Engineered Systems – Exalogic

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Strategy and Market

Oracle Strategy

- Engineered System that runs Java, Oracle Fusion Middleware and Oracle Apps with unmatched performance and lowest operational costs via key innovations and improvements in Oracle software such as Java, Middleware and Database
- Offers both physical and virtualized environments
- Delivers application management tools to simplify virtualized deployments
- Natively integrates with Oracle Exadata

Target Customers

- Oracle Applications – 70K customers
- Oracle Middleware/DB apps – 120K customers
- Bespoke/ISV Java/Mainframe apps – 340 ISVs certified

Key Drivers

- Increasing demands on infrastructure for new applications, especially online applications
- Higher SLAs for application consolidation initiatives
- Cost reduction via reducing systems complexity, more efficient maintenance and reduced footprint

Key Adoption Triggers

- Performance issues in customer environment
- New projects
- Application upgrades
- Hardware refresh
Customer Snapshot
Ingersoll Rand
Improved customer experience

**Benefits**
- 3x Reduced footprint compared to competition
- Reduced IT spend by 40%
- Savings of $27M (one off)
- 24x7 operation

**Solutions**
- Two ¼ x ExaLogic & Two ½ and ¼ x Exadata
- Exalogic to run global instance of EBS R12 and FMW technology.

**Results**
- Cost effective, scalable, and high performing platform for their single global E-Business
- Simplified and standardized business processes
- Improved customer experience through greater on-time deliveries, quality of products, services
- Faster and more accurate decision making and lower cost

<table>
<thead>
<tr>
<th>Savings</th>
<th>Significant savings in support cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced IT Spend</td>
<td>40%</td>
</tr>
<tr>
<td>Faster Response Time</td>
<td>41x</td>
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</tbody>
</table>
Hyundai Kia Motor Company

Improved security, scalability and stability vs. IBM

**Benefits**

- Foundation for a true "Paperless" Organization
- Enhancing employee productivity
- Enhanced security, Improved scalability and stability

**Solutions**

- Exalogic 1/4 Rack, Exadata 1/4 Rack
- Exalogic to consolidate and run Oracle UCM and WLS
- Win in a 20 year old IBM shop

**Results**

- Saving $1M/Annum in print material
- Supervisor's time saved 50% and employee productivity increased by 20%
- Reduced time spent each day on document-related work by approximated 85.2%, from 4.5hrs to 0.71hrs on average
- Fast Go Live

<table>
<thead>
<tr>
<th>Throughput Increase</th>
<th>2x</th>
</tr>
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<tbody>
<tr>
<td>Increased Worker Productivity</td>
<td>85%</td>
</tr>
<tr>
<td>Savings</td>
<td>$1.1M/year</td>
</tr>
</tbody>
</table>
Americá Móvil - Claro

Quick return on investment

Benefits

- Fixed revenue leakage due to 25M transactions per day not completing on the legacy HP Superdome environment
- Increased throughput
- High availability

Solutions

- ½ Rack of ExaLogic
- Mission critical Java App running on WebLogic Service
- Migration in less than 30 days

Results

- R$ 1.4M increased revenue per month by processing 25M more transactions per day
- ROI in < 3 months
- 35x increased in Java performance
- Room for growth: peak of only 11% CPU utilization
- SLA improvement 7x
## Global Retail Company

Uninterrupted daily business operations

### Benefits

- Scalable: Allowing growth to 29 countries
- 12x E-Business Suite and 10x SOA throughput over IBM
- 86% improvement in Drop Ship Process
- 97% improvement in Backup/Restore
- Cloning – reduced from 22 hours to 1.5 hours

### Solutions

- WebLogic Server, E-Business Suite, SOA Suite, AIA, 11g, OWSM 10g. Custom Java applications on WLS
- Existing system: AIX p550 (App Tier), AIX p570 (DB Tier) - New system: Two ¼ Rack Exalogic and ½ Rack Exadata
- Online transaction & Logistics/Finance Concurrent batch jobs

### Results

- 97% improvement for Backup/Restore - No interruption in daily business operations
- $3M reduction/elimination of external consulting resources
- 17X improvement in production “Cloning” process
2012 | Optimized Network Virtualization

Exabus

Standard Hardware I/O

- Application
  - Application Buffer
  - TCP IP Transport
  - Kernel

20% Buffer Copies
40% Transport Processing
40% Kernel Context Switches

Exabus

- Application
  - Application Buffer
  - TCP IP Transport
  - Kernel

Zero Buffer Copy
Direct Memory Access
Kernel Bypass

4X Throughput and 6X Lower Latency
Oracle Traffic Director

- **3.5X higher throughput** and **28% lower CPU efficiency** than Apache
- Native Exabus integration
- HTTP Reverse proxy
- AES Accelerated SSL 3.0 and TLS
- Request-based routing
- Request rate throttling, Connection limiting
- Detailed metering and logging
2012 | Introducing Exalogic X3 Hardware

- More Processor Cores
- More Memory
- More FLASH
- BETTER PERFORMANCE
- BETTER CONSOLIDATION
- Same Price
Exalogic Performance Improvements 2011 to 2012

WEB APPLICATION
Requests/Second

MESSAGING
JMS Messages/Second

ENTERPRISE JAVA
Operations/Second

Exalogic 2011  Exalogic 2012  4.4X
Exalogic 2011  Exalogic 2012  4.6X
Exalogic 2011  Exalogic 2012  3.5X
Exa Performance | Business Applications

- **E-Business Suite**
  - Order to Cash
  - 3x better Response Time
  - 2x better Scalability

- **JD Edwards**
  - Order Management
  - 3x better Response Time
  - 2x better Scalability

- **PeopleSoft**
  - Self Service HRMS, FIN
  - 3x better Response Time
  - 5x better Scalability

- **Siebel CRM**
  - Siebel Call Center
  - 2x better Response Time
  - 2x better Scalability

**Response Time**

- **E-Business Suite**
  - Standard hardware: 2.23 s
  - Exalogic and Exadata: 0.74 s

- **JD Edwards**
  - Standard hardware: 0.51 s
  - Exalogic and Exadata: 0.17 s

- **PeopleSoft**
  - Standard hardware: 1.18 s
  - Exalogic and Exadata: 0.39 s

- **Siebel CRM**
  - Standard hardware: 0.06 s
  - Exalogic and Exadata: 0.03 s
Exa Performance | Vertical Applications

**ATG Web Commerce**
Commerce Reference Store
- 3x better Response Time
- 3x better Scalability

**Retail**
Retail Analytics
- 4x better Response Time
- 4x better Scalability

**Utilities**
Meter Data Management
- 2x better Response Time
- 7x better Scalability

**Comms**
Billing Revenue Mgmt
- 2x better Response Time
- 2x better Scalability

**Scalability**
- 3X
- 4X
- 7X
- 2X

**Response Time**
- 10
- 51s
- 4X
- 11s
- 2.75M
- 2027

**Scalability**
- 3.1
- 10
- 20M
- 4000

**COTS Platform**
- Exaloic and Exadata
## Exalogic Competitive Differentiators

<table>
<thead>
<tr>
<th>Breakthrough Performance</th>
<th>• Optimizations to Java VM, Oracle Fusion Middleware and Oracle Applications deliver performance improvements of 2x to 10x</th>
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<tbody>
<tr>
<td>Mission Critical Virtualization</td>
<td>• Mission critical virtualization through native integration of the virtualization layer with the Exabus brings the automation and consolidation benefits of virtualization to business applications which have traditionally not been virtualized</td>
</tr>
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</table>
| Exabus | • Direct Memory I/O for Java and C++  
  • 4X throughput and 6X lower latency |
| Integrated Traffic Management | • Built-in Application Traffic Management  
  • 3.5X throughput and 28% less CPU than Apache |
| Application to Disk Cloud Management | • Integrated application to disk management using a single tool - Enterprise Manager – quicker root cause identification and resolution  
  • Reduced time to market through rapid application provisioning and configuration |
Oracle has a focused strategy to deliver converged infrastructure for running Java Applications, Oracle Fusion Middleware, Oracle Applications and ISV Applications.

Customers run applications with unparalleled performance, on a smaller hardware footprint, with the lowest cost of ownership compared to any other hardware platform when using Exalogic.

Oracle natively integrates Java with Exalogic’s Exabus technology for unparalleled performance, and delivers full lifecycle automation for Oracle Fusion Middleware and Oracle Applications.

Customers are replacing their existing hardware, including SMP systems, with Exalogic to improve application performance, deliver better application SLAs, and reduce lifecycle costs.