Safe Harbor Statement –

"Safe Harbor" Statement: Statements in this presentation relating to Oracle's future plans, expectations, beliefs, intentions and prospects, including future expectations regarding Oracle Exadata, are "forward-looking statements" and are subject to material risks and uncertainties. Many factors could affect our current expectations and our actual results, and could cause actual results to differ materially. We presently consider the following to be among the important factors that could cause actual results to differ materially from expectations: (1) Economic, political and market conditions, including the continued slow economic recovery in the U.S. and other parts of the world, can adversely affect our business, results of operations and financial condition, including our revenue growth and profitability, which in turn could adversely affect our stock price. (2) We may fail to achieve our financial forecasts due to such factors as delays or size reductions in transactions, fewer large transactions in a particular quarter, unanticipated fluctuations in currency exchange rates, delays in delivery of new products or releases or a decline in our renewal rates for support contracts. (3) Our cloud computing strategy, including our Oracle Cloud Software-as-a-Service, Platform-as-a-Service, Infrastructure-as-a-Service and our new Database as a Service offerings, may not be successful. (4) If we are unable to develop new or sufficiently differentiated products and services, or to enhance and improve our products and services to meet market demand, customers may not buy new software licenses, cloud software subscriptions or hardware systems products or purchase or renew support contracts. (5) Our international sales and operations subject us to additional risks that can adversely affect our operating results, including risks relating to foreign currency gains and losses. (6) If the security measures for our software, hardware, services or Oracle Cloud offerings are compromised or if such offerings contain significant coding, manufacturing or configuration errors, we may experience reputational harm, legal claims and financial exposure. (7) We have an active acquisition program and our acquisitions may not be successful, may involve unanticipated costs or other integration issues or may disrupt our existing operations. A detailed discussion of these factors and other risks that affect our business is contained in our SEC filings, including our most recent reports on Form 10-K and Form 10-Q, particularly under the heading "Risk Factors." Copies of these filings are available online from the SEC or by contacting Oracle Corporation's Investor Relations Department at (650) 506-4073 or by clicking on SEC Filings on Oracle's Investor Relations website at http://www.oracle.com/investor. All information set forth in this presentation is current as of January 28, 2015. Oracle undertakes no duty to update any statement in light of new information or future events.
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.
X5 Generation Exadata Database Machine

Juan Loaiza
Senior Vice President, Oracle
Oracle Exadata Database Machine

- Scale-out, Oracle Database-optimized compute, networking, and storage **hardware** for best performance and lowest cost
  - Fastest x86 processors – Latest flash technologies – Highest bandwidth network
- Unique **software** and protocols enable fastest and most efficient OLTP, Analytics, and Consolidation
- Delivered integrated, optimized, automated, and supported end-to-end to reduce operations costs
Exadata X5 is Sixth Generation Database Machine

DATA WAREHOUSING

OLTP

DATABASE AS A SERVICE

DATABASE IN-MEMORY

EXTREME FLASH
Thousands of Mission-Critical Deployments

- Petabyte Warehouses
- Business Applications
  - SAP, Oracle, Siebel, PSFT, ...
- Online Financial Trading
- E-Commerce Sites
- Massive DB Consolidation
- Public SaaS Clouds
  - Oracle Fusion Apps, NetSuite, Salesforce, ...

4 of the 5 Largest Banks, Telecoms, Retailers Run Exadata
Exadata X5-2 Hardware Overview

• Scale-Out Database Servers
  – Fastest (18 core) x86 compute processors (+50% cores)
  – Largest memory capacity (+50% capacity)

• Highest Capacity Internal Fabric (40Gb/s InfiniBand)

• Scale-Out Intelligent Storage Servers
  – Database offload to x86 storage chips accelerates analytics (+33% cores)
  – Optimize for capacity with great performance using smart tiering of disk and flash (+50% flash)
  – Optimize for I/O with NEW all-flash storage
New X5-2 Extreme Flash (EF) Storage Server

• Industry’s Highest I/O rates for OLTP and Analytics dramatically reduce cost per I/O
  – State-of-the-art NVMe based PCIe flash
  – Consistent, extremely low response times

• Ideal for I/O intensive workloads
  – Deploy few servers to host huge I/O workloads

<table>
<thead>
<tr>
<th>Rate per Rack*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic Scans</td>
<td>263 GB/s</td>
</tr>
<tr>
<td>Random I/O (8K OLTP)</td>
<td>4.14 M IOPS</td>
</tr>
<tr>
<td>Random 8K I/O Latency</td>
<td>0.25 ms @ 2M IOPS</td>
</tr>
</tbody>
</table>

* Standard Exadata Full Rack with 14 EF Storage Servers, 8 DB Servers
Elastic Configurations Scale Compute and Storage
Achieve any Level of Performance with Minimum Hardware

Start with
2 Database Servers
3 Storage Servers

Incrementally add DB or Storage Servers*

Database Server
Extreme Flash Storage
High-Capacity Storage

Full Rack

Add Racks to Continue Scaling

Multi-Rack

* Can expand older machines with new servers
Elastically Optimize Exadata for Each Workload

**DB In-Memory Machine**
Many Max RAM DB Servers, few Storage Servers

- 576 DB Cores
- 13.3 TB RAM
- 32 TB Flash

**Extreme Flash OLTP Machine**
Equal DB Servers and Extreme Flash Storage Servers

- 396 DB Cores
- 8 TB RAM
- 140 TB Flash

**Data Warehousing Machine**
Many HC Storage Servers, High Compute for Parallel SQL

- 512 Cores
- 90 TB Flash Cache
- 672 TB Storage

Copyright © 2015 Oracle and/or its affiliates. All rights reserved. |
Exadata X5-2 Software Overview

• Fastest OLTP
  – 4.14 Million IOPS
  – Smart Flash logging

• Fastest Data Warehousing
  – SQL Offload to storage servers enables 263 GB/s analytics
  – Pure Columnar Flash Cache
  – JSON and XML analytics

• Highest Availability
  – Software optimizations optimize RAC, Data Guard, Backup and Flashback
  – Instant failover of In-Memory Database

• Optimized Capacity
  – Smart Flash Cache gives speed of flash and capacity of disk
  – Hybrid Columnar compression gives 10x size reduction for analytics and archive
  – Database Snapshots for test/dev

• Safest Consolidation
  – Workload prioritization from CPU to network to storage
  – Near-Zero Overhead Virtual Machines
Extreme Performance Creates I.T. Economies of Scale

- Exadata is famous for running workloads faster
- Exadata extreme performance also enables businesses to spend less by doing more:
  - Run more databases and users
  - Run more workloads and data
  - Run more analytics and transactions
- Or run same workloads using less hardware
Engineered Systems Approach Lowers Operating Costs

- Save **tuning and debugging of components and interactions**
  - Hundreds of engineer years testing, optimizing, and hardening DB, OS, drivers, firmware, network, and storage end-to-end

- Save **troubleshooting and finger-pointing** time
  - Oracle supports and is accountable for any issue – DB to Disk

- Save on DB and System patching: Platinum Services does it free

- No need for separate teams – DB Machine Admin
  - Single end-to-end management tool (Oracle Enterprise Manager)

**Oracle Experts Do the Work**
- Less Cost
- Better Results
- Less Risk
X5 Generation Exadata Database Machine

Juan Loaiza
Senior Vice President, Oracle
Safe Harbor Statement

The preceding 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.
Hardware and Software
Engineered to Work Together