

ORACLE®



# Oracle Rdb and Oracle Database on OpenVMS Product Update

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Oracle Rdb and Oracle Database on OpenVMS  
Engineering

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# Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

# Agenda

- Working with VSI and HPE
- Oracle Database on VMS Update
  - Support Dates
  - 11g , 10g
  - What's Under Development
  - Roadmap
- Oracle Rdb Update
  - Support Dates
  - Customer Focus
  - Recent Releases
  - What's Under Development
  - Roadmap

# Working with VSI and HPE

- Oracle remains in close contact with both VSI and HPE
  - In resolution of customer issues
  - Oracle Open VMS dependencies
  - Customer Events
  - Monthly conference calls with HPE
  - As needed communication with VSI (often weekly)
- Participation in the Connect Germany Conference, Berlin, April
- Participation in EMEA HPUG events, London, Stockholm, April
- Monthly meetings with HPE Japan
- Efforts to strengthen working relationships between Oracle/VSI in progress

# Oracle's Lifetime Support Policy

- **Oracle Premier Support** provides customers with maintenance and support of Oracle software on Itanium servers for five years from the general availability date of the software release.
- **Oracle Extended Support** provides customers with an extra three years of support for specific Oracle releases for an additional fee. Customers benefit from the same quality of service received with Oracle Premier Support, with the security of knowing they can migrate their software to a new platform when the time is right.
- **Oracle Sustaining Support** customers will receive technical support for as long as they operate their Itanium-based systems—including access to online support tools, knowledge bases, pre-existing fixes and assistance from technical support experts.

– [Oracle Lifetime Support](#)

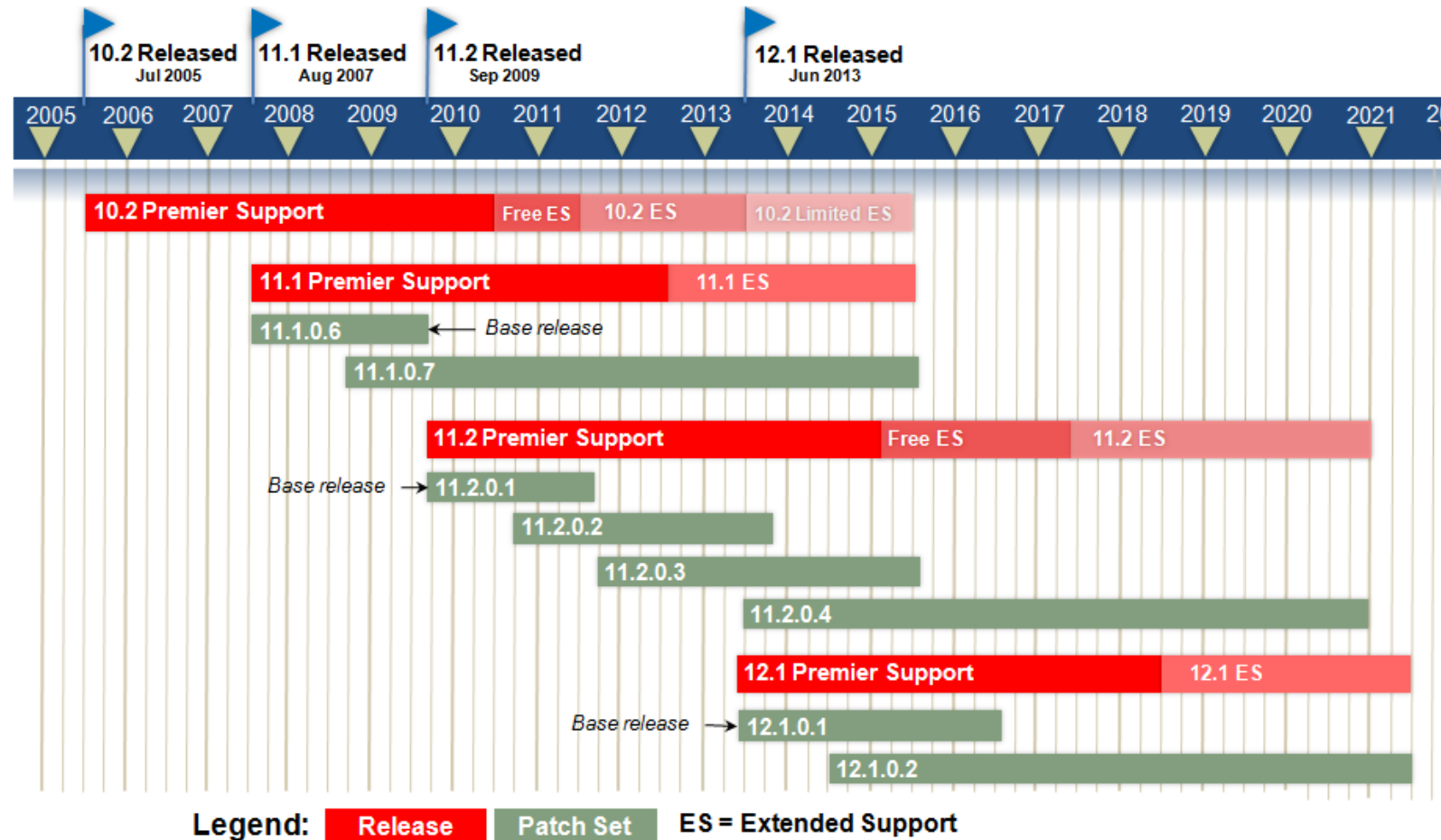
# Oracle Database 10gR2 Support Dates

Integrity Platforms	
Platform	Additional Extended Support: S1 Fixes Only
HP OpenVMS on Integrity	August 2013 – July 2017
HP OpenVMS on Alpha	August 2013 – July 2015
HP-UX	August 2013 – Dec 2015
Linux Integrity	August 2013 – Dec 2015
Windows Integrity	August 2013 – Dec 2015

# 10g Itanium Extended Support Fees Waiver Ended July, 2016

- See <http://www.oracle.com/us/support/library/057419.pdf>
  - The Extended Support fee will be waived from August 2010 – July 2016. For the period of August 2016 – July 2017, Extended Support will continue to be available but will be at then-current Extended Support fees. During this period, Extended Support will be limited to Severity 1 fixes only; critical patch updates will not be made available.

# Oracle 11g Support Dates





# Oracle 11g Patch Set Updates (PSUs)

- 11.2.0.4.7
  - Released on other platforms July, 2015
  - OpenVMS released in October, 2015
- 11.2.0.4.8
  - Released, October, 2015
- 11.2.0.4.9
  - Released, January, 2016
- 11.2.0.4.10
  - Release, April, 2016
- 11.2.0.4.160719DBPSU
  - Released, July, 2016
- 11.2.0.4.161018DBPSU
  - Development Underway

# Oracle 11g on OpenVMS Certification Testing Status

- 8.4-2L1 on i4 and i2
  - 11g - completed
- 8.4-2 on i4 and i2
  - 11g & 10g
- 8.4-1H1 on i4 and i2
  - 10g - completed
  - 11g - completed

# Oracle 11g on OpenVMS Certification Testing Status (cont.)

' Last Update: 13-June-2016  
 Updated by: Johan Buijser

ITANIUM/OpenVMS (Refer to [Note:377480.1](#) for recommended OpenVMS ECO levels)

8.2-1	8.3	8.3-1H1	8.4	8.4-1H1	8.4-2
			**see Note A	**see Note B	**see Note B
			11.2.0.4.0	11.2.0.4.0	11.2.0.4.0
			**see Note C		
			10.2.0.5.0	10.2.0.5.0	10.2.0.5.0
			**see Note D		
10.2.0.4.0	10.2.0.4.0	10.2.0.4.0	10.2.0.4.0		
10.2.0.2.0	10.2.0.2.0	10.2.0.2.0			
	**see Note E				

(For hp ALPHA OpenVMS Certification matrix - see [Note:62150.1](#))

Please refer to the following document for information on release schedules:

# Oracle Database on OpenVMS Update

# Oracle Database 11gR2 on OpenVMS

- Oracle Database on OpenVMS 11.2.0.4.0 Released July, 2015
  - PSU's are up to date, next one will be 11.2.0.4.161018
- This is a full release
  - One install kit contains both server (Standard Edition and Enterprise Edition) and a client install
    - RAC and dbConsole not available
    - No instant client
  - Web images
    - DVD can be requested

# Status December 2016

- Working toward RAC , updated installer and HA/GI
- VMS Unique files at release
  - 5425
- Today
  - 6173

# OS feature required to implement RAC

- Apple Bonjour
  - Multi-cast Domain Name Server Daemon (mDNSd)
    - Zero-configuration networking
      - Plug n Play
    - TCP/IP sockets needs
      - pf\_route event Notifications
      - API protocol required is BSD Routing Sockets

# Oracle Rdb Update



# Rdb Product Family Lifetime Support Dates

## Oracle Rdb and Oracle CODASYL Database Releases

Release	GA Date	Premier Support Ends	Extended Support Ends	Sustaining Support Ends
7.0	Oct 1996	Aug 2007	Aug 2009	Indefinite
7.1	Jul 2001	Dec 2007	Dec 2010	Indefinite
7.2	Jan 2006	Jul 2015	Jul 2017	Indefinite
7.3	Mar 2011	Sep 2018	Sep 2021	Indefinite

See: <http://www.oracle.com/us/support/library/lifetime-support-technology-069183.pdf>

# Oracle Rdb Certifications

## Oracle Rdb V7.3

Release	Release Date	Version	Alpha			Itanium			<a href="#">Update</a>
			Min	Max	Kits <sup>1</sup> <sub>_</sub>	Min	Max	Processor	
7.3.2.0	Mar 2016	V7.3-200	8.4	8.4-x	<a href="#">.1</a>	<a href="#">8.4</a>	<a href="#">8.4-2</a>	i4	1
7.3.1.3	Oct 2015	V7.3-130	8.3	8.4-x	<a href="#">.1</a>	<a href="#">8.3</a>	<a href="#">8.4-2</a>	i4	1
7.3.1.2	Oct 2014	V7.3-120	8.3	8.4-x	<a href="#">.1</a>	<a href="#">8.3</a>	<a href="#">8.4-1H1</a>	Tukwila	2
7.3.1.1	Feb 2014	V7.3-110	8.3	8.4-x	<a href="#">.1</a>	<a href="#">8.2-1</a>	<a href="#">8.4</a>	Tukwila	1
7.3.1.0	Sep 2013	V7.3-100	8.3	8.4-x	<a href="#">.1</a>	<a href="#">8.2-1</a>	<a href="#">8.4</a>	Tukwila	None

**Rdb V7.3 is in premier support.**

<sup>1</sup>The ALPHA version is optimized for EV56 or later processors and shown as V7.3-nn1. Older, pre-EV56 processors are not supported.

Source: Comprehensive Rdb Versions and Compatibility Matrix (MOS Doc ID 66729.1)

# Other Certifications Underway

- OpenVMS 8.4-2L1
  - Oracle Rdb Regression Testing
  - Oracle Database OpenVMS Certification Testing
  
- Java 1.8
  - Oracle Rdb JDBC Testing
  - Oracle Database OpenVMS Development Environment Testing

# Oracle Message Queue Update

- OMQ 5 on OpenVMS 8.4-2 (IA) Certified (August, 2016)
- See [http://docs.oracle.com/cd/E17973\\_01/platforms/mqplatforms/mqplats/mqplats.html#wp1087062](http://docs.oracle.com/cd/E17973_01/platforms/mqplatforms/mqplats/mqplats.html#wp1087062)

# Rdb Marketing Focus

- Focus on meeting our customers' needs
- [Rdb Web page](#), Rdb Web Journal, MetaLink, OTN
- Rdb management personal customer visits /meetings
- Events
  - Oracle OpenWorld
  - HP and VSI Events
  - OpenVMS SIG Groups
- **Technical Forums (2016)**
  - Nashua, NH, USA, September 29-30
  - Redwood Shores, USA, October 3-4
  - Osaka, Japan, December 6-7
- **Update Sessions (2016)**
  - October 6, El Segundo, CA, USA
  - October 17, Toronto, ON, CA
  - October 18, Irving, TX, USA
  - October 19, Chicago, IL, USA
  - October 24, New York, NY, USA
  - October 25, Reston, VA, USA

# Rdb Product Family Releases Over the Past 2 Years

- **Rdb 7.3.2, Update 3, November, 2016**
- **Rdb 7.3.2, Update 2, September, 2016**
- **RMU Reference Manual, September, 2016**
- **SQL Reference Manual, September, 2016**
- **Rdb 7.3.2, Update 1, May, 2016**
- **SQL/Services 7.3.2.2, April, 2016**
- **Rdb 7.3.2, March, 2016**
- **Oracle JDBC for Rdb 7.3.4.1, March, 2016**
- **SQL/Services 7.3.2.1, December, 2015**
- **Oracle Rdb Extension for SQL Developer 7.3.2.0, December, 2015**
- **Rdb 7.3.1.3, Update 1, October, 2015**
- **Rdb7.3.1.3, September, 2015**
- **Rdb 7.2.5.7, August, 2015**
- **Oracle CDD/Repository 7.2.0.6.0, July, 2015**
- **Oracle Rdb Developer Tools for Visual Studio Release 7.3.4.0, June, 2015**
- **Oracle JDBC for Rdb 7.3.4.0, June, 2015**
- **Rdb 7.2.5.6, April 2015**
- **Rdb 7.3.1.2, October, 2014**
- **ODBC 3.3.2.4, October, 2014**

## Rdb 7.2.5.7, August, 2015

- Download from My Oracle Support
  - Patch 21569523 for Itanium
  - Patch 21569544 for Alpha)
- Problems fixed in this release include::
  - Unexpected Error When Using the REFERENCES Column
  - Master ALS Restart Does Not Resume Updating Standby Database
  - Unexpected SQL-F-BUGCHK Generated by Dynamic SQL
  - Unexpected COSI-F-NOSUCHID When Session User Has All Numeric Username
  - Unexpected Bugcheck During Routine Invocation When Domain is Undefined

# Rdb 7.3 Releases

- V7.3.1 -- September 2013
- V7.3.1.1 -- February 2014
  - 01: An update (dated 14-OCT-2014) is available
- V7.3.1.2 -- October 2014
  - 01: An update (dated 14-OCT-2014) is available
  - 02: An update (dated 8-JAN-2015) is available
  - 03: An update (dated 22-FEB-2015) is available



## Rdb 7.3 Releases (Continued)

- V7.3.1.3 – September, 2015
- V7.3.1.3 Update 1 – October, 2015
  - This includes the same patches as UPD03 for V7.3.1.2
- V7.3.2 – March, 2016
- V7.3.2 Update 1, May, 2016
- V7.3.2 Update 2, September, 2016
- V7.3.2 Update 3, November, 2016

## Oracle Rdb 7.3.1.3

- First version that includes support for Intel Itanium 9500 “Poulson” systems (aka i4)
- Includes hardware check to allow activation on this new hardware
- Minimal changes from V7.3.1.2


# Oracle Rdb 7.3.2 Available for Download

The screenshot shows the Oracle My Oracle Support interface. At the top, the Oracle logo is followed by "MY ORACLE SUPPORT" and a "PowerView is Off" button. Below this is a navigation bar with tabs for Knowledge, Service Requests, Patches & Updates (which is selected), Community, and Certifications, along with a "More..." dropdown. The main content area is titled "Patch Details" and features a star icon and a gear icon next to the patch title: "Patch 22901400: ORACLE RDB RELEASE 7.3.2.0.0 FOR OPENVMS ITANIUM". Below the title, it states "Last Updated Mar 15, 2016 7:52 AM (1+ month ago)". A table of metadata follows, with columns for Product, Release, Platform, Size, Download Access, and Classification. The "Bugs Resolved by This Patch" section indicates that the list of bugs fixed is not available and refers to the README.

**ORACLE** MY ORACLE SUPPORT PowerView is Off

Knowledge Service Requests **Patches & Updates** Community Certifications More...

## Patch Details

★  **Patch 22901400: ORACLE RDB RELEASE 7.3.2.0.0 FOR OPENVMS ITANIUM**

Last Updated Mar 15, 2016 7:52 AM (1+ month ago)

Product	Oracle Rdb Server on OpenVMS	Size	86.1 MB
Release	RDB 7.3	Download Access	Software
Platform	HP OpenVMS Itanium	Classification	General
		Patch Tag	

### Bugs Resolved by This Patch

List of bugs fixed is not available. Consult the README.

# Rdb 7.3.2 New Features and Enhancements

- Per-Process Monitoring Run-Time Options
- Detached Process Monitoring
- 6 Per-Process Monitoring Overview Information
- RMU Error Messages Which Suggest Altering Backup File Attributes
- Query Optimization Improvements for DATE ANSI Queries
- New RMU Dump Metadata\_File Command
- New REPLACE\_ROWS Qualifier Added to RMU Load Command
- RMU/SET SHARED\_MEMORY/SECTION\_NAME
- RESTART Clause of ALTER SEQUENCE No Longer Needs Value
- New Options to SET SQLDA Statement
- Support for External Authentication (LDAP)
- New RMU Extract Options to Control Output for DATABASE and ALTER\_DATABASE Items
- RMU/SET AFTER\_JOURNAL/SWITCH\_JOURNAL Now Can Create an Emergency AIJ
- New Support for Second OpenVMS Account Passwords
- New "Index Counts" Optimization for SORTED Indices
- Support for Proxy Access to Remote Databases Using TCP/IP Transport
- Support for INTEGER Result Type for COUNT Function

# Rdb 7.3.2, March, 2016

- Now supports PROXY access when transport is TCP/IP
  - Major architectural changes in Rdb/Dispatch layer
  - Must have V7.3.2 (or later) on both client and server systems
- Reverse Index
- Optimizer Enhancements
  - Date ANSI
  - Count Scan Optimization (for Sorted Ranked Indexes)
    - Now available for Sorted Indexes
    - Sample query show reduction from 4 seconds to .25 seconds
- New DDL (SQL) changes
  - Temporary Table Now Support Large Memory Option, uses 64 bit P2 space
- Compression Enhancements
- New RMU changes

# Rdb 7.3.2 Update 1, May, 2016

- Fixed a problem related to enhancements made to Oracle Rdb's UTF8 support in version 7.3.2.0.
  - UTF8 (based on the UNICODE standard) is used to store characters in 1 through 4 octets and is commonly used for languages requiring multibyte encoding such as Chinese or Japanese.
  - In a reported case, a character strings encoded with the UTF8 character set became malformed.
- In addition, LIKE support was enhanced to no longer hang when presented with a malformed octet sequence

# Rdb 7.3.2 Update 2, September, 2016

- Wrong Results From Statistical Functions MAX and COUNT
  - In Oracle Rdb Release 7.3.2.0, it was possible that MAX and COUNT could return incorrect results running on Integrity systems in following cases
- Unexpected Bugcheck When Updating a SORTED RANKED Index
  - In prior releases of Oracle Rdb, it was possible, in rare cases, for a DELETE or UPDATE statement to generate a bugcheck dump while processing a SORTED RANKED index
  - If this problem occurs, a rebuild of the index can be used to avoid the problem.

## Rdb 7.3.2 Update 3, November, 2016

- In rare cases, an Oracle Rdb application may fail with an error similar to the following:

`%RDB-E-EXCESS_TRANS`, exceeded limit of 1 transaction per database attachment

`-RDB-F-ON_DB`, on database <database-name>

In some cases, this may occur when multiple databases are being used, such as when performing two phase commit (aka 2PC). In the reported case, the SET TRANSACTION and COMMIT statements were well defined and the error resulted from an internal error in the Rdb/Dispatch layer.



# Rdb 7.3.2, Documentation Update

- Rollup release notes to RDB\_NEWFEATURES document
  - Included on each kit (.pdf, .txt, .ps)
  - SYS\$HELP:RDB\_NEWFEATURES\_73xx.PDF
- Rollup new features into documentation
  - Revised SQL Reference Manual \*\* Released September, 2016!
  - Revised RMU Reference Manual \*\* Released September, 2016!
- Generated new HELP for RMU and SQL
- New RMU/SHOW LOGICAL support
  - Documents logical names

# Oracle SQL/Services 7.3.2.2

- Oracle Rdb release 7.2.5.0.0 or higher is required
- More Characters Displayed for Application Name in SHOW CLIENTS
  - the SHOW CLIENTS command will truncate application names after 63 characters.
- New API Clients Supported
  - Windows Server 2012 and Windows Server 2012 R2

# Oracle SQL/Services OCI Services 7.3.2.2

- **Bad Performance from Simple Select Statement against Large Table in OCI Services (Bug 21106647)**
  - In releases prior to 7.3.2.2.0, it was determined that data conversions and memory management in the conversion routines were slowing the performance of OCI Services for Oracle Rdb. Many enhancements were made in these areas for release 7.3.2.2.0. Selects that include many columns and those that select millions of rows will benefit most from these changes.
- Includes significant performance enhancements for all user queries
  - Reduced CPU cost of transforming Rdb data to Oracle Database data
    - Eliminated or greatly reduced conversions to text format as an intermediate type conversion to/from Oracle. In some cases multiple conversion steps were eliminated
    - Eliminated excessive calls to allocate locally used VM during conversion steps
    - In conjunction with Oracle Rdb V7.3.2 SQS/OCI can make use of enhancements in the dynamic SQL interface.

# Oracle SQL/Services OCI Services 7.3.2.2 Other Problems Fixed

- Table DUAL now automatically updated if it exists prior to 'Prepare'. It will also not be dropped if it was created prior to 'Prepare' and in use by other database objects.
- INSERT INTO ... RETURNING statement with more than 256 values passed by parameters no longer fails.
- OCI Services for Oracle Rdb Hang with an OCCI Client fixed
- Second Run of Test Case Returns SQL-F-BAD\_TXN\_STATE
- OCI Services for Oracle Rdb DBKEY/ROWID SELECT Returns ORA-1401 depending upon the position of the DBEKEY within the WHERE clause

# Oracle SQL/Services and OCI Services 7.3.2.1

- New SQLSRV\_MANAGE SLEEP command (now documented and publicly available)
- New Logicals to Customize TCP/IP Keepalive Settings for SQLSRV Dispatchers
- New API Clients Supported
  - . Windows 8, 8.1, 10, 8 X64, 8.1 X64, 10 X64
  - . Oracle Enterprise Linux and Red Hat Enterprise Linux, 64-bit, release 6.4 or later
- API Clients Desupported
  - . Windows XP, Server 2003, XP X64, and Server 2003 X64
- Various Bug Fixes

# Oracle ODBC Driver for Rdb

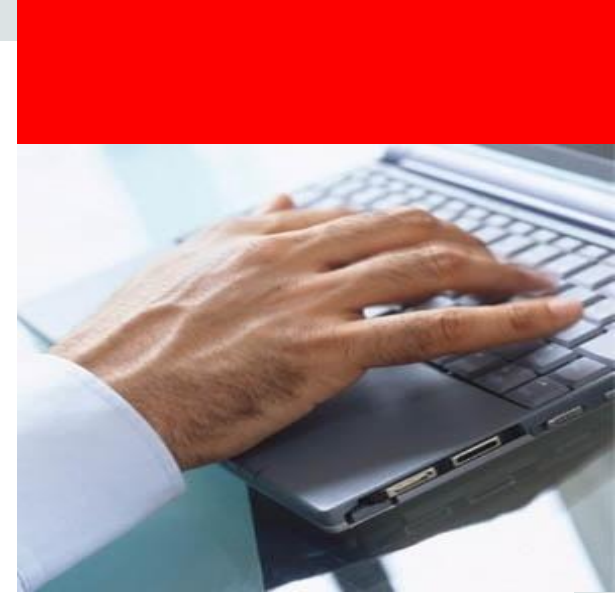
- 3.3.2.4, October, 2014
- 3.3.2.3, April, 2012
- 3.3.2.2, November, 2011
- 3.3.2.1, April, 2011
- Supported Windows
  - Windows 32bit
    - Windows 7, XP, Vista, Server 2008, Server 2003, 2000,
  - Windows 64bit
    - Windows 7 XP, XP X64, Vista X64, Server 2008 X64, Server 2003 X64

# Oracle JDBC for Rdb 7.3.4.1, February, 2016

- Download from My Oracle Support
  - Patch 22950359 for Itanium
  - Patch 22950335 for Alpha)
- Features
  - New Transaction Option AUTOFETCH
- Bug Fixes:
  - Pool Servers Not Working
  - Problem using Multiprocess Connection Option with the Native JDBC driver
  - Bumpy-case Connection String Options used with Properties
  - Further Blob problems with Delimited Identifiers
  - Access Violation at RDBJDBCMPHR73+00227E31

# Oracle Rdb Developer Tools for Visual Studio

- 7.3.4, June, 2015
  - Available for download from My Oracle Support
    - Patch 21313157
    - Also available on OTN at:  
<http://www.oracle.com/technetwork/database/database-technologies/rdb/downloads/othersoft-087176.html>.
  - Features:
    - Visual Studio 2013 and 2015 Integration
    - Entity Framework 6 Supported
    - Entity Framework fluent API Supported





# Oracle CDD/Repository 7.2.0.6.0, July, 2015

- Available on My Oracle Support
  - Patch 21488004 for Itanium
  - Patch 21488027 for Alpha.
- Problems Fixed:
  - Problem when changing a relation with constraints when on OpenVMS 8.4-1H1 Systems.

# Oracle Rdb Extension for SQL Developer Release 7.3.2.0, December, 2015

- Download from My Oracle Support
  - Patch 22294391
- Features
  - Allows you to run with SQL Developer 4.1.2
- Requirements:
  - Oracle JDBC for Rdb release 7.3.4.0.4

# Oracle Rdb Connectivity Management V7.3

ORCM - Oracle Rdb Connectivity Manager

File SQL/Services JDBC Tools Help

Intro x

## Oracle Rdb Connectivity Management

Welcome to  
Oracle Rdb Connectivity Management.

Oracle Rdb Connectivity Management is a **free and fully supported** graphical tool for maintaining your SQL/Services and Oracle JDBC for Rdb servers and services. With Oracle Rdb Connectivity Management, you can inspect the current status of your connectivity servers, dispatchers and services and control the day to day operations of your SQL/Services and JDBC network.

Oracle Rdb Connectivity Management simplifies your SQL/Services and JDBC management tasks by providing an easy-to-use graphical front-end to server management operations.

Press for an Introduction to ORCM

2013-09-28 22:27:25.139 : SQSTSTConn : Requesting SQL/Service Object information ...  
2013-09-28 22:27:16.980 : JDBC Server Polling is enabled  
2013-09-28 22:27:25.279 : SQSTSTConn : New SQL/Service Dispatchers information received.  
2013-09-28 22:27:28.367 : SQSTSTConn : New SQL/Service Services information received.  
2013-09-28 22:27:28.437 : SQSTSTConn : All SQL/Service information now received.  
2013-09-28 22:27:28.477 : SQSTSTConn : New SQL/Service User information received.

# ORCM

- Release 7.3.1.0
  - February 2015
- Release 7.3.2.0
  - In final Internal BETA

# Oracle Rdb: What's Under Development

# Imminent Releases

- Oracle Rdb V7.3.2.1
- Oracle SQL/Services and OCI Services 7.3.2.3
- Oracle SQL/Services and OCI Services 7.3.3.0
- ORCM 7.3.2

## Rdb 7.3.2.1 New Features and Enhancements

- Optimizer Min Max and Count Optimizations
- RMU/SHOW AFTER\_JOURNAL [NO]CHECKPOINT Qualifier
- Error Messages Returned from a Remote Database Engine Can Be Logged
- New MEDIAN aggregate function added to SQL
- New RMU/BACKUP/AFTER\_JOURNAL [NO]SPACE\_CHECK Qualifier
- New Options to SET SQLDA Statement
- New RMU Set Statistics Command

# Database Vault

- Changes the way Rdb handles OpenVMS privileges
- ALTER DATABASE ...  
DATABASE VAULT IS ENABLED;
- Requires SECURITY privilege to enable
- No longer inherit overrides from current system user
- **\*WARNING\*** Ensure there is a SECURITY user defined in the database because once DATABASE VAULT is enabled you can not use a OpenVMS privilege to change it externally



# Oracle SQL/Services 7.3.2.3

- Bugs Fixed:
  - Rdb computed column headers did not match the headers generated by Oracle Database. Needed to execute set sqllda enable full query header to make computed column header names the same as in Oracle Database.
  - Unpredictable Occurrences of 17-NOV-1858 in VMS Date Columns. There was a scaled integer problem with date data.
  - Update across a DBlink got ORA-01861: Literal Does Not Match Format String. There was a problem with alter session set nls\_date\_format.
  - Got ORA-03115 error on next statement after an update using insert returning. Flags had not been cleared, causing a subsequent statement to look for input parameters.
  - ALTER SESSION SET NLS\_TIMESTAMP\_FORMAT was not working if called from SQL init file. NLS parameters set in the sql init file were being reset in ORA\_LOGIN.

# Oracle SQL/Services and OCI Services 7.3.3.0

- Support for Oracle 11g Libraries and Oracle 11g Oracle Net Protocol
- OCI Authentication Today
  - Currently users are defined in the USER\$ table
  - We store an encoded password (different encoding to that used by OpenVMS and LDAP servers)
  - This password is used to authenticate with the Oracle server
  - RDB\$NATCONN\_CUPP Utility used to add, modify, remove, and show users enabled for OCI access and to sync with updated VMS passwords
- OCI Authentication with LDAP
  - Specify the password "GLOBAL", indicates (as it does for Oracle users) that authentication will be done using LDAP
  - Users with the password "GLOBAL" in the USER\$ table will be authenticated using the LDAP directory defined in LDAPACME\$INIT, the same LDAP directory used by Rdb for external authentication

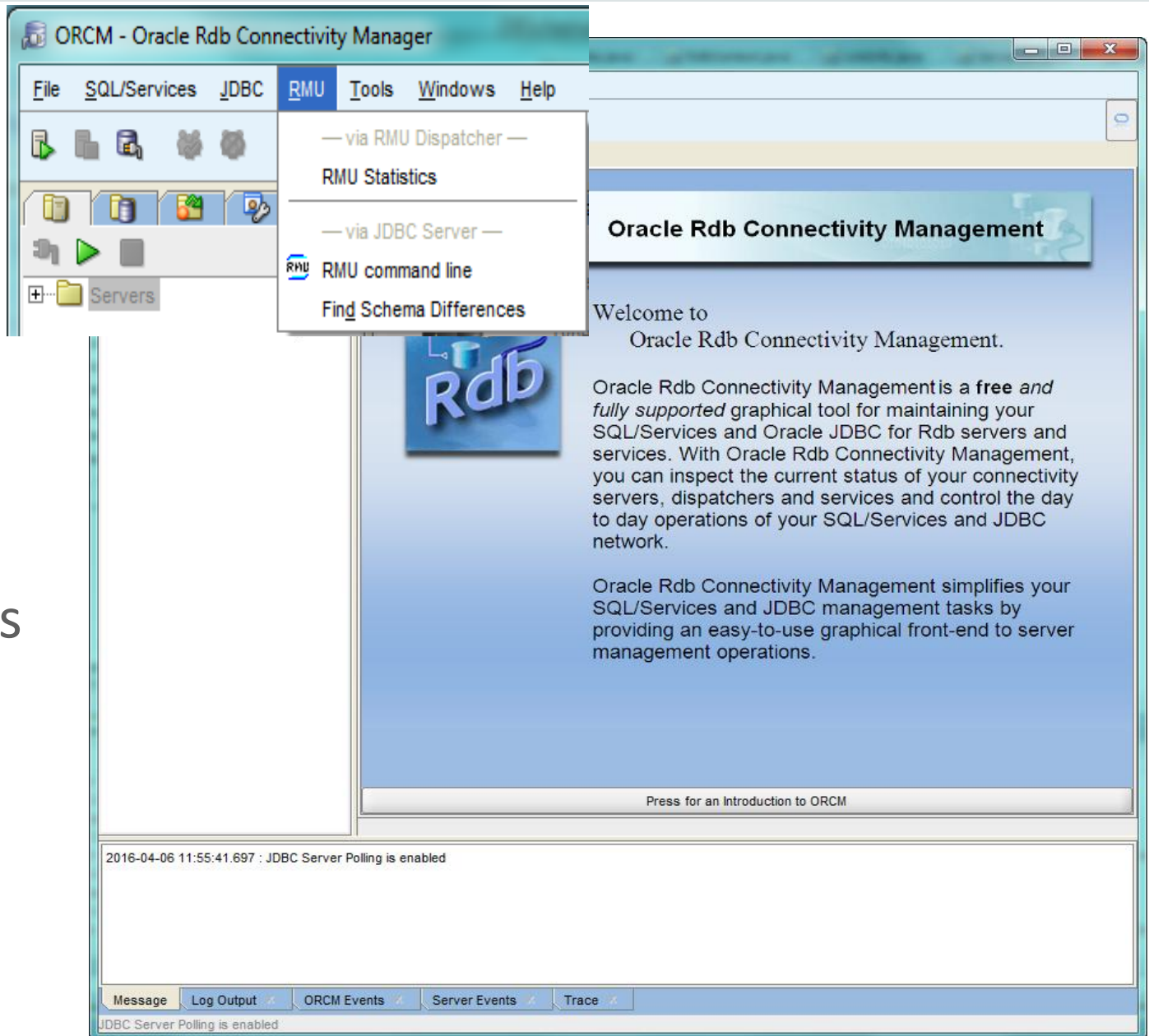
# Oracle SQL/Services and OCI Services 7.3.3.0 (cont.)


- Testing

- Testing has been successfully completed with Microsoft Active Directory. Patch 1845555 is required to provide the encryption of the passwords.
- Testing is ongoing with Oracle Internet Directory

# ORCM RMU

- New Menu Category
- RMU Statistics
- RMU Command Line
- Find Schema Differences



A large, stylized graphic featuring the letters 'Q' and 'A' in a black, serif font. A light blue ampersand is positioned between the 'Q' and 'A'. Overlaid on this graphic are the words 'QUESTIONS' and 'ANSWERS' in a smaller, grey, sans-serif font, arranged in two lines.

QUESTIONS  
ANSWERS

ORACLE®