

FUTURE DECODED

6-7 OTT '16 / MILANO

IN PARTNERSHIP WITH:



CommunityDays.it

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Gestione degli scenari ibridi con Microsoft Azure

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Who am I?

NICOLA FERRINI



Agenda

- What's cloud? (private or public)
- Azure platform overview
- IAAS foundational components
- What's new with IAAS



What is Cloud?

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Characteristics, Services and deployment models

Broad
Network
Access

Rapid
Elasticity

Resource
Pooling

Measured
Service

On-Demand
Self-service

Infrastructure as
a Service
(IaaS)

Platform as a
Service
(PaaS)

Software as a
Service
(SaaS)

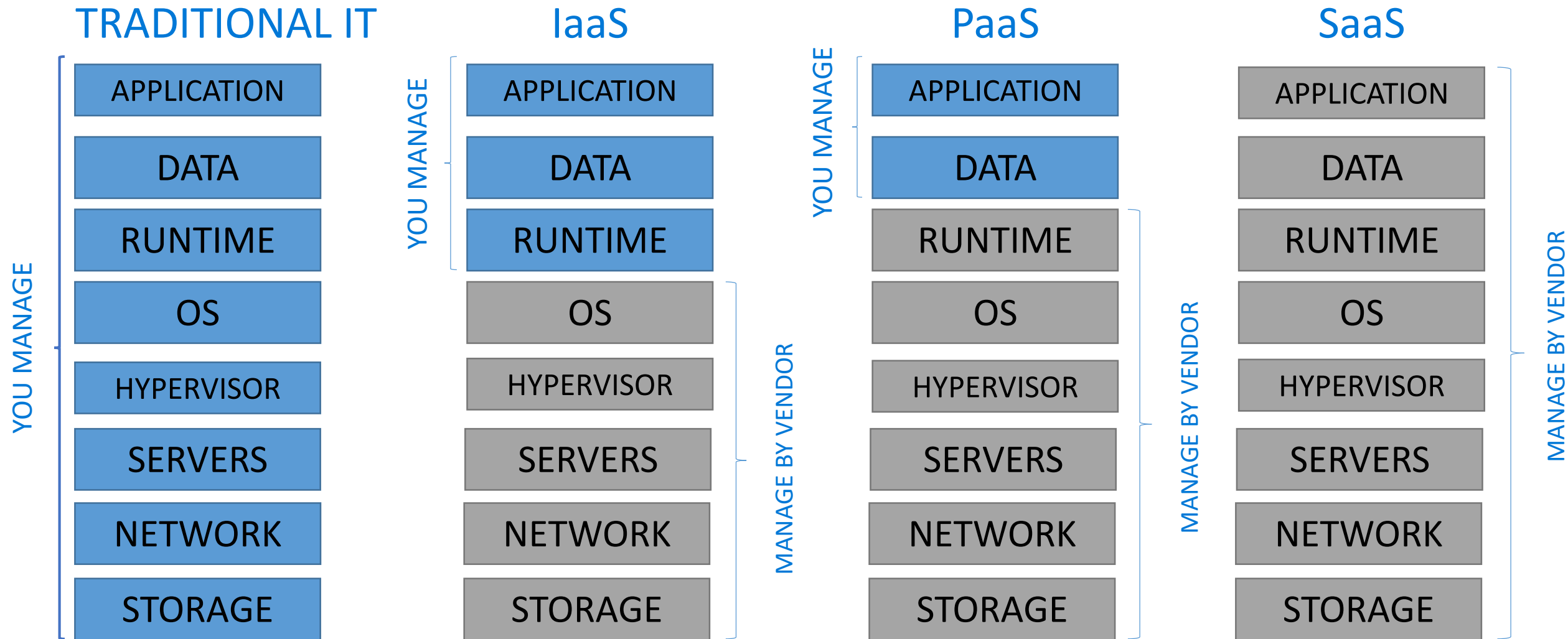
PRIVATE

COMMUNITY

PUBLIC

HYBRID

What do you manage in public cloud?



Azure regions

Azure is generally available in 30 regions around the world, and has announced plans for 4 additional regions. Geographic expansion is a priority for Azure because it enables our customers to achieve higher performance and it support their requirements and preferences regarding data location.

[Explore products per region ▶](#)



A nighttime cityscape featuring a multi-level highway with long-exposure light trails from cars. In the background, several tall skyscrapers are illuminated, with one particularly prominent tower. The scene is split vertically by a diagonal line, with the left side being darker and the right side showing more vibrant light trails and building lights.

Designing Azure compute infrastructure for advanced performance

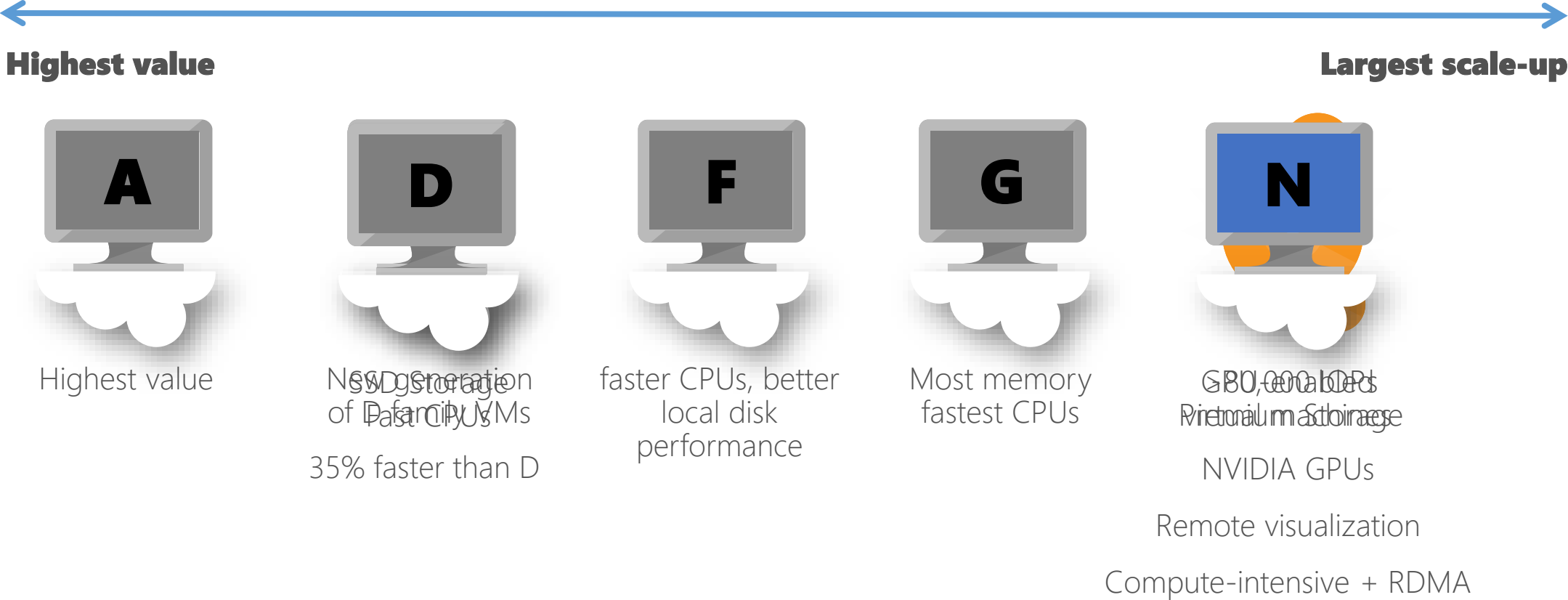
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Virtual Machines

- Infrastructure-as-a-Service offering that allows you to deploy compute instances in minutes to be used for Windows or Linux workloads.
- Features:
 - Use images built by the product teams to deploy workloads such as SQL Server, SharePoint and Apache
 - Attach, format and configure multiple disks for a VM
 - Remotely connect to a Windows or Linux VM
 - Select between VM sizes (A, D, DS, F, Fs, G and GS)
 - Select a Basic or Standard tier VM

Scale-up options

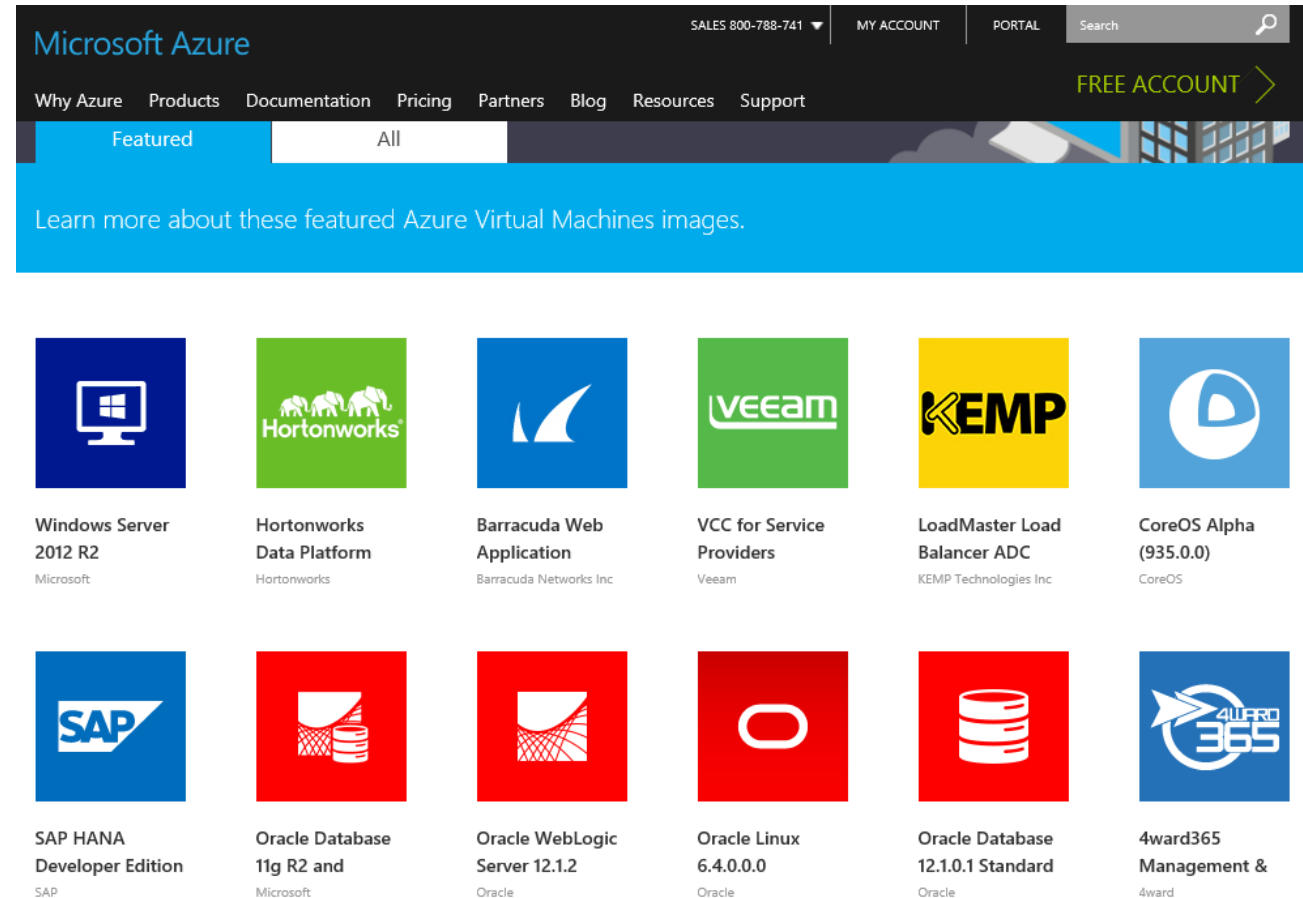


Largest virtual machines
Fastest storage in the public cloud

Using Images to Construct Virtual Machines

Many images are already provided by Microsoft:

- Microsoft SQL Server
- Microsoft SharePoint
- OpenSUSE
- Ubuntu
- Microsoft BizTalk Server
- Docker
- Open source and third-party images



A nighttime cityscape featuring tall skyscrapers with illuminated windows. In the foreground, a multi-lane highway shows long-exposure light trails from cars, with red and white streaks indicating movement. A pedestrian bridge with a railing and some greenery is visible on the right side of the highway.

Designing Azure storage infrastructure for advanced performance

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Azure Storage

Reliable and scalable storage service for data of all types and sizes

- Features:

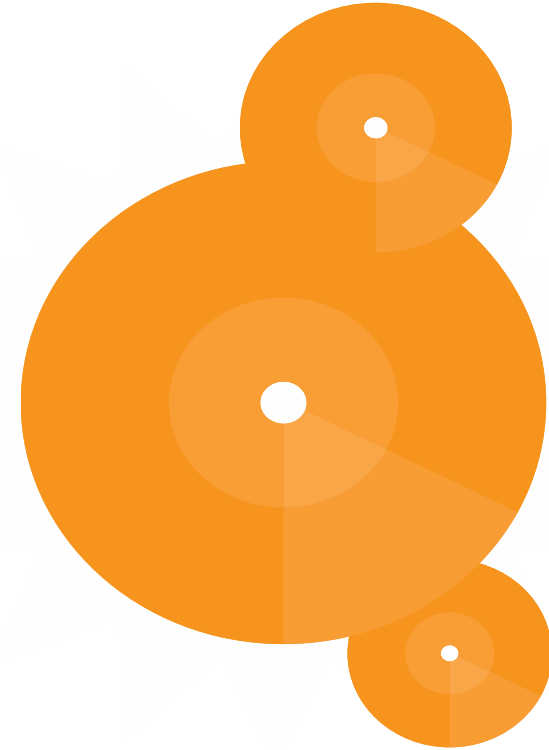
- Select a datacenter for storage
- Configure geo-replication options
- Manage blobs and files
- Secure a container
- Upload files
- Access files

Azure storage types

	Locally Redundant Storage (LRS)	Zone Redundant Storage (ZRS)	Geographically Redundant Storage (GRS)	Read-Access Geographically Redundant Storage (RA-GRS)
How it works	Makes multiple synchronous copies of your data within a single datacenter	Stores three copies of data across multiple datacenters within or across regions. For block blobs only	Same as LRS, plus multiple asynchronous copies to a second datacenter hundreds of miles away	Same as GRS, plus read access to the secondary datacenter
Total copies	3	3	6	6
Why use it	For economical local storage or data governance compliance	An economical, higher durability option for block blob storage	For protection against a major datacenter outage or disaster	Provides read access to data during an outage, for maximum data availability and durability
Availability SLA	99.9% read/write	99.9% read/write	99.9% read/write	99.9% write 99.99% read

Premium storage

- High bandwidth with low latency
- Up to 35 TB of storage per Storage Account
- 64,000 IOPS per VM
- 5,000 IOPS per disk
- ~5 ms read/write (no cache)
- Less than 1 ms read latency (cache)
- Up to 200 MB per second





What's New with IAAS

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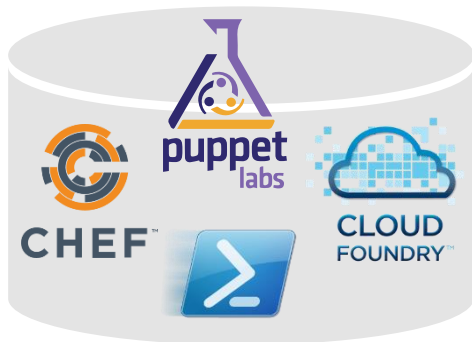


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Azure Resource Manager (ARM)

Consistent
management layer

Curated
extensions



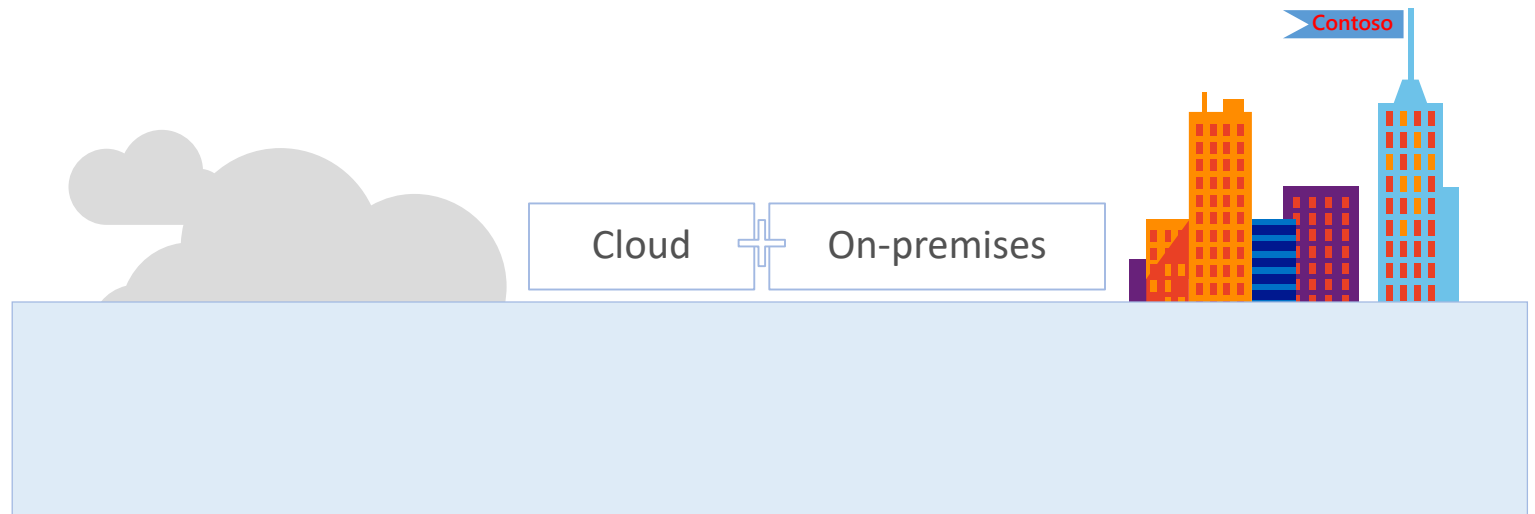
Tools



Microsoft Azure

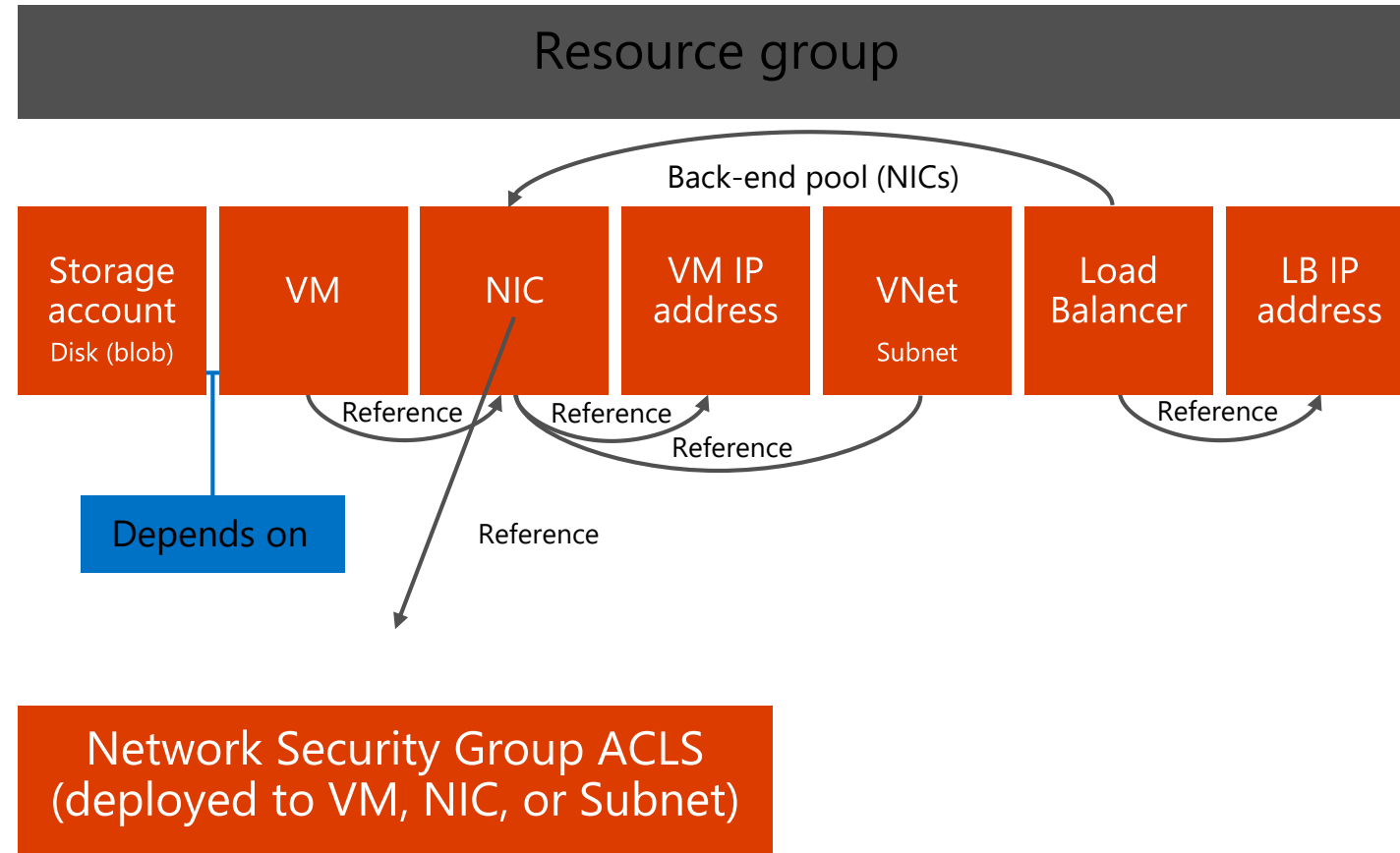
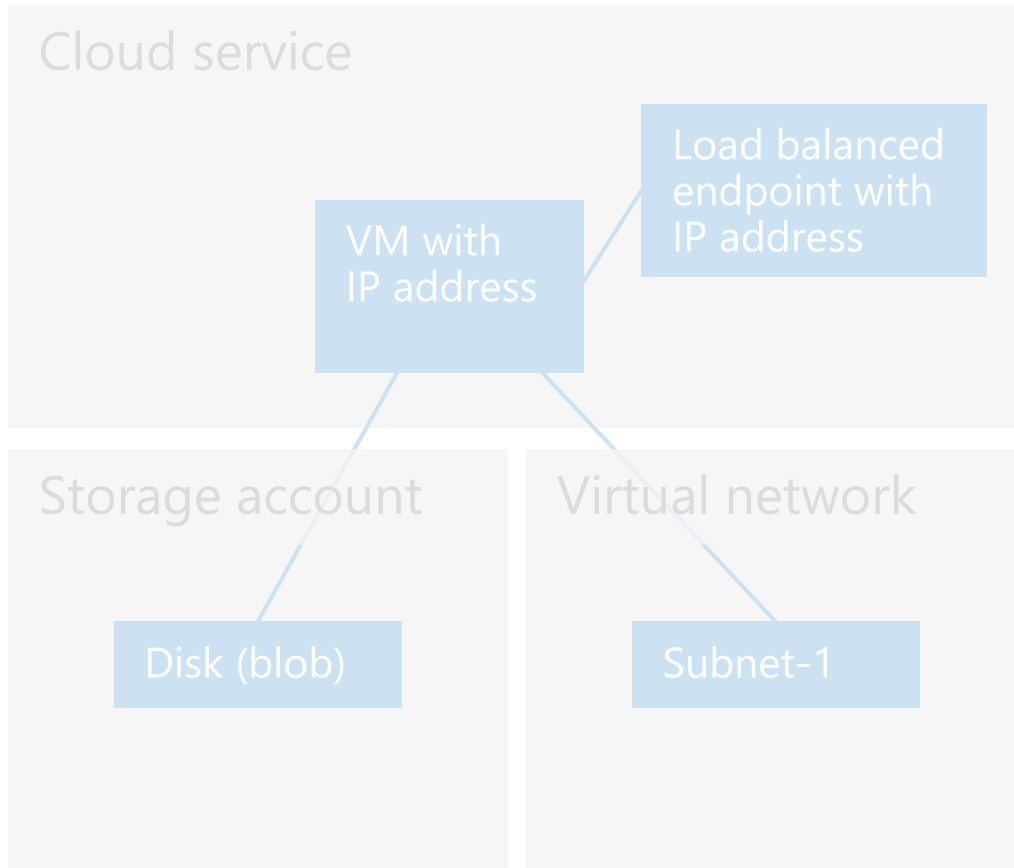
Command line

Visual Studio



Resource Manager example

- Resource Manager (v2)
- Classic model (v1)



Azure templates

Wide range of Quickstart templates

- Indexed on Azure.com
- GitHub repo
- Community and Microsoft contributed
 - Integration of IaaS with Azure Services

Microsoft Azure

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FREE TRIAL

Azure Quickstart Templates

Deploy Azure resources through the Azure Resource Manager with community contributed templates to get more done. Deploy, learn, fork and contribute back.

What is Azure Resource Manager

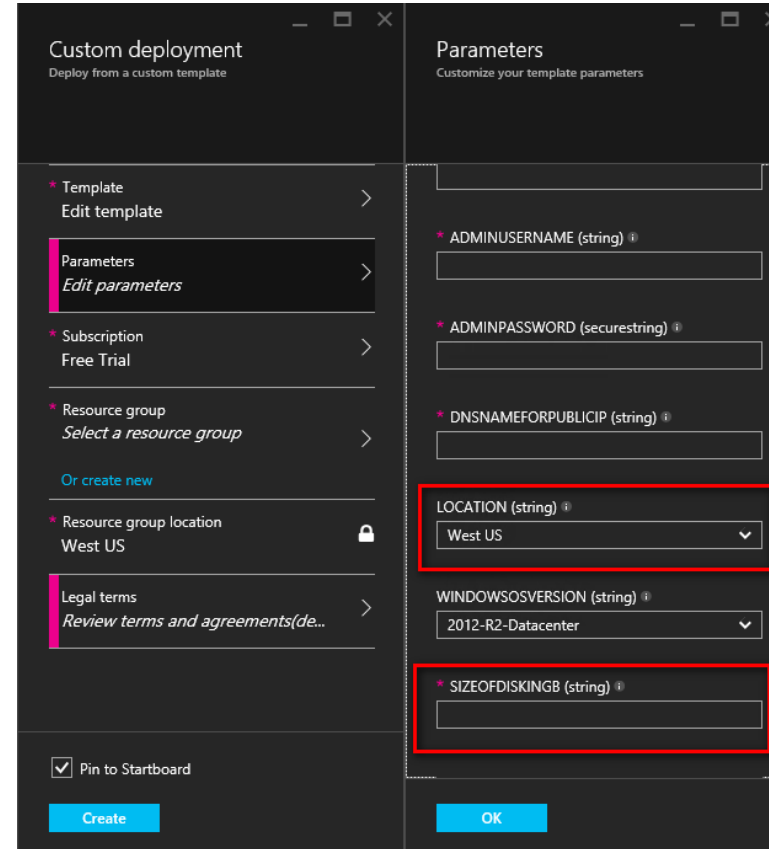
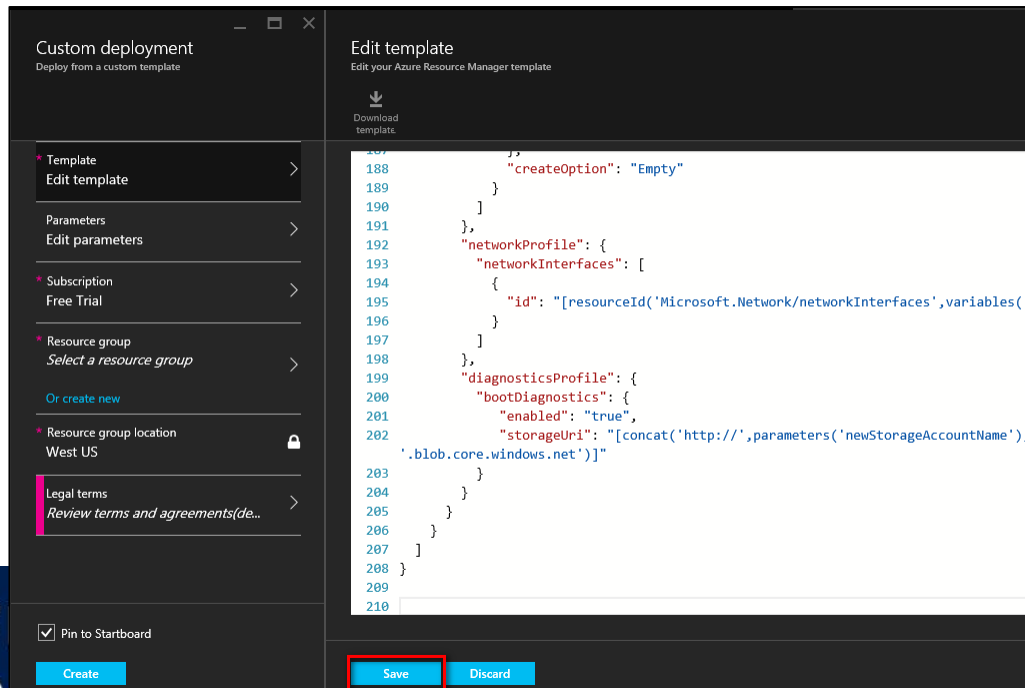
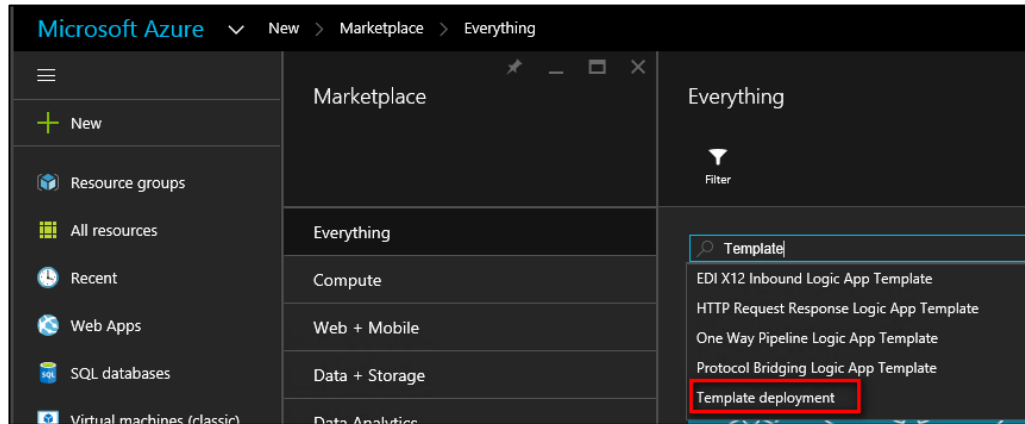
Azure Resource Manager allows you to provision your applications using a declarative template. In a single template, you can deploy multiple services along with their dependencies. You use the same template to repeatedly deploy your application during every stage of the application lifecycle.

[Learn more](#)

Sort by:

TEMPLATE	GITHUB AUTHOR	DESCRIPTION	PUBLISHED
Install Elasticsearch cluster on Virtual Machines	trentmswanson	Install Elasticsearch cluster on Virtual Machines wi...	5/26/2015
Deploy a Virtual Machine with Custom Data	kenazk	Deploy a Virtual Machine with Custom Data	5/1/2015
Create an Availability Set	kenazk	Create an Availability Set	5/1/2015
Create a new AD Forest and Domain with 2 Domain Con...	simongdavies	This template creates 2 Azure VMs with AD	4/29/2015
Create an Azure VM with a new AD Forest	simongdavies	This template creates an Azure VM with AD	4/29/2015
Create a Three VM Sharepoint Deployment	simongdavies	This template creates a SharePoint farm	4/29/2015
Django App with SQL Databases	meet-bhagdev	Deploy a Django app with SQL Databases	4/28/2015
Deploy a LAMP app	gbowerman	Deploy a LAMP app	4/28/2015
Datastax Enterprise Edition on Ubuntu	trentmswanson	This template deploys a Datastax Enterprise Editio...	4/28/2015
Deploy a single-VM WordPress to Azure	tomconte	Deploy a single-VM WordPress to Azure	4/28/2015
Apache Webserver on Ubuntu VM	gbowerman	Deploy an Ubuntu VM with Apache webserver	4/28/2015

Deploying custom JSON files



```
New-AzureResourceGroupDeployment -DeploymentName  
"Simple-VM" -ResourceGroupName  
RG-AZITCAMP -TemplateFile "C:\Github\Templates\101-  
simple-windows-vm\azuredeploy.json
```



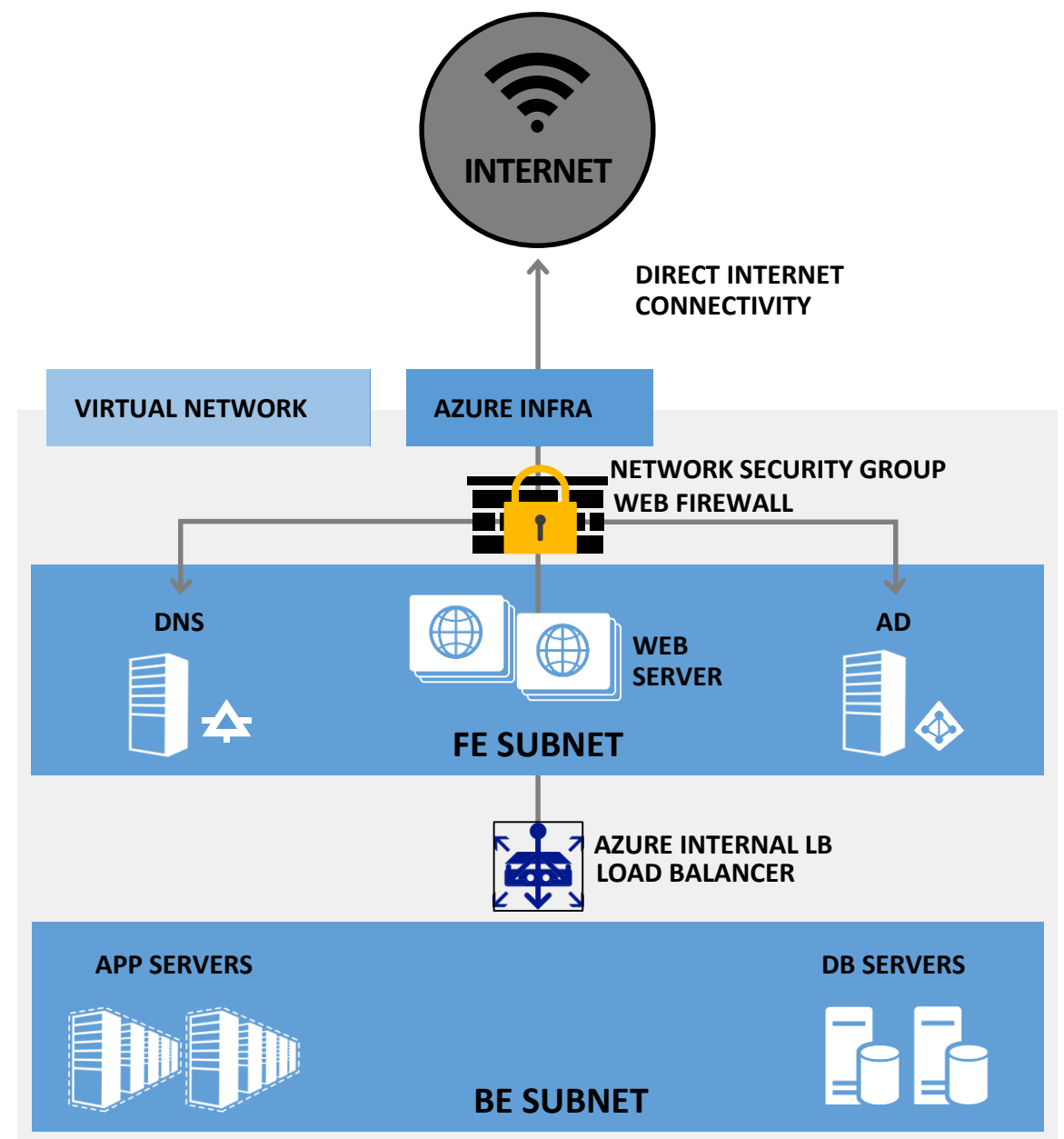

Networking

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Azure virtual network

- Bring your own network
- Logical isolation with control over network
- Create subnets with your private or public IP address spaces
- Bring your own DNS or use Azure-provided DNS
- Secure VMs with Network Security Groups
- Run highly available internal services behind internal load balancer



Our Lab



VPN P2S



VPN S2S

VPN GW

SEDE ROMA
192.168.11.0/24

AMSTERDAM
10.0.0.0/24



MICROSOFT CLOUD



DEMO

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When implement hybrid cloud?

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Hybrid Cloud use cases

- Test/Dev Environment (Copy of On-Prem, «Dev Test Lab»)
- Guaranteed SLA (99,9% - 99,99%)
- Business Continuity/Disaster Recovery (Azure Site Recovery)
- Backup in Secondary Site (Azure Backup)
- Cost Saving (Automation: turn off/on workload, to reduce sizing of VM)
- Scalability
- Protection

Backup and Site Recovery

Backup

- Offsite backups of your server data
- Encrypted in transmission
- Integrated in System Center and Windows Server
- Backs up only changes instead of entire files
- Backup VM Azure with high retention time

Site Recovery

- Replicates private clouds to a secondary location (other datacenter or Microsoft Azure)
- Quickly recover your virtual machines.
- Integrated with Windows Server Hyper-V Replica
- Connects to System Center Virtual Machine Manager for health monitoring
- Protects VMware and physical servers

When to suggest Hybrid solution?

- Business Continuity/Disaster Recovery
- Backup in Secondary Site
- Scalability
- Protection
- Flexibility
- Cost Saving

When to suggest only Cloud solution ?

- Test Environment
- Dev Environment
- Service Level Agreement
- File Server Geo Replicated
- Cost Saving

Do you want to know more?

ICTPower Community

- <http://www.ictpower.it>

Microsoft Virtual Academy

- <https://mva.microsoft.com/>

Microsoft Channel 9 Videos

- <https://channel9.msdn.com/>

Microsoft Official Course 20533:

- Implementing Microsoft Azure Infrastructure Solutions
- <https://www.microsoft.com/en-us/learning/course.aspx?cid=20533B>

Everything is clear?



A night cityscape featuring several tall skyscrapers with illuminated windows. In the foreground, a multi-lane highway is visible with long-exposure light trails from cars, showing red and white streaks. A pedestrian bridge with a railing and some greenery is also visible. The overall scene is a vibrant urban environment at night.

Any question?

Materiale su

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