

# Microsoft Azure Overview



*Innovate, Collaborate & Accelerate*

# Index

- The Cloud and Microsoft Azure
- Compute Services
- Data Services
- Application Services
- Network Services

# What is Cloud Computing?



IaaS

Infrastructure-as-a-Service

host



PaaS

Platform-as-a-Service

build



SaaS

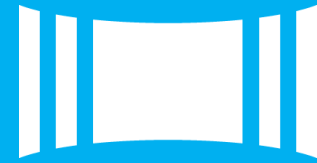
Software-as-a-Service

consume

Build, Skill and Enable

# Microsoft Azure

- Comprehensive set of services that enable you to quickly build, deploy and manage applications across a global network of Microsoft-managed datacenters



Flexible



Open



Solid

# 64 regions worldwide in 2020



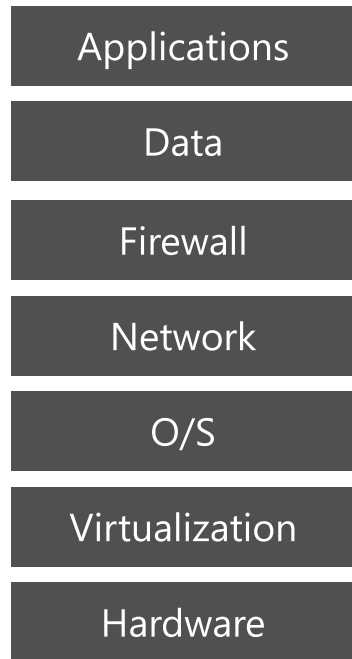
# Subscription Based Service

Pay **only** for  
what you use

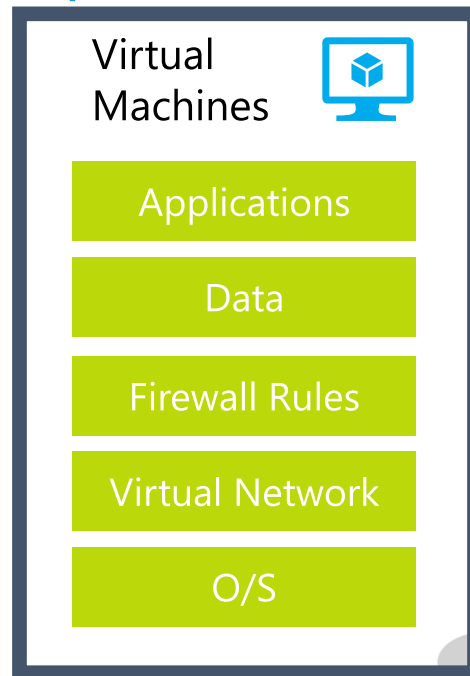
- There are no upfront cost
- There is no need to buy any up front server licenses ( it's included in the price )
- Pay per-minute-granularity, not per hour
- Deeper discounts for compute with MSDN Credits ( special Dev/Test Rates )

# Virtual Machines

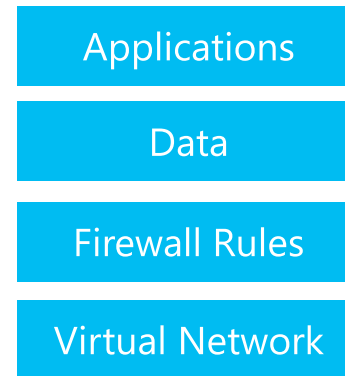
## Traditional Datacenter



## Microsoft Azure



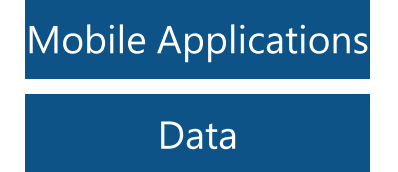
### Cloud Services



### Web Sites



### Mobile Services



Build, Skill and Enable

Focus on Application



# Virtual Machine Solutions



- **Production Deployments**
  - New or Migrated Line of Business Applications, Hybrid, Disaster Recovery, SharePoint, SQL, MongoDB
- **Development and Test**
  - Build development and test environments, sandboxed copy of your production environment, automated build servers, continuous integration
- **Rapid Development and Experimentation**
  - Agile execution without the wait for infrastructure

**Lab:**

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# Create a Virtual Machine

# Website with App Service in Azure

## Traditional Datacenter



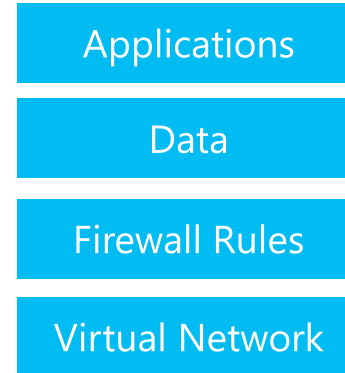
## Microsoft Azure



### Virtual Machines



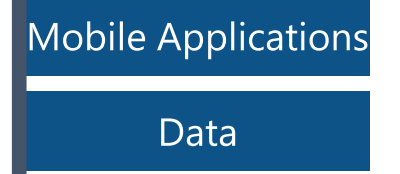
### Cloud Services



### Web Sites



### Mobile Services



Focus on Application

Build, Skill and Enable

# Microsoft Azure Web Sites

## Powerful web sites in seconds



### start simple

- Start free (up to 10 sites )
- Scale up & out as needed
- Automatic load balancing and shared storage across instances
- No friction

### code smart

- Classic ASP, ASP.NET, PHP, Node.js, or any FastCGI Handler
- SQL DB or MySQL
- Develop on Windows, OSX or Linux

### go live

- Rapidly deploy for quick iterations
- Continuous Integration with Visual Studio Online and Git
- Built-in monitoring & perf data
- Quick/Easy access to diagnostic logs (IIS, HTTP, Failed Requests)

Build, Skill and Enable

# Web Site Solutions



- **Organizational Web Presence**
  - Web Sites offer a scalable and secure solution for organizational web sites.
- **Digital Marketing Campaigns**
  - Build micro-sites and/or social media applications for targeted marketing needs.
  - Authenticate users using popular social identity providers such as Twitter, Facebook, Yahoo.
- **Business Applications**
  - Build Line-Of-Business applications in the cloud that may need to access on-premises resources.
  - Authenticate enterprises users using Azure Active Directory.
- **PaaS/SaaS Platform**
  - Install a private Azure Web Site cloud using the Microsoft Azure Pack.
  - Build powerful SaaS applications on top of the Azure Platform.

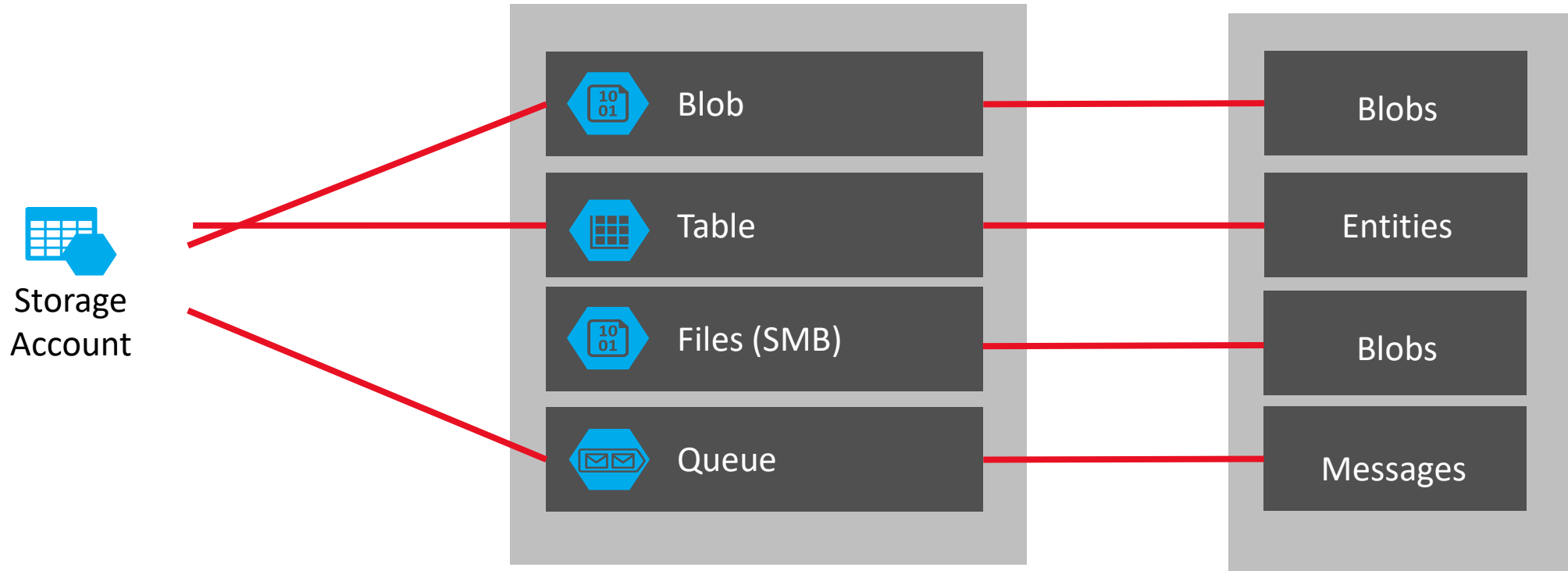
## Create a Web Site with Sample Code

# Microsoft Azure Data Services



# Azure Storage

# Azure Storage Services



`http://<storage acct>.blob.core.windows.net/<container>/<blob>`

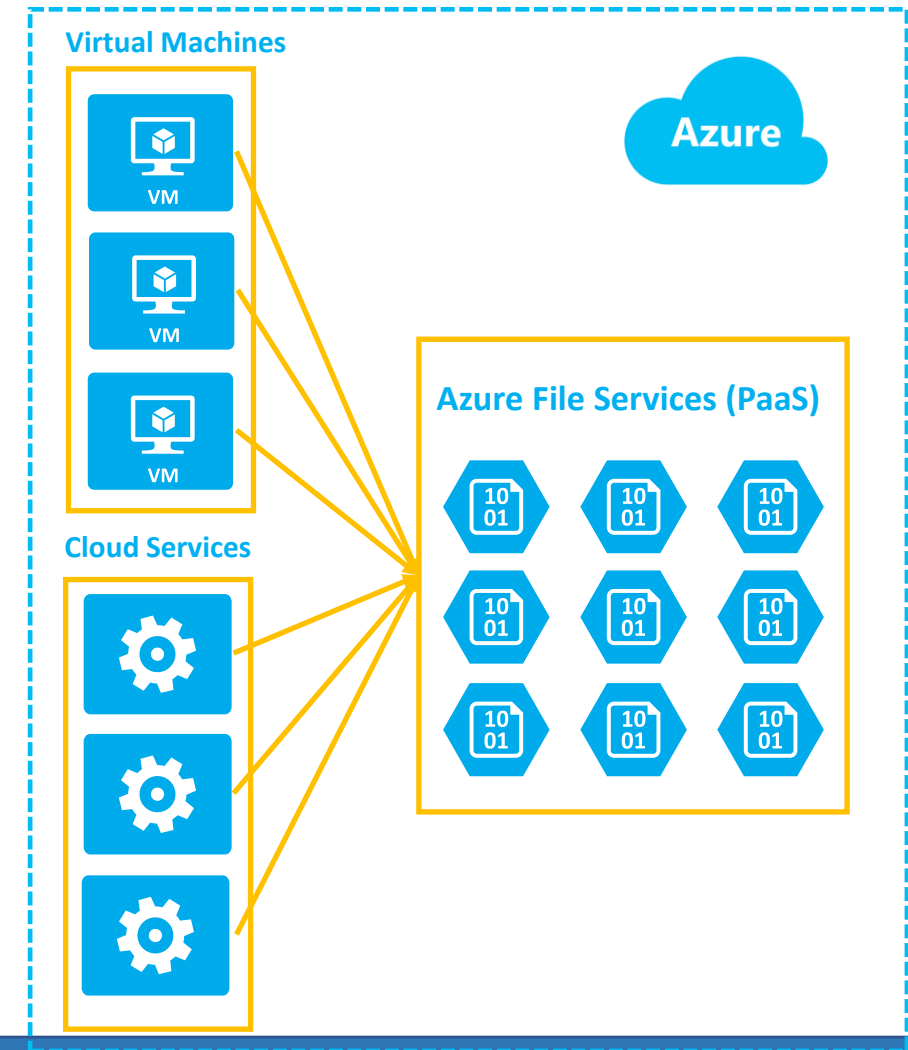
`http://<storage acct>.table.core.windows.net/<table>`

`http://<storage acct>.queue.core.windows.net/<queue>`

`http://<storage acct>.file.core.windows.net/<queue> (PREVIEW)`

# File Services

- **Features**
- Shared Network Storage for Azure
- Managed Availability, Scalability, Durability
- Supports SMB and REST interfaces
- Use with VMs and Cloud Services



## Create Azure Storage

# Data Services beyond Azure Storage

# Azure SQL Database

- **Relational Database Service**
- Multi-tenant Service with Database-Level Isolation
- **Tools and Features**
- Transact-SQL Support
- Connect using SQL Server Management Studio
- **Business Continuity**
- Automatic Backup with Point in Time Restore (up to 35 days)
- Active Geo-Replication

# SQL Database Service Tiers

- Predictable performance and business continuity

## Basic

Small database  
Single operation at one  
point in time  
2GB Max DB Size

## Standard

Typical workgroup or  
web application  
Multiple concurrent  
transactions  
250 GB Max DB Size

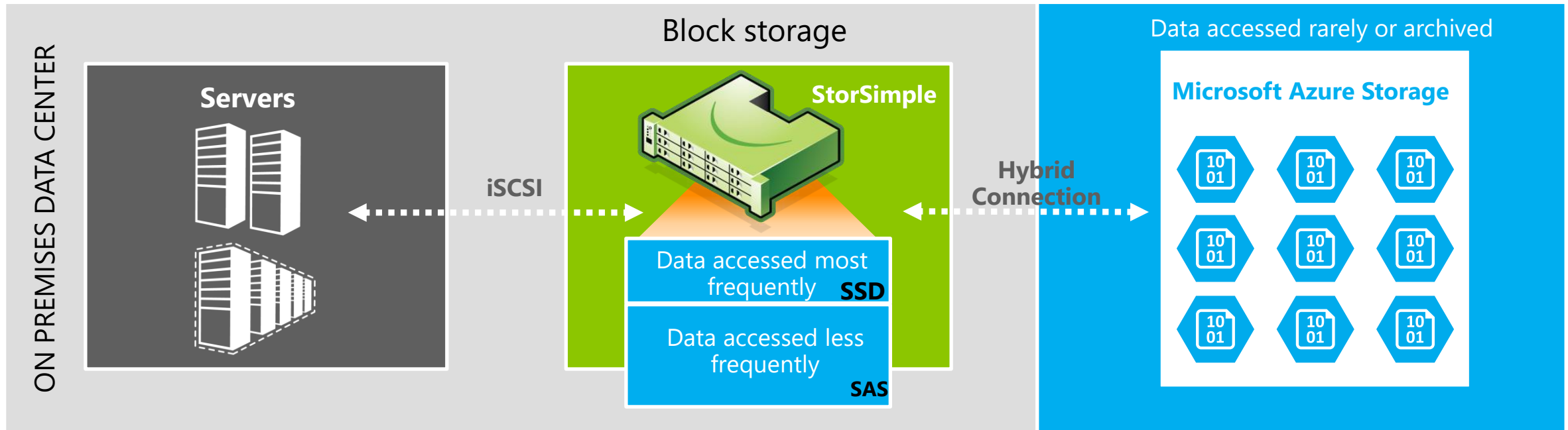
## Premium

Mission-critical  
applications  
High volume of  
concurrent transactions  
500 GB Max DB Size

Note: Web and Business tiers are being retired

# StorSimple

- Pay as you go for cold data (infrequently accessed, backups etc...)





# Microsoft Azure Backup

## Reliable Offsite Data Protection

Protect individual servers on-premises or in the Cloud

## Integrates with DPM and Windows Server Backup

Stores Backup Data in Azure Storage

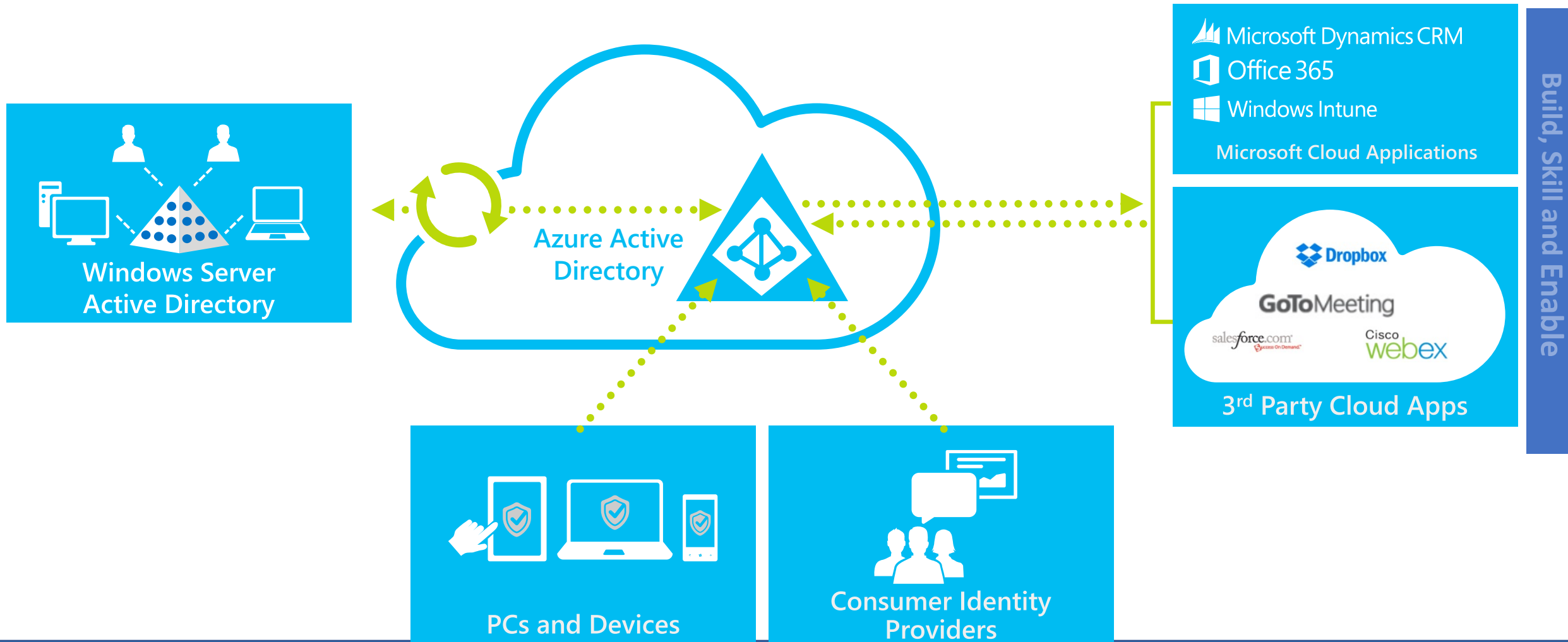


# Microsoft Azure Application Services

# Content Delivery Network

- A global service that delivers high-bandwidth content by caching content at physical nodes globally
- Better performance and user experiences
- Globally scale for instantaneous high load (product launch for example)
- 29 Node Locations across US, Europe, Asia
- Features
  - Ideal for caching static content
  - Blobs in blob storage account with CDN enabled
  - Accessible over HTTP/HTTPS
  - CDN Endpoint can be mapped to custom domain

# Azure Active Directory



# Microsoft Azure Network Services

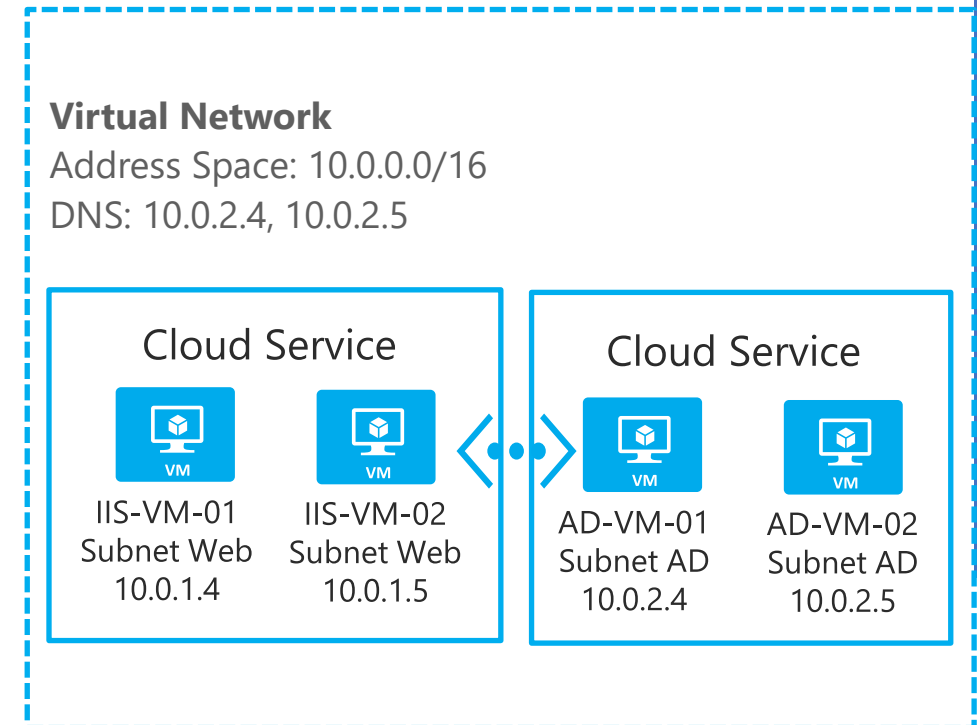
# Microsoft Azure Virtual Networks

## Private Address Space







Define your own address space in the cloud with private connectivity between virtual machines, cloud services and hybrid connectivity.

## Support

DNS, Static IP addresses, Internal Load Balancing and Hybrid Network Connectivity



# Hybrid Connectivity

Cloud		Customer	Segment and workloads
	<p>Secure point-to-site connectivity</p> <p>Virtual Network (Point-to-Site)</p>		<ul style="list-style-type: none"><li>• <b>Developers</b></li><li>• POC Efforts</li><li>• Small scale deployments</li><li>• Connect from anywhere</li></ul>
	<p>Secure site-to-site VPN connectivity</p> <p>Virtual Network (Site-to-Site)</p>		<ul style="list-style-type: none"><li>• <b>SMB, Enterprises</b></li><li>• Connect to Azure Compute</li><li>• IaaS and PaaS workloads</li></ul>
	<p>Private site-to-site connectivity</p> <p>ExpressRoute</p>		<ul style="list-style-type: none"><li>• <b>SMB &amp; Enterprises</b></li><li>• Mission critical workloads</li><li>• Backup/DR, Media, HPC</li><li>• Connect to all hardware</li></ul>

# Traffic Manager – DNS Based Load Balancer

- **Three Load Balancing Algorithms**

Performance, Round Robin, Fail Over

- **Map your domain name to yourservice.trafficmanager.net with CNAME**

contoso.com -> contosotm.trafficmanager.net

- **Map cloud service URLs in global data centers to Traffic Manager Profile.**

contosoeast.azurewebsites.net

contosowest.azurewebsites.net

- **Built in HTTP Health Probes for High Availability**



# Lets Review