Oracle RDBMS on OpenVMS and Oracle Rdb

(Based on a presentation from Kevin Duffy, development director.)

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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

• Itanium and VSI Announcements: Impact on Oracle Database on OpenVMS and Oracle Rdb

• Oracle Database on OpenVMS
  – Support Dates
  – What’s Under Development
  – Roadmap

• Oracle Rdb
  – Support Dates
  – Customer Focus
  – Recent Releases
  – What’s Under Development
  – Oracle Rdb Roadmap
Oracle Statement Summary – 22-Mar-2011

• **What:** Oracle has discontinued all software development on the Intel Itanium microprocessor.

• **Why:** The announcement is based on changing market conditions and follows both RedHat and Microsoft in dropping Itanium support.
  
  – [Press Release](#)

• **What This Means:** Oracle will continue to provide support for the current products that are already certified on Itanium until the end of either the release’s Premier or Extended Support period. After those end, we will continue to provide indefinite Sustaining Support, which does not include any new fixes.
  
  – [Oracle Lifetime Support Policy](#)
Oracle Resumes Integrity Porting

• Statement issued on September 4, 2012:

Previously, Oracle announced that it would stop developing new versions of its software on Itanium microprocessors. For example, that meant version 12c of the Oracle database due out in early 2013 would not be available on Itanium. However, a judge recently ruled that Oracle has a contract to continue porting its software to Itanium computers for as long as HP sells Itanium computers. Therefore, Oracle will continue building the latest versions of its database and other software covered by the judge's ruling to HP Itanium computers. Oracle software on HP's Itanium computers will be released on approximately the same schedule as Oracle software on IBM's Power systems.

Excerpt from Rick Lewis’s June 2013 Letter

“With the changes to extend sales and support of the HP Integrity i2 servers with OpenVMS, we will not offer OpenVMS on HP Integrity i4 (‘Poulson’) servers.”

– Integrity i2 server sales through at least December 31, 2015
– Integrity i2 server upgrades through at least December 31, 2016
– Integrity i2 server hardware support through at least December 31, 2020
– OpenVMS 8.4 Updates and Support through at least December 31, 2020
– OpenVMS V7.3-2 Alpha: prior version support through December 31, 2015
– OpenVMS V8.3 on Alpha: standard support through December 31, 2015
– OpenVMS 8.4 Alpha standard support through at least December 31, 2016
– OpenVMS 8.3/8.3-1H1 on Integrity: standard support through at least December 31, 2016
HP/VSI July 31, 2014 Announcement

• BOLTON, Mass.--(BUSINESS WIRE)--VMS Software, Inc. (VSI) today announced that HP has named it as the sole developer of future versions of the OpenVMS operating system and its layered product components.

• Under the agreement, VSI will license OpenVMS operating system source code from HP to expand the OpenVMS product roadmap, by adding new hardware platform releases, beginning with a new version of OpenVMS for HP Integrity i4 servers based on Poulson, Intel® Itanium® Processor 9500 Series (rx2800i4, BL8xxi4). In the future, VSI will support other hardware platforms, including X86-based servers.
Oracle’s Position re. HP/VSI Agreement

• Development plans same as prior to the agreement
• Oracle approved code delivery to VSI in April
• Oracle / VSI cooperating on software exchange
• HP delivered i4’s to Oracle OpenVMS Development in August
• Oracle Completed Beta Testing 8.4-1H1 on i2
• Oracle Certifying 8.4-1H1 on i4
  – Oracle Rdb completed
  – Oracle Database underway
• Other working agreements between Oracle/VSI to come
What does this mean for Oracle Database on OpenVMS?

• 11g R2 Server Port has been restarted
  – Version 11.2.0.4

• 11g R2 Oracle Client Kit on OpenVMS will proceed as previously planned but now as part of the Server port.
  – Version 11.2.0.4
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**
10g Support Dates

• Extended Support ended 31-Jul-2013

• Terminal PSU for both Alpha and Integrity
  – 10.2.0.5.12 July 2013

• Limited Extended Support Added For All Platforms
  – From Aug 2013 through July 2015 Limited Extended Support is available, Sev 1 fixes only (no Patch Set Update (PSU) or Security Patch Update (SPU) will be produced)

• Additional Extended Support periods will be available for current Extended Support fees
10g Support Dates

- Extended Support ends 31-Jul-2013

- **Limited Extended Support Added For All Platforms**
  - From Aug 2013 through July 2015 Limited Extended Support is available, Sev 1 fixes only (no PSU or SPU will be produced).

- **Additional Extended Support periods will be available for then-current Extended Support fees**

<table>
<thead>
<tr>
<th>Platform</th>
<th>Additional Extended Support: S1 Fixes Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP OpenVMS on Itanium</td>
<td>August 2013 – July 2017</td>
</tr>
<tr>
<td>HP OpenVMS on Alpha</td>
<td>August 2013 – July 2015</td>
</tr>
<tr>
<td>HP-UX</td>
<td>August 2013 – Dec 2015</td>
</tr>
<tr>
<td>Linux Itanium</td>
<td>August 2013 – Dec 2015</td>
</tr>
<tr>
<td>Windows Itanium</td>
<td>August 2013 – Dec 2015</td>
</tr>
</tbody>
</table>
10g Itanium Extended Support Fees Now Waived an Additional 3 Years

  – 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

Database Patch Set Release Roadmap

Legend: Release  Patch Set  ES = Extended Support
Support dates for Oracle Database 11.2.0.4

• Premier Support through Jan 31, 2015
• Free extended support through Jan 31, 2016
• Free extended support through May 31, 2017
• Extended Support Through Jan 31, 2018
• Extended Support Through Dec 31, 2020
  – MOS Doc ID 742060.1
    • https://support.oracle.com/epmos/faces/DocumentDisplay?id=742060.1

Note: Dates and terms are subject to change, please refer to MOS for current information
Oracle 11g Shipped on OpenVMS in July 2015!!

• Available On:
  – Software Delivery Cloud (OSDC)
    • https://edelivery.oracle.com/osdc/faces/Home.jspx?_afrLoop=6603323269226792 &_afrWindowMode=0&_adf.ctrl-state=1dfptuadve_27
  – Oracle Technology Network (OTN)
    • http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html and search for 11g on OpenVMS
  – My Oracle Support (MOS)
    • Patches Available
      – 21340762 - INVALID HEADER - VALIDATION FAILED (RMAN Incremental Backup)
      – 21362534 - UNABLE TO CONNECT TO 12C DATABASE FROM 11.2.0.4 ON OPENVMS
Oracle 11g Patch Set Updates (PSUs)

• 11.2.0.4.7
  • Released on other platforms July, 2015
  • Released on OpenVMS September, 2015

• 11.2.0.4.8
  • Projected for late October

• PSU’s continues until Jan 2018
Oracle 11g on OpenVMS – Next Steps

• RAC
• Enterprise Manager Agent
Oracle 11g on OpenVMS Certification Testing Status

• 8.4-1H1 on i2
  – 10g - completed
  – 11g - completed

• 8.4-1H1 on i4 (Poulson)
  – 11g
    • Short regressions - completed
    • Certification LRGs - underway
    • High Priority LRGs - underway
    • Long regressions – underway
  – 10g
    • Short regressions - completed
Oracle 11g on OpenVMS Certification Testing Status (cont.)

• Official certification to be announced on Oracle Database on OpenVMS Certification Matrix (My Oracle Support Doc Id 377470.1) for OpenVMS 8.4-1H1 and i4 once our testing has been completed.
Oracle Database on OpenVMS Roadmap

- **H2CY15**
  - 10g & 11g i4 Certification
  - 11g (11.2.0.4) RAC, Targeted H1 CY16 (RAC)
  - Grid Control Agent 11g (11.2.0.4) Release Date TBD
- **H1CY16**
  - P1 Patches 10.2.0.5
  - 12c Port
- **H2CY16**
  - PSU Updates 11.2.0.4.
Oracle Rdb
## Rdb Product Family Lifetime Support Dates

<table>
<thead>
<tr>
<th>Release</th>
<th>GA Date</th>
<th>Premier Support Ends</th>
<th>Extended Support Ends</th>
<th>Sustaining Support Ends</th>
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</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Jul 2001</td>
<td>Dec 2007</td>
<td>Dec 2010</td>
<td>Indefinite</td>
</tr>
<tr>
<td>7.2</td>
<td>Jan 2006</td>
<td>Jul 2015</td>
<td>Jul 2017</td>
<td>Indefinite</td>
</tr>
<tr>
<td>7.3</td>
<td>Mar 2011</td>
<td>Sep 2018</td>
<td>Sep 2021</td>
<td>Indefinite</td>
</tr>
</tbody>
</table>

Rdb Marketing Focus

• Focus on meeting our customers’ needs

• **Rdb Web page**, Rdb Web Journal, MOS, OTN

• Rdb management personal customer visits /meetings

• Events
  • Oracle OpenWorld
  • HP Events
  • OpenVMS SIG Groups

• **Technical Forums (2015)**
  – Burlington, MA, USA, October 1-2
  – Redwood Shores, CA, USA, Oct 5-6
  – Utrecht, NL, October 12-13
  – Stockholm, Sweden, October 15-16
  – Vienna, Austria, October 19-20
  – London, UK, October 22-23
  – Paris, France, October 26-27
  – Sydney, Australia, December 1-2
Rdb Product Family Releases Over the Past 2 Years

- Rdb 7.3.1.3, 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
- Oracle Rdb JDBC 7.3.3.1, August 2014
- ORCM 7.3.0, June, 2014
- Rdb 7.2.5.5, June, 2014
- Oracle Rdb JDBC 7.3.3, May 2014
- ORDT 7.3.3, May, 2014
- Rdb 7.3.1.1, February, 2014
- Rdb 7.2.5.4, February, 2014
- CODASYL DBMS 7.3.1, November, 2013
- SQL/Services 7.3.2, October, 2013
- CDD/Repository 7.2.0.4, October, 2013
- Rdb 7.3.1, September, 2013
## Oracle Rdb is Certified on Poulson!

<table>
<thead>
<tr>
<th>Release</th>
<th>Release Date</th>
<th>Version</th>
<th>Alpha</th>
<th>Itanium</th>
<th>Update</th>
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<tbody>
<tr>
<td>7.3.1.3</td>
<td>Oct 2015</td>
<td>V7.3-130</td>
<td>8.3</td>
<td>8.4-x</td>
<td>.1</td>
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<td>7.3.1.2</td>
<td>Oct 2014</td>
<td>V7.3-120</td>
<td>8.3</td>
<td>8.4-x</td>
<td>.1</td>
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<td>7.3.1.1</td>
<td>Feb 2014</td>
<td>V7.3-110</td>
<td>8.3</td>
<td>8.4-x</td>
<td>.1</td>
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<td>7.3.1.0</td>
<td>Sep 2013</td>
<td>V7.3-100</td>
<td>8.3</td>
<td>8.4-x</td>
<td>.1</td>
</tr>
</tbody>
</table>

Rdb V7.3 is in premier support.

1The ALPHA version is optimized for EV56 or later processors and shown as V7.3-nn1 there is no version for older, pre-EV56 processors.

Source: Comprehensive Rdb Versions and Compatibility Matrix (MOS Doc ID 66729.1)
Oracle Rdb 7.3.1.3 Available for Download

Patch 21819163: ORACLE RDB RELEASE 7.3.1.3.0 FOR OPENVMS ITANIUM

Last Updated: Sep 10, 2015 1:17 PM (19 days ago)

Product: Oracle Rdb Server on OpenVMS
Release: RDB 7.3
Platform: HP OpenVMS Itanium

Size: 84.8 MB
Software Classification: General
Patch Tag

Bugs Resolved by This Patch
List of bugs fixed is not available. Consult the Readme.

View Related Knowledge to this Patch

Read Me  Download  Add to Plan
Analyze with OPatch...

All-time Downloads: 12
View Trends
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:
  – Features:
    • Visual Studio 2013 Integration
    • Entity Framework 6 Supported
    • Entity Framework fluent API Supported
DDEEX Provider for Visual Studio
Oracle Rdb Connectivity Management V7.3

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.

2013-09-23 22:27:25.130 : SQSTSTCans : Requesting SQL/Service Object information ...
2013-09-23 22:27:15.380 : JDBC Server Polling is enabled
Oracle Rdb: What’s Under Development
Rdb 7.3.2

• 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
  – Sorted Index Count

• Temporary Table Now Support Large Memory Option

• Compression Enhancements

• Much More
Oracle SQL/Services and OCI Services 7.3.3

• OCI Services Oracle 11g Support
• OCI Performance Enhancements
• OCI LDAP Project
  – 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
  – 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
Major Rdb 7.3 Features Planned for Future Versions

• Memory Protection
• Database Vault
• Database Encryption
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
Encryption

• Customer Demand for PCI-DSS Compliance
  – Standard Defined by the PCI Security Council
  – Founding Members are: American Express, Discover, JCB International, MasterCard, Visa

• Design and Implementation Guided By Oracle 10g & 11g Transparent Data Encryption (TDE)
Transparent Data Encryption

• Table data is encrypted at-rest
• New ENCRYPTION USING clause for CREATE STORAGE AREA
• Decryption requires KEY value to be specified by RMU/OPEN
• Key Management
  – Oracle Wallet Manager
  – Middle-Tier Deployment
• Status
  – Prototype running
  – Investigating impact on all database and utility operations
Databases

- Known Databases
  - Preferred server
  - username/password
- Tables / Views
  - Drill down
Tools Tree

• Shows known local tools
• Definitions stored in configuration file
• Create new Tools
SQL Developer Extension
Summary

• Oracle on OpenVMS continues because Oracle Database & Oracle Rdb business is healthy & valuable

• Cooperation between Oracle & HP development teams means better performance and manageability for you

• Development strategy maximizes value of your Oracle Database & Oracle Rdb investment.
  – Oracle development tools & middleware
  – Oracle management tools & API’s
  – Oracle Database for reporting & data warehouses
Rdb Roadmap through H2 CY16

<table>
<thead>
<tr>
<th>Development Stream</th>
<th>H2CY2015</th>
<th>H1CY2016</th>
<th>H2CY2016</th>
<th>H1CY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rdb 7.2 IA64 &amp; Alpha</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7.2.5.7 Maintenance Patch Release</td>
<td>7.2 Patch Updates as Needed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rdb 7.3 IA64 &amp; Alpha</td>
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<td></td>
</tr>
<tr>
<td>7.3.1.3 Poulson Certification Maintenance Patch Release</td>
<td>7.3.2 Feature + Maintenance Patch Release</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.3 x86 Port</td>
<td>7.3 Patch Updates as needed</td>
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