Hardware and Software
Engineered to Work Together

Oracle & The Power of Place

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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.
Technology Is A Resource
LIBERATING Mechanism

It Can Make The Once SCARCE The Now ABUNDANT
What is Complexity?
More vs. Less Complexity?
Why Should We Care?
Measuring Complexity
Key Elements of Complexity
The Complexity Curve
Measuring Complexity
A Complexity Algorithm

\[ C = (F^3 + D^3) \times N \]
A Simple Example

Functional Units = $F$

$F = 2$

Dependencies = $D$

$D = 1$

Complexity Score = 9
A Slightly More Complex Example

Functional Units

$F = 10$

Dependencies

$D = 10$

$C = (F^3 + D^3) \times N$

$C = (10^3 + 10^3) \times 1$

$C = (1,000 + 1,000) \times 1$

Complexity Score = 2,000
Relative Complexity

C = 9

C = 2,000
Why Should We Care?

- Hard to Manage
- Increase Over Time
- Budget Impact
The Hidden Cost

**Functionality**

**Information**

**Innovation**
Measuring IT Complexity
THE ONLY ENGINEERED STACK

Vendor A
Integrator 1
Vendor B
Vendor C
Integrator
Vendor D
Vendor E
Integrator 2
Vendor F
Integrator 3
Vendor G
Vendor H

Applications
Middleware
Database
Operating System
Virtual Machine
Servers
Storage
Over 5,000 IT staff
Largest law enforcement organization in the United States
22,000 Vehicles
290 Aircraft
225 watercraft
280 horse patrols
1,420 canine teams
A Very Big Customer

Traditional Servers 120 VS Oracle Exadata Racks 12
Package Multi-tier Enterprise Applications

Oracle Virtual Assembly Builder

Capture Complete Application Topology

Package Into Single Assembly

Upload to Software Library

Deploy Self-Service

HTTP
OVM

HTTP
OVM

WLS
OVM

DB
OVM

Metadata

Oracle Enterprise Manager
Engineered Systems for Oracle Database

Oracle Database Appliance

Oracle Exadata Database Machine

Quarter Rack

Half Rack

Full Rack
Oracle Enterprise Architecture

GIS-aaS Logical Model

Middle Tier
- Location services
- OGC services
- Registry
- Geocoding
- Routing

ETL, Transformations
- ETL, Transformations
- Subscription
- Repository

GIS Data Mart
- GIS Data Mart
- Publishing to Marketplace
- Marketplace Administration

GIS Custodian Repositories
- GIS Custodian Repositories
- Publishing to Marketplace
- Marketplace Administration

Database Tier
- Database Tier
- ETL, Transformations
- Repository

Clients
- Clients
- External Repositories

Repositories
- Repositories
- Registry
- Geocoding
- Routing

Web/Mobile
- Web/Mobile

Virtualized
- Virtualized

Bus. processes
- Bus. processes

Thick
- Thick

GIS Data Mart
- GIS Data Mart

GIS Custodian Repositories
- GIS Custodian Repositories

ETL, Transformations
- ETL, Transformations

Subscription
- Subscription

Repository
- Repository

Database Tier
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Thick
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Virtualized
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Web/Mobile
- Web/Mobile

Bus. processes
- Bus. processes

Oracle Enterprise Architecture
- Oracle Enterprise Architecture

GIS-aaS Logical Model
- GIS-aaS Logical Model
What about “Big” Data?

VOLUME

VELOCITY

VARIETY

VALUE

VOLUME VELOCITY VARIETY VALUE

SOCIAL

BLOG

SMART METER

10110010100100100110101011010110010101010010010101

101100101001 001001101010 101011100101 010100100101

Tuesday, May 22, 12
Oracle NoSQL Database

Key value pair database
Dynamic data model
Highly scalable, available
Transparent load balancing
Built using BerkeleyDB
Oracle Big Data Appliance Hardware

• 18 Sun X4270 M2 Servers
  – 48 GB memory per node = 864 GB memory
    • Optional 144 GB memory per node = 2.5 TB memory
  – 12 Intel cores per node = 216 cores
  – 36 TB storage per node = 648 TB storage
• 40 Gb p/sec InfiniBand
• 10 Gb p/sec Ethernet
Oracle Big Data Appliance Software

- Oracle Enterprise Linux
- Oracle Hotspot Java Virtual Machine
- Cloudera's Distribution Including Apache Hadoop R Distribution (CDH)
- Cloudera Manager
- Open Source Distribution of R
- Oracle NoSQL Database Community Edition
- Oracle Big Data Connectors (licensed separately)
What The Analysts Are Saying: Ovum

“Clearly, Oracle's release of Oracle Big Data Appliance signifies a full commitment to Hadoop as a first-class citizen of the Oracle data platform. Its price, $450,000 for 216 CPU cores backed by 648TB of storage and the same Infiniband backplane used by Oracle Exadata and Oracle's other engineered systems, is definitely competitive.”

– Ovum (1)

(1) Oracle mainstreams its Hadoop platform with Cloudera OEM deal, January 2012, Tony Baer
Oracle’s Big Data solution

Endeca Information Discovery

Big Data Appliance

Oracle Exadata

Oracle Exalytics

Acquire | Organize & Discover | Analyze | Decide

InfiniBand

Real-Time Decisions

Tuesday, May 22, 12
To Deliver The **Power of Place**
Drive Complexity Out of Your IT Equation
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