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The Hitchhikers Guide to the Cloud for the DBA



Ben Prusinski

Session 3: 11/15/2012 14:30 to 15:30

Location: Diablo

About the Speaker- Ben Prusinski

- Oracle ACE Director, OCP, Beta tester, Author, Underwater Photographer
- Avid scuba diver and student pilot in free time



Agenda

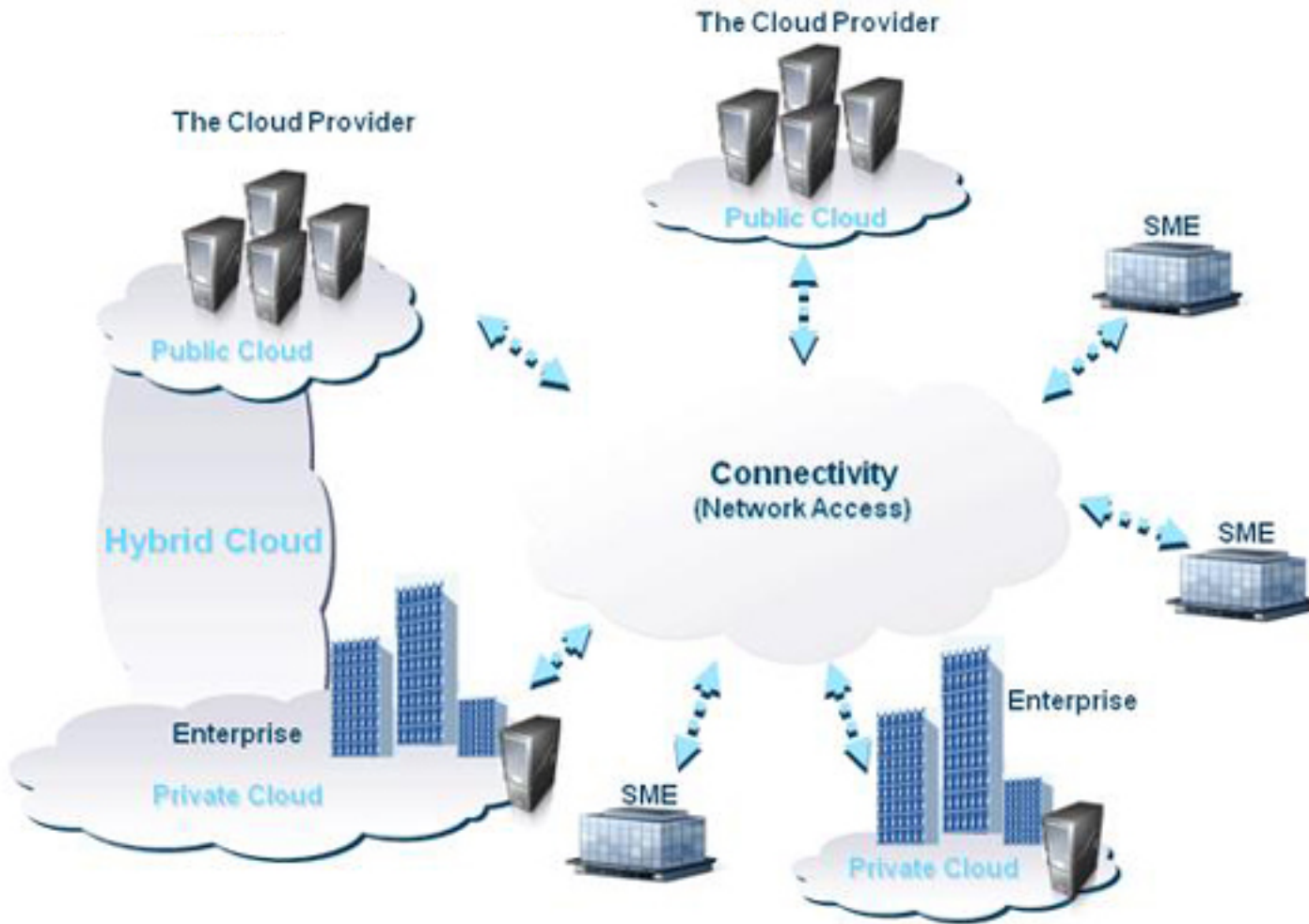
- Architecting Oracle for the cloud
- Migration strategies to the cloud
- Cloud security best practices
- High Available (HA) design for the cloud
- Scalability Performance for Oracle in the cloud

Architecture for the Cloud- some definitions

- Public Cloud
- Private Cloud
- Hybrid Cloud
- Converged Infrastructure



First the big picture



Public Cloud what is it?

- Public Cloud is open to the world

Known providers: Amazon and now Oracle Public Cloud

- Uses “pay as you go” model for hosted infrastructure and Oracle applications
- Advantages: prebuild hosted supported environment
- Disadvantages: less control, prone to issues for custom “home grown” based applications, uses one sized fits all type solution center model.

Public Cloud Design Considerations

- Security
- Performance
- Availability
- Scalability

- Same considerations as public BUT

Application integration key for private cloud configurations

Hybrid Cloud Design Guidelines

- Hybrid is mix of both public and private cloud for Oracle
- Application Integration Challenges to solve

Understanding Converged Infrastructures

- The “secret sauce” behind cloud systems
- Includes SaaS, IaaS and PaaS
- We need to first understand these constructs

SaaS- Software As A Service

- Software centrally hosted in the “cloud”
- Examples: Apple iCloud, Google Apps, Salesforce

IaaS- Infrastructure As A Service

- Key to converged infrastructure puzzle
- Example: Vblock from VCE
- End to End hardware and software stack for implementing cloud based solutions
- “Cloud in a can” ready turn key based systems
- A truly **complete end to end** tech cloud stack versus partial cloud stack (PaaS)

PaaS- Platform as a Service

- Compute plus solution stack (partial cloud stack)
- Examples: Flexpod from NetApp, Exalogic from Oracle
- Not a complete cloud solution more of a reference architecture!

Migrating to the Cloud- Considerations

- How do I migrate my legacy Oracle systems to the cloud?
- Platform migration challenges

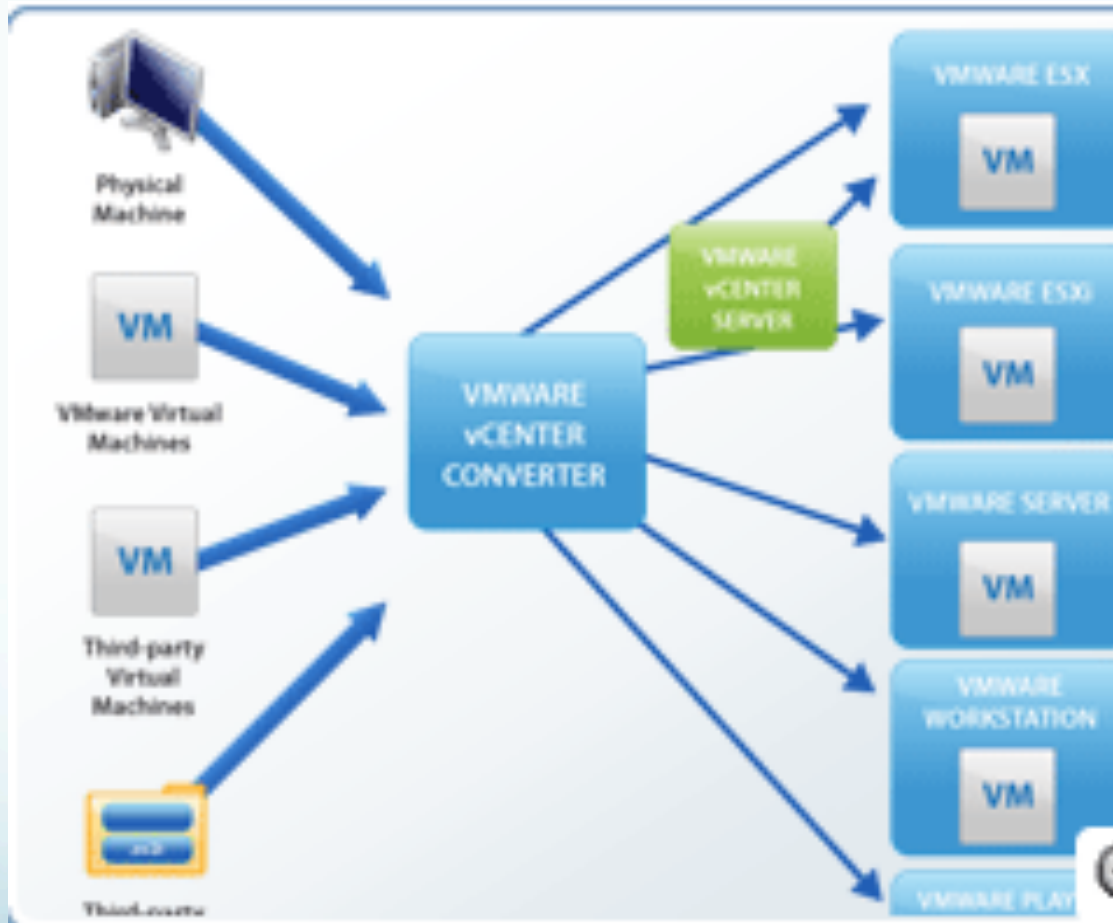
Example: Mainframe Oracle to x86 Linux based Oracle

Solution: use best in breed technologies to migrate to the cloud and tools to do so.

Migrating to the Cloud- Solutions

- Use software based migration tools from cloud vendors such as VMware and Oracle to export third party Oracle systems to cloud based infrastructure.
- Example: VMware vCenter Converter, Oracle VM tools.

Using VMware to migrate to cloud infrastructure



Using Oracle tools for migration to the Cloud

- Oracle SOA Suite and Oracle Data Integrator provide excellent tools to move legacy Oracle data to the cloud environment.
- Painless migrations from cross platform to new cloud infrastructure possible with Oracle tools.

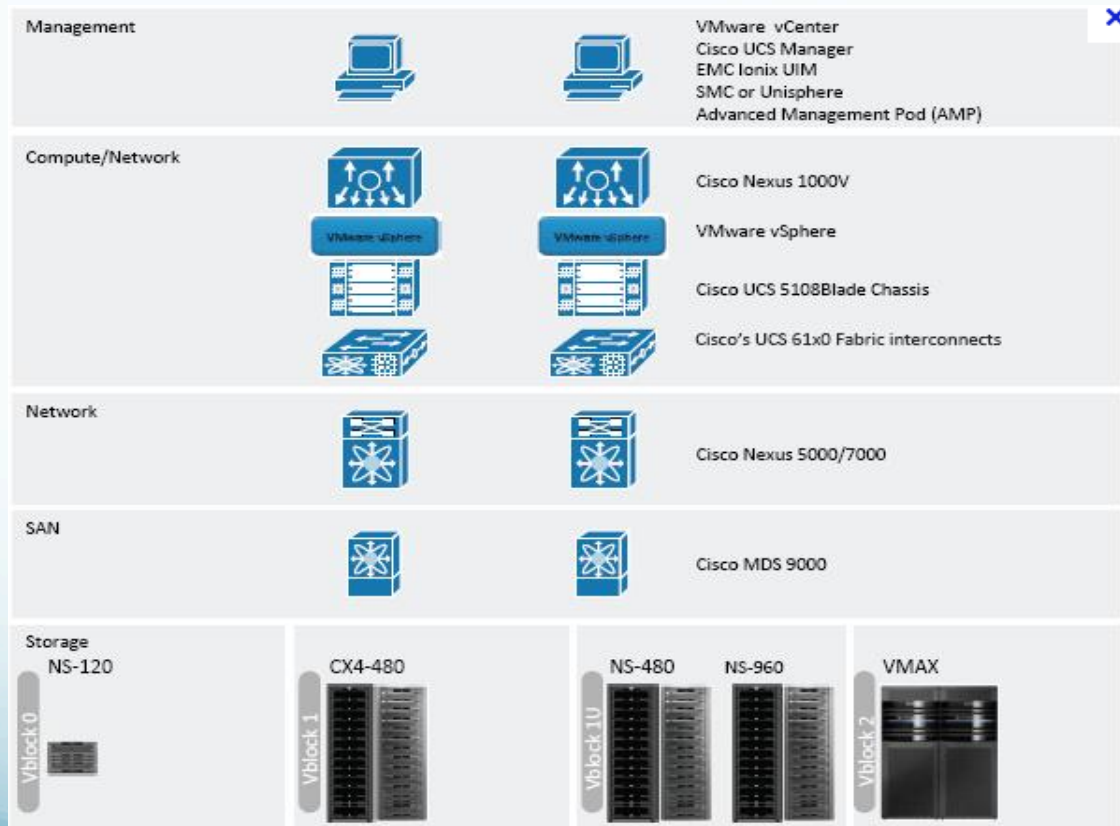
Oracle Cloud Solutions: Hosting

- Oracle has public cloud hosting service on demand

<http://cloud.oracle.com>

The screenshot displays the Oracle Cloud Solutions website. At the top, the Oracle logo is on the left, and a navigation bar includes links for 'Welcome Ben', 'Account', 'Sign Out', 'Help', 'Select Country/Region', 'Communities', 'I am a...', and 'I want to...'. A search bar is on the right. Below this is a secondary navigation menu with 'PRODUCTS AND SERVICES', 'SOLUTIONS', 'DOWNLOADS', 'STORE', 'SUPPORT', 'TRAINING', 'PARTNERS', and 'ABOUT'. A breadcrumb trail reads 'Solutions > Cloud > Overview'. The main content area features a large banner for 'Oracle Cloud' with the tagline 'Social. Mobile. Complete.' and 'ORACLE CLOUD SOLUTIONS'. Below the banner is a 'Read the story >' link and a horizontal menu with categories: 'Application Services', 'Social Services', 'Platform Services', 'Common Infrastructure Services', and 'Other Cloud Solutions'. The bottom section contains three promotional tiles: 'What's New' (Oracle Unveils Expanded Oracle Cloud Services Portfolio), 'Learn More' (RightNow CX Cloud Service), and 'Resources' (White paper: Oracle Fusion HCM Cloud Applications (PDF)). Each tile has a 'More >' link at the bottom.

- VCE (<http://www.vce.com>) provides a cloud infrastructure product called the Vblock which is converged infrastructure



- Virtualization hypervisor layer needs to be secured!
Use product such as vCloud Network and Security from VMware
- Security even more critical for application, database, and network layers in private/public cloud infrastructures.
- Don't leave it as an after thought!

High Availability in the Cloud for Oracle

- Use new technologies from VMware and Oracle for HA/DR strategy such as VMware Site Recovery Manager (SRM) and Oracle Data Guard for an end to end cloud data protection solution.
- TEST, TEST, TEST!

Scalability for Oracle in the Cloud

- As data growth expands exponentially in the next decade, organizations require a method to scale to accommodate tremendous volumes of new and current data!
- Cloud technologies allow you to scale easier and faster at rapid deployment with less time required
- Big data promise to offload Oracle environments with tools such as Hadoop and NoSQL can be integrated for processing online data stores for example.

Methods to scale for cloud based Oracle systems

- **Horizontal scale/scale out**- add new virtual machines, clustering, load balancing, storage tiering
- **Vertical scale/scale up**: fatter client servers, add CPU, memory to individual virtual machines, storage performance design for disk layouts

Q&A Discussion

