DBAs: Take Control of the Storage Needs for Your Oracle Environments

Sam Lucido
EMC Global Lead for Oracle
Oracle Environments Today
Physical Infrastructure Limits Value Of Investment

Challenges
- Limits on Performance
- Underutilized Hardware
- Reactive vs. Proactive IT
- Inefficient Recovery

Application Environments
Different Application Versions
Physical Silos of Storage and Servers

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Where in the database stack can your business gain the greatest **performance**?

Processor?
Where in the database stack can your business gain the greatest performance?

**Memory?**

Buffer Pool Advisory

<table>
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<th>P</th>
<th>Size for Est (M)</th>
<th>Size Factor</th>
<th>Buffers for Estimate</th>
<th>Est Phys Read Factor</th>
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</table>
Where in the database stack can your business gain the greatest *performance*?

**Disk?**

![IOPS Graph](image-url)
The New Storage Audience: Oracle DBA

Oracle DBAs

Being Asked To Do More...

Performance
Availability
Management

Storage Admin

Being Given More Tools...
Your Challenge

**APPLICATIONS**

- HPC / Specialty Applications
- Performance Critical Applications
- Mission Critical OLTP
- Mainstream Business Applications
- Decision Support / Collaboration
- IT Infrastructure / App Dev
- Long Term Archive

**CONVENTIONAL STORAGE**

- FLASH
- 15K RPM FC/SAS
- 10K RPM FC/SAS
- 7K RPM SATA

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Our Vision

APPLICATIONS

HPC / Specialty Applications
Performance Critical Applications
Mission Critical OLTP
Mainstream Business Applications
Decision Support / Collaboration
IT Infrastructure / App Dev
Long Term Archive

What if...

You had the control?

• Self-service access
• Broad range of service level choice
• Enterprise-class service levels
Fundamental Change

**APPLICATIONS**

- HPC / Specialty Applications
- Performance Critical Applications
- Mission Critical OLTP
- Mainstream Business Applications
- Decision Support / Collaboration
- IT Infrastructure / App Dev
- Long Term Archive

**SERVICE CATALOG**

- DIAMOND
- PLATINUM
- GOLD
- SILVER
- BRONZE

*Makes YOU the Expert*

3 Step Provisioning:
1. Select performance
2. Select capacity
3. Done!
4. Go back and change anytime you want
Workload Assessment for Oracle

IOPS

- Phys Read IOs/sec
- Phys Read IOs/sec - 95th
Handing the Keys to You
Introducing VMAX Service Provider

Self-service, enterprise-class cloud storage delivery platform that accelerates time-to-value for Enterprise and Service Providers

ENTERPRISE CLOUD FASTER

- Easy self-service client portal
- Pre-configured service level catalog
- Pre-packaged usage, performance and chargeback reporting
- Engineered on EMC VMAX
- Automated provisioning
- Customizable reports
- REST APIs
Advantages

**Speed Access to Service**
- Self-Service Control

**Reduce Cost**
- Automated Service Delivery

**Faster Time-to-Value**
- Pre-configured and Purpose Built

**Expanded Choice of Service**
- Every Tier is Enterprise-class
This is exactly what our customers have been asking for—easily scalable, easily consumable, flexible storage from an enterprise brand they can trust. ….

This will provide insight into how our customers are using storage services, allowing us to shape Colt’s services more closely to our customers’ needs.

- Mark Leonard, Executive Vice President, Infrastructure Services Unit at Colt

**Speed Access to Service**

**Self-Service Control**

- Choose performance & capacity
- Change performance level anytime
- Reports on performance, usage and trends
- Improve accuracy of service levels

3.0/GB + IOPS for Diamond

<table>
<thead>
<tr>
<th>Performance Level</th>
<th>Response Time</th>
<th>IOPS</th>
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<tbody>
<tr>
<td>Diamond</td>
<td>1-4 ms</td>
<td>1.5/GB + IOPS</td>
</tr>
<tr>
<td>Bronze</td>
<td>10-40 ms</td>
<td>Up to 0.05/GB</td>
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</table>

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Reduce Cost

Automated Service Delivery

- Low touch management
- Purchase the way you consumed
- Reduce management cost up to 30%
The VMAX SP has clearly been designed from the perspective of its intended, service provider users. These organizations usually don’t voluntarily become storage experts, but often they have been compelled to do so—at a high cost in terms of money and management...

– Mark Peters, Senior Analyst at Enterprise Strategy Group

Faster Time-to-Value
Pre-configured and Purpose Built

- Up and running as soon as you provision
- Immediate service delivery
- Integrate with your orchestration
  - Multi-tenant reports built in
  - REST APIs
Expanded Choice of Service
Every Tier is Enterprise-class Storage

• The world’s most trusted Tier 1 storage
• Most scalable
• Highest performance
• Mission critical availability
Enterprise-class Storage For Oracle

- Auto-tier Oracle workloads across storage resources
  - 50-80% more TPM (OLTP)
  - 2-3x faster response time (BI/DW)
  - 80% faster tuning with no downtime

- Present more capacity in less time
  - Faster creation of storage pools
  - Reclaim over 55% un-used capacity with Oracle ASM integration
What Do Your Applications Need?

At every tier...

Reliability, Availability and Scale

- More than five 9s availability
- Performance and scale
- Encryption and Security
Improve Oracle Replication Efficiency

- **Replicate Oracle in minutes**
  - Clones for full, consistent recovery
  - Snaps for space efficiency
    - Oracle CloneDB from snaps in seconds
    - GUI interface enables DBA control

- **Virtualization Effect:**
  - Move Oracle workload within or across virtual servers transparently
  - Provision production or test/dev servers in minutes vs. hours
  - Faster maintenance on servers without Oracle downtime
Accelerate Oracle Recovery

- Concurrent local and remote replication for Oracle Applications and Databases
  - DVR-like recovery to any point-in-time
  - Compress and de-dupe for 9x savings in bandwidth costs
  - Supports Oracle DataGuard
- Virtualization Effect
  - Failover Oracle virtual machines in minutes non-disruptively
  - Non-disruptive testing of recovery plans with less infrastructure
Optimize your existing Oracle software, people and process with EMC Proven Solutions
www.emc.com/virtualizingoracle

Learn from EMC’s own journey to the cloud for Oracle

Everything Oracle at EMC Community for best practices, proven EMC and Oracle solutions, and real-time connections to your industry peers and subject matter experts: http://www.emc.com/everythingoracle

EMC and Oracle Technology Centers (Atlanta, GA; Reston, VA; Menlo Park, CA; Santa Clara, CA; Hopkinton, MA; Cork, Ireland)
YOUR OPPORTUNITY:
Database Platform of Choice

GET THERE FASTER WITH:
VMAX Service Provider