



# OpenShift on Microsoft Azure

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Cloud Solution Architect



Microsoft  Linux



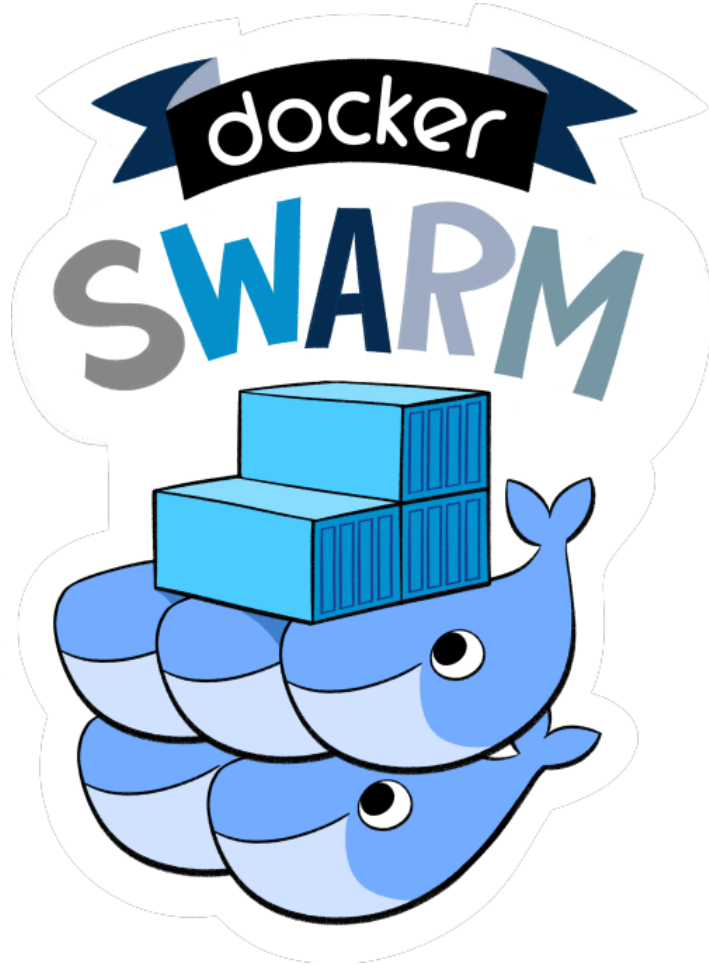
# Docker Container Orchestrator on Azure?



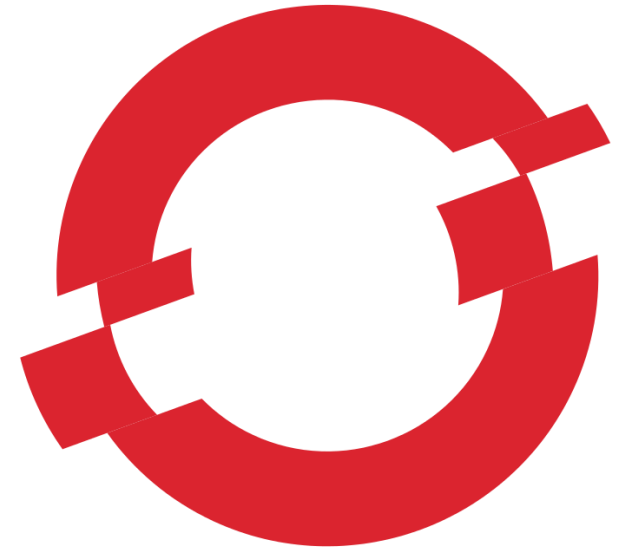
kubernetes



CLOUD  
FOUNDRY™



DC/OS



OPENSIFT

# Agenda

- Microsoft and Redhat
- Azure overview
- Openshift Deployment

# Microsoft and Redhat

# Red Hat/Microsoft Strategic Partnership



Microsoft joins the Red Hat Certified Cloud and Service Provider program (CCSP)

Red Hat products offered and supported on Microsoft Azure  
Microsoft Windows supported on Red Hat Enterprise Linux  
OpenStack Platform and Red Hat Enterprise Virtualization

Integrated support services for hybrid clouds, including Red Hat products in on-premises customer environments and on Microsoft Azure

Management tooling integration for open hybrid cloud implementations with Red Hat CloudForms

Microsoft .NET integration and availability with Red Hat Enterprise Linux, including Atomic Host, and OpenShift by Red Hat



<https://www.redhat.com/en/microsoft>

<https://azure.microsoft.com/campaigns/redhat/>

# Azure overview



# 38

## Azure regions

2X the number of  
AWS regions

### RECENTLY LAUNCHED:

US Regions: West US 2 and West Central  
Germany – Launched in Sep 2016  
United Kingdom – Launched in Sep 2016

### NEWLY ANNOUNCED:

France: France Central and France South  
Korea: Korea Central and Korea South  
DoD East and Central



# Momentum

120,000

New Azure customer  
subscriptions/month



150 billion

Azure SQL query  
requests processed/day



715 million

Azure Active  
Directory users



120 billion

Hits to websites run on  
Azure Web App Service



>85%

of Fortune 500 use  
Microsoft Cloud



# Linux workloads on Azure


— % of IaaS VMs  
in Azure are Linux

# Linux workloads on Azure

**30** % of IaaS VMs  
in Azure are Linux

# Openshift Deployment

## Security & Management

-  Security Center
-  Portal
-  Azure Active Directory
-  Azure AD B2C
-  Multi-Factor Authentication
-  Automation
-  Scheduler
-  Key Vault
-  Store/Marketplace
-  VM Image Gallery & VM Depot





## Media & CDN

-  Media Services
-  Media Analytics
-  Content Delivery Network







## Integration

-  API Management
-  BizTalk Services
-  Logic Apps
-  Service Bus







## Compute Services

-  Container Service
-  VM Scale Sets
-  Batch
-  RemoteApp
-  Dev/Test Lab

## Application Platform








-  Web Apps
-  Mobile Apps
-  API Apps
-  Cloud Services
-  Service Fabric
-  Notification Hubs
-  Functions

## Developer Services

-  Visual Studio
-  Mobile Engagement
-  VS Team Services
-  Xamarin
-  Application Insights
-  HockeyApp

## Platform Services










## Data

-  SQL Database
-  SQL Data Warehouse
-  DocumentDB
-  SQL Server Stretch Database
-  Redis Cache
-  Storage Tables
-  Azure Search









## Intelligence

-  Cognitive Services
-  Bot Framework
-  Cortana

## Analytics & IoT

-  HDInsight
-  Machine Learning
-  Stream Analytics
-  Data Catalog
-  Data Lake Analytics Service
-  Data Lake Store
-  IoT Hub
-  Event Hubs
-  Data Factory
-  Power BI Embedded

## Hybrid Cloud

-  Azure AD Health Monitoring
-  AD Privileged Identity Management
-  Domain Services
-  Backup
-  Operational Analytics
-  Import/Export
-  Azure Site Recovery
-  StorSimple

## Infrastructure Services

## Compute

-  Virtual Machines
-  Containers

## Storage

-  Blob
-  Queues
-  Files
-  Disks

## Networking

-  Virtual Network
-  Load Balancer
-  DNS
-  Express Route
-  Traffic Manager
-  VPN Gateway
-  App Gateway

Datacenter Infrastructure (32 Regions, 24 Online)



# Openshift on Azure



Microsoft  
Azure



Resource  
group

Management PIP

Application PIP

<...>  
Virtual Network



Master



VHD



VHD



Infranode



VHD



VHD



Node01



Node02



Node03



NodeXX



Storage (Azure)



Storage (Azure)



Storage (Azure)

# Imperative

## PowerShell

```
New-AzureRmAvailabilitySet -ResourceGroupName rgname  
                           -Name avname  
                           -Location "West US"  
                           -PlatformUpdateDomainCount 20  
                           -PlatformFaultDomainCount 3
```

## CLI

```
azure availset create -g rgname -n avname -l westus  
-a 20 -b 3
```

# Declarative

```
{  
  "$schema":  
    "https://schema.management.azure.com/schemas/2015-01-  
01/deploymentTemplate.json#",  
  "contentVersion": "1.0.0.0",  
  "parameters": {},  
  "variables": {},  
  "resources": [{  
    "type": "Microsoft.Compute/availabilitySets",  
    "name": "avname",  
    "apiVersion": "2015-06-15",  
    "location": "West US",  
    "properties": {  
      "platformFaultDomainCount": "3",  
      "platformUpdateDomainCount": "20"  
    }  
  }  
}]
```

# Live Demo

Openshift Origin on Azure



<http://aka.ms/openshift-links>