



Oracle E-Business Suite Release 11i Linux, RAC and 10gR2

Brian Bent

Encore Series-Worcester, MA

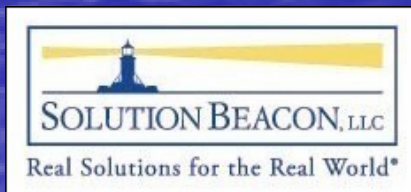
Release 11i/Workshops

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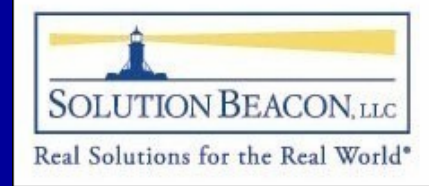
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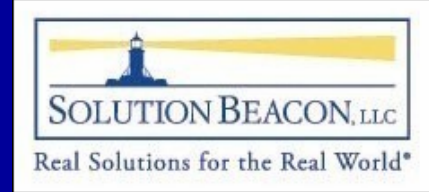
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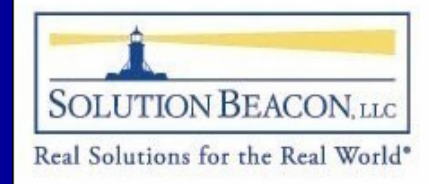
Brian Bent



- ◆ Oracle DBA 8 Years
- ◆ Oracle Apps DBA 6 Years
- ◆ Apps on RAC Instructor
- ◆ Oracle Certified Professional
- ◆ Red Hat Certified Engineer
- ◆ Release 10.x to 11i
- ◆ RDBMS Version 7 to 10g
- ◆ Email: bbent@solutionbeacon.com



Audience



◆ Platform

- Windows
- UNIX
- Linux

◆ Database

- Oracle8*i* (Desupported July 2006)
- Oracle9*i* (Desupport scheduled July 2007)
- 10*g* (Required for Release 12)



Agenda



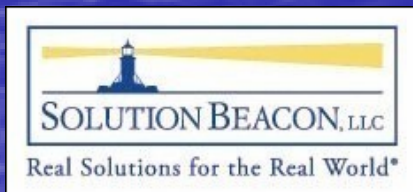
- ◆ Linux
- ◆ 10gR2
- ◆ RAC
- ◆ Questions & Answers



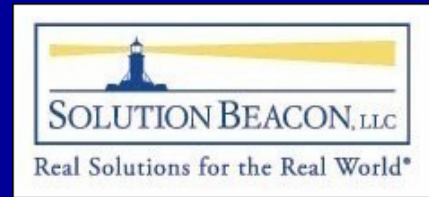
Linux or Not?

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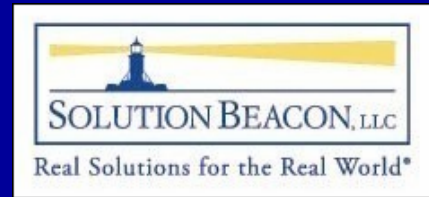
The Linux Advantage



- ◆ Enables IT shops to reduce hardware costs by using servers based on commodity processors and building-block architectures
- ◆ Delivers lower total cost of ownership (TCO) compared to proprietary UNIX and Windows environments
- ◆ Linux users have access to powerful third party utility software
- ◆ Linux is constantly evolving and improving as a worldwide network of innovators in the open source community adds value to the Linux platform



The Linux Challenge

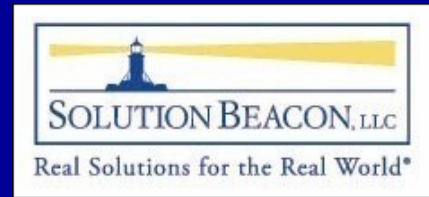


The challenge for companies that want to take advantage of these benefits is that:

- ◆ Linux must become enterprise-ready – to reduce the risks or downsides before trusting their operations and their data, their most valuable asset, to this rapidly evolving open source operating system
- ◆ Companies need to assure themselves that Linux can provide flexibility, availability, scalability, and interoperability in a multi-tier heterogeneous environment and, at the same time, keep their data protected, well managed, and always available
- ◆ Companies must work with experienced vendors who can integrate Linux into their data centers and enable them to trust their data to Linux with confidence



Losing the Advantage



- ◆ When business demands force:
 - non-commodity hardware
 - RAC (Increased complexity -> increased costs to manage / maintain)
- ◆ Maintaining a heterogeneous environment
- ◆ Managing multiple suppliers



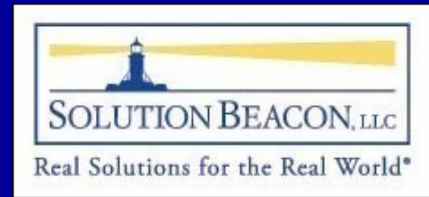
Unbreakable Linux?



- ◆ Oracle offers Linux operating system support
- ◆ Oracle Unbreakable Linux is a support program – It is not a distribution
- ◆ Oracle refers to the Red Hat compatible distribution it provides as Oracle Enterprise Linux
- ◆ Access to patches, fixes, updates, and backports for Red Hat Enterprise Linux 3 (RHEL3) and Red Hat Enterprise Linux 4 (RHEL4) releases, delivered via a subscriber network, the Unbreakable Linux Network (ULN)
- ◆ Anyone can get Linux support from Oracle whether or not they are using Oracle products



Linux Resources



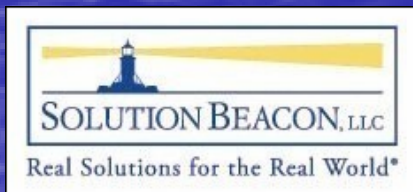
- ◆ MetaLink Note 238276.1 – *Migrating to Linux with Oracle Applications Release 11i*
- ◆ MetaLink Note 287453.1 – *Oracle Applications 11.5.10 - Installation Update Notes*
- ◆ MetaLink Note 225346.1 – *Gathering Debug Information on Enterprise Linux*
- ◆ MetaLink Note 279069.1 – *RedHat: Linux, Filesystem & I/O Type Supportability*



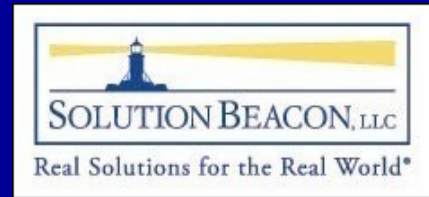
10gR2

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10gR2 Certifications – Release 11i / 12



◆ 11.5.9 CU2

- Interoperability patch 4653217

◆ 11.5.10 CU2

- Interoperability patch 4653225

◆ 10.2.0.2 required when going to Release 12



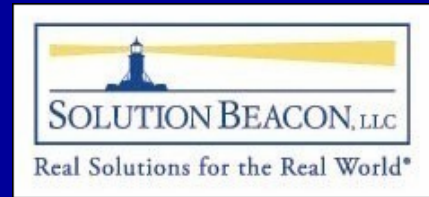
10gR2 Manageability Features



- ◆ Automatic Workload Repository (AWR)
 - Statspack replacement
- ◆ Automatic Database Diagnostic Monitor (ADDM)
- ◆ Active Session History (ASH)
 - DBA_HIST_ACTIVE_SESS_HISTORY
- ◆ Automatic SGA tuning
 - `sga_target=<SGA size>`
- ◆ Grid Control
 - DB Console



10gR2 Optimizer Features



- ◆ Rule Based Optimizer is now obsolete

- ◆ Plan Table
 - CPU and I/O cost
 - TEMP_SPACE

- ◆ Bind variables are now captured
 - v\$sql_bind_capture



10gR2 Performance Improvements



◆ PL/SQL

- code runs 2X faster
- Reduced collections memory footprint (15%)

◆ Converts single row fetches to bulk fetches

◆ Native Compilation

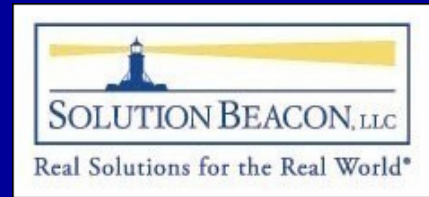
- stored in the database as BLOB data

◆ Library Cache Optimizations Improves Applications performance 5-10%

◆ JDBC performance improved by 10%



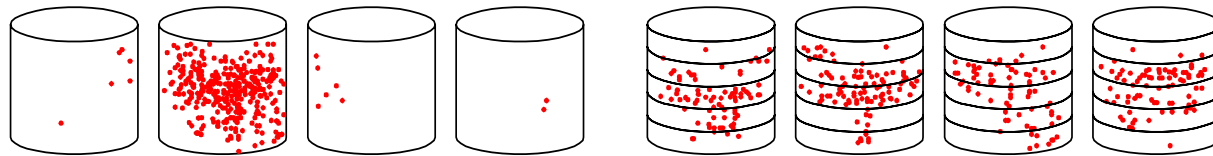
Automatic Storage Management (ASM)



- ◆ Replaces existing Volume Managers / Filesystems
- ◆ Spreads I/O evenly across all available disks
- ◆ Redistributes data automatically
- ◆ Provides for redundant copies of data (alternative to 3rd party RAID functionality)
- ◆ Leverages 3rd party multipathing technologies
- ◆ Utilizes RMAN (exclusively) as mechanism for backup & recovery



I/O Tuning is now a Breeze



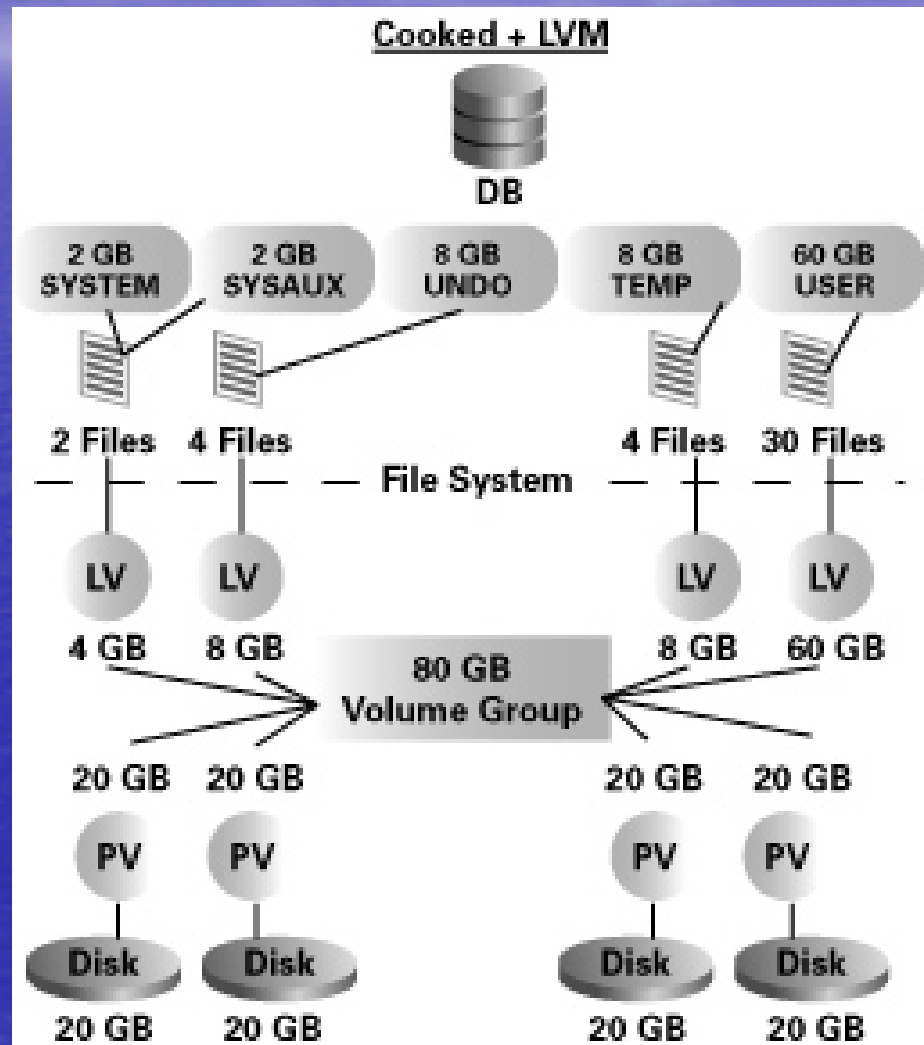
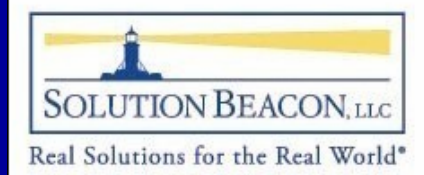
Unstriped Disks

Striped Disks

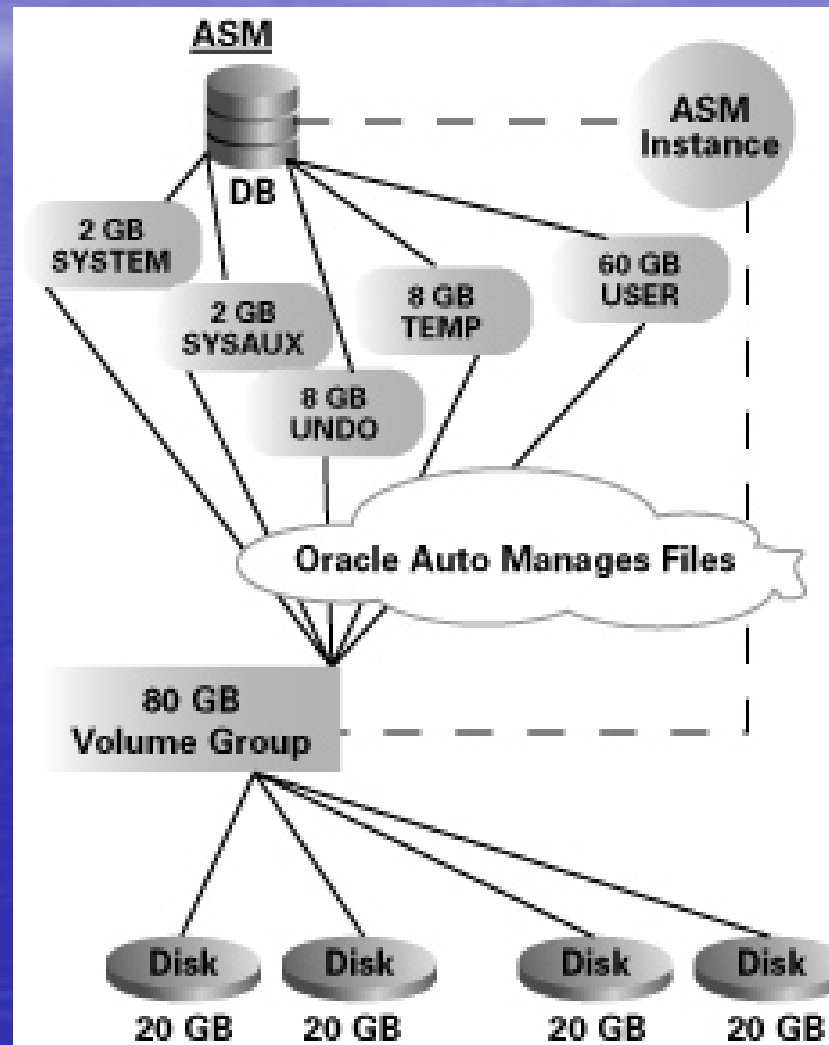
- ◆ Allows dynamic online Storage reconfiguration
- ◆ Efficient relocation of data during rebalance
- ◆ Eliminate manual I/O tuning in all storage configurations



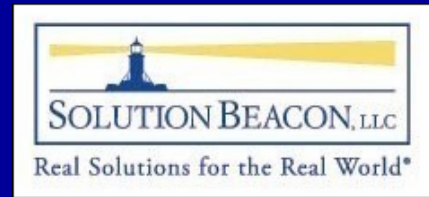
Traditional View of Storage



ASM View of Storage



10gR2 Resources



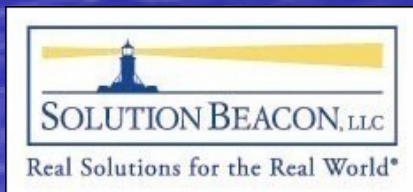
- ◆ MetaLink Note 362203.1 – *Oracle Applications Release 11i with Oracle 10g Release 2*
- ◆ MetaLink Note 362205.1 – *10g Release 2 Export/Import Process for Oracle Applications Release 11i*
- ◆ MetaLink Note 369693.1 – *Using Oracle Applications with a Split Configuration Database Tier on Oracle 10g Release 2*



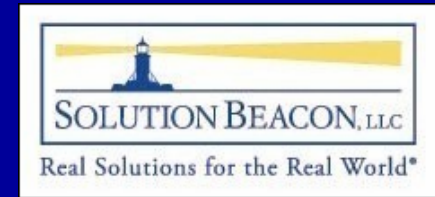
RAC

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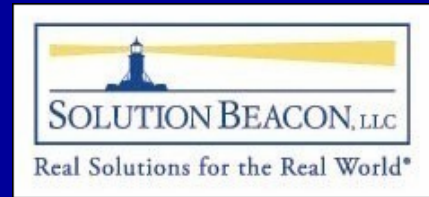
Oracle RAC Business Drivers



- ◆ Potentially Lower Hardware Costs
- ◆ Scalability of Resources
- ◆ Enterprise Grid Computing Solution
- ◆ High Availability Challenges
- ◆ Scalability Challenges
- ◆ Load Balancing Challenges
- ◆ DBA Challenges
- ◆ Storage Management Challenges



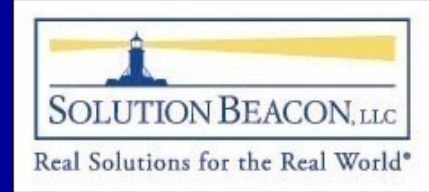
What to Plan For



- ◆ Understand the RAC Architecture
- ◆ Parallel Concurrent Processing
- ◆ Business Certification
- ◆ Load-Testing
- ◆ Change Control
- ◆ Performance Baseline
- ◆ Migration
- ◆ Backup & Recovery
- ◆ DR Strategy
- ◆ Vendor Contacts



RAC Components



◆ Oracle Clusterware

◆ Shared Storage

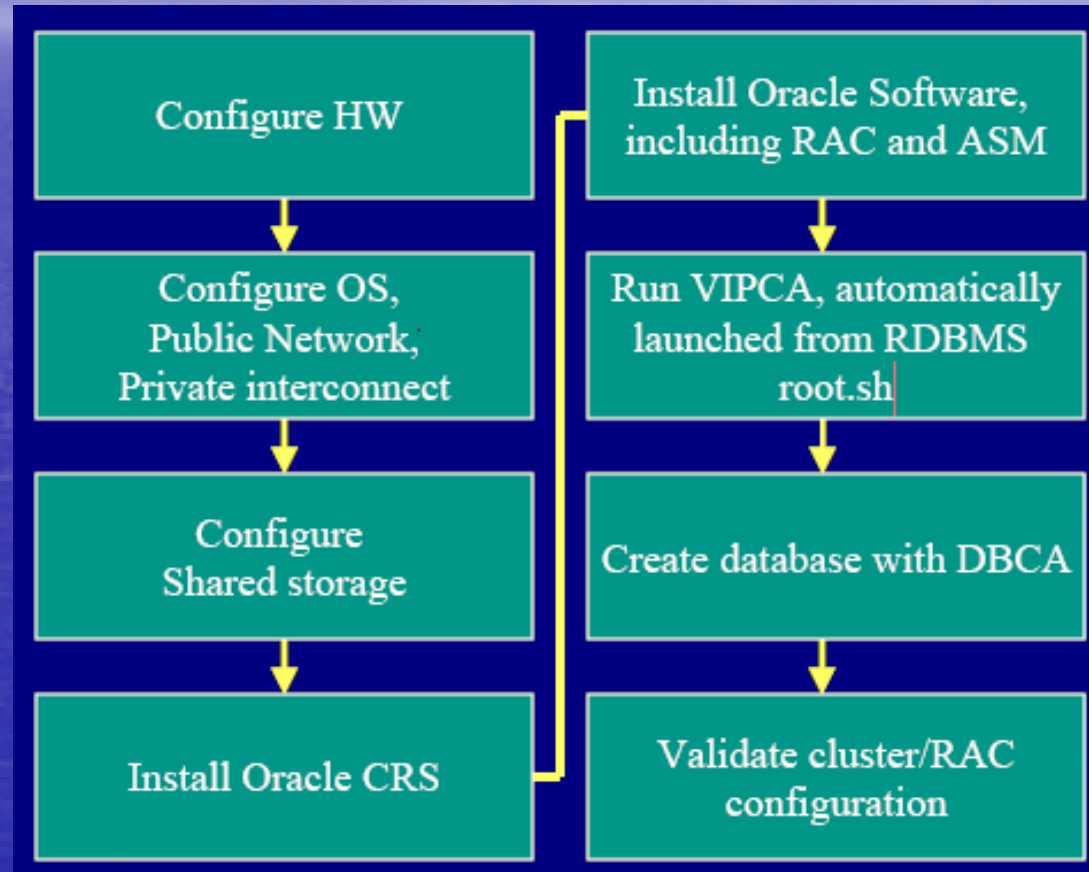
- ASM
- OCFS / OCFS2
- RAW Devices
- NFS

◆ Network

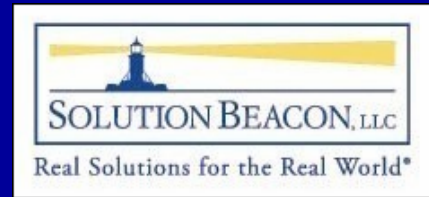
- Interconnect
- VIP



Steps to Setting Up RAC



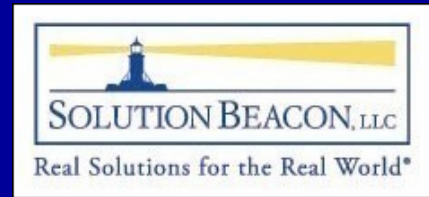
RAC Resources



- ◆ MetaLink Note 362135.1 – *Configuring Oracle Applications Release 11i with 10g R2 RAC and ASM*
- ◆ MetaLink Note 135714.1 – *Script to Collect RAC Diagnostic Information (racdiag.sql)*
- ◆ MetaLink Note 218089.1 – *AutoConfig FAQ*
- ◆ MetaLink Note 285267.1 – *Oracle E-Business Suite 11i and Database FAQ*
- ◆ MetaLink Note 341437.1 – *Business Continuity for Oracle Applications Release 11i Using Oracle Real Application Clusters and Physical Standby Database*



Questions and Answers



Thank you!

And *Remember:*

Keep It Simple and Supportablesm

Brian Bent

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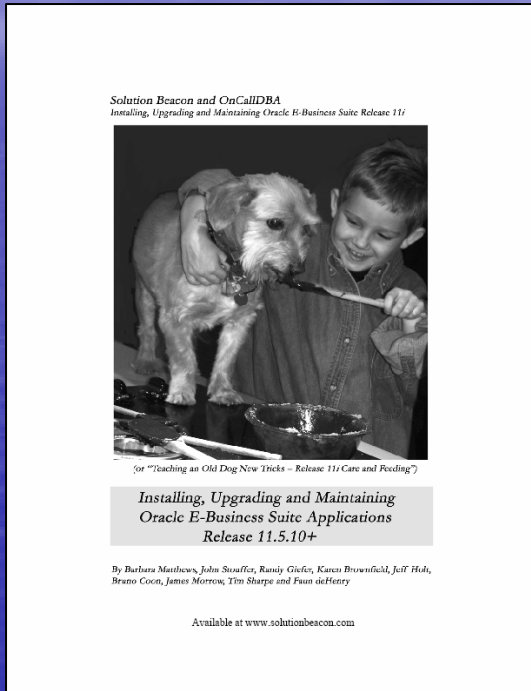
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The Release 12 Primer –
Shining a Light on the
Release 12 World

Available
October 2007

