Safe Harbor

The following is ... ded for information pur... It is not a commitment to ... be relied upon in making purch... y features or functionality des... of Oracle.

Drive Simple IT

Oracle Confidential –

HrOUG

Simplifying IT with Engineered Systems

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Customer Support Services, EECIS
October 15th, 2014

EXALOGIC

Program Agenda

1 **Refresher from Oracle Open World 2014**

2 Engineered Systems for Simplifying your IT

3 Platinum for Engineered Systems – New Level of Support

4 Gartner Report on Integrated Systems – June 2014

5 References in CEE

Oracle OpenWorld 2014

7.1 MILLION
online attendees

2.3 MILLION
Oracle social followers

60,000
attendees from

145
countries

70%
North America

19%
Europe, Middle East, and Africa

7%
Japan and Asia Pacific

4%
Latin America

420
Oracle demos in the Oracle DEMOgrounds

152,000
cups of coffee

100,000
sodas served during breaks

65,000
lunches served

49,500
juices served during breaks

49,000
gallons of filtered tap water served to attendees in compostable cups or reusable water bottles

2,707
sessions across

17 VENUES
in downtown San Francisco

The Palace
St. Regis San Francisco
Oracle Plaza @ Howard Street
Moscone West
Moscone North
Moscone South
The Intercontinental San Francisco
Yerba Buena Gardens
YBCA Forum
YBCA Theater
Duke's Cafe'
Metreon
Hotel Nikko
Hilton San Francisco Union Square
Westin Market Street
Parc 55
Marriott Marquis San Francisco

111,946
hotel room nights...and growing

US$128M
in economic impact to the Bay Area

460
partner and customer exhibitors

3,460
speakers, of which

1,825
are customers and partners
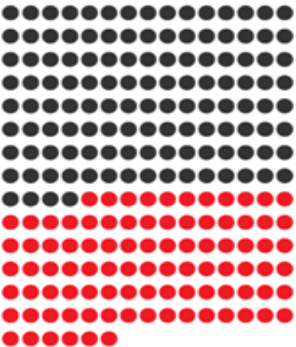
About Oracle

400,000
customers

145
countries

ORACLE®

Announcement Highlights

Oracle Cloud Services

Public Cloud Paas GA

Public Cloud Paas Preview

Public Cloud Release 9 of Oracle SaaS Applications

Mobile and Other

New Mobile User Experience for all Oracle Applications

Planning and Budgeting (Hyperion)

In-memory applications – G

Innovation packs for PeopleSoft & Siebel

SRM Social Station Phase 2

M7 Solaris Chip

Zero Data Loss Recovery Appliance

FS1 Flash Storage System

Larry Ellison – Oracle OpenWorld Key Note (1)
2014 - Turning point for Oracle

- **We delivered all SaaS, PaaS, Iaas together, to keep a promise we made to our customers 37 years ago**
  - Software as a Service – applications build and buy strategy to massively extend it
  - Platform as a Service – major upgrades to allow you move any database by pushing one button
  - Infrastructure as a Service – we innovated it all, with 3 things in mind: data security, reliability, lowest possible cost

- **Our promise – to move our customers through technological generations without changing single code line of their applications**
  - Generation 1: Minicomputers; Relational database, SQL
  - Generation 2: Client Servers; PL/SQL, text, messages
  - Generation 3: Internet Architecture (thin clients); unstructured data, objects, XML
  - Generation 4: Database Cloud Service (multitenant); Big-Data In-Memory, Hadoop & NoSQL

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Larry Ellison – Oracle OpenWorld Key Note
2014 - Turning point for Oracle

- **Platform as a Service**
  - You can move any existent Oracle Database or Application to Cloud by pushing a button
  - No only moving moving but automatically modernized
  - Our cloud is the only solution that let you move your application on cloud and than back on premise

- **Database As a Service**
  - Database has always been our biggest Software Business
  - **Database will be our biggest Cloud Business Tomorrow**
  - Database PaaS is completely automated:

    => **Huge Reduction of Cost and Human Error**

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Larry Ellison – Oracle OpenWorld Key Note (2)
2014 - Turning point for Oracle

- **Software as a Service**
  - Covers all 3 categories of applications
    - Customer Experience
    - Human Capital Management
    - Enterprise Resource Planning
      - 40 EPM SaaS Customers in the last 6 months.
    - Industry Specific Application

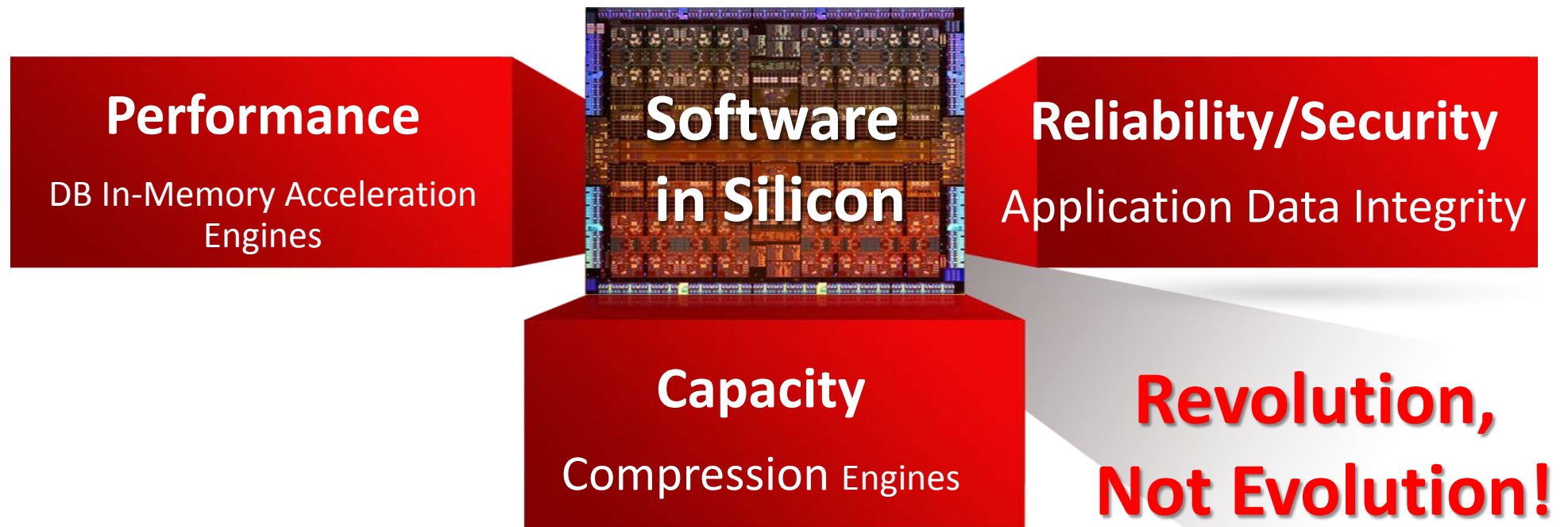   - Additional Cloud applications with 20-30% for each category
    - Over 2000 SaaS customers in last 12 months, and this is just the beginning
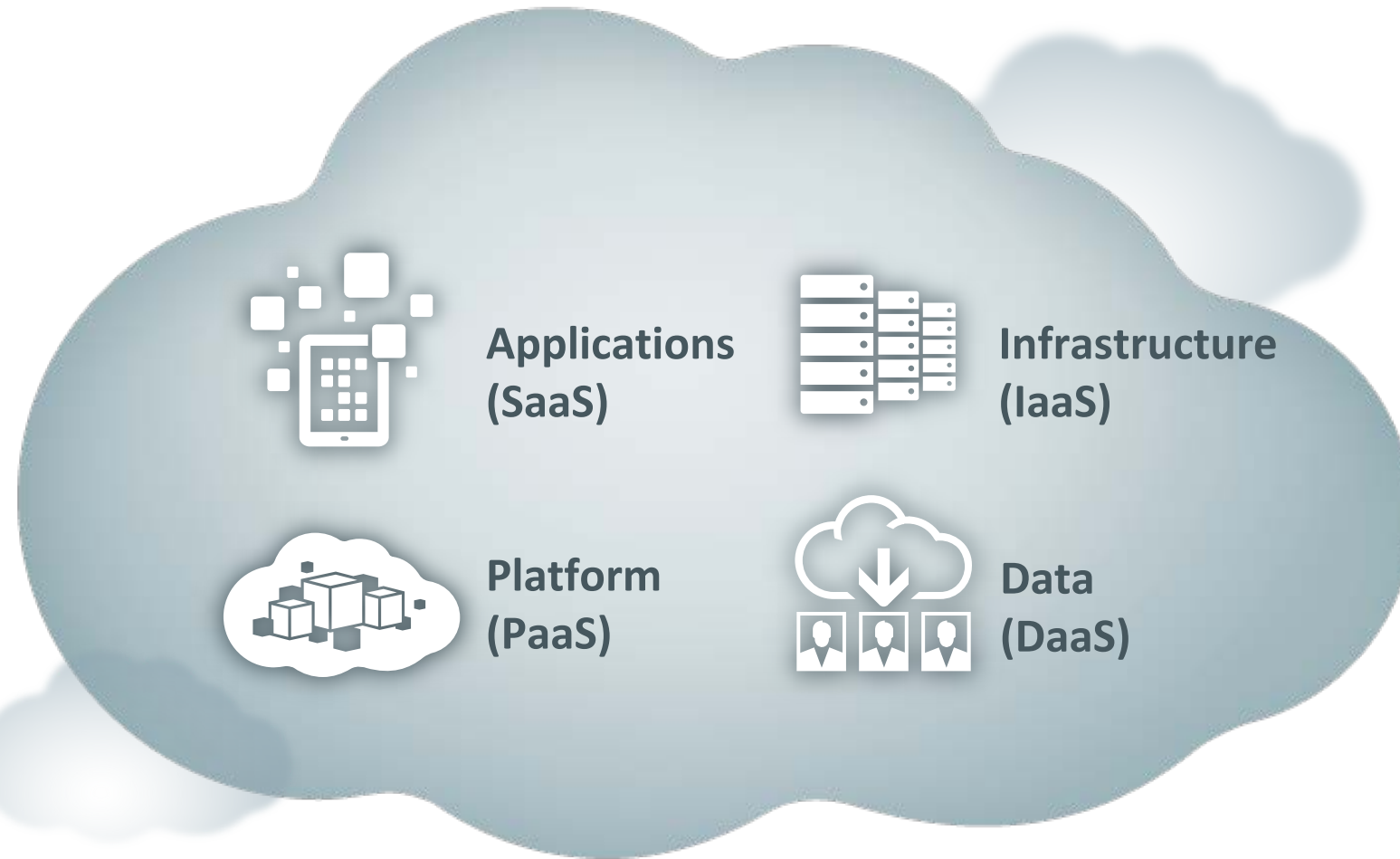 - with Multitenant, Social, Mobile, Security into it

Larry Ellison – Oracle OpenWorld Key Note
2014 - Turning point for Oracle

- **Infrastructure as a Service**
  - Cloud Infrastructure Innovation is sitting on Engineered Systems
  - Engineered Systems is a short-cut into intelligent infrastructure
  - The Ultimate Software Optimization: Hardware

Performance

DB In-Memory Acceleration Engines

Software in Silicon

Reliability/Security

Application Data Integrity

Capacity

Compression Engines

Revolution, Not Evolution!

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The Most Complete Cloud

Applications (SaaS)

Infrastructure (IaaS)

Platform (PaaS)

Data (DaaS)

Deployment choices

Private Cloud

Public Cloud

Managed Cloud

Or..... Hybrid

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The Realities of Today's Data Center...

Accelerating Customer Expectations

Instantly Available Services

Wherever They Are

Accelerating Information Growth

Explosion of Data Volume and Types

Transaction Overload

Accelerating Business Complexity

Unpredictability and Rapid Change

Ecosystem Interdependency

63%
RUN
THE BUSINESS

21%
GROW
THE BUSINESS

16%
TRANSFORM
THE BUSINESS

WHAT IF
Data Center
Spending
THE MIX?

Source: "IT Metrics: IT Spending and Staffing Report, 2012", Gartner Research, 2012

Simplify IT With Engineered Systems

Highest Risk

Lowest Risk

- ✗ Multiple Vendors
- ✗ Delivered in Pieces
- ✗ Assembled on Site
- ✗ One-Off Configuration
- ✗ Tested By You
- ✗ Painful Maintenance Cycles

- ✓ One Vendor
- ✓ Delivered Intact
- ✓ Factory Assembled
- ✓ Standard Configuration
- ✓ Tested Together by Oracle
- ✓ Simpler Maintenance Cycles

Focus on External World

Big Data

Cloud

Mobile

Social

IoT

Deployed Together

Certified Together

Supported Together

Tested Together

Engineered Together

Upgraded Together

Managed Together

Applications
Middleware
Database
Operating System
Virtual Machine
Servers
Storage
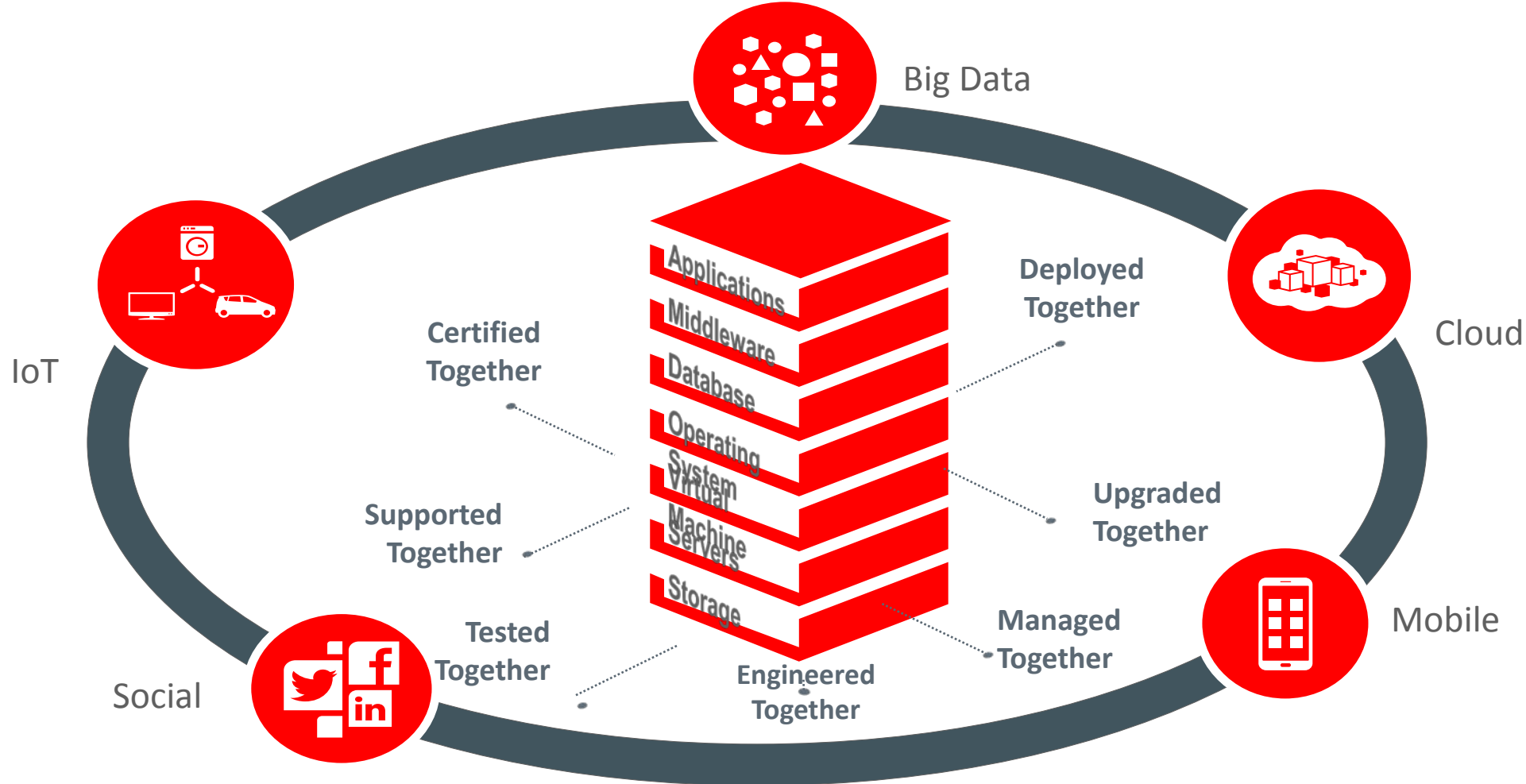
Benefits of This Approach

SHIFT COSTS TO PROFITS

- Slash project costs
- Focus on innovation
- Shift budget to new projects
- Support more clients
- Process more transactions
- Accelerate projects
- Consolidate

IMPROVE TIME TO VALUE

Faster Time to Value

- Beat your "Go Live" date by months not days
- Add new businesses, anytime
- Add new capabilities, when you need them
- Offer new products & services before the competition

REDUCE RISK

Reduce Risk

- Shrink number of IT vendors
- Avoid H/W scheduling delays
- Minimize H/W integration
- Get rid of "finger pointing"
- Avoid "all nighters"
- Ensure system availability

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Oracle Engineered System - Family

Software-Led, Workload-Optimized Systems

- Extreme Performance
- Lower TCO
- More Reliable
- Pre-Integrated
- Less Management
- One-Stop Support

Exadata Database Machine

Exalogic Elastic Cloud

Big Data Appliance

Database Appliance

Virtual Compute Appliance

Exalytics In-Memory Machine

SuperCluster T5-8

SuperCluster M6-32 Big Memory Machine

Zero Data Loss Recovery Appliance

Engineered Systems: Scale With Your Business

Multi-rack

Full Rack

Half Rack

Quarter Rack

- Seamless hardware upgrade
- Flexible software licensing

Exadata X4-2 Compared with X3-2

Much More Performance and Capacity – Same Price

X4-2 Compute per Rack

50% More Database Cores	**192 Cores** using 12-Core Xeon® CPUs
~2X Faster InfiniBand	**InfiniBand PCI-3 Card. All Ports Active**
~2X Larger DB Server Local Storage	**4.2 TB** per server using 600GB Disks

X4-2 Storage per Rack

2X Larger Physical Flash Memory	**44 TB** of Flash Memory
Up to 4X Larger Logical Flash Memory	**88 TB** using Flash Cache **Compression**
77% More Flash IOs/sec	**2.66M Reads, 1.96M Writes** from SQL
33% Larger High Capacity Disks	**672 TB** using 4TB Disks
2X Larger High Performance Disks	**200 TB** using 1.2 TB Disks

Unique Exadata Benefits are Continuously Increasing

Application Benefits

Time

Unique Exadata Software Improvements

Hardware Improvements

- **Software on Silicon**
- In-Memory Fault Tolerance
- Direct-to-Wire Protocol
- Columnar Flash Cache
- JSON and XML offload

- Network Resource Management
- Multitenant Aware Resource Mgmt
- Compressed Flash Cache
- Prioritized File Recovery

- IO Priorities
- Data Mining Offload

- Database Aware PCI Flash
- Storage Indexes
- Columnar Compression

- Smart Scan
- InfiniBand Scale-Out

Generic Hardware Platforms and Exadata
- Faster Processors
- Faster, Cheaper Flash
- Larger Disk Drives
- Faster Network Interconnect

2008

2014

Exadata Momentum: 1000s of Mission Critical Deployments

Half are Warehouses, Half are OLTP or Mixed Workloads

- Petabyte Warehouses
- Business Applications
  - SAP, Oracle, etc.
- Online Financial Trading
- E-Commerce Sites
- Consolidation of 100s of Databases
- Leading SaaS Providers
  - Oracle Fusion, Salesforce, etc

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A New Model in IT Support

ORACLE®
SUPPORT

Oracle Platinum Services
- Monitored for You
- Updated for You
- Extreme Value for You

Oracle Premier Support
- Integrated
- Proactive
- Efficient

Traditional IT Support
- Fragmented
- Reactive
- Costly

ORACLE®

Oracle Platinum Services
Extraordinary Support for Extreme Performance

Certified Configurations on Oracle Engineered Systems

ORACLE
PREMIER SUPPORT

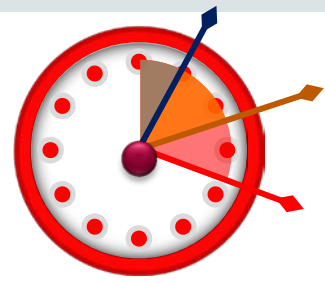**NO ADDITIONAL COST**

FAULT MONITORING

RESPOND AND RESTORE

PATCH DEPLOYMENT

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Platinum Support Services for Exadata
Standardization Enables Oracle to Provide Best End-to-End Support

- **Industry leading service level response times:**

  - **5 Minute** Fault Notification

  - **15 Minute** Restoration or Escalation to Development

  - **30 Minute** Joint Debugging with Development

- **Proactive remote monitoring for faults**

- **Oracle Engineers perform quarterly patching**

- **Results:**

  - **50% fewer severity 1 service requests**

  - **31% faster issue resolution than non-Platinum customers**

  - **30 % reduced IT resource workload**

DECREASED RISK

BETTER AVAILABILITY

REDUCED IT WORKLOAD

No Additional Cost

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Gartner Magic Quadrant for Integrated Systems – June 2014

The integrated system market is growing at 50% or more per year

Combinations of server, storage and network infrastructure, **with management for provisioning and management** of the combined unit

If the end user **has to do the integration**, the technology is **not an integrated system** that is valid for inclusion

Support **Level 1** (call center/service desk) and **Level 2** (escalation) **must be integrated** to facilitate quick and easy problem resolution.

Gartner recommendations and guidelines

1. Treat integrated systems as data center modernization and transformation projects

2. Validate whether convergence can be applied usefully toward your goals and experience levels, and include proofs of concept

3. Decide on the vendors and partners considering maintenance support matrix, capacity planning and operational impact assessment

4. Ask vendors to provide "road map of road maps" for the entire asset.

5. Understand upgrades during operational lifetime and calculate capacity planning

6. Restructure asset depreciation cycles to reflect the extended life span of integrated system assets.

7. Prepare to overhaul software licensing rules, discount calculations and ROI expectations for integrated systems- especially those that have embedded software stacks.

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Gartner – Oracle strengths

"So if Oracle Database Management System (DBMS) serving is the required workload, the only viable Integrated Stack Systems solution would be an Oracle Engineered System. "

1. Strong (and growing) portfolio of integrated systems
2. Vendor has close alignment of its software and hardware strategies
3. Oracle has an opportunity to cross-sell and up sell into its installed base
4. Proven performance benefits for Oracle software workloads
5. Vendor has aggressive marketing and product strategies
6. Oracle enables application owners to become an effective buying center and point of administration for its Engineered Systems.

Gartner – Oracle Cautions (1)

A fear of vendor lock-in

- **Caution: A fear of a greater degree of vendor lock-in when integrated systems extend to include the software stack**
- **Gartner recommendation:** "the vendor has achieved clear market leadership for the use cases where users are willing to invest in an appliance like solution that delivers very good workload performance, while greatly simplifying the task of workload integration and management"

Perceived as relatively expensive

- **Caution: Engineered Systems are perceived as relatively expensive**
- **Gartner recommendation:** "Plan a differential analysis on converged versus best-of-breed; legacy retention or legacy disposal; human resource retention, transference or reduction; and capital expenditure/operating expenditure (capex/opex) cost comparisons (including retooling). "

Gartner – Oracle Cautions (2)

Conflict between administrators roles

▪ **Caution: Greater risk of conflict if line-of-business administrator roles are not synchronized with the aims of the data center administrators**

▪ **Gartner recommendation:** As data center technology becomes increasingly modular, IT organizations, procurement departments, lines of business and asset control departments must reassess life cycle and depreciation planning approaches, as well as purchasing policies, to account for the extended life spans of integrated systems"

Need to validate references

▪ **Caution: Potential customers need to validate references and use cases for Engineered Systems other than Oracle Exadata Database Machine**

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If not already, when do we start?

Hardware and Software
Engineered to Work Together

Turkcell: DW and DB Consolidation

((·)) **TURKCELL**

Benefits	Faster Reports	Storage Savings	Rec... A...	

10X

900 TB

20%

80% Less Power
30 m² Less Space

"In a word, Oracle Exadata is fantastic. Almost no report takes more than 10 minutes to run, versus hours before. It sounds unreal, but it's real."
- Power User, Finance Department, Turkcell

27 min to 3 min
(avg for 50k rpts)

1,000 TB to 100 TB

Business Objectives

- Speed up BI
- Lean, green data center
- Prepare for big data growth

Solution

- 2010: Replace 11 racks with 1 full-rack Exadata for DW
- 2013: Add 2 full-rack Exadata for DB consolidation

Pre-Exadata Data Warehouse

Exadata V2 Data Warehouse

2 Exadata X2-2 Prod

Original V2 Prod/DR/Dev

Hitachi USP-V 5 Racks

EMC DMX-4 5 Racks

2010

2013

2013

Backup

Restore

- **250 TB Raw Data**

- **25 TB Compressed**

- **2 Prod Databases**
- **600 TB Raw / 60 TB Compressed**
- **16-node RAC Cluster**

- **4 Prod, 2 Test Databases**
- **400 TB Raw/ 40 TB Compressed**
- **2 RAC Clusters**

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