Making Cloud Computing work for You and Your Employer

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Session Objectives

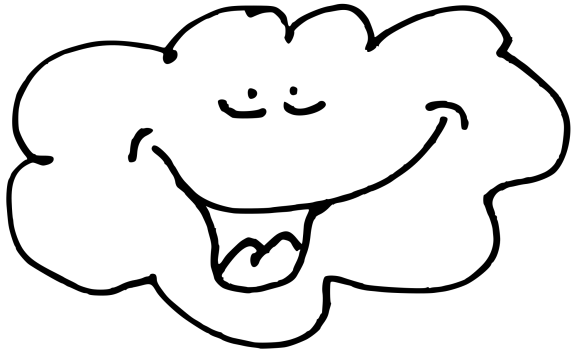
- Understand what the heck all those cloud acronyms are
- Learn how “the cloud” takes us to the next level of computing infrastructure
- Be able to help your organization decide how best to use the cloud

Who Am I?

- John King – Partner, King Training Resources
- Oracle Ace Director
- Member Oak Table Network
- Providing training to Oracle and IT community since 1988 – http://www.kingtraining.com
- "Techie" who knows Oracle, ADF, UX, SQL, Java, and PL/SQL pretty well (along with other topics)
- Frequent speaker at technical conferences
- Member of AZORA, ODTUG, IOUG, and RMOUG

The Cloud Is Upon Us!

- Everywhere you turn vendors are offering cloud solutions promising (once-again) a single solution to solve the ills of our IT organizations.



- Bah! Some naysayers say “this is just the same-old, same-old, we’ve been doing the cloud for years”
  – hmmmm is this really true?

Same Old Thing?

- Do you think Cloud is the “Same Old Thing retreaded?”
  - In some ways you’re right
  - But mostly you’re wrong

Cloud is Not Really New

- Ways in which the cloud is not really new
  1. Accessing data over communication lines has been normal for years
  2. Hosting data at off-premise sites has likewise been around for years
  3. Vendors providing hosted, pre-defined platforms are as old as H. Ross Perot's Service Bureau in 1962
  4. Vendors providing shared resources are as old as the Time-Sharing systems first introduced at Dartmouth in the 1960's

Guess What? Cloud is More

- Not only is the cloud more-advanced than what's gone before, it has properties that have never-before been available
- So, what's changed to enable this? Today's communications systems are reliable (at least mostly), fast, and distributed making cloud-based resources as performant as our own resources
- But, that's still not it

Defining the Cloud

- To understand what makes the cloud “the cloud” NIST (U.S. National Institute of Science and Technology http://www.nist.gov/itl/cloud/index.cfm) has devoted some effort to defining it for us
- Here is the URL for a PDF document detailing NIST’s definition of cloud computing: http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf .

Five Characteristics of Cloud

- NIST defines five essential characteristics for cloud computing (paraphrased below):
  - On-demand self-service
  - Broad Network Access
  - Resource pooling
  - Rapid elasticity
  - Measured service
- These five traits are what are new (ish)

On-Demand

- In the past provisioning of computing time, processors, and storage was based upon up-front estimates and contractually agreed to months or years in advance
- With cloud it's self-service and on-demand

Broad Access

- In the past network access meant contracts with telephone/Internet providers
- Most cloud providers provide regional and often global ability to access resources

Resource Pooling

- Resource pooling came along with the virtual computing wave a few years ago
- With the cloud pooling is managed by the cloud provider to meet service level agreements

Rapid Elasticity

- Rapid elasticity is perhaps the most-obvious advantage of using the cloud;
  - If an organization needs to ramp up for a busy time of year (or influx of “big data”) a good cloud service will simply expand their memory and disk capacity as needed
  - When things slow down the cloud service can take the excess resources away
  - All automatically making sure you spend money only for resources you need when you need them

Measured Service

- Measured service is again an area where we have experience already but with key differences
  - Cloud systems can measure use to control elasticity and pooling automatically
    - Allowing applications to have required resources to run
    - Making sure costs are in line with usage

Cloud Service Models

- Many, many acronyms come along with the cloud; here are three that are common
  - IaaS Infrastructure as a Service
  - PaaS Platform as a Service
  - SaaS Software as a Service

IaaS

- Infrastructure as a Service means that the cloud provider gives you:
  - Hardware
  - Operations
  - Maybe core operating systems
- Does your organization really need to be in the Data Center Operations business?

PaaS

- Platform as a Service means the provider is responsible for some core software load
  - Operating System
  - Backup & Recovery
  - Disaster Recovery
  - Maybe a database and/or web server
- Is the day-to-day administration of platform keeping you from work that is important and unique to your business?

SaaS

- Software as a Service means that the provider has it all
  - Infrastructure
  - Platform
  - Software stack
    (e.g. SalesForce, Oracle Fusion)
- Huge portions of IT budgets are devoted to maintaining the existing code base; should your organization leverage the work of others so that you can focus on what is unique to your business?

Comparing Models

On-Premise	IaaS	PaaS	SaaS
			Customizations
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
Operating System	Operating System	Operating System	Operating System
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

Customer Managed	Vendor Managed

Services and Transport

On-Premises	IaaS	PaaS	SaaS
Personal Car	Leased Car	Rented Car	City Bus
- Your car - You buy gas - You provide maintenance - You choose direction of travel - You choose travel schedule	- Provider's car - You buy gas - You provide maintenance - You choose direction of travel - You choose travel schedule	- Provider's car - Gas might be provider option - Provider's maintenance - You choose direction of travel - You choose travel schedule	- Provider's vehicle - Provider's gas - Provider's maintenance - Provider has fixed route - Provider has fixed schedule

Cloud Deployment

- Cloud offering offer deployment options
  - Public — You have private areas in public resource pools
  - Private — Your resources stored in private resource pools
  - Hybrid — Some combination

What About Security?

- Really?
- What's your organization's budget for security?
- What do you suppose the budget is at Oracle, Amazon, or Microsoft for security?

- If cloud providers slip once; public embarrassment and exit of customers follows
- Your data is probably safer in the cloud

Oracle and the Cloud

- In case you missed it <grin> Oracle's into the Cloud in a big way… https://cloud.oracle.com/home
  - SaaS Fusion Apps finally goes big?
  - PaaS Reduces your administration load?
  - IaaS Takes you our of data center biz?

Oracle SaaS

- Oracle has exposed their applications stack as SaaS including:
  - Customer Experience
  - Human Capital Management (HCM)
  - Enterprise Resource Planning (ERP)
  - Supply Chain Management (SCM)
  - Enterprise Performance Management (EPM)
  - Analytics
  - Data
  - Social Media
  - More…

Oracle PaaS

- Oracle is ready to provide infrastructure and management including:
  - Database and Big Data
  - Middleware, Integration, and SOA
  - Application Development (Java, Developer, etc.)
  - Content and Collaboration
  - Business Analytics
  - More...

Oracle IaaS

- Oracle provides three families of IaaS:
  - Compute
  - Storage
  - Network

Wrapping it all Up

- Cloud is everywhere, cloud is here to stay
- You can benefit from the cloud
- Cloud is a significant enhancement of the "same-old-stuff"
  - On-demand self-service
  - Broad network access
  - Resource pooling
  - Rapid elasticity
  - Measured service
- Cloud helps focus on what's important

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PHOTO CREDIT: Mike Landrum, SQL Developer and the "Data Tsunami" from i-Behavior

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Please Complete Session Evaluations

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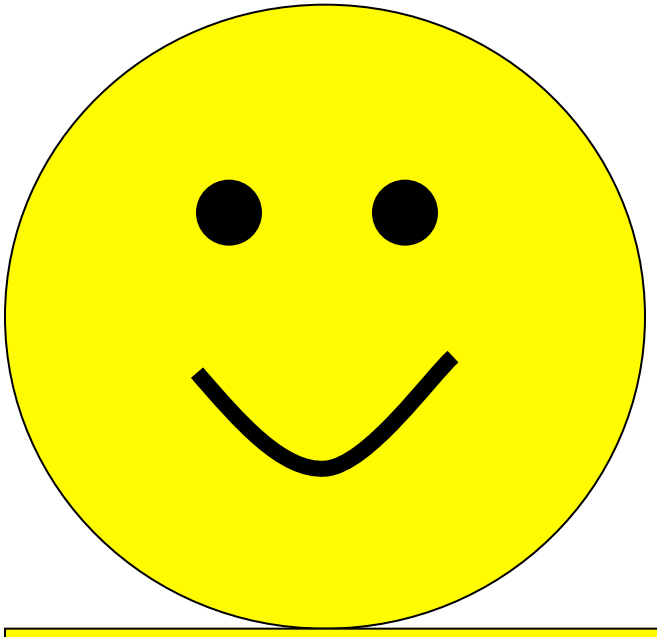

Thanks for your attention!

Today's slides and examples are on the web:

http://www.kingtraining.com

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