Safe Harbor Statement

"Safe Harbor" Statement: Statements in this presentation relating to Oracle's future plans, expectations, beliefs, intentions and prospects 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 current European debt crisis, 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 software license updates and product support. (3) Our hardware systems business may not be successful, and we may fail to achieve our financial forecasts with respect to this business. (4) 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. (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 and risks relating to compliance with international and U.S. laws that apply to our international operations. (6) Intense competitive forces demand rapid technological advances and frequent new product introductions and could require us to reduce prices or cause us to lose customers. (7) If we are unable to develop new or sufficiently differentiated products and services, or to enhance and improve our products and support services in a timely manner or to position and/or price our products and services to meet market demand, customers may not buy new software licenses or hardware systems products or purchase or renew support contracts. 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 October 4, 2012. Oracle undertakes no duty to update any statement in light of new information or future events.
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.
Oracle Exadata Database Machine
The Market

▪ Target Customer
  – Database platform decision-makers (LOB or IT)
    ▪ Mission critical databases
    ▪ Data Warehouses and Data Marts

▪ Total Available Market
  – Servers and Storage for mission critical databases

▪ Market Drivers
  – Data growth
  – More operations moving online
  – Desire for faster and more informed business decisions
  – Cloud / consolidation / simplification initiatives
Oracle Exadata Database Machine

- **Strategy**
  - Best platform for all Database workloads – OLTP, DW, Apps and Mixed
  - Extreme performance and lowest cost
  - Best platform for database clouds
  - Exadata over time becomes corporate DB platform standard

- **Products**
  - Exadata Database Machine X3-2 (1/8th-rack to multi-rack configurations)
  - Exadata Database Machine X3-8 (Full-rack configs w/ 80-core servers)
  - Exadata Storage Expansion Rack

- **Differentiation**
  - **Extreme** performance through leading-edge hardware architecture and differentiated software
  - **Complete** system delivered optimized & hardened for all mission critical workloads
Oracle Exadata Database Machine

Best Platform for…

- Data Warehousing
- OLTP
- Database Cloud

Oracle’s strategic platform for ALL Database workloads
Exadata Architecture

Complete Database platform using standard servers for both Compute & Storage

**Scale-Out Database Servers**
- 128 to 160 CPU Cores per rack
- 2TB to 4TB DRAM

**Scale-Out Intelligent Storage Servers**
- 2-socket storage servers, Exadata Storage Software
- Up to 500TB disk per rack
- 22TB Flash memory cards per rack

**InfiniBand Network**
- Unified internal connectivity (40 Gb/sec)
Highly Engineered and Standardized
Less Risk, Better Results

- Hundreds of engineer years spent optimizing and hardening the system end-to-end
  - Frees I/T talent to focus on business needs

- Standard platform improves support experience

- Runs all existing Oracle Database workloads
Key Exadata Innovations
Extreme Performance at Lowest Cost

- **Smart Scale-Out Storage**
  - InfiniBand connected servers
  - Smart Scan query offload

- **Hybrid Columnar Compression**
  - 10x compression for warehouses
  - 15x compression for archives

- **Smart PCI Flash Cache**
  - Transparent cache in front of disk
  - Accelerates random I/O up to 30x
  - Quadruples data scan rate

Data remains compressed for scans and in Flash

Space Savings Cascade to Copies

uncompressed

compress

primary DB

standby
test
dev
backup
Exadata X3 | Database In-Memory Machine

2008
Warehouse

2009
OLTP & VLDB

2010
Scale-Up

2012
Massive Flash
All I/Os to Flash

Database On Disk

Database In-Memory
Exadata X3 Database In-Memory Machine

- X3 mass memory hierarchy delivers **extreme performance**
  - Automatically moves **all** active data from disk to memory

- DRAM memory expanded to 2 or 4 TB for hottest data
  - 4 to 40 TB of compressed user data

- Flash memory expanded **4X** to **22 TB** per rack
  - 40 to 200 TB of compressed user data – **ALL** active data
  - 1.5 Million SQL random read I/Os per second for OLTP
    - Comparable to 15,000 disk drives in 150 array frames
  - 100 GB/sec SQL data scan rate for reporting and warehouses
    - Comparable to 1,000 disk drives in 10 array frames
Exadata Flash Memory Performance Scales Linearly
Storage Array Architecture Limits Flash Performance

- Exadata . . .
  - True Scale-Out
  - InfiniBand
  - Smart Storage
**Exadata X3 Details**

**Same Architecture as Exadata X2**

**Same Price as Exadata X2**

**All X3 Database Machines**

- 4X Larger Flash Memory
- 20X More Write Performance
- 33% More Data Throughput
- 10% to 30% Lower Power

**X3-2 Database Servers**

- 33% Faster Database CPUs
- 75% More Memory
- Full 10GB Ethernet to Data Center

- 22 TB of Flash Memory per Rack
- Exadata Smart Flash Write Caching
- 100 GB/sec running SQL
- Up to 3 Kilowatt Reduction per Rack
- 8-Core Xeon® SandyBridge E5-2690
- 1 TB to 2 TB per Rack
- 40X 10 GB ports per Rack
Complete Family of Database Machines
Extended with Lower Cost 1/8th Rack

Field Upgradeable
Supports Multiple Generations of Hardware
Oracle Exadata Beats IBM at 1/8\textsuperscript{th} the Price

Exadata X3-2 Half Rack

$650,000

8.5:1 advantage*

$5,630,000

Exadata additionally provides:

- 84 storage CPUs for SQL offload
- Far faster Flash PCI cards & InfiniBand
- Hybrid Columnar 10X Compression

Comparable IBM Config

- Same 64 DB CPU Cores
- Same Memory Size
- Same Disks
- Same Flash Capacity

* Hardware list price comparisons
Organic Food Retailer
Consolidation including Packaged Apps

Objectives
- Consolidate all OLTP databases to simplify and standardize management and reduce costs
- Single Vendor simplicity

Solution
- 2011: Consolidate 14 servers onto two Qtr-rack Exadata X2-2

Pre-Exadata
- 14 Legacy Servers
- 3 O/S Versions
- 18 Oracle Databases
- 5 Oracle DB Versions
- 12 Application Teams

Exadata X2-2 DB Consolidation
- PeopleSoft HR
- Ordering
- Timekeeping
- Decision Support
- Many other applications

Benefits
- Faster Applications
- Uniform HA/DR
- Simplified Support
- Data Center Cost Savings

““One number for me to call; no more forwarding phone calls and email between vendors when we are digging into an issue.””
- DBA Team Leader

EXADATA

Data Guard

PeopleSoft HR

Ordering

Timekeeping

Decision Support

Many other applications

2011
Exadata as a Corporate Standard

**Exadata V2**
- Data Warehouse
  - Prod
  - Non-Prod

**Exadata X2-2**
- Data Warehouse
  - Prod
  - DR
  - Dev
  - UAT

**Exadata X2-8**
- Data Warehouse
  - Prod
  - Non-Prod

**Exadata X2-2**
- OLTP/Analytics
  - Prod
  - Non-Prod

---

**Pre-Exadata Data Warehouse**
- Hitachi USP-V
  - 5 Racks

**Exadata V2 Data Warehouse**
- EMC DMX-4
  - 5 Racks

**2 Exadata X2-2 Prod**
- Backup
- Restore

**Original V2 Prod/DR/Dev**
- Call Detail Records
  - 600 TB
  - 1 Petabyte
  - 10x compressed

**U.S. Customs & Borders Protection**
- Hitachi
  - USP-V
  - 5 Racks

- EMC DMX-4
  - 5 Racks

- Call Detail Records
  - 600 TB
  - 1 Petabyte
  - 10x compressed

- Subscriber Data
  - 400 TB
  - 10x compressed
Summary | Oracle Exadata

- **Best Database Platform**
  - OLTP / Warehousing / Consolidation / Cloud – **ALL** Workloads
  - Complete Database System delivered optimized & hardened
  - Extreme Performance, Lowest Cost, Mature 4th Generation Technology

- **Business is growing rapidly**
  - Rapidly capturing new customers
  - Growing installed base within existing customers
  - Expanding systems under packaged ISVs with existing customers
  - Adding new SKUs (e.g., Eighth & Storage Expansion)
Hardware and Software Engineered to Work Together