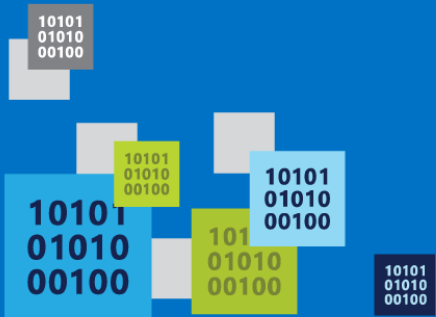# Microsoft Azure

Dae Woo Kim (daewoo.kim@)

Technology Evangelist

Microsoft Korea
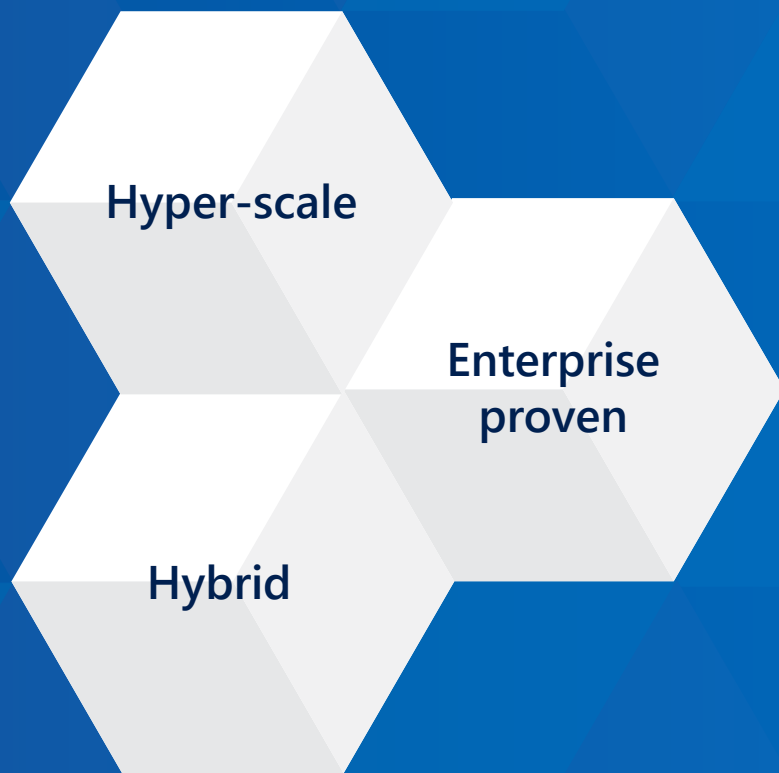
Microsoft

28

Azure regions
Hyper-scale
around the world

Latest launch was in October 2015-
India – Central, India – South, India – West

GENERALLY AVAILABLE

6 new regions announced: Canada Central, Canada East, Germany Central, Germany North East, United Kingdom (2 – regions TBD)

>80%
of Fortune 500 use the Microsoft Cloud

Microsoft Azure

Getting started

Management portal

Scripting
(Windows, Linux and Mac)

REST API

Comprehensive
Networking

Select image and VM size

Windows Server

Linux

General Purpose
          Basic
          Standard
Optimized Compute
Performance Optimized
Network Optimized

New disk persisted in storage

Boot VM from new disk

Blob
Storage

Cloud

Virtual Machines

Microsoft

Azure Virtual Machines

→ Launch Windows Server and Linux in minutes

→ Scale from 1 to 1000s of VM Instances

→ Save money with per-minute billing

→ Open and extensible

Provisioning VM

Getting Started

Management Portal

Scripting
(Windows, Linux and Mac)

REST API

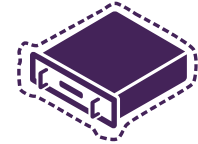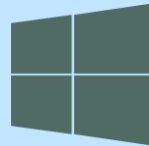## Select Image and VM Size

Windows Server

Linux

General Purpose
Basic
Standard
Optimized Compute
Performance Optimized
Network Optimized

New Disk Persisted in Storage

Boot VM from New Disk
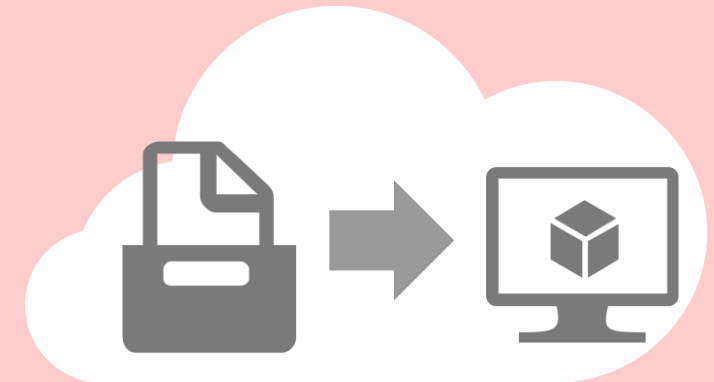
Cloud

Microsoft

VM Gallery

A COLLECTION OF PREBUILT IMAGES FOR VARIOUS WORKLOADS

Windows Server 2012 R2	Ubuntu Server 14.04 LTS	CentOS 6.5
SUSE Linux Enterprise Server	openSUSE 13.1	Oracle Linux 6.4.0.0.0
SQL Server 2014 Standard	Oracle Database 11g R2	BizTalk Server 2013
SharePoint Server Farm	Microsoft Dynamics GP 2013	Zulu 8
SAP HANA Developer Edition	Puppet Enterprise 3.2.3	Barracuda Web Application
Oracle WebLogic Server 12.1.2	Visual Studio Ultimate 2013	Windows 8.1 Enterprise

Microsoft

Virtual Machine Sizes

- General Purpose compute: **Basic**

- General Purpose compute: **Standard**

- Optimized Compute

- Performance Optimized

- Network Optimized

Microsoft

Scale-up options

Highest value ←——————————————————————→ **Largest scale-up**

A

Highest value

D

New Generation
of Data-only VMs

SSD Storage
Faster CPUs

35% faster than D

Intel E5-2673 v3 CPUs

G

Most memory
fastest CPUs

N

80,000 IOPS
Premium Storage

GPU-enabled
virtual machines

NVIDIA GPUs

Remote visualization

Compute-intensive + RDMA
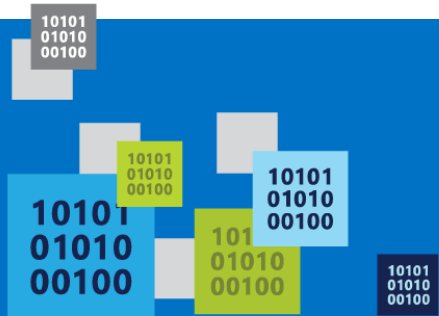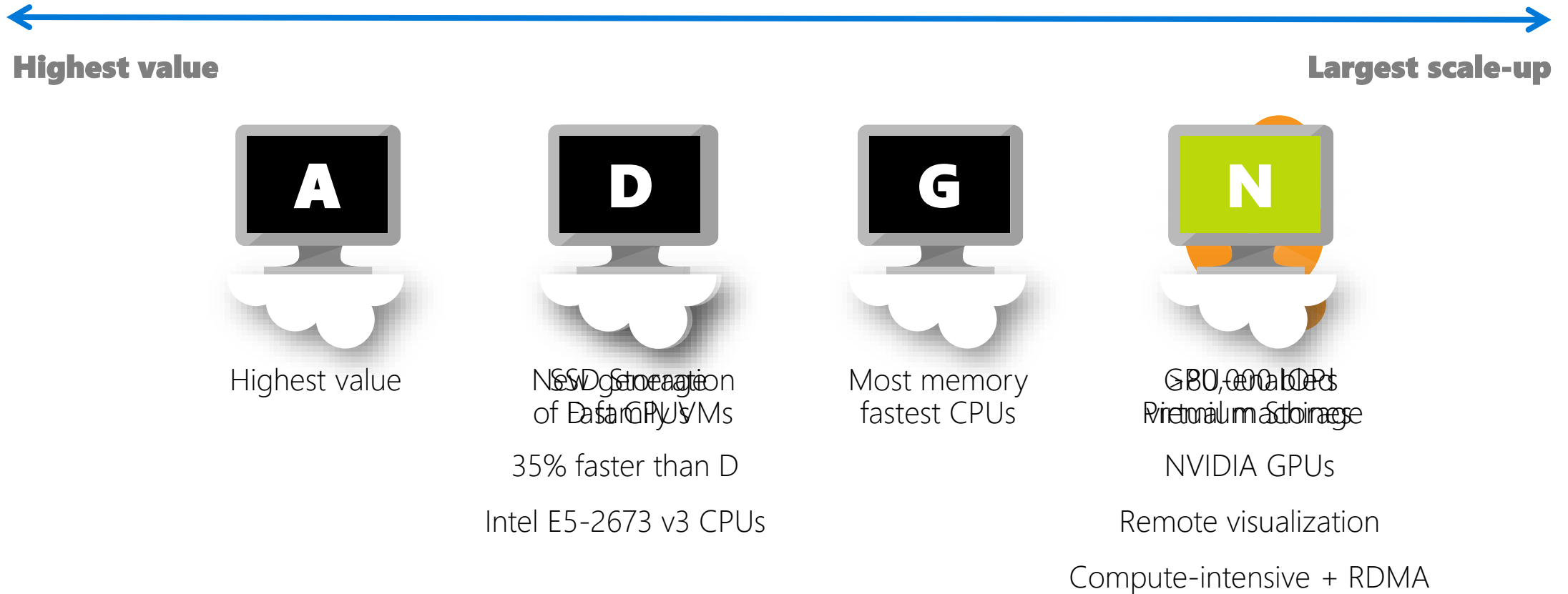
Largest virtual machines
Fastest storage in the public cloud

General Purpose Compute

Basic Tier

An economical option for development workloads, test servers, and other applications that don't require load balancing, auto-scaling, or memory-intensive virtual machines.

Instance	Cores	RAM	Disk sizes
A0	1	0.75 GB	20 GB
A1	1	1.75 GB	40 GB
A2	2	3.5 GB	60 GB
A3	4	7 GB	120 GB
A4	8	14 GB	240 GB

Microsoft

General Purpose Compute

Standard Tier

Offers the most flexibility. Supports all virtual machine configurations and features

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Max. IOPS (500 per disk)
Standard_A0\ExtraSmall	1	768 MB	1	Temporary = 20 GB	1	1x500
Standard_A1\Small	1	1.75 GB	1	Temporary = 70 GB	2	2x500
Standard_A2\Medium	2	3.5 GB	1	Temporary = 135 GB	4	4x500
Standard_A3\Large	4	7 GB	2	Temporary = 285 GB	8	8x500
Standard_A4\ExtraLarge	8	14 GB	4	Temporary = 605 GB	16	16x500
Standard_A5	2	14 GB	1	Temporary = 135 GB	4	4X500
Standard_A6	4	28 GB	2	Temporary = 285 GB	8	8x500
Standard_A7	8	56 GB	4	Temporary = 605 GB	16	16x500

General Purpose Compute

Network optimized with Infiniband support

Adds a 40Gbit/s InfiniBand network with remote direct memory access (RDMA) technology.

Instance	Cores	RAM	Disk sizes
A8	8	56 GB	382 GB
A9	16	112 GB	382 GB

Adds a 40Gbit/s InfiniBand network with remote direct memory access (RDMA) technology. Ideal for Message Passing Interface (MPI) applications, high-performance clusters, modeling and simulations, video encoding, and other compute or network intensive scenarios.

Microsoft

Optimized Compute (D Tier)- 60% faster CPUs, more memory, and local

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Max. IOPS (500 per disk)
Standard_D1	1	3.5 GB	1	Temporary (SSD) =50 GB	2	2x500
Standard_D2	2	7 GB	2	Temporary (SSD) =100 GB	4	4x500
Standard_D3	4	14 GB	4	Temporary (SSD) =200 GB	8	8x500
Standard_D4	8	28 GB	8	Temporary (SSD) =400 GB	16	16x500
Standard_D11	2	14 GB	2	Temporary (SSD) =100 GB	4	4x500
Standard_D12	4	28 GB	4	Temporary (SSD) =200 GB	8	8x500
Standard_D13	8	56 GB	8	Temporary (SSD) =400 GB	16	16x500
Standard_D14	16	112 GB	8	Temporary (SSD) =800 GB	32	32x500

Dv2 Series- 35% faster than D series, 2.4 GHz Intel Xeon® E5-2673 v3

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Max. IOPS (500 per disk)
Standard_D1_v2	1	3.5 GB	1	Temporary (SSD) =50 GB	2	2x500
Standard_D2_v2	2	7 GB	2	Temporary (SSD) =100 GB	4	4x500
Standard_D3_v2	4	14 GB	4	Temporary (SSD) =200 GB	8	8x500
Standard_D4_v2	8	28 GB	8	Temporary (SSD) =400 GB	16	16x500
Standard_D5_v2	16	56 GB	8	Temporary (SSD) =800 GB	32	32x500
Standard_D11_v2	2	14 GB	2	Temporary (SSD) =100 GB	4	4x500
Standard_D12_v2	4	28 GB	4	Temporary (SSD) =200 GB	8	8x500
Standard_D13_v2	8	56 GB	8	Temporary (SSD) =400 GB	16	16x500
Standard_D14_v2	16	112 GB	8	Temporary (SSD) =800 GB	32	32x500

DS-series VMs can use Premium Storage- high-performance, low-latency storage.

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Cache size (GB)	Max. disk IOPS & bandwidth
Standard_DS1	1	3.5	1	Local SSD disk = 7 GB	2	43	3,200 32 MB per second
Standard_DS2	2	7	2	Local SSD disk = 14 GB	4	86	6,400 64 MB per second
Standard_DS3	4	14	4	Local SSD disk = 28 GB	8	172	12,800 128 MB per second
Standard_DS4	8	28	8	Local SSD disk = 56 GB	16	344	25,600 256 MB per second
Standard_DS11	2	14	2	Local SSD disk = 28 GB	4	72	6,400 64 MB per second

Microsoft Azure

G-series VMs offer the most memory and run on hosts that have Intel Xeon E5 V3 family processors.

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Max. IOPS (500 per disk)
Standard_G1	2	28 GB	1	Local SSD disk = 384 GB	4	4 x 500
Standard_G2	4	56 GB	2	Local SSD disk = 768 GB	8	8 x 500
Standard_G3	8	112 GB	4	Local SSD disk = 1,536 GB	16	16 x 500
Standard_G4	16	224 GB	8	Local SSD disk = 3,072 GB	32	32 x 500
Standard_G5	32	448 GB	8	Local SSD disk = 6,144 GB	64	64 x 500

Microsoft

GS-series VMs , Godzilla ++ (Premium Storage- high-performance, low-latency storage

Size	CPU cores	Memory	NICs (Max)	Max. disk size	Max. data disks (1023 GB each)	Cache size (GB)	Max. disk IOPS & bandwidth
Standard_GS1	2	28	1	Local SSD disk = 56 GB	4	264	5,000 125 MB per second
Standard_GS2	4	56	2	Local SSD disk = 112 GB	8	528	10,000 250 MB per second
Standard_GS3	8	112	4	Local SSD disk = 224 GB	16	1056	20,000 500 MB per second
Standard_GS4	16	224	8	Local SSD disk = 448 GB	32	2112	40,000 1,000 MB per second
Standard_GS5	32	448	8	Local SSD disk = 896 GB	64	4224	80,000 2,000 MB per second

Microsoft ❤️ Linux

The Register®
Biting the hand that feeds IT

DATA CENTRE SOFTWARE NETWORKS SECURITY BUSINESS HARDWARE SCIENCE BOOTNOTES

Redmond top man Satya Nadella: 'Microsoft LOVES Linux'

Open-source 'love' fairly runneth over at cloud event

siliconANGLE

Microsoft adds Linux monitoring to Azure in continued open-source push

by Maria Deutscher | Jun 11, 2015 | 0 comments

Val Bercovici
@valb00
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Has hell frozen over or was that a pig I just saw flying overhead? 😜
Kudos to @Microsoft for getting your mojo back!

Open at Microsoft @OpenAtMicrosoft
"We love #Linux, we love #Docker, we love #Mesosphere..."
@markrussinovich & @benh talking containers at #AzureCon

RETW
3

Indefinite Ceiling
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@Azure and its supports Linu
Microsoft. #AzureCon #Linu

Announcing: Azure HDInsight Li

ubuntu ® Supported by Canonical ➕ Hortonworks ➕ M

TWEET FAVORITES
3

:37 AM - 29 Sep 2015

proprietary software,
have changed.

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Microsoft talking open source at #ATO2015. I don't think Microsoft means what you think it means any more...

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@Scottgu blew thru #AzureCon container news; if not obvious, it's Linux based containers. #MSFT loves Linux more each month.

RETWEETS FAVORITES
11   7

8:33 AM - 29 Sep 2015

Microsoft is committed to Linux and open source

Linux is a real business for Microsoft

25% of IaaS VMs in Azure are Linux	System Center manages hundreds of thousands of Linux/UNIX servers	Many enterprises and service providers run Linux as a guest on Hyper-V

... and we're been in a long open source journey!

System Center has managed Linux and UNIX servers since 2009	Linux drivers for Hyper-V available since 2010	Azure IaaS has run Linux VMs since "day 1" in 2013

Today Linux and open source are a fundamental part of how we do business

Get started

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