Secrets of Successful Database 11g Upgrades in an E-Business Suite Environment

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Agenda

• Introduction
• Assumptions
• Application Base Level
• Daylight Savings
• Preupgrade
• Upgrade
• Post Upgrade
Why do the Upgrade

• New Features
• Postpone further upgrades
# Desupport Dates

<table>
<thead>
<tr>
<th>Database Version</th>
<th>End of Premier Support</th>
<th>End of Extended Support*</th>
<th>End of Sustaining Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.2</td>
<td>Ended in July 2007</td>
<td>July 2010</td>
<td>Indefinite</td>
</tr>
<tr>
<td>10.1</td>
<td>Ended in January 2009</td>
<td>January 2012</td>
<td>Indefinite</td>
</tr>
<tr>
<td>10.2</td>
<td>July 2010</td>
<td>July 2013</td>
<td>Indefinite</td>
</tr>
<tr>
<td>11.1</td>
<td>August 2012</td>
<td>August 2015</td>
<td>Indefinite</td>
</tr>
<tr>
<td>JInitiator for EBS</td>
<td>Ended in July 2009</td>
<td>July 2012</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Why do the Upgrade

• New Features
• Postpone further upgrades
  – Desupport Dates
• Get on the Latest Technology
  – Wrong Reason!
Assumptions

- Linux
- Base Database
- Nothing Fancy
Applications Base Level

- 11.5.10.2
  - ATG RUP 6
  - Developer 6i PL 19
  - Sun JRE 1.6

- 12.0.4
  - 12.0.6
11.5.10.2

- ATG RUP 7 (and AD.I.7) are out.
- AD.I.6 (6502082)
  - adgrants.sql
- Revoke PUBLIC with patch 5989593
  - adgrants.sql
- BNE.D (3218526)
- FRM.H (4206794)
11.5.10.2

• ATG RUP 6 (5903765)
  – txkprepatch.pl

• Followup patches
  – 4619025
  – 5970422
  – 4583125
  • Yes, reapply it

• Autoconfig

• Create APPS_TS_TOOLS tablespace
11.5.10.2

- ALBANY fonts for XML Publisher
- Workflow changes
- Documentation Patch (6330890)
- In other words, follow note 444524.1
- Upgrade to JRE 1.6.0_16 from JInitiator – 290807.1
Developer 6i PL 19

- 125767.1
- Lots of tedious one-off patches applied manually
R12

- 12.0.4 will work, but you should go to 12.0.6
- R12.AD.A.DELTA.6 (7305220)
  - prerequisites
    - adgrants.sql
    - 676723
- 12.0.6 (6728000)
- Legislative Updates
  - 145837.1 for patches that apply to you
R12

- Documentation (7109200)
- Post Upgrade
  - 8222387
  - 7653364
- Update Autoconfig on the database tier
  - perl $AD_TOP/bin/admkappsutil.pl
  - copy $INST_TOP/admin/out/appsutil.zip to the database tier Oracle home
  - on the database tier, unzip the file and autoconfig
- In other words, follow note 743368.1
Daylight Savings

• Version 4
  – Database
  – Oracle JVM
JVM 9.2

• Save old files from javavm/admin
  – libjox9java_util.so
  – libjox9oracle_aurora_genmsg.so
  – libjox9oracle_aurora_sqljdecl.so
• apply the patch
• recreate the java system
• utlrp
JVM 10.2

• Backup and Remove files from javavm/lib/zi
  Africa/Timbuktu
  America/Buenos_Aires
  America/Catamarca
  America/Coral_Harbour
  America/Cordoba
  America/Indianapolis
  America/Jujuy
  America/Louisville
  America/Mendoza
  Europe/Belfast
  Pacific/Yap
JVM 10.2

- Apply the patch
- Run fixTZa.sql
- Run fixTZb.sql
  - Database must be in migrate mode
Daylight Savings

• Version 4
  – Database
  – Oracle JVM
  – E-Business Suite
11.5.10.2

• 5699501
  – Follow Note 403311.1, check for product specific patches
12.0.6

- 10.1.0.2 and 10.1.0.3 Oracle Homes
- No patches exist
- Follow note 397387.1 to manually apply 10.1.0.5 fixes from patch 5632264
  - oracore/zoneinfo
    - timezone.dat
    - timezlrng.dat
    - readme.txt
Daylight Savings

• Version 4
  – Database
  – Oracle JVM
  – E-Business Suite
  – OS
  – JDK
Preupgrade

• Performance Baselines
  – Clone just prior to upgrade with all stats jobs off
• Dictionary Stats
• Invalid Objects
• Interoperability Patch
• 11.1.0.7 Home
11.1.0.7

- Get 11.1.0.6 from OTN
Oracle Database Software Downloads

You must accept the OTN License Agreement to download this software.

- Accept License Agreement
- Decline License Agreement

Oracle Database 11g Release 2

(11.2.0.1.0)
- Linux x86  |  Disk 1, Disk 2 (2.1 GB) | See All (Including Client, Gateways, Grid Infrastructure, more)
- Linux x86-64 | Disk 1, Disk 2 (2.2 GB) | See All (Including Client, Gateways, Grid Infrastructure, more)

Oracle Database 11g Release 1

(11.1.0.7.0)
- Microsoft Windows Server 2008 (32-bit) (1.9 GB) | See All (Including Client, Clusterware)
- Microsoft Windows Server 2008 x64 (1.9 GB) | See All (Including Client, Clusterware)

(11.1.0.5.0)
- Microsoft Windows (32-bit) (1.7 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- Microsoft Windows (x64) (1.7 GB) | See All (including Client, Examples, Clusterware)
- Linux x86 (1.7 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- Linux x86-64 (1.8 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- Solaris (SPARC) (64-bit) (1.9 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- AIX (PPC64) Disk 1, Disk 2 (2.3 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- HP-UX ianium Disk 1, Disk 2 (2.3 GB) | See All (Including Client, Examples, Gateways, Clusterware)
- HP-UX PA-RISC (64-bit) Disk 1, Disk 2 (2.3 GB) | See All (Including Client, Examples, Gateways, Clusterware)
Oracle Database 11g Release 1 (11.1.0.6.0) for Linux x86
   - linux_11gR1_database_1013.zip (1,844,527,800 bytes) (cksum - 1044354138)

Directions
1. All files are in the .zip format. There is an unzip utility here if you need one.
2. Installation guides and general Oracle Database 11g documentation are here.
3. Review the certification matrix for this product here.

Oracle Database 11g Release 1 Client (11.1.0.6.0) for Linux x86
   - linux_x86_11gR1_client.zip (458,692,227 bytes) (cksum - 3477061264)

Oracle Database 11g Examples (formerly Companion)
   - linux_11gR1_examples.zip (457,209,409 bytes) (cksum - 606940067)
11.1.0.7

• Upgrade to 11.1.0.7 using patch 6890831
• Create nls/data/9idata
  – nls/data/old/cr9idata.pl
  – When you switch to the 11g home, ORA_NLS10 must point to the nls/data/9idata directory

• One Off Patches
  – Do not do the post install steps, but record them to apply after the database upgrade
11.1.0.7

• 11.5.10.2
  – 6530141
  – 6972189
  – 7111245
  – 7253531
  – 7295298
  – 7486407
  • This one has post install steps
11.1.0.7

- 12.0.6
  - 7486407
  - 7684818
  - Both of these have post install steps
Upgrade

- utlu11i.sql
- dbua v. manual
- SYS.PLAN_TABLE
  - 565600.1
- ORA-1408 on
  system.repcat$\_audit\_column\_f2\_idx
  - 737400.1
Upgrade

• Init.ora
  – 11.5.10.2 note 216205.1
  – 12.0.6 note 396009.1

• Post Installation Steps

• Remaining steps from one-offs

• migrate TNS_ADMIN

• Upgrade the statistics table
  – DBMS_STATS.UPGRADE_STAT_TABLE('APPLSYS', 'FND_STAT_TAB')
Upgrade

• 12.0.6
  – Validate Workflow Ruleset
    • sqlplus apps @$FND_TOP/patch/115/sql/wfaqupfix
      APPLSYS APPS
• Implement Autoconfig in 11.1.0.7 home
• Run adstats
Upgrade

- Recreate any custom database links
- adadmin → Recreate Grants and Synonyms
- Concurrent request -< Workflow Directory Services User/Role Validation
Post Upgrade Support

- Statistics
- Comparison back to baseline
Questions

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References

743368.1 Oracle E-Business Suite Release Update Pack Readme, Release 12.0.6
145837.1 Latest HRMS (HR Global) Legislative Data Patch Available
359145.1 Impact of 2007 USA daylight saving changes on the Oracle database
412160.1 Updated Time Zones in Oracle Time Zone File patches
416860.1 Testing your Oracle JVM Time Zone Setup
References

563019.1 Complying with Daylight Saving Time (DST) and Time Zone Rule Changes in E-Business Suite 12

403311.1 United States & Canada 2007 Daylight Saving Time (DST) Compliance for Oracle E-Business Suite

756454.1 TSLTZ (TIMESTAMP WITH LOCAL TIME ZONE) data and DST updates

756112.1 Applying the DSTv10 update for the Oracle Database
References

396387.1 Workarounds when Database time zone patches are not available for your patchset

452783.1 Oracle Applications Release 11i with Oracle 11g Release 1 (11.1.0)

444524.1 About Oracle Applications Technology ATG_PF.H Rollup 6

165195.1 Using AutoConfig to Manage System Configurations with Oracle Applications 11i
References

125767.1 Upgrading Developer 6i with Oracle Applications 11i

735276.1 Interoperability Notes E-Business Suite R12 with Oracle Database 11gR1 (11.1.0)

387859.1 Using AutoConfig to Manage System Configurations in Oracle E-Business Suite Release 12

Part Number B28300-03 Oracle® Database Upgrade Guide 11g Release 1 (11.1)
References

233044.1 About Oracle Applications DBA Minipack 11i.AD.1

290807.1 Deploying Sun JRE (Native Plug-in) for Windows Clients in Oracle E-Business Suite 11i

Michael Brown, Replacing JInitiator with JRE in 11i, Collaborate 2008 (also blog.michael-brown.org)

761159.1 Desupport Oracle JInitiator - 1.3 1

457166.1 FNDCPASS Utility New Feature USERMIGRATE
References

271148.1 Upgrading Oracle XML Parser v9.0.4 with Oracle Applications 11i

605317.1 DBMS_SQLPA ORA-00904 OTHER_XML invalid identifier

216205.1 Database Initialization Parameters (init.ora settings) in Oracle Applications Release 11i

396009.1 Database Initialization Parameters in Oracle Applications Release 12

429825.1 Complete Checklist for Manual Upgrades to 11gR1
References

Readme for Patch 6890831 Oracle Database Patchset Notes 11g Release 1 (11.1.0.7) Patch Set 1 for Linux x86

734888.1 Version of Statistics APPLSYS.FND_STATTAB is too Old when Upgrading Configurator

745621.1 Patchset 19 (7594318) Main.Class Doesn't Contain Method GETJDKVERSIONNUMBER

565600.1 ERROR IN CATUPGRD: ORA-00904 IN DBMS_SQLPA
References

412271.1 ORA-600 [22635] and ORA-600 [KOKEIIIX1] Reported While Upgrading Or Patching Databases To 10.2.0.3

737400.1 Ora-01408 Error Upgrading from 9i to 11g using Dbua