.984-----
```

In release 7.2.0.2, Oracle SQL/Services logs more helpful information, such as the following.

```
---EVENT BEG: EVENT_LOG ----- Fri Apr 27 10:29:59.440 2007---
%SQLSRV-I-EVENT_LOG, event logged at line 1452 in file COM_TNS.C;2
%SQLSRV-E-TNSFAILURE, Oracle Net TNS nlpagas() service has failed
%SQLSRV-E-ERROR_TEXT, Error text: oci_listener
%SQLSRV-E-TNSEXTENDED, Oracle Net TNS error codes: primary (408) secondary (0)
%SQLSRV-E-ERROR_TEXT, Error text: LISTENER.ORA does not exist in the expected
location
%SQLSRV-E-ERROR_TEXT, Error text: or there is no valid entry for the above named
service
---EVENT END: EVENT_LOG ----- Fri Apr 27 10:29:59.470 2007---
```

### 5.3.20 SQLSRV\_MANAGE EXTRACT Command Truncates Port Names

Bug 5867554

In releases prior to 7.2.0.2, the `SQLSRV_MANAGE EXTRACT` command would truncate port names that were more than 13 characters in length. For example, in the following "oci\_listener\_test" was truncated to "oci\_listener\_".

```
SQLSRV> show dispatcher oci_disp_test;
  Dispatcher OCI_DISP_TEST ...
  Network Ports:
    SQL*Net listener oci_listener_test          (State) (Protocol)
    Unknown OCI clients
SQLSRV> extract dispatcher oci_disp_test;
  Create Dispatcher OCI_DISP_TEST ...
  network_port sqlnet listener oci_listener_ protocol OCI
```

This problem has been corrected in Oracle SQL/Services release 7.2.0.2.

### 5.3.21 Security Problems Fixed

Security problems have been fixed in Oracle SQL/Services release 7.2.0.2.

### 5.3.22 Shared Memory Leak Using Universal Services Fixed

In Oracle SQL/Services releases prior to 7.2.0.2, there was a minor shared memory leak every time a client connected using a universal service. After a significant number of connections, this would eventually lead to insufficient shared memory exceptions, requiring a restart of the SQL/Services server.

This problem has been corrected in Oracle SQL/Services release 7.2.0.2.

### 5.3.23 Problem Using Persona Feature With JDBC Dispatchers

TAR: 15930012.6

The JDBC Dispatcher did not inherit `IMPERSONATE` privilege and this sometimes caused use of the persona feature to fail. SQL/Services will now start the JDBC dispatcher with `IMPERSONATE` privilege.

This problem has been corrected in release 7.2.0.1.

### 5.3.24 Poor Performance From OCI Queries

Bugs: 3259208, 4770496, 5144164

Oracle SQL/Services release 7.1.5.8 introduced a problem that could cause queries from an OCI source to sometimes take an extraordinarily long time to complete. Examination of the SQL/Services processes would show that they were idle even though the client had not received a response from SQL/Services.

This problem was introduced by changes in the underlying Oracle NET libraries employed by SQL/Services. There were instances where a network message would arrive but notification of that arrival was not being delivered to the SQL/Services dispatcher. When that occurred, SQL/Services would only see that a new network message had arrived when it did periodic polling.

There is no workaround for this issue.

This problem has been corrected in release 7.2.0.1. Notification of network message arrival is now done immediately.

### 5.3.25 Misleading Dispatcher Logging Entries Removed

Bug: 5148550

When an Oracle Net connection was successfully disconnected, the following information was entered into the dispatcher log. This would occur for any executor using the SQLNET protocol, such as an OCI Services connection. Since the logging was done for every connection, it tended to make dispatcher log files large.

Dispatcher log entry:

```
---EVENT BEG: EVENT_LOG ----- Fri Mar 31 09:40:31.5602006---
%SQLSRV-I-EVENT_LOG, event logged at line 2496 in file COM_TNS.C;1
%SQLSRV-E-TNSFAILURE, Oracle Net TNS nsrecv() service has failed
%SQLSRV-E-TNSEXTENDED, Oracle Net TNS error codes: primary (12537) secondary
(12560)

---EVENT END: EVENT_LOG ----- Fri Mar 31 09:40:31.5602006---
```

This message (12537) is actually an informational message from Oracle TNS. There is no need to log the message. It appears to be reporting a problem, rather than a success condition, causing confusion. It has now been removed from dispatcher logging in Oracle SQL/Services release 7.2.0.1.

### 5.3.26 SQLSRV\$MOD\*.EXE Files Removed From the SQL/Services Kit

Bug: 5222605

SQLSRV\$MOD images are part of the Oracle Rdb SQL component. Due to a past problem, some corrected SQLSRV\$MOD images were shipped on the SQL/Services kit to be installed if needed to supercede older images. The SQL/Services startup and shutdown procedures installed and deinstalled these images.

Because the need for these images no longer exists, they have been removed from the SQL/Services kit and procedures in Oracle SQL/Services release 7.2.0.1.

### **5.3.27 Failure to Start 2PC Using OCI Universal Services**

In releases 7.1.6, 7.1.6.1, and 7.2, attempting to access an OCI universal service using two-phase commit failed to start a two-phase commit transaction and therefore reverted to a one-phase commit transaction.

This problem has been corrected in release 7.2.0.1.

### **5.3.28 Occasional Access Violations During OCI Bugcheck Dumps**

Occasionally, an access violation would occur during the process of writing an OCI bugcheck dump file.

This problem has been corrected in release 7.2.0.1.

### **5.3.29 SQL/Services Installation Procedure Fixes SQL Version Specified**

During SQL/Services installation, the user is asked to specify the SQL version for the generic service. If the user specified more than 2 digits in that version number, the SQL/Services installation would fail.

This problem has been corrected in release 7.2.0.1. The installation procedure now truncates the version to 2 digits, as required.

### **5.3.30 Monitor and Dispatcher Processes in CPU Loop**

In releases prior to 7.2.0.1, the SQL/Services monitor and dispatcher processes may sometimes get into a deadlock condition where both processes are in a CPU loop. If SQL/Services is configured with services that have a bad SQL init file with the minimum executor parameter set to greater than 0, starting up the SQL/Services server can, in rare occasions, cause the SQL/Services monitor and dispatcher processes to be in a CPU loop waiting for a mutex.

### **5.3.31 PROCESS\_INIT Defined as Keyword LOGIN Could Fail**

Bug: 4664833

Starting an executor with PROCESS\_INIT defined as keyword LOGIN would sometimes fail with garbage in the login command file name.

This problem was corrected in release 7.1.6.1.

### 5.3.32 Monitor Aborts When Connection Cancelled

If you attempted to use the monitor port for an OCI connection and then cancelled the process, the monitor would abort.

This problem was fixed in release 7.2.

## 5.4 New and Changed Features for Previous OCI Services for Oracle Rdb Releases

This section highlights new and changed features for previous OCI Services for Oracle Rdb releases.

### 5.4.1 SET CONSTRAINTS Command Now Translated to Oracle Rdb Format

Bug 12714825

As part of the fix for bug 12714825, OCI Services for Oracle Rdb release 7.3.1.1 changed the internal SQL version number it returned to the client at connect time. This version number identifies the SQL dialect that OCI Services implements. Because of this change, Oracle clients sent SET CONSTRAINT statements in a different syntax, which no longer was the same as the Rdb syntax. These statements - SET CONSTRAINTS ALL IMMEDIATE - are transformed to the Rdb syntax SET ALL CONSTRAINTS IMMEDIATE.

This enhancement has been added for OCI Services for Oracle Rdb release 7.3.1.1.

### 5.4.2 SYSTIMESTAMP Now Defined

Bug 11937533

Support for SYSTIMESTAMP was implemented in Oracle Rdb release 7.2.5. SYSTIMESTAMP is a timestamp datatype and will be mapped by OCI Services to an Oracle timestamp. In order to use Oracle timestamp datatypes, the logical SQLNET\_TIMESTAMP\_DATE\_TYPE has to be defined. In order to capture fractional seconds, the logical SQLNET\_STRUCTURED\_DATE\_TYPES is required.

In OCI Services for Oracle Rdb releases prior to 7.3.1.1, all Rdb columns defined as date VMS were mapped to Oracle date, which does not contain fractional seconds. In release

7.3.1.1, a new logical is available which will specify that Rdb columns of date VMS datatype be mapped to Oracle timestamp, thus preserving the fractional seconds. This new logical is `SQLNET_DATEVMS_IS_TIMESTAMP` and it refers to all data of type date VMS, including `current_timestamp` and `localtimestamp`. When this logical is set to Y or y, Rdb columns of date VMS datatype will be mapped to Oracle timestamp. For example:

```
$ DEFINE SQLNET_DATEVMS_IS_TIMESTAMP Y
$ DEFINE SQLNET_TIMESTAMP_DATE_TYPE Y
$ DEFINE SQLNET_STRUCTURED_DATE_TYPES Y
```

This functionality can also be enabled or disabled by executing `ALTER SESSION SET SQLNET_* ON/OFF` commands. For example:

```
ALTER SESSION SET SQLNET_DATEVMS_IS_TIMESTAMP ON;
ALTER SESSION SET SQLNET_TIMESTAMP_DATE_TYPE ON;
ALTER SESSION SET SQLNET_STRUCTURED_DATE_TYPES ON;
```

This logical will default to OFF, if not explicitly set.

If all Rdb columns of date VMS datatype are to be mapped to Oracle timestamps for all databases accessed via OCI Services, define system logicals. If they are to be mapped to Oracle timestamps only for specific Oracle SQL/Services services, define the logicals in the process initialization file or use the `ALTER SESSION` commands in the SQL initialization file for the service. If Rdb columns of date VMS datatype are to be mapped to Oracle timestamps only for specific queries, use the `ALTER SESSION` commands interactively.

### 5.4.3 RDB\_NATCONN Checks If SYS\$DECDTM\_NODE\_NAME Logical Exists

Bug 12952108

Beginning with Oracle SQL/Services release 7.3.1.1, the `RDB_NATCONN` command procedure checks that the `SYS$DECDTM_NODE_NAME` logical name exists on the system, in order to ensure that `DECdtm` has been started. When `DECdtm` has not been started, the following message will be displayed.

```
%SYSTEM-E-NOLOGNAM, no logical name match, SYS$DECDTM_NODE_NAME
```

### 5.4.4 Oracle Database Name Logged When Linked Via DBlink

Bug 6683772

When attaching to an Oracle Rdb database through a database link from an Oracle database, the Oracle database name will now be displayed in the executor log. This information will make it possible to track a connection back to the Oracle database session identifier when diagnosing problems.

The following is an example of the line that will now appear in the executor log file.

```
>>>> ORACLE DATABASE NAME: ORA102 <<<<<
```

This feature is now available in OCI Services for Oracle Rdb release 7.3.1.

### 5.4.5 Oracle 10.2.0.4 Library Support

OCI Services for Oracle Rdb release 7.3.1 now emulates the Oracle RDBMS release 10.2.0.4 libraries and identifies itself as an Oracle RDBMS release 10.2.0.4 database to the client. This allows applications to use new features in Oracle RDBMS release 10.2.0.4. OCI Services for Oracle Rdb supports OCI client releases as supported by Oracle RDBMS release 10.2.0.4.

### 5.4.6 Fractional Seconds for Timestamp Data in TO\_CHAR

Bug 5559859

In OCI Services for Oracle Rdb releases prior to 7.3.1, the datatype conversions used for timestamp data did not allow for fractional seconds.

The following error occurred when fractional seconds were not implemented:

```
SQL> select to_char(field_2,'dd-mon-yyyy hh24:mi:ff') from one;
select to_char(field_2,'dd-mon-yyyy hh24:mi:ff') from one
*
ERROR at line 1:
ORA-01821: date format not recognized
```

In release 7.3.1, new datatype conversions are now being used, so that fractional seconds may be returned for timestamp data.

### 5.4.7 ALL\_OBJECTS Now Includes Indexes and Triggers

In OCI Services for Oracle Rdb release 7.3.1, the view ALL\_OBJECTS now includes all indexes and all triggers.

### 5.4.8 New Dictionary Definitions: OBJ\$, IND\$, COL\$, and ICOL\$

In release 7.3.1 of OCI Services for Oracle Rdb, the OCI dictionary prepare/upgrade program now includes definitions for the Oracle objects OBJ\$, IND\$, COL\$, and ICOL\$.

## 5.4.9 Partial Support for CREATE OR REPLACE Syntax

Bug 10093056

In OCI Services for Oracle Rdb releases prior to 7.3.1, the SQL statement CREATE OR REPLACE would get an error and would not be executed. In release 7.3.1, the statement is now changed to a create statement, and execution will succeed if the object does not already exist in the database. If the object exists, an error will be returned specifying a duplicate object is being created. This is not the same behavior as for an Oracle database, but will allow successful execution of at least some of these statements.

The following shows two consecutive attempts to create or replace a table; the second statement would succeed in an Oracle database, but fails using OCI Services for Oracle Rdb.

```
SQL> create or replace table foo (c1 int);
Table created.
SQL> create or replace table foo (c1 int, c2 int);
create or replace table foo (c1 int, c2 int)
*
ERROR at line 1:
ORA-00955: name is already used by an existing object
```

## 5.4.10 Client Process ID Now Displayed in Executor Log for OCI Services

Enhancement Request 6683772

In order to help users track which client process is communicating with a given OCI service, the client process ID is now displayed in the executor log, beginning with release 7.3.0.3. The following is an example of the information displayed, including the client process ID. The node name, application name and client process ID are all information about the client, while the remaining information pertains to the server process.

```
---EVENT BEG: EVENT_LOG ----- Tue Apr 13 01:31:54.660 2010---
%SQLSRV-I-EVENT_LOG, event logged at line 4226 in file EXEC_SI.C;1
%SQLSRV-I-CONNECTNAME, Connect : CONNECT_0003580
%SQLSRV-I-CONNECTSTATE, Connect state: 4 (RUNNING_UNBOUND)
%SQLSRV-I-USERNAME, User name: USER1
%SQLSRV-I-NODENAME, Node : NODE1
%SQLSRV-I-APPLNAME, Application : $1$DGA227:[ORACLE.bin]SQLPLUS.EXE;1
%SQLSRV-I-CLIPROCID, Client Process ID : 2247A57F
%SQLSRV-I-SERVICENAME, Service : OCI_SVC
%SQLSRV-I-EXECNAME, Executor : OCI_SV0100001
%SQLSRV-I-EXECPID, Executor PID : 2286BEA7
---EVENT END: EVENT_LOG ----- Tue Apr 13 01:31:54.680 2010---
```



### 5.4.11 Performance Improvement For TO\_CHAR Function When Handling Dates

In OCI Services for Oracle Rdb release 7.3.0.3, the TO\_CHAR function has been modified to improve performance when handling date values.

### 5.4.12 DBTIMEZONE, SESSIONTIMEZONE and TZ\_OFFSET Implemented

Bug 7560165

In OCI Services for Oracle Rdb release 7.3.0.3, the functions DBTIMEZONE, SESSIONTIMEZONE, and TZ\_OFFSET were added to the Oracle dictionary metadata. Columns named DBTIMEZONE and SESSIONTIMEZONE were added to table DUAL. They are populated by ORA\_LOGIN2 at logon time, from info in logical SYS\$TIMEZONE\_DIFFERENTIAL. Functions dbtimezone and sessiontimezone were added by selecting from the appropriate column in DUAL.

TZ\_OFFSET was also partially implemented. It will only return valid values if the input is 'dbtimezone', 'sessiontimezone', or a valid timezone offset (format +HH:MM or -HH:MM).

The following sql queries will return valid data:

```
select dbtimezone from dual;
select sessiontimezone from dual;
select dbtimezone() from <any_table>;
select sessiontimezone() from <any_table>;
```

The following will NOT get valid data, but will get FLDNOTCRS error, saying that the column doesn't exist:

```
select dbtimezone from <any_table_except_dual>;
select sessiontimezone ffrom <any_table_except_dual>;
```

ALTER SESSION SET TIME\_ZONE will not work. To change the time zone, do an update to table DUAL.

```
update DUAL set SESSIONTIMEZONE = '<new_offset>;'
```

### 5.4.13 TO\_TIMESTAMP Function Implemented

Bug 3937912

A new function, TO\_TIMESTAMP, was implemented in OCI Services for Oracle Rdb release 7.3.0.3. TO\_TIMESTAMP returns a timestamp value from the given arguments. It provides the same functionality as the Oracle function TO\_TIMESTAMP, and it takes the same input arguments and returns the same result.

The logical `SQLNET_TIMESTAMP_DATE_TYPE` must be defined as "Y" or "y" in order to receive timestamp data from a `TO_TIMESTAMP` function call. Only the date portion will be returned if the logical is undefined or is defined as anything else.

Function: `TO_TIMESTAMP(char(,fmt)(,nlsparam))`

The following is a description from the Oracle documentation:

`TO_TIMESTAMP` converts *char* of `CHAR`, `VARCHAR2`, `NCHAR`, or `NVARCHAR2` datatype to a value of `TIMESTAMP` datatype.

The optional *fmt* specifies the format of *char*. If you omit *fmt*, then *char* must be in the default format of the `TIMESTAMP` datatype, which is determined by the `NLS_TIMESTAMP_FORMAT` initialization parameter. The optional *nlsparam* argument has the same purpose in this function as in the `TO_CHAR` function for date conversion.

The *nlsparam* argument specifies the language in which month and day names and abbreviations are returned. This argument can have this form:

```
'NLS_DATE_LANGUAGE = language'
```

#### 5.4.14 V\$PARAMETER Table Support Enhanced

Bug 9684494

In OCI Services for Oracle Rdb release 7.3.0.3, the view `V$PARAMETER` has been dropped, and a new global temporary table `V$PARAMETER` has been created in its place. The table includes a row defining the Oracle compatible release number. For this release, the compatible release number is 10.2.0.2.0. It also includes a row for each of the NLS parameters and what its current value is. This change was made in response to an issue raised in the referenced bug, but it is not the fix for the bug.

#### 5.4.15 OCI Services Server Configuration Test Tool

Bug 775583

A new tool has been added to OCI Services for Oracle Rdb release 7.3.0.2 to test that the OCI Services server configuration has been correctly set up. This tool can be used to validate the set up, once the system has been configured. Details on using this tool can be found in the Oracle SQL/Services Server Configuration Guide.

#### 5.4.16 Statistics Now Returned for Selects Using a DBLINK

Bug 6966070

In releases prior to 7.3.0.2, statistics were not being returned when an Oracle server requested them through a dblink connection. This often resulted in decreased performance and non-optimal choice of strategy for the query by the Oracle optimizer. Many statistics and counts that are easily available in the Oracle Rdb database are now returned in release 7.3.0.2 and later. This includes information on tables, columns, and indexes. In the test cases, this information allowed the Oracle optimizer to choose better strategies for slow queries and they were significantly faster. Work in this area will be ongoing, as more relevant statistics are identified and available in Oracle Rdb.

### **5.4.17 Optimized Memory Use in OCI Executor When Using a DBLINK**

Bug 7301874

Memory that was allocated by the Oracle Net routines via a callback into the OCI executor was not being released until the end of the session. It appeared to be a memory leak for a long-running session. In release 7.3.0.2, this memory is now being allocated in a memory group that is released at the end of each OCI call, so it is not accumulating through a long-running session.

### **5.4.18 Unique Bind Variable Names**

When a query was "fixed up" by the OCI executor because of datatype conversion errors, literals were sometimes replaced by bind variables which could all have the same name. In release 7.3.0.2, the OCI "fixup" code was changed to generate bind variables with unique names.

### **5.4.19 Dictionary Enhancements**

Bugs 7559798 and 8464682

In release 7.3.0.2, several enhancements were made to the Oracle metadata created by the dictionary prepare and upgrade program. The ALL\_USERS view now selects data from the USER\$ table, since all users must be entered into the USER\$ table. Columns in views that were selecting a NULL value required a datatype for those columns. The NULL values were changed to CAST to the appropriate datatype. Some of the views containing columns that were TRIMmed were modified to be more efficient.

The domains RDB1LONG, RDB2LONG, and RDB4LONG will no longer be created as part of a database prepare. Those domains will not be deleted from databases prepared via an older release, but they will not be created in release 7.3.0.2 and future releases.

### **5.4.20 Enhanced OCI Executor Logging**

In OCI Services for Oracle Rdb release 7.3.0.1, there have been several additions to OCI executor logging, including new logging flags. For details, see Section 7.3.4 in the Oracle SQL/Services Server Configuration Guide.

### **5.4.21 Enhanced Index Statistics for OCI Describe Index**

OCI Services for Oracle Rdb release 7.3.0.1 has been enhanced to provide more accurate index statistics in response to the OCI call to describe indexes. Also, more column and index statistics will be returned on Itanium.

### **5.4.22 Oracle Metadata Updated**

Bugs 6836602 and 6860836

Further changes were made to the Oracle metadata created by the dictionary prepare and upgrade program, RDB\$NATCONN\_DICnn, in OCI Services for Oracle Rdb release 7.3.0.1. Columns in some existing tables were changed, and some new tables and views were created to reflect the Oracle 10gR2 metadata.

### **5.4.23 Oracle 10gR2 Library Support**

OCI Services for Oracle Rdb release 7.3 now emulates the Oracle RDBMS release 10gR2 libraries and identifies itself as an Oracle RDBMS release 10gR2 database to the client. This allows applications to use new features in Oracle RDBMS release 10gR2. OCI Services for Oracle Rdb supports OCI client releases as supported by Oracle RDBMS release 10gR2.

### **5.4.24 Performance Improvement on OpenVMS I64 Platform**

On the OpenVMS I64 platform, OCI Services for Oracle Rdb release 7.3 now uses native Oracle RDBMS 10gR2 libraries. In 7.2 releases, OCI Services used a translated SQLSRV\_SQLNETSHR image. Performance has been significantly enhanced using the native image.

### **5.4.25 Oracle Metadata Updated**

In release 7.3, the Oracle metadata created by the dictionary prepare and upgrade program, RDB\$NATCONN\_DICnn, has been updated to reflect changes to the tables and views in Oracle 10gR2. Some columns have been altered to a different datatype or a different varying character length. Some columns have been deleted and some new columns have been added. A few new tables or views have been added that were required by Oracle Explorer and/or Oracle Discoverer.

### 5.4.26 VMS Mixed Case Passwords Supported

Enhancement Request 5916102

In prior releases of Oracle SQL/Services and OCI Services for Oracle Rdb, using mixed case passwords would fail even when the OpenVMS /FLAGS=PwdMix flag was specified for the user in the system authorization file (UAF).

Support for this OpenVMS version 7.3-2 feature has now been included in Oracle SQL/Services and OCI Services for Oracle Rdb release 7.2.0.2.

Support for this feature has also been included in Oracle Rdb release 7.2.1.2. Oracle SQL/Services and OCI Services for Oracle Rdb requires that this or a subsequent release of Oracle Rdb be installed in order to take advantage of this feature. The feature is implemented in a version independent image for Oracle Rdb. Therefore, the feature can be used in Oracle SQL/Services and OCI Services for Oracle Rdb executing against a prior Oracle Rdb 7.0 or 7.1 release, as long as the required Oracle Rdb release has been installed on the system.

Refer to OpenVMS version 7.3-2 documentation for more information on the Authorize Utility PwdMix flag for user accounts.

### 5.4.27 New NLS Parameters

The following NLS parameters were added in release 7.2.0.1: NLS\_COMP, NLS\_LENGTH\_SEMANTICS, and NLS\_NCHAR\_CONV\_EXCP. They will be initialized to default values in V\$NLS\_PARAMETERS at connection time. The values are as follows: NLS\_COMP is set to BINARY, NLS\_LENGTH\_SEMANTICS to BYTE, and NLS\_NCHAR\_CONV\_EXCP to FALSE.

### 5.4.28 Greater Precision in Timestamp for Logging

Beginning with release 7.2.0.1, if you define the logical SQLNET\_DEBUG\_FLAGS to be HT, the resulting timestamp will show two decimal places of microseconds. The timestamp will be of the following format: YYYY-MM-DD HH:MM:SS.mm.

### 5.4.29 Data Dictionary Support for Oracle 10g Applications

In release 7.2.0.1, the RDB\_NATCONNnn.COM database prepare and upgrade functions were enhanced to add several new tables and views, to comply with Oracle 10g.

### 5.4.30 Table and View Changes to Comply with Oracle 10g

Beginning with release 7.2.0.1, if a user does a "select \* from v\$version" statement, or an OCI Version call, the first row returned has been changed to contain the Oracle compatible version information, to comply with Oracle 10g. New default information was included in the views ALL\_TABLES and ALL\_TAB\_COLUMNS. A new view ALL\_REFS is created with no rows, and a new table SYSTEM\_PRIVILEGE\_MAP is created containing several privilege definitions that map to functionality allowed by Oracle Rdb. This table is not used by OCI Services for Oracle Rdb or by Oracle Rdb, and the entries do not imply any privileges granted or available.

### 5.4.31 Changes for Oracle JDBC Release 10.2 Thin Driver

Bug: 5064467

A Java application that uses the Oracle JDBC release 10.2 thin driver to access an Rdb database through the OCI interface would get a "/ by zero" Java exception during the following method call.

```
.prepareStatement ( )
```

OCI Services for Oracle Rdb release 7.2.0.1 has been enhanced to support the modified OCI calls used by the Oracle JDBC release 10.2 thin driver.

### 5.4.32 New Datatype: New Formats for Oracle Rowids

Some newer versions of Oracle clients use a new format for sending and receiving rowids and dbkeys. This new format, DTYRDD in Oracle datatype descriptions, is implemented as needed, depending on the version of the client. This feature was made available in releases 7.1.6.1 and 7.2.0.1.

### 5.4.33 Security Enhancements

Because of security inconsistencies and problems preparing databases with defined default collating sequences, there have been many changes to the Prepare and Upgrade functions in release 7.1.6.1 and 7.2.0.1. There are many new domains named ORA\_VCn, and many tables and views are redefined to use these domains. Also, privilege checking will be done by the stored procedures ORA\_CREATE\_USER and ORA\_DROP\_USER, so the security requirements are the same whether you use RDB\_NATCONNnn.COM or invoke the stored procedures directly. You can add or drop your own username in the database without any privileges, but you must have BYPASS, SECURITY, or SYSPRV privilege to add or drop another user.

### 5.4.34 OCI Services for Oracle Rdb Available on OpenVMS I64

OCI Services for Oracle Rdb release 7.2 is available for the HP OpenVMS Industry Standard 64 for Integrity Servers operating system.

## 5.5 Software Errors Fixed in Previous OCI Services for Oracle Rdb Releases

This section highlights software errors fixed in previous OCI Services for Oracle Rdb releases.

### 5.5.1 Privileges Needed for RDB\_NATCONN Commands Documented

Bug 12952108

A user executing the RDB\_NATCONN73.COM PREPARE, UPGRADE, or DROP operations must have the VMS SYSPRV, IMPERSONATE, or BYPASS privilege in their account's current process settings.

The release 7.3.1.1 Oracle SQL/Services Server Configuration Guide has been updated to include this information.

### 5.5.2 SQL-F-BAD\_TXN\_STATE On Connect Via OCI Services

Bug 12420900

Using OCI Services for Oracle Rdb releases prior to 7.3.1.1, if certain errors happened at connection time, the service was left with a transaction started so the next connection attempt would result in the following error:

```
SQL*Plus: Release 10.2.0.4.0 - Production on Tue May 3 06:39:16 2011
```

```
Copyright (c) 1982, 2007, Oracle. All Rights Reserved.
```

```
ERROR:
```

```
ORA-32800: internal error [No corresponding Oracle message for Rdb error]  
%SQL-F-BAD_TXN_STATE, Invalid transaction state. Transaction already started.
```

It seems the first error is leaving the executor in a bad state.

This problem has been fixed in OCI Services for Oracle Rdb release 7.3.1.1.

### 5.5.3 Prefetching Does Not Work With OCI Services

Bug 12434781

With OCI Services for Oracle Rdb releases prior to 7.3.1.1, only one row was being returned in the first response to a query, even if the client specified a number of rows to prefetch. This problem can be verified by turning on Level 16 tracing in SQLNET.ORA and examining the packets being returned.

The correct number of rows will now be prefetched, if specified by the client.

This problem has been fixed in OCI Services for Oracle Rdb release 7.3.1.1.

### 5.5.4 TO\_CHAR With DATE VMS Data With Time 0 Gets ORA-01821 Error

Bug 12620520

In OCI Services for Oracle Rdb releases prior to 7.3.1.1, when using TO\_CHAR on a column defined as DATE VMS but which contains all zeroes in the time portion, the Oracle error ORA-01821 was being returned. The TO\_CHAR code assumed that DATE VMS data with all zeroes in the time portion was a date and not a timestamp. If the format included the time fields, it rejected the format as invalid for a datatype of DATE. The code now allows for the time portion to be all zeroes if a format is provided.

This problem has been fixed in OCI Services for Oracle Rdb release 7.3.1.1.

### 5.5.5 Cannot Use TO\_TIMESTAMP in Insert or Update Statement Over a DBLINK

Bug 12714825

For OCI Services for Oracle Rdb releases prior to 7.3.1.1, using TO\_TIMESTAMP in the values clause of an insert or update over a dblink caused the error ORA-02070: database <> does not support TO\_TIMESTAMP in this context. The problem was the SQL version returned at connect time made Oracle client think OCI Services could not support this. Updating the SQL version to use MY\_VSNSQL will keep the SQL version current, and it fixed this problem.

This problem has been fixed for OCI Services for Oracle Rdb release 7.3.1.1.

### 5.5.6 OCI Universal Service Returns ORA-900

Bug 13343401

Any attempt to connect to a universal service that didn't have a SQL initialization file resulted in the error ORA-900 being returned to the client, in OCI Services for Oracle Rdb



releases prior to 7.3.1.1. Defining a SQL init file caused the error not to occur, even if the file was empty.

This problem has been fixed for OCI Services for Oracle Rdb release 7.3.1.1.

### **5.5.7 OCISmtExecute Returns ORA-03106**

Bug 12715330

An OCI program that called OCISmtExecute with OCI\_DESCRIBE\_ONLY got an ORA-03106 error on the subsequent OCISmtExecute made to execute the statement. The same program worked when used against an Oracle 10.2.0.4 database, or if the call with OCI\_DESCRIBE\_ONLY was not done.

The error was related to returning the null indicator and/or column return codes, so a possible workaround was to not send a null indicator or return code specifier in the request.

This problem has been fixed for OCI Services for Oracle Rdb release 7.3.1.1.

### **5.5.8 Errors Retrieving Segmented String Data**

In certain circumstances, errors were encountered when retrieving data from a segmented string if the table contained more than one segmented string column.

This problem has been corrected in Services for Oracle Rdb release 7.3.1.1.

### **5.5.9 Problems Fixed for RDB\$NATCONN\_CHECK\_SETUP.COM**

Bugs 12412209 & 12546935

When testing the server environment with OCI Services for Oracle Rdb releases prior to 7.3.1.1, RDB\$NATCONN\_CHECK\_SETUP.COM did not provide a default extension for the database name, so lookups for database names failed unless the ".RDB" extension was provided. Also, searching for a given service name failed, if the TNSNAMES.ORA entry used the SERVICE\_NAME keyword, rather than the SERVICE or SID keywords.

These problems have been resolved in OCI Services for Oracle Rdb release 7.3.1.1.

### **5.5.10 Message Warning That SQL Functions Not Installed**

Bug 9710330

SQL functions are optional, but recommended in a database that is prepared for OCI Services. In OCI Services for Oracle Rdb release 7.3.1, when a database is being prepared, and the SQL functions have not been installed, a message is output to the terminal advising

that the SQL functions are not installed and specifying their location so they can be installed easily.

The following is an example of the message displayed when a database has not been prepared.

```
$ sql create database filename nofunc
$ dic prepare nofunc
**** Preparing database nofunc ****
WARNING: SQL functions are not defined in this database.
They are recommended but not required for OCI Services.
Install if desired from SYS$LIBRARY:SQL_FUNCTIONSnn.SQL.
**** Preparing database successfully completed ****
```

### 5.5.11 Message in Executor Log if Database Not Prepared

Bug 9734494

The error message that was returned at connect time if the database had not been prepared implied a network problem rather than a database one. In OCI Services for Oracle Rdb release 7.3.1, the error message was changed to return the error ORA-00942 and a message is now being written to the executor log that the error may have occurred because the database has not been prepared.

The following is an example of SQL\*Plus connecting to an unprepared database using OCI Services for Oracle Rdb release 7.3.1:

```
$ sqlplus user1/user1@rdb_service
SQL*Plus: Release 10.2.0.4.0 - Production on Mon Mar 14 13:59:22 2011
Copyright (c) 1982, 2007, Oracle. All Rights Reserved.
ERROR:
ORA-00942: table or view does not exist
$ exit
```

The following is an excerpt from the executor log:

```
gta.gtagetpsw: Error calling ORA_GETSYI; database likely not prepared
gtolon.gtola: (gtagetpsw) exit status=942
gtwdre.gtwdre: Oracle error 942 for function 118, OSES
GTWDRE exit; err = 942
```

### 5.5.12 Data Not Being Returned to a Business Objects Application

Bug 9795659

In OCI Services for Oracle Rdb releases prior to 7.3.1, in certain circumstances, the column defines were not being done and no data was returned to the client for a select statement.

This problem has been fixed for release 7.3.1.

### 5.5.13 Version Data Now Sized to Buffer

Bug 9920234

In OCI Services for Oracle Rdb releases prior to 7.3.1, if the buffer passed in to the version call was not big enough to contain the entire version string, the call failed and no data was returned. In release 7.3.1, if the buffer is too short, it is filled with as much version information as will fit.

### 5.5.14 Memory Leak Removed

Bug 8740028

In OCI Services for Oracle Rdb releases prior to 7.3.1, a small amount of memory was not being released for each connection made and terminated. Clients that made a large number of connections would see a memory leak and might eventually deplete memory resources.

As of release 7.3.1, all memory is now being released at the termination of a connection.

### 5.5.15 Error with Literals in a Date Format String

Bug 9975328

The error ORA-12705 was returned if a literal was specified as part of a date format string, with OCI Services for Oracle Rdb releases prior to 7.3.1. The error was caused by the incorrect use of single and double quotes in the stored procedure V\$NLS\_SET\_FUNC.

The following SQL\*Plus example shows the error that was returned when literals were used in a date format string:

```
SQL> ALTER SESSION SET NLS_DATE_FORMAT = 'RRRR-MM-DD\"T\"HH24:MI:SS';
ERROR:
ORA-12705: Cannot access NLS data files or invalid environment specified
```

In release 7.3.1, this procedure has been changed to allow the use of literals in a date or time format string.

### 5.5.16 RDB\$NATCONN Gets RMS-E-PRV Error for Privileged User

Bug 8917302

In releases prior to OCI Services for Oracle Rdb release 7.3.0.3, if a user had `SYSPRV`, `BYPASS`, or `SECURITY` as an authorized privilege, the `RDB$NATCONN` command procedure's `ADD_USER` and `MODIFY_USER` commands would assume that they also had the privilege as a currently enabled privilege. If the privilege was not enabled, the command would fail with the following error.

```
-RMS-E-PRV, insufficient privilege or file protection violation
```

This problem has been corrected in release 7.3.0.3. These commands will now correctly check if the user has the privileges enabled before attempting to make the update.

### 5.5.17 Bugchecks in OCI Services

Bug 9316689

Bugchecks would sometimes occur while using an OCI service. There was no specific command or operation that could be attributed to the bugchecks.

The bugcheck footprint looked like the following:

```
4-SEP-2009 11:23:56.45: Linked SQLSRV_UTLSHR73 (SQS_BUILD) SQS$ALPHA:[UTL]
%OCI-F-BUGCHECK: in SQS$SRC_73:[UTL]UTL_BUGCHECK.C;1 at line 961
HARD EXCEPTION ENCOUNTERED: 0000000C
```

```
%SYSTEM-F-ACCVIO, access violation, reason mask=00, virtual
address=0000000004CF8000, PC=0000000000D5B064, PS=0000001B
%OCI-F-RECBUGCHECK: bugcheck called while in bugcheck
%OCI-F-BUGCHECK: in NATCONN$SRC73:[CODE]GTWTSK.C;1 at line 604 GTWTSK: exception
'status: 12'
```

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.3.

### 5.5.18 Execution of Remote Functions Implemented

Bug 8628164

The execution of remote functions had only been partially implemented. The remaining functionality was implemented. SQL statements of the type

```
select function@dblink_to_rdb(arguments) from table
```

now will execute correctly. Remote functions through a dblink to an Rdb database can now be executed in any place a function is allowed in a SQL statement.

This functionality is available in OCI Services release 7.3.0.3.

### **5.5.19 Bugcheck With Select For Update**

Bug 9006914

In certain circumstances when a 'select for update' statement was executed, OCI Services for Oracle Rdb would think there were more than 65000 columns in the statement and would bugcheck with an access violation.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.3.

### **5.5.20 Two Task Error ORA-3106 Using Cursors**

Bug 9027855

When a series of cursors were defined and retained for re-execution, in some circumstances the wrong cursor number would be closed and then reused, causing a two-task protocol error, Oracle error number ORA-3106.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.3.

### **5.5.21 Slow Execution of a Query With an Outer Join**

Bug 8811747

A query using outer joins on three Rdb tables accessed using DB links and OCI Services for Oracle Rdb was not passed through to Rdb unchanged, but was broken up into three separate remote queries and joined locally. This caused performance of the query to be slower than expected.

In OCI Services for Oracle Rdb release 7.3.0.3, the SQL capability "OUTER JOIN" was added to the SQL\_CAPABILITY table, which notified the Oracle optimizer that Rdb through OCI Services can execute outer joins, so the query can now be sent directly to Rdb as a single SQL statement.

### **5.5.22 Security Change**

A security change was made in OCI Services for Oracle Rdb release 7.3.0.2 to make connect user authorization more secure.

### **5.5.23 Unable to Use Floating Point Parameters With Comma as Decimal Separator**

Bug 7379066

Using OCI calls to insert a floating point variable into an Rdb database would result in the following error when the NLS\_LANG was set to a language, such as GERMAN\_GERMANY.WE8MSWIN1252, where a comma is defined as the decimal separator.

```
ORA-01438: value larger than specified precision allowed for this column
```

The problem with bind variables containing a comma as the decimal separator has been corrected in OCI Services for Oracle Rdb release 7.3.0.2.

Using a comma as the decimal separator within a SQL statement is not allowed. This is a restriction of Oracle Rdb. The workaround is to simply use a decimal point instead of a comma.

### **5.5.24 Wrong Data Returned by TO\_CHAR Function**

Bug 7645510

In some cases where the results of a TO\_CHAR function were returned into a variable, the data was defined as RAW rather than as character data. This would cause it to be displayed as hex ascii rather than as a character string. In order to accommodate different languages and character sets, the Oracle data dictionary program defines all character set data as CHARACTER SET UNSPECIFIED. This allows the use of different character sets, but it makes it difficult to distinguish between character set data and raw data. For release 7.3.0.2 and later, data will be described as characters rather than raw; in a future release, the use of a universal character set such as UTF8 will be investigated in place of character set unspecified.

### **5.5.25 Invalid Transaction State After DESCRIBE of Non-existent Object Using Dblink**

Bug 8862447

Using a dblink and doing a DESCRIBE of an object which does not exist would cause the transaction state to become invalid. The correct error message would appear, that the object does not exist, but any further accesses to the database would not succeed. In some cases, the error RDB-E-BAD\_TXN\_STATE would be returned, and in other cases, the service would hang until the transaction timed out.

This problem has been fixed in OCI Services release 7.3.0.2.

### **5.5.26 RDB\$NATCONNnn.COM Did Not Check if Database Had Been Upgraded**

Bug 6335504

If a database had been prepared by a prior release of RDB\_NATCONN.COM, and an attempt was made to add a user using RDB\_NATCONN.COM from a subsequent release, the user was not added and no error was displayed. The problem occurred because the database had not been upgraded with the correct data dictionary level expected by RDB\_NATCONN.COM.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.1. The following error will now be displayed when this condition occurs.

```
% REASON, - version mismatch; database not prepared for this release
```

### 5.5.27 OCI Bugchecks With Oracle 10GR2 Clients Doing ClientID Propagation

Bug 6864692

With OCI Services release 7.3, applications that do ClientID propagation would sometimes get an OCI bugcheck with an access violation reported at the following location.

```
Saved PC = 00081DB0 : RDB$NATCONN73\gtocli  
Module GTOVER + 00000060; line 395581
```

A full executor log contained the following information prior to the bugcheck.

```
GTWDRE Type: 135 argc; 19, gtwpis: 7ad05970, crs: 0  
gtwdre.gtwdre: Function.....: ClientID Propagation  
gtover.gtocli: entry  
%OCI-F-BUGCHECK: bugcheck dump will be written to ...
```

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.1.

### 5.5.28 Check for Error on Grant All in Metadata Program

Bug 6743840

In prior releases, no check was made for errors on the "GRANT ALL ... to SQLNET4RDB" statement in the dictionary prepare and upgrade program, RDB\$NATCONN\_DICnn. In cases where the statement failed, users would not be notified of the failure and would not know until a service tried to access the database and got a privilege error.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.1.

### 5.5.29 ORA-3106 Error Using PL/SQL Package Through a Dblink

Bug 5941427

Some information required by the client in the completion message for the execution of a procedure was missing. This information has been added to the message.

This problem has been corrected in OCI Services for Oracle Rdb release 7.3.0.1.

### 5.5.30 SQL\_SYNTAX\_ERR or SQL\_CORNAMREQ Errors

Bug 6502017

In certain cases, SQL select statements that needed to have correlation names added because of syntax differences between Rdb SQL and Oracle SQL were not being correctly fixed up and the correlation names were not added correctly. An instance of this error was seen in a query from SQL Developer.

This problem has been fixed for release 7.3.

### 5.5.31 Error Accessing PRODUCT\_USER\_PROFILE

Bug 6641823

In very rare cases, adding a user to the USER\$ table could cause the following error to be displayed in the executor log:

```
Error accessing PRODUCT_USER_PROFILE
Warning: Product user profile information not loaded!
You may need to run PUPBLD.SQL as SYSTEM
```

This would cause a dblink connection to fail, but a non-dblink connection would continue successfully.

This problem has been fixed for release 7.3.

### 5.5.32 Error in ORASTATE Returning State

A case was found where ORASTATE could not determine the correct state to return. This was caused by the fact that the error number was outside the range that ORASTATE expected.

This problem has been corrected for release 7.3.

### 5.5.33 Max Cursors Exceeded

Bug 5971390

In the beta releases of 7.3, Forms applications could see this error:



ORA-01000: MAXIMUM OPEN CURSORS EXCEEDED

This could happen even if the Forms application was not being used.

This problem has been fixed for release 7.3.

### 5.5.34 Data Not Retrieved in Reports 10gR2

Bug 5970246

When using Reports 10gR2, a report appeared to run successfully, but no data was returned from OCI Services. This was caused by a change in the way null indicators and column error codes are returned from the database.

This problem has been fixed for releases 7.2.0.2 and 7.3.

### 5.5.35 Improved OCI Services Executor Logging Disk I/O Performance

Bug 5996179, 1744912

With prior releases of OCI Services, when executor logging was enabled, queries were running significantly slower, due to excessive disk I/O.

In OCI Services release 7.2.0.2, the flushing of executor log buffers has been enhanced, resulting in major disk I/O performance improvements.

### 5.5.36 FORMS Fail With Rowid Truncation Error

Bug 5726783

The datatype for rowids was inappropriately reported as an internal datatype, which caused it to be retrieved and displayed in the wrong format:

```
SQL> select rowid from odual;
ROWID
-----
?AAAAAAAAADQRAIBvAAAA
```

With the correction, the rowid will be retrieved in the correct format:

```
SQL> select rowid from odual;
ROWID
-----
80000ECF.005E.0000
```

This problem has been corrected in Oracle SQL/Services release 7.2.0.2.

### 5.5.37 SELECT INTO Getting Invalid ORA-1403 Errors

Bug 6134494

Starting with releases 7.1.6.2 and 7.2.0.1.1, SQL statements of the form

```
SELECT column_list INTO variable_list ...
```

were executed rather than opening a cursor and fetching the single row. If the select statement was prepared and then executed, the first execution would retrieve the correct data. A second execution would not retrieve any data, but would return the 'no data found' message.

This problem has been corrected in Oracle SQL/Services release 7.2.0.2.

### 5.5.38 Triggers Added to USER\$

Bug 5574125

In release 7.2.0.2, the security checking for the USER\$ table is now done by triggers on the table itself. The triggers provide the same security level previously implemented in RDB\$NATCONN\_CUPP. That is, a user without SYSPRIV, BYPASS, or SECURITY system privileges can only add, update, or delete himself; users with one or more of those privileges can add, update, or delete other users as well as themselves.

### 5.5.39 Rows in ORA\_COMM\_TRANS Not Deleted

Bug 5916220

The ORA\_COMM\_TRANS table is used when the client is a dblink or when an application requires 2-phase commit and the XA Gateway is not available. Rows in that table were not getting deleted when the transaction ended, but were remaining in the table eventually causing disk space failures. This problem has been corrected for Release 7.2.0.2.

Oracle recommends that the XA Gateway be installed and used whenever 2-phase commit is desired.

### 5.5.40 Create User RDB\_SCHEMA Fails

Bug 5968777

When upgrading a database from any version to release 7.2.0.1, users would see the following error:

```
Unable to execute CREATE USER RDB_SCHEMA IDENTIFIED EXTERNALLY.
```

The upgrade would complete successfully, and report the successful completion, but the error caused some users to be apprehensive about the actual success.

Beginning with release 7.2.0.2, the RDB\_SCHEMA "user" name is added by OCI Services, and the upgrade no longer tries to execute a CREATE USER for that user name, so the error no longer happens.

### 5.5.41 Form With Scroll Region Fails

Bug 5948378

When using Forms5, users were seeing errors ORA-3121 and FRM-40735 when using a form with a scroll region. This was caused by OCI Services not recognizing when a new bind variable was being sent.

This problem has been fixed for release 7.2.0.2.

### 5.5.42 Error Message NOLOGNAM at Start Transaction

Bug 5231659

With the latest releases of OCI Services, if DECDtm is not installed, users see the error message, "%SYSTEM-F-NOLOGNAM, no logical name match". This happens because OCI Services is now built as a distributed transaction application, and a DECDtm distributed transaction is started by default.

In release 7.2.0.2, the OCI Services log now has an explanation for this error and a recommendation for how to fix it. Documentation will specify that the logical SYS\$DECDTM\_NODE\_NAME must be defined; the value of the logical is ignored.

### 5.5.43 Problem Describing Column With Name Longer Than 30 Characters

Bug: 5632639

Describing a table in SQL\*Plus with a column whose name was longer than 30 characters would display an ORA-03113 error and the following error was logged in the OCI executor log file.

```
Assertion failed: "find_mblock(current_mgroup,mblock) == current_mgroup
```

This problem has been corrected in OCI Services for Oracle Rdb release 7.2.0.1. The following error is now correctly displayed in SQL\*Plus.

```
ORA-00972: identifier is too long
```

#### 5.5.44 Modified Transaction Control to Better Fit XA Model

With the addition of support for XA 2pc transactions in release 7.1.6, OCI Services for Oracle Rdb and SQL/Services sometimes have a need to mix 2pc and non-2pc transactions. In some cases, these transactions could potentially collide, leading to problems. Transaction control has now been modified to avoid such problems.

One example is when a severe error occurs causing SQL/Services to shut down an OCI executor. In some cases, a database recovery could still be in progress when the SQL/Services shut down occurs. SQL/Services would attempt to rollback and disconnect from the database, causing a bugcheck dump because the database was still locked by the recovery process.

OCI Services for Oracle Rdb and SQL/Services have been modified in release 7.2.0.1 to correct these problems .

#### 5.5.45 ADD\_USER Failed When Database Default Character Set Was ISOLATINGREEK

Bug: 5333023

The ADD\_USER function, invoked via SYS\$LIBRARY:RDB\_NATCONNn.COM, failed when a database had a default character set of ISOLATINGREEK or any character set other than the default DEC\_MCS.

The error displayed was:

```
Reason, - no privilege to perform operation on database <db_name>
```

But, the actual problem was:

```
SQL-E-INCCSASS, Incompatible character set assignment between ...
```

This problem has been corrected in release 7.2.0.1 .

#### 5.5.46 SELECT INTO Commands Are Stripped of INTO When Passed to Rdb

Bug: 5253380

The INTO clause of a SELECT ... INTO SQL statement was being removed by OCI Services for Oracle Rdb before passing the statement to Rdb. This caused the statement to be processed by opening a cursor, fetching the row, and closing the cursor, rather than just executing the SELECT INTO statement. This caused execution of the statement to be unacceptably slow.

This problem has been corrected in release 7.2.0.1.

### 5.5.47 ADD\_USER Command Does Not Work for Non-Privileged Users

Bug: 5264258

In OCI Services for Oracle Rdb release 7.2, it was documented that users without privileges can add or update their own user name and password information in the USERS\$ table of a database prepared for OCI Services for Oracle Rdb. The RDB\_NATCONNnn.COM utility appeared to have completed with no error, but the user name or password was not added or updated.

This problem has been fixed in release 7.2.0.1. Non-privileged users can now add, remove, and update their own user name and password information using the utility in SYS\$LIBRARY:RDB\_NATCONNnn. Because these fixes have a new version of the dictionary stored procedures, you must perform an UPGRADE operation on the OCI Services for Oracle Rdb database.

For customers who are calling these stored procedures directly from a SQL script or an application with embedded SQL, the last argument (:ret\_val) is no longer required and should be removed. Beginning with release 7.2.0.1, the call status is returned via the SQLCA.SQLCODE and SQLSTATE variables. All programs should test the return value for errors. A (-1042) SQLCA.SQLCODE and an "O1031" SQLSTATE string indicate that a non-privileged user is trying to make changes for another user. The following example is an excerpt from a .SC application:

```
char SQLSTATE(6);

/* Call the stored procedure ORA_CREATE_USER to add/change user/pwd.*/
EXEC SQL CALL ORA_CREATE_USER(:name, :pass);

/* Check the return status from the ora_user_password call. */
if ((SQLCA.SQLCODE == -1042) && (strcmp(SQLSTATE, "O1031") == 0))
    status = CUPP$_E_NOPRIV; /* failure to change different user w/o privs.
*/
```

### 5.5.48 Queries With TO\_NUMBER() Function Calls Are Slow

Bug: 5027052

Some complex queries that contain calls to Oracle functions TO\_NUMBER, TO\_CHAR, TO\_DATE, DATE\_ROUND, or DATE\_TRUNC perform much slower on an Oracle Rdb database prepared for OCI Services for Oracle Rdb than on a native Oracle database or a

similar query without the function call. This is more apparent on a query that generates hundreds of thousands of the function calls.

This problem has been fixed in release 7.2.0.1 by new optimizing logic. Queries that used to take 90 seconds to complete now take 15 seconds. If you are running on OpenVMS I64, the improvement is even more dramatic. This improvement is especially true for queries that resulted in a large number of calls to the functions from an OCI client such as SQL\*Plus.

#### **5.5.49 Random Error Message When SQLNET\_DEBUG\_FLAGS is HT**

When SQLNET\_DEBUG\_FLAGS was set to HT, random error messages would print in the log during the connect, although the connect completed successfully. The error messages were of the form:

```
ERROR: ORA-26426: Message 26426 not found; product=NATCONN; facility=ORA.
```

This problem has been fixed in release 7.2.0.1.

#### **5.5.50 Query Hangs With a Variable Comparison Using Oracle 10G SQL\*Plus**

When you used Oracle 10G SQL\*Plus, queries using a variable rather than a literal in a comparison would hang. The following is an example of the type of query that would fail:

```
declare x char(3); begin x := 'abc';  
select count(*) from table1@rdb1 where column1 = x;
```

This problem has been fixed in release 7.2.0.1.

#### **5.5.51 Failure Upgrading Database After Upgrading to Release 7.1.6 Update03**

If a database had been upgraded to release 7.1.6 Update03, attempting to upgrade it to release 7.1.6.1 would fail with the following error:

```
%RDB-E-NO-DUP, index field value already exists; duplicates not allowed for  
ORA_OBJECTS_NAME.
```

You would have to issue a DROP command on the database and then prepare it in order to upgrade to release 7.1.6.1. This problem has been fixed in release 7.2.0.1.

#### **5.5.52 Reference to Obsolete Procedure in Error Message in Log**

In releases prior to 7.2.0.1, when a user who was not in the USER\$ table in a database tried to connect to the database, an incorrect error message was generated. The reference to the

obsolete procedure `ORA_SET_PASSWORD` has now been replaced by the current procedure `ORA_CREATE_USER`.

### 5.5.53 Returning ROWID in an Insert Statement Caused Error ORA-00900

If users included `RETURNING ROWID` or `RETURNING DBKEY` in an `INSERT` statement, the statement would fail with the error:

```
ORA-00900: invalid SQL statement
```

and the executor log would show the error:

```
%SQL-F-SYNTAX-ERR, Syntax error
```

This happened because OCI Services for Oracle Rdb added the clause `RETURNING DBKEY INTO :ORA_DBKEY` to every `INSERT` statement. The resulting statements would have two `RETURNING DBKEY` clauses, and would cause SQL syntax errors. Starting with release 7.2.0.1, OCI Services for Oracle Rdb scans the statement for a `RETURNING DBKEY` or `RETURNING ROWID` before it adds the clause to the statement. There still may be some cases, especially if the `RETURNING` clause includes several elements, where OCI Services for Oracle Rdb will not recognize that a `RETURNING DBKEY` clause is already in the statement and will try to add it, causing an error. The executor log will show the generated SQL statement, so the user can correct it. It is recommended that the word `DBKEY` or `ROWID` be the first in the list of elements to be returned in a `RETURNING` clause of an `INSERT` statement. This will help OCI Services for Oracle Rdb recognize that it is already there.

### 5.5.54 Declare Transaction in SQL Init File Being Overridden

In releases of OCI Services for Oracle Rdb prior to 7.2.0.1, if a `DECLARE TRANSACTION` statement was executed in the SQL initialization file of a service, it would be overridden by a `DECLARE TRANSACTION` statement executed later by OCI Services for Oracle Rdb. Toward the end of the connection setup, OCI Services for Oracle Rdb would execute a `DECLARE TRANSACTION` statement to set the default transaction characteristics to be close to Oracle default transaction characteristics. This would supersede any `DECLARE TRANSACTION` statement in the SQL initialization file. Starting with release 7.2.0.1, OCI Services for Oracle Rdb recognizes that a `DECLARE TRANSACTION` statement has been executed and will not execute another one.

### 5.5.55 Problem With Master/Detail Records

Bug: 5531638

This problem could appear in several different ways. There were a few different errors or, sometimes, the detail records were displayed but were the wrong detail records for the master. Sometimes Forms would display the error:

Unable to perform query

and sometimes the following error would be seen in the executor log:

SQL-F-ILLDATLEN, An invalid SQLLEN(0) was found for a date

This problem has been fixed in release 7.2.0.1.

### **5.5.56 Prefetch in a Pro\*C Program Using WHERE CURRENT OF CURSOR**

Bug: 5547621

In a prior release, a problem with prefetch (bug 4651271) was fixed to work with Oracle 9.2.0.4. There was a bug in Oracle 9.2.0.4 with prefetching (bug 3512385). When the Oracle bug was fixed, in release 9.2.0.5, the OCI Services fix no longer worked. For this release, there is a fix that will work with Oracle 9.2.0.5 and later. If you are running Oracle 9.2.0.4 as a client, you must define the new logical SQLNET\_9204\_PREFETCH, which will cause OCI Services to use the earlier fix.

This problem has been fixed in release 7.2.0.1.