Windows Azure

Windows Azure and the Cloud Computing Opportunity for Developers

Matt Valentine
Enterprise Solution Director
Microsoft Hong Kong
Matt.Valentine@Microsoft.com

Microsoft

The Transformation Of ICT

Big Data

Cloud Computing

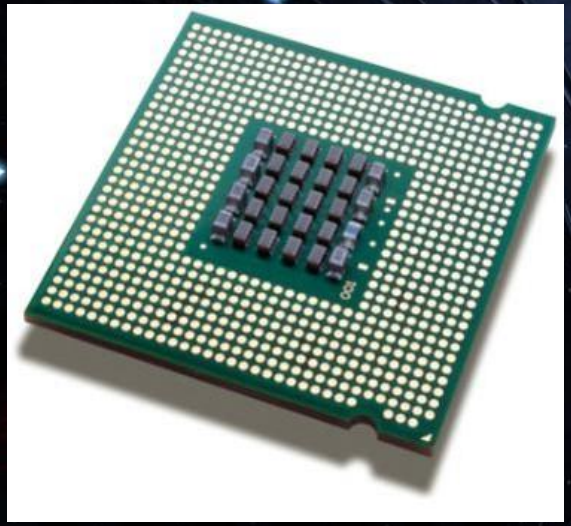
Application Development

72% of tech students believe that everything they see in SciFi films will turn real in their lifetime

The Digital Accelerators of Change

Processing Power

Computer processing power doubles every 18 months.



Bandwidth

Digital bandwidth is doubling faster than processing power

Storage Capacity

Digital data storage is doubling every 12 months

Your cell phone has more computing power than NASA used to put a man on the moon in 1969

Enter Cloud Computing

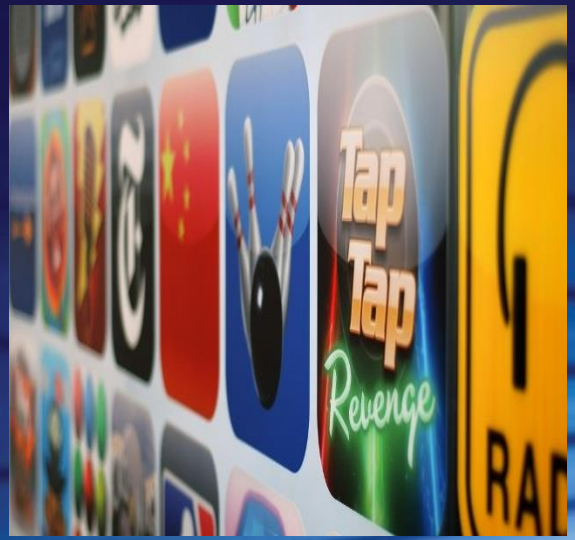
Delivering applications and services over the internet using web and internet standards.

Scale, optimization and shared resources drive cost savings.

Scalable, elastic and flexible. Pay as you go, and only for what you use

Xbox LIVE members now number 46 million, with over 2 million online concurrently

Today's Application Developers



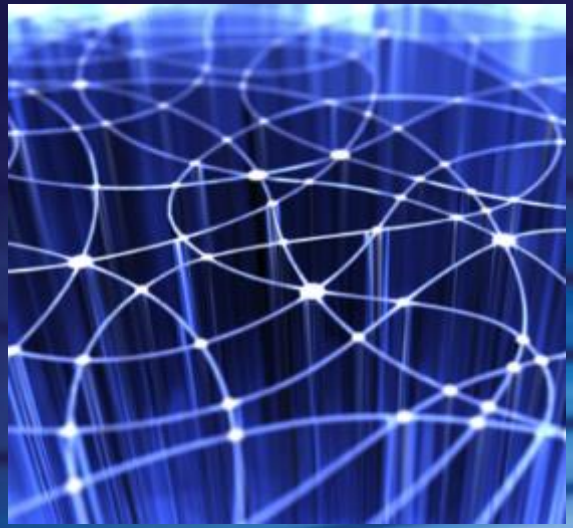
Choose open standards, tools, frameworks and platforms

Developing for devices and cloud services

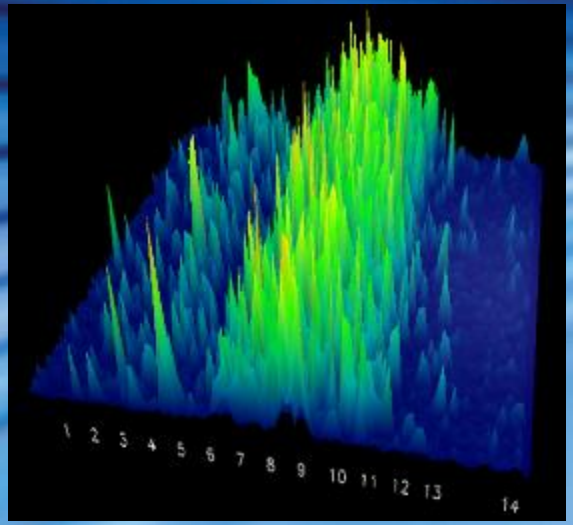
Continuously need to deliver high quality apps faster and cheaper.

Programming is a race to build idiot-proof apps, and the universe trying to produce better idiots

Enter Big Data



New data, patterns and models result in new hypothesis, information and knowledge



We can store everything, connect everything and compute anything

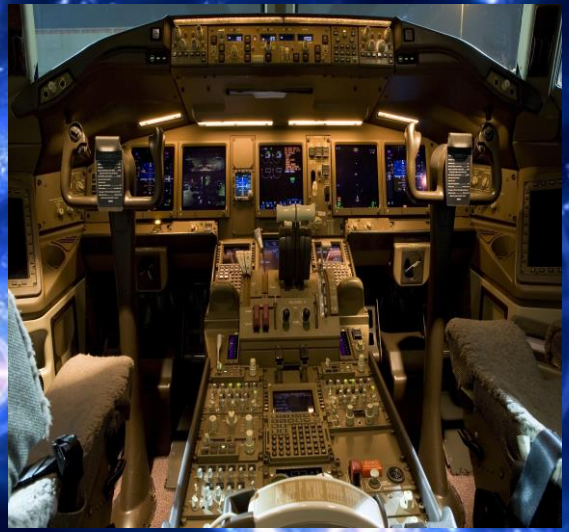
Help humans explore, visualize and understand massive amounts of data

As of 2012, about 2.5 exabytes of data are created each day, and that number is doubling every 40 months

Characteristics of Big Data

Massive data volumes

New data sources



Real-time and fast moving data

More video is uploaded to YouTube in 60 days than the three major US TV networks created in 60 years

Organizations that leverage the power of analytics in their decision-making and strategic planning processes, ***outperform their competitors by up to 3 times****. – McKinsey*

"By 2015 businesses that build a modern information management system will ***outperform their peers financially by 20 percent****." – Gartner*

So, what can Big Data do for my business?

"How Big Data Is Changing the Whole Equation for Business" WSJ, March 8, 2013

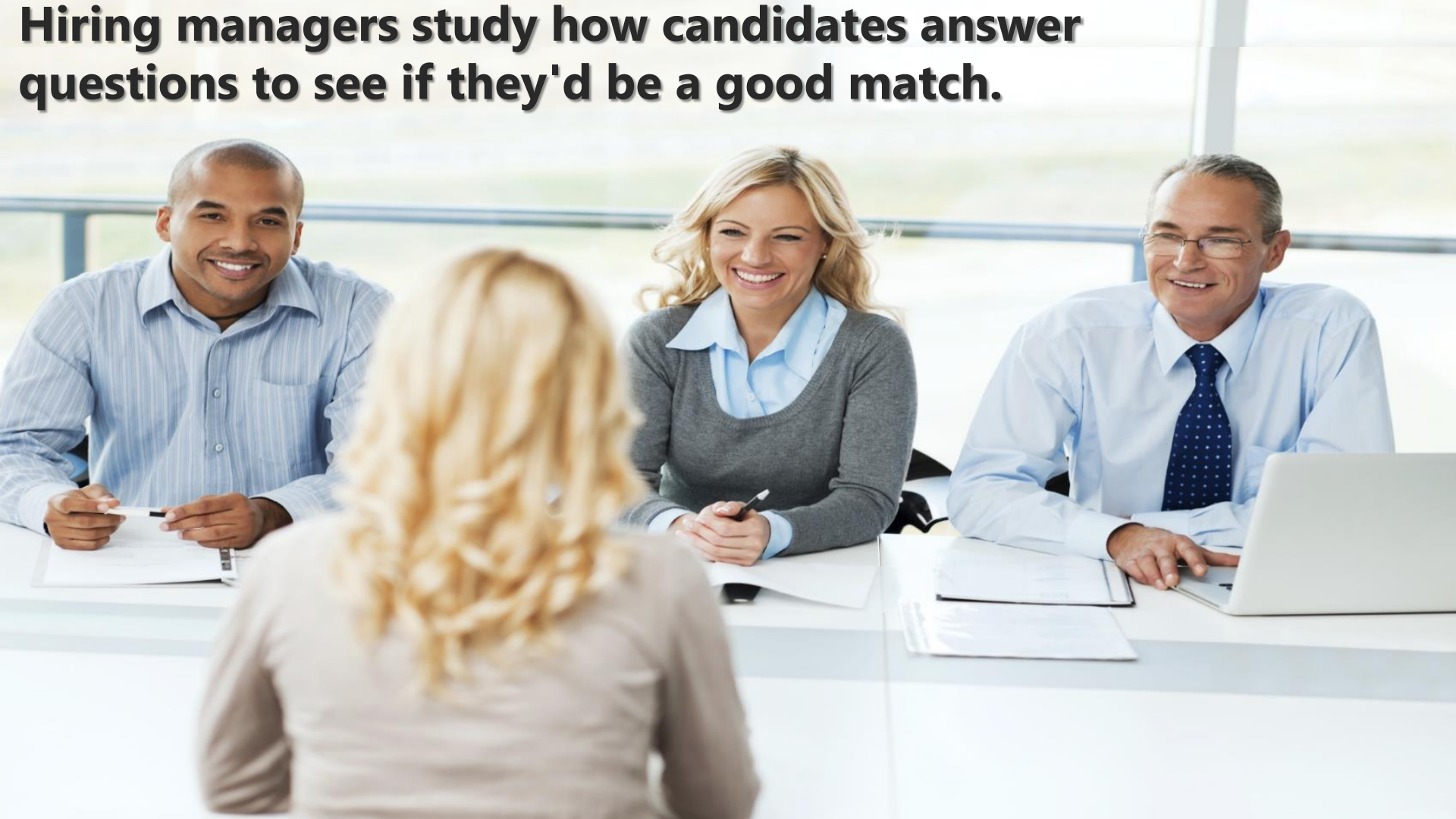
75% of business leaders say more predictive analytics would ***drive better decisions****. Almost one-third (32%) of respondents expect the impact would be transformational. - McKinsey*

Top-performing companies are three times more likely than lower performers to be sophisticated users of analytic*s, and are two times more likely to say that their analytics use is a competitive differentiator - MIT Sloan School of Management*

Marketers can make campaigns more effective and convert more customers.

Shippers are using sensors on trucks to find ways to speed up deliveries.

Hiring managers study how candidates answer questions to see if they'd be a good match.



Manufacturers can trawl through thousands of forum posts to figure out if customers will like a new feature on their product.

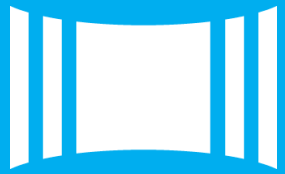
Big Data is about improving decision-making by becoming a data-driven organization.

WINDOWS AZURE

Introducing Microsoft Windows Azure

- Windows Azure is Microsoft's Cloud Platform
- Hosted in Microsoft's data centers around the world
- Physical facilities:
  - Provides redundant platform services and failover
  - Broad compliance certifications (ISO/IEC 27001:2005, SSAE 16 / ISAE 3402)
  - State-of-the-art security and access control
  - http://www.windowsazure.com/en-us/support/trust-center/
- For developers, flexibility, choice and openness
- For Big Data, storage, analysis and distribution

Windows Azure



flexible

<3

open

solid

99.95% monthly SLA

pay only for what you use

Windows Azure

virtual machines

- Windows Server and Linux
- Flexible Workload Support
- Virtual Private Networking

Windows Azure Virtual Machines

demo

virtual machine portability

Windows Azure

Your Data Center

Windows Azure

Windows Azure

Your Data Center

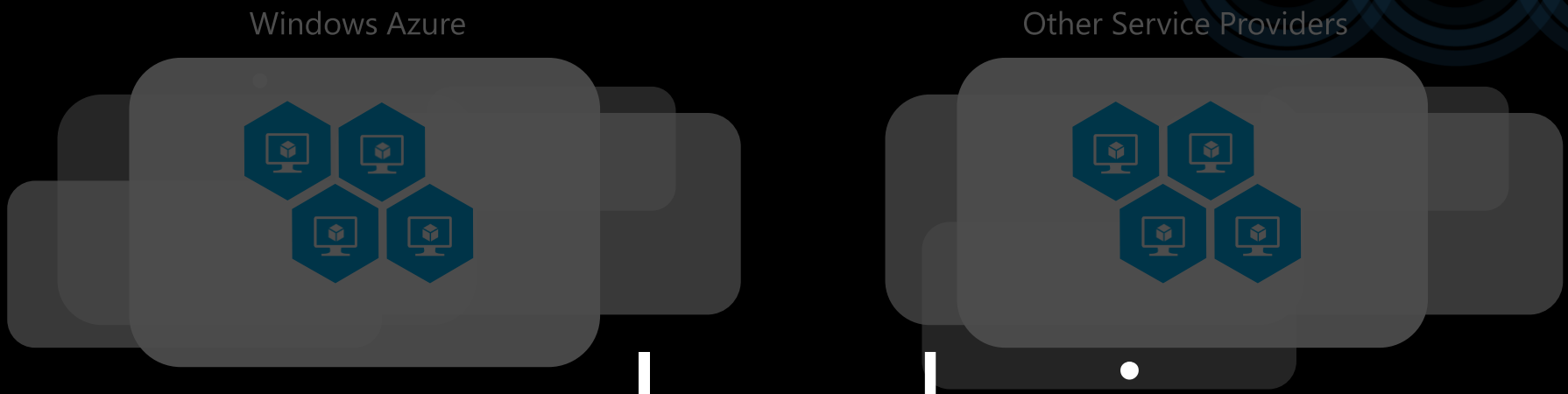
Windows Azure

Windows Azure

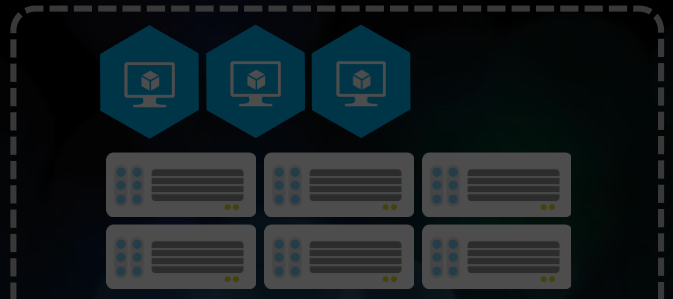
Other Service Providers

Your Data Center

Windows Azure



no lock-in



VM with persistent drive

Windows Azure Storage

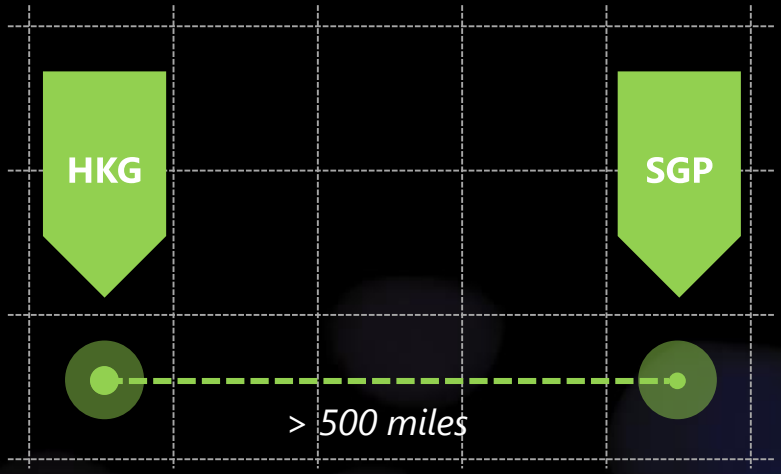
VM with persistent drive

VM with persistent drive

VM with persistent drive

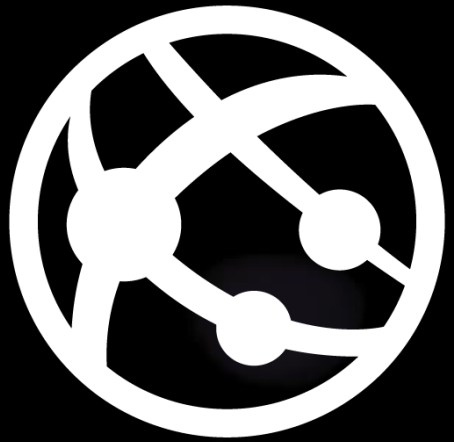
reliable and
always on

Windows Azure Storage



continuous storage geo-replication

Windows Azure Storage



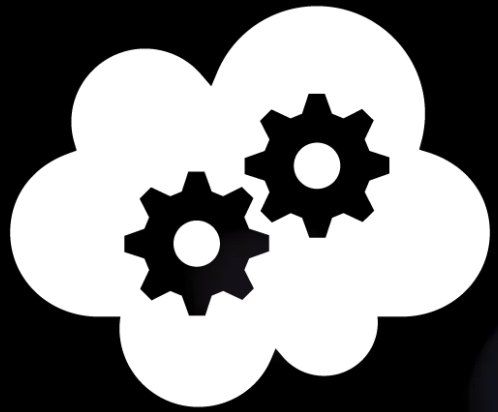
web sites

- Build with ASP.NET, Node.js or PHP
- Deploy in seconds with FTP, Git or TFS
- Start for free, scale up as your traffic grows

Windows Azure Web Sites

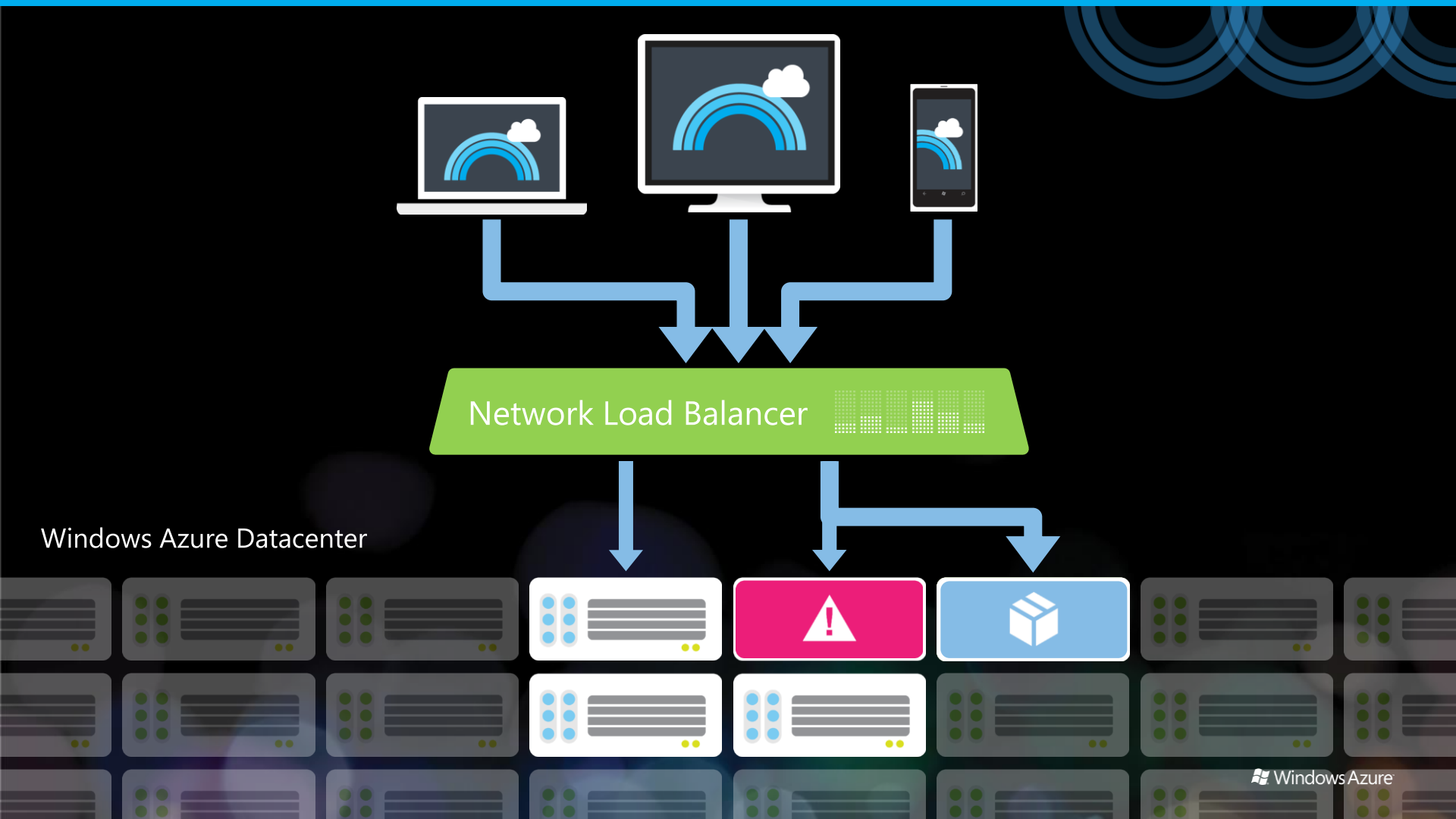
demo

focus on apps, not infrastructure



cloud services

- Build infinitely scalable apps and services
- Support rich multi-tier architectures
- Automated application management


Network Load Balancer
Windows Azure Datacenter
Windows Azure

application building blocks

big data

database

storage

traffic

caching

messaging

identity

media

CDN

networking

Windows Azure

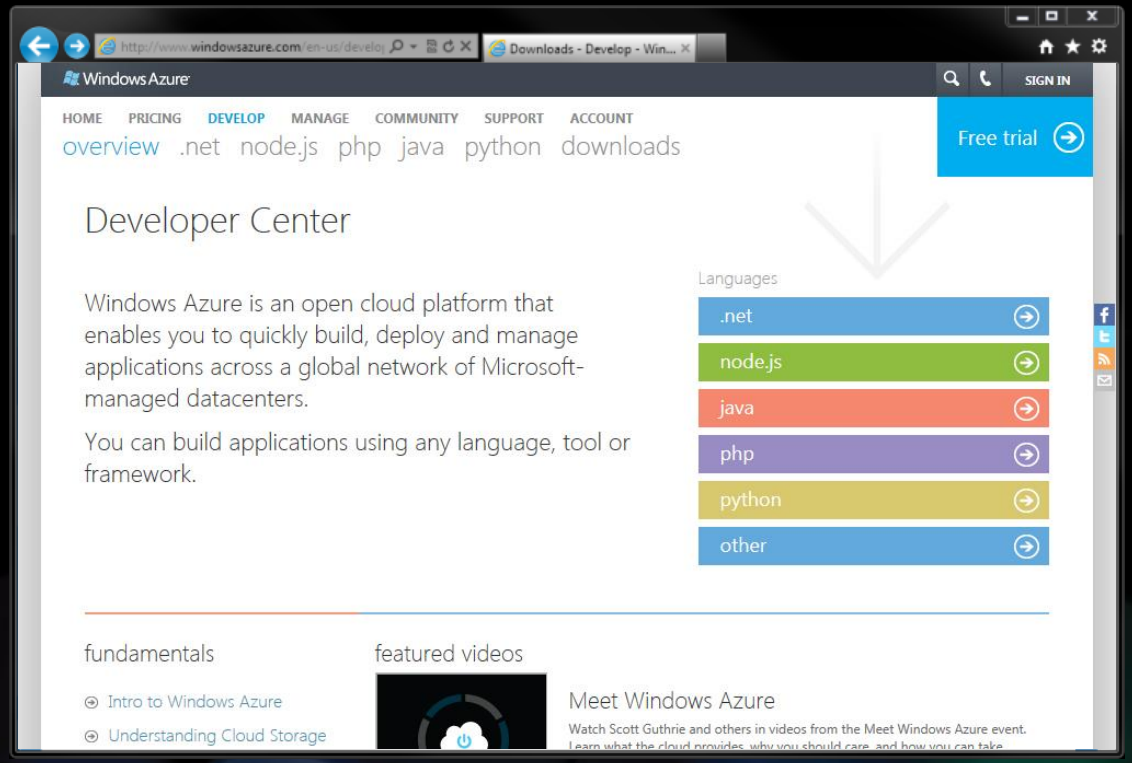
Microsoft .NET

Java

php

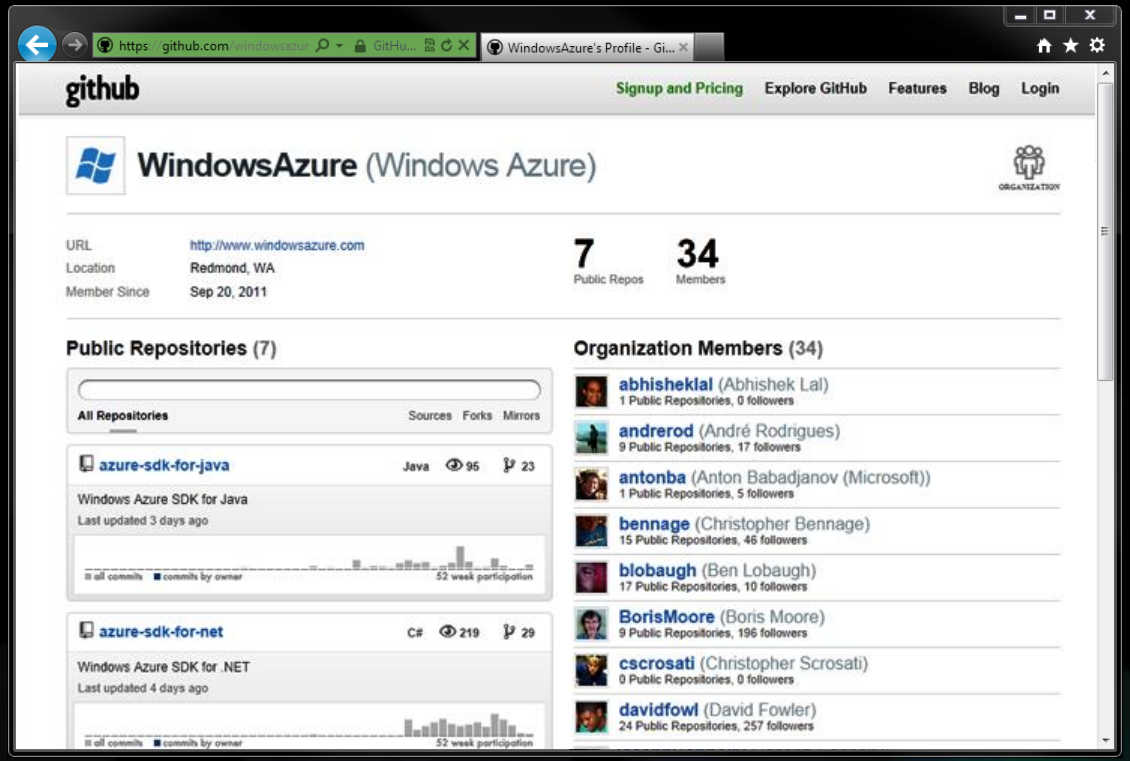
nodeJS

python



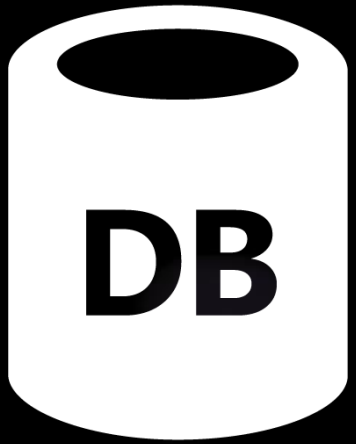
multiple languages

Windows Azure



open source

→ http://github.com/windowsazure



SQL database

- Relational SQL Server Engine in the Cloud
- Clustered for high availability
- Fully Managed Service
- SQL Reporting support

SQL database

demo

Hadoop and Microsoft

Hadoop

- Open source framework from Apache
- Distributed app for large data sets
- Hadoop kernel, MapReduce & HDFS
- Optimized for unstructured data
- Batch oriented
- Petabytes of data

Microsoft HD Insight

- Includes Hadoop
- Engineering for Windows
- Integrated Security, Management & Virtualization
- Can use Excel, PowerPivot and Powerview

The Microsoft Data Platform

Microsoft SQL Server

Enterprise Applications and Services

Windows Azure

SQL Server	SQL Server In Virtual Machine	SQL Server in Windows Azure Virtual Machines	Windows Azure SQL Database	Windows Azure HDInsight	Windows Azure Marketplace
Traditional	Private Cloud	Public Cloud	Public Cloud	Public Cloud	Public Cloud
On-premises Non-Virtualized	On/off-premises Virtualized	Hosted Virtual Machines	Relational Database-as-a-service	Hadoop-as-a-service	Online data Marketplace service

Windows Azure

Data Visualization

demo

Windows Azure Momentum

Customer Quotes

"[The Boeing 737 Explained tool on Windows Azure] makes this the best thing that customers can see, next to actually walking around and through a real aircraft."
- Diana Klug, Director of Marketing, Boeing Commercial Airplanes

BOEING

Pitney Bowes

"With Windows Azure, we don't have to worry about data center infrastructure. Microsoft takes care of … maintenance tasks so we can focus on what we do best—designing innovative mailing solutions."
- Paul Aronson,
Director of Engineering, Pitney Bowes

"What's most exciting about bringing Windows Azure into the Intuit Partner Platform is that developers now have a best-in-class 'platform as a service' to both build applications and deliver them to market."
- Alex Chriss,
Director, Intuit Partner Platform, Intuit

intuit

start now.

http://WindowsAzure.com

Windows Azure

Matt.Valentine@microsoft.com

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