Microsoft Azure: Infrastructure as a Service (IaaS)

Module 1: Microsoft Azure Overview

Section 1: Cloud Computing Introduction

Microsoft Confidential

Prerequisites

- Windows 7, Windows 8, Windows Server 2008 R2 and Windows Server 2012
- Microsoft Azure PowerShell
- Microsoft Azure account

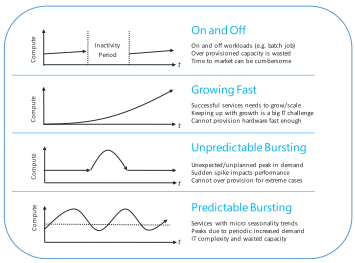
Microsoft Confidential

What is the Cloud?

- An approach to computing that is about Internet scaling and connecting to a variety of devices and endpoints

Microsoft Confidential

Cloud Computing Patterns

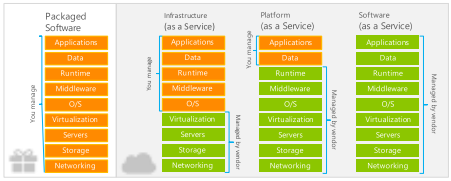


Microsoft Confidential

Cloud Computing

Microsoft Confidential

Cloud Computing (continued)



Microsoft Confidential

Module 1: Microsoft Azure Overview

Section 2: Microsoft Azure

Microsoft Confidential

Global Footprint

20 Regions Worldwide

Microsoft Confidential

How are Microsoft Azure Charges Incurred?

- Pay only for what you use*
- VMs (IaaS and web/worker role) usage is by the minute
  - Previous usage rounded up to one hour
- VMs (IaaS only) that are stopped in Microsoft Azure, only storage charges apply

*Microsoft Azure Enterprise Agreement (EA) billing process differs

Microsoft Confidential

Microsoft Azure Compute

App Service

Cloud Services

Virtual Machines (VMs - IaaS)

Microsoft Confidential

Microsoft Azure App Service

- App Service – fully managed platform in Azure for web, mobile and integration scenarios. This includes
  - Web Apps – Enterprise grade web applications
  - Mobile Apps *(preview)* - Build native and cross platform apps for iOS, Android, and Windows apps or cross-platform Xamarin or Cordova (Phonegap) apps
  - API Apps *(preview)* – API apps in Azure App Service are used to develop, publish, manage, and monetize APIs.
  - Logic Apps *(preview)* - Allows developers to design workflows that articulate intent via a trigger and series of steps, each invoking an App Service API app

Microsoft Confidential

Microsoft Azure Cloud Services

- Role – a configuration passed to Azure to tell Azure how many machines of which size and configuration to build for you
  - Web Role – Virtual machine with IIS installed
  - Worker Role – Virtual machine without IIS installed
  - Ability to mix together multiple role configurations within a single Cloud Service
- Package – Source code binaries are packaged and sent with the configuration file to Azure
- Highly scalable – can exceed number of machines capability of App Service Web Apps
- Allows RDP into individual VMs
- Cloud Services are also used to contain IaaS virtual machines *(V1- Classic)*

Microsoft Confidential

High Level view of Virtual Machine Services

- Compute resources
  - Virtual Machines
  - VM Extensions
- Storage Resources
  - Blobs, tables, queues and Files functionality
  - Storage accounts (blobs) – Standard & Premium Storage
- Networking Resources
  - Virtual networks
  - Network interface cards (NICs)
  - Load balancers
  - IP addresses
  - Network Security Groups

Microsoft Confidential

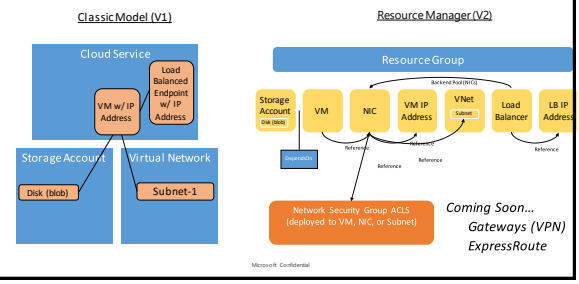
Managing Azure Deployments

Azure Service Manager (ASM)
- Traditional way to deploy and manage applications hosted in Azure
- Azure Portal https://manage.windowsazure.com
- PowerShell / CLI (default mode)
- REST API

Azure Resource Manager (ARM)
- Modern way to deploy and manage applications hosted in Azure
- Azure Portal https://portal.azure.com
- PowerShell / CLI (ARM mode)
- REST API
- Azure Resource Management Library for .NET

MICROSOFT CONFIDENTIAL

Management models for IaaS



Demo: Management Portals

Microsoft