

How to Be a Successful DBA in the Changing World of Cloud and On-Premise Data

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Introduction

This session will introduce the benefits of using the Microsoft CloudOS offering as a consistent platform for private, public and hybrid cloud deployment. This is used as a foundation for the new Oracle partnership that was announced at Oracle Open World in September.

With the certification of the Microsoft Cloud offering based on Hyper-V virtualisation and Azure customers can now deploy their Oracle workload with full support. We will explain the 3 different Oracle licensing models.

An explanation will be given how to deploy Oracle applications and data both on premises with Windows Server 2012 and Hyper-V, as well as on Windows Azure and Hyper-V. From this we will provide a view on scenarios for leveraging the hybrid cloud. Special consideration is given to System Center 2012 for managing Oracle workloads across all cloud models.

One of our launching customers, Redknee Ltd. from Toronto, Canada, will demonstrate their new Utility Solution based on Oracle database and Linux which can be deployed both on premises and Azure.

Microsoft CloudOS – A consistent View at Private, Public and Hybrid Cloud

With the availability of cloud computing and its API-driven provisioning and configuration for virtualized server infrastructure, it becomes easier and cost-effective to set up development, test, and production environments using IaaS. The ability to obtain access to capacity in minutes reduces the lead time for these environments. In addition, the ability to script these environments combined with a pay-as-you-go model makes it reasonable and affordable to set up multiple environment types (development, test, production) in an automated and consistent fashion.

Microsoft CloudOS – One consistent Platform

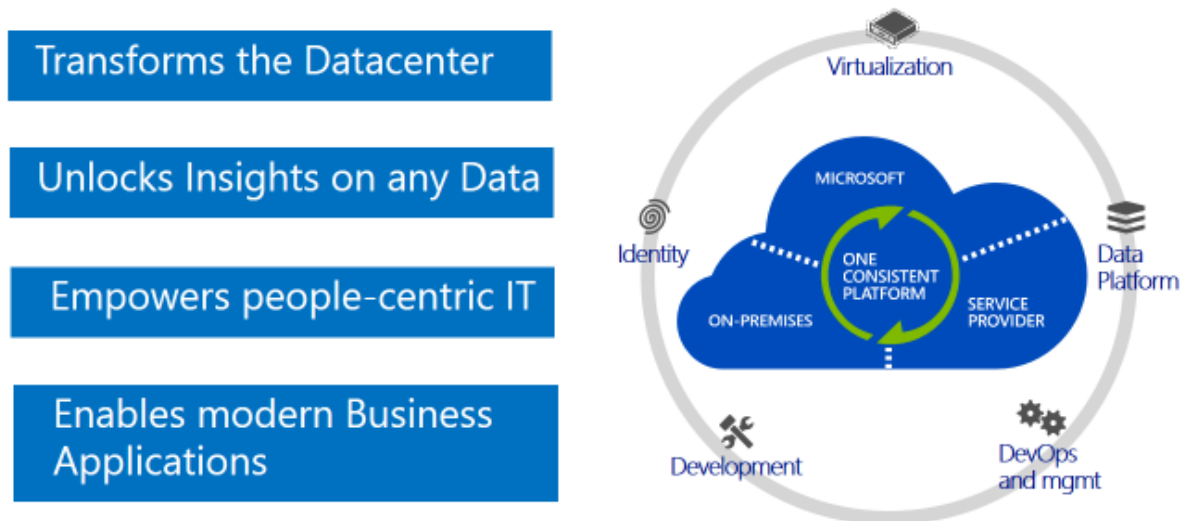


Illustration. 1: Microsoft CloudOS

Infrastructure as a Service (IaaS) also allows for quick architectural validation and reduces the number of servers that need on-premises configuration and maintenance, which drives down IT operational costs and allows IT to focus on value-added services to the business. Other services models including Software as a Service (SaaS) and Platform as a Service (PaaS) can be implemented based on Microsoft CloudOS.

Oracle on Windows Server 2012 and Hyper-V

Many customers are relying on Windows Server for deploying Oracle applications, application server and data for production, testing and development. Full integration with Active Directory LDAP is provided. System Center is offering a powerful and flexible management console for Oracle database, SQL Server and other databases. Visual Studio .NET for Oracle is commonly used as the development environment of choice.

As part of the new Oracle partnership announced at Oracle Open World 2013 customer can now deploy Oracle workloads to Windows Server 2012 Hyper-V as a certified hypervisor platform next to Oracle Virtual Manager. This includes full Oracle support when raising a service request.

Hyper-V is providing enterprise class virtualization for Oracle workloads:

Hosts:

- Support for up to 320 logical processors and 4TB physical memory per host
- Support for up to 1,024 virtual machines per host

Clusters:

- Support for up to 64 physical nodes and 8,000 virtual machines per cluster

Virtual Machines:

- Support for up to 64 virtual processors and 1TB memory per VM

Configuration of High Availability scenarios, such as Hyper-V Recovery Manager is available through Hyper-V Manager.

Oracle on Windows Azure and Hyper-V

Windows Azure is Microsoft's offering for building and provisioning Public Cloud services. In essence Windows Azure is a broad stack of services that runs in one of our global datacenters.

These services can be categorized into three classes:

- **Infrastructure Services** which provide capabilities for running virtual machines, virtual network and virtual storage for multiple data centers.
- **Data Services** that provide storage and data management capabilities to applications and databases
- **Application Services** which provide different capabilities to rapidly develop apps, scale and run apps securely at a global scale.

With the recent **Oracle – Microsoft Announcement** customers can deploy Oracle workloads to either Windows Server 2012 on premises with Hyper-V virtualization, to Windows 2012 Azure as public cloud services, or run Oracle workloads in Hybrid Cloud.

Oracle workloads can be deployed to Windows Azure using three different **licensing options**:

1. Bring Your Own License - Start a Windows Server Hyper-V or Oracle Linux virtual machine; install and configure software yourself.
2. Bring Your Own License – Use pre-configured VM images with Oracle Linux, Oracle Database and Oracle WebLogic Server to make it simpler for you to get started.
3. Use License-included Image - Microsoft provides pre-configured, Windows Server Hyper-V based images that include licenses for Oracle Database, Oracle WebLogic Server, and Java Development Kit. Oracle license is included during preview.

The current list of available Oracle license-included images can be found under this [Link](#).

Oracle Cloud Scenarios

A number of scenarios for deploying Oracle on Microsoft CloudOS are itemized below:

- Create a development and test sandbox in minutes.
Spin up Virtual Machines and begin developing or testing right away. Access your new development and test environment from any PC at work, remote office or in any internet connected location around the world.
- Develop Oracle applications on Hyper-V Virtual Machines.
Whether a single Hyper-V VM or a complex network of interconnected Virtual Machines, you can develop and test on Windows Azure. Oracle users can run Oracle Database, WebLogic Server and Java workload on top of Windows Server and Hyper-V, and also integrate to SQL Server, SharePoint and BizTalk Server. Choose from the Azure Gallery of pre-configured Oracle Images or create a new virtual machine with Oracle Database, WebLogic Server and Java platform and start coding right away.
- Test load or scalability.
Take advantage of the cloud to test your Oracle application under load without affecting your production applications. Test multiple scale-up and scale-out configurations to ensure your application is ready for customer usage.
- Accelerate Oracle application development.
Quickly create a test environment without major capital investments, making it easy to develop the next great full-trust application or Internet-facing site. Rapidly spin up a Oracle 11g or 12c database test environment without waiting. Let Windows Azure instantly scale with your development needs. Test in the cloud with no impact to your production environments, roll-out on-premises or in the cloud when ready.

- Connect securely from anywhere.
With point-to-site Virtual Network, you can securely connect from behind your company firewall or from a coffee shop directly to the network running in Windows Azure to test your applications. No changes are required from your IT staff.

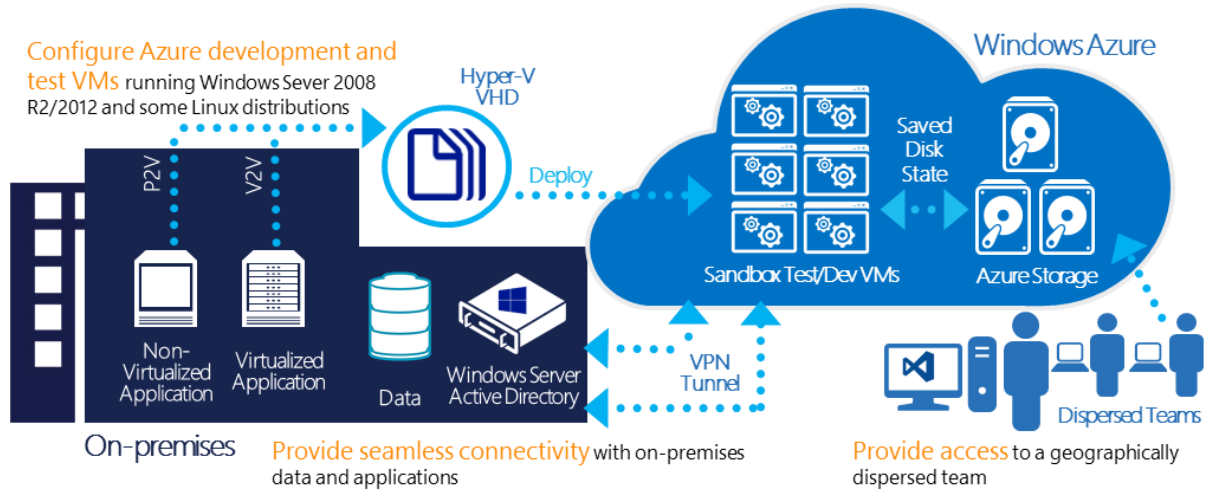


Illustration. 2: Oracle Development and Test on Windows Azure

Oracle Self-Service Kit for even faster deployment.

Create repeatable development and test environments using System Center 2012 Self-Service Kit for Oracle Database. Fully automate the creation of multiple virtual configurations including multiple Oracle Virtual Machines and Virtual Network that automatically creates and links all the necessary resources. Stop and start Oracle virtual machines to optimize costs.

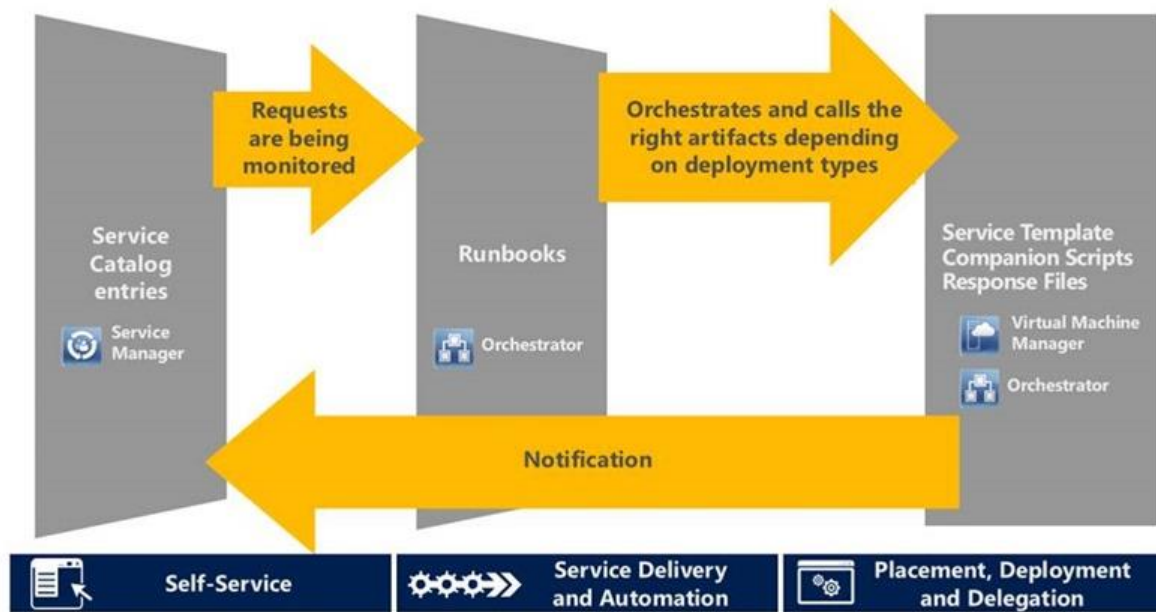


Illustration. 2: System Center 2012 with Oracle Self-Service Kit

The Oracle SSK offered pre-defined System **Orchestrator Runbooks** to cover 4 different Oracle database deployment scenarios:

“Server” scenarios:

- (1) Deploying a new standalone virtual machine with database software only, as part of an “Oracle virtual farm”
- Under the hood, Orchestrator leverages a VMM service template. A “farm” of Oracle database instances is created if it does not exist yet, otherwise it is scaled out.

”Database” scenarios:

- Deploying a new (2) database or (3) schema on an existing “shared” infrastructure of Oracle database servers
- (4) Deploying a new database on a new dedicated Oracle server
- Under the hood, Orchestrator leverages unattended Oracle Database installs and PowerShell commands, to create a database/schema on an existing or new virtual machine

System Center 2012 can be used as the **common administration framework** for managing Oracle workloads across private, public and hybrid cloud.

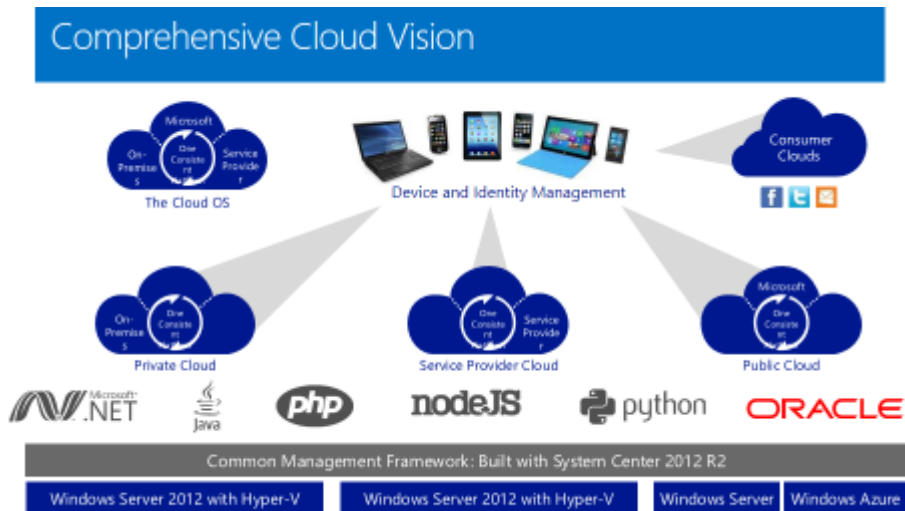


Illustration. 4: Cloud Management with System Center 2012

Further Reading

- Evaluate Microsoft CloudOS offering and services at msft.it/trycloudos
- Use the Oracle Self Service Kit to manage Oracle on Windows Server <http://aka.ms/orclssk>
- Try Oracle software on Windows Azure at www.windowsazure.com/oracle
- Learn how to use Oracle images on Windows Azure at <http://go.microsoft.com/fwlink/?linkid=321002&clid=0x409>
- Take technical training at www.microsoftvirtualacademy.com

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