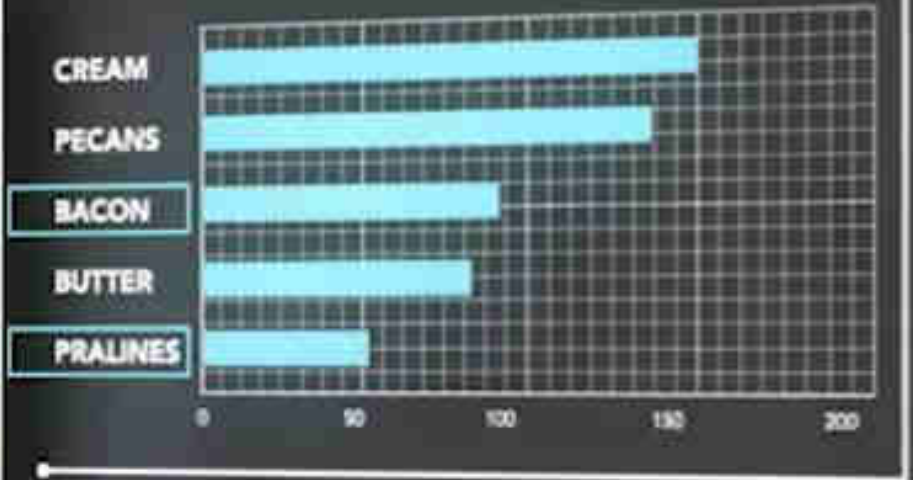
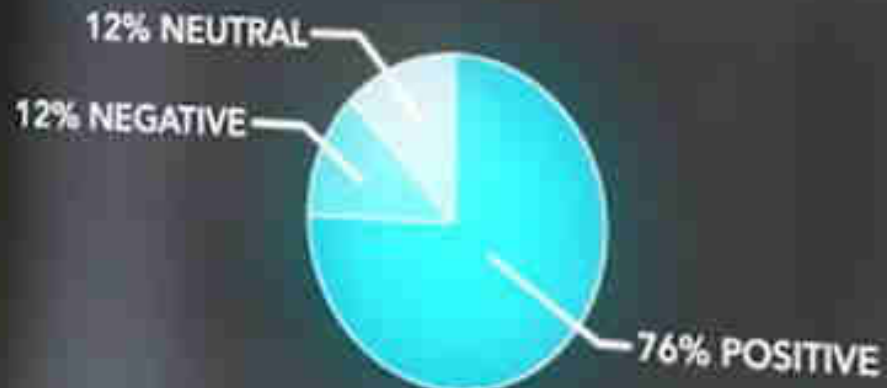


**BEST SELLER:  
PECANS & CREAM**

▣ SOCIAL AFFINITY SEARCH



**SENTIMENT ANALYSIS: BACON + PRALINES**



# Microsoft Intelligent Cloud

# Blockchain Technology, What is it?

- A blockchain operates within a decentralized network of users that constructs a globally secure consensus ledger
- Anyone can access the Blockchain's record and audit the activity of its network
- The blockchain is comprised of blocks of the network users' activity or transactions
- Blockchain is the foundation for Bitcoin. However if the blockchain were the island of Manhattan, Bitcoin would be but 1 building on it...there can be so much more

# What is the big deal?

- The foundation of Bitcoin. Bitcoin is just one application.
- Blockchain == iPod
- Ethereum is built on top of Bitcoin\* it can define Smart Contracts
- Ethereum == iTunes
- SmartContracts enable Distributed Applications (DApps) potentially cutting out the middleman (FSI)
- Dapps = !Disruption!

# Why FSI customers care?

- Blockchain is a major disruptor to their core business
  - FinTechs are driving innovation
  - FSI needs to get in front of it
- Ethereum is open and can be customized to meet our customer's needs allowing them to compete and provide new services
- In line with over all trend of FSIs becoming financial API platforms themselves
- Heavy Investment



Morgan Stanley

WELLS  
FARGO

JPMORGAN CHASE & CO.

Bank of America.

citi

RBS  
The Royal Bank of Scotland Group

BARCLAYS

NASDAQ

Santander

Goldman  
Sachs

R3

# What is Blockchain?

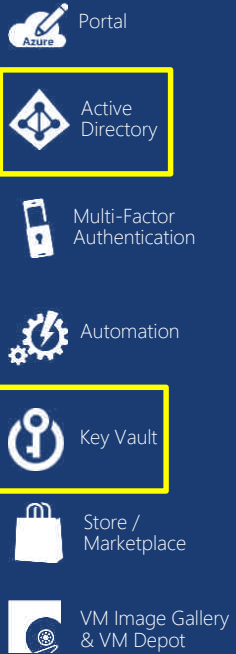
- Cryptographically Authentic Shared Distributed Ledger.
  - Cryptographically Authentic – Each transaction recorded in the database is digitally signed and mathematically guaranteed to be authentic and impervious to fraud. The transaction was signed by the entity that has the private key...no question. The truth.
  - Shared – the database's main value is that it is shared between separate entities...like companies. The more entities shared the greater the value.
  - Distributed – Many copies of the database exist and they are replicas of each other in relative time.
  - Ledger – a write once, thus immutable, ledger that records every transaction. The entire history of all transactions is available, math doesn't lie and there is no where to hide.
- Value – a shared ledger of truth between separate entities that may be competitors and or partners with each other.
- The rest is just how it is implemented.
- Tokenization – create a cryptographically unique signature for any asset physical or digital used for identification. Additionally, a token can be created against a set of tokens to create composites. Bonds, Equities, Commodities, car parts and a car. Can be used to track immutable history of tokens for lineage purposes.

# What is Blockchain as a Service?

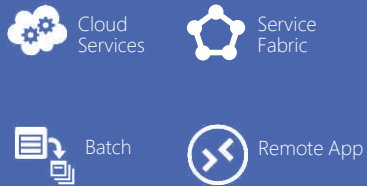
- Microsoft's Ecosystem for Blockchain (distributed ledger, crypto applications) solutions development, test and deployment platform.
- Open platform to **all** partners with Blockchain frameworks and value added services
- FinTechs and Partners are added via Azure Resource Manager Templates, Dev/Test Labs Artifacts and a forth coming Blockchain Marketplace category in the Azure Marketplace
- FSI and other Customers get a Fail Fast & Cheap environment as they develop their Blockchain strategy and consortiums
- A quick way to evaluate all the different platforms and help weed out the noise

## Platform Services

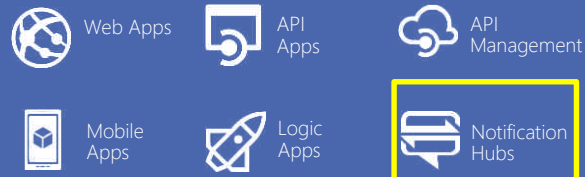
### Security & Management



### Compute



### Web and Mobile



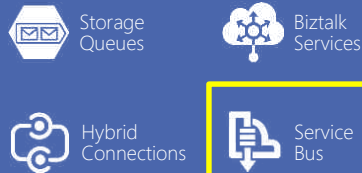
### Developer Services



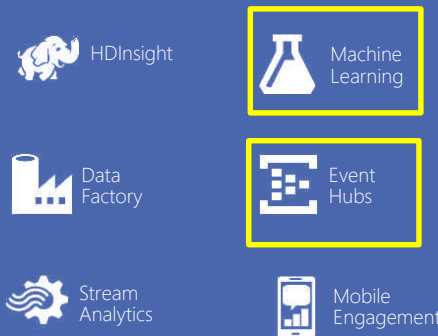
### Hybrid Operations



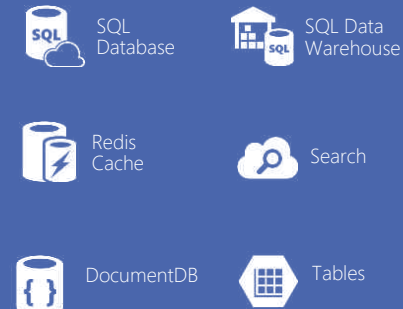
### Integration



### Analytics & IoT



### Data



### Media & CDN



## Current BaaS Offerings

### Compute



### Storage



### Networking



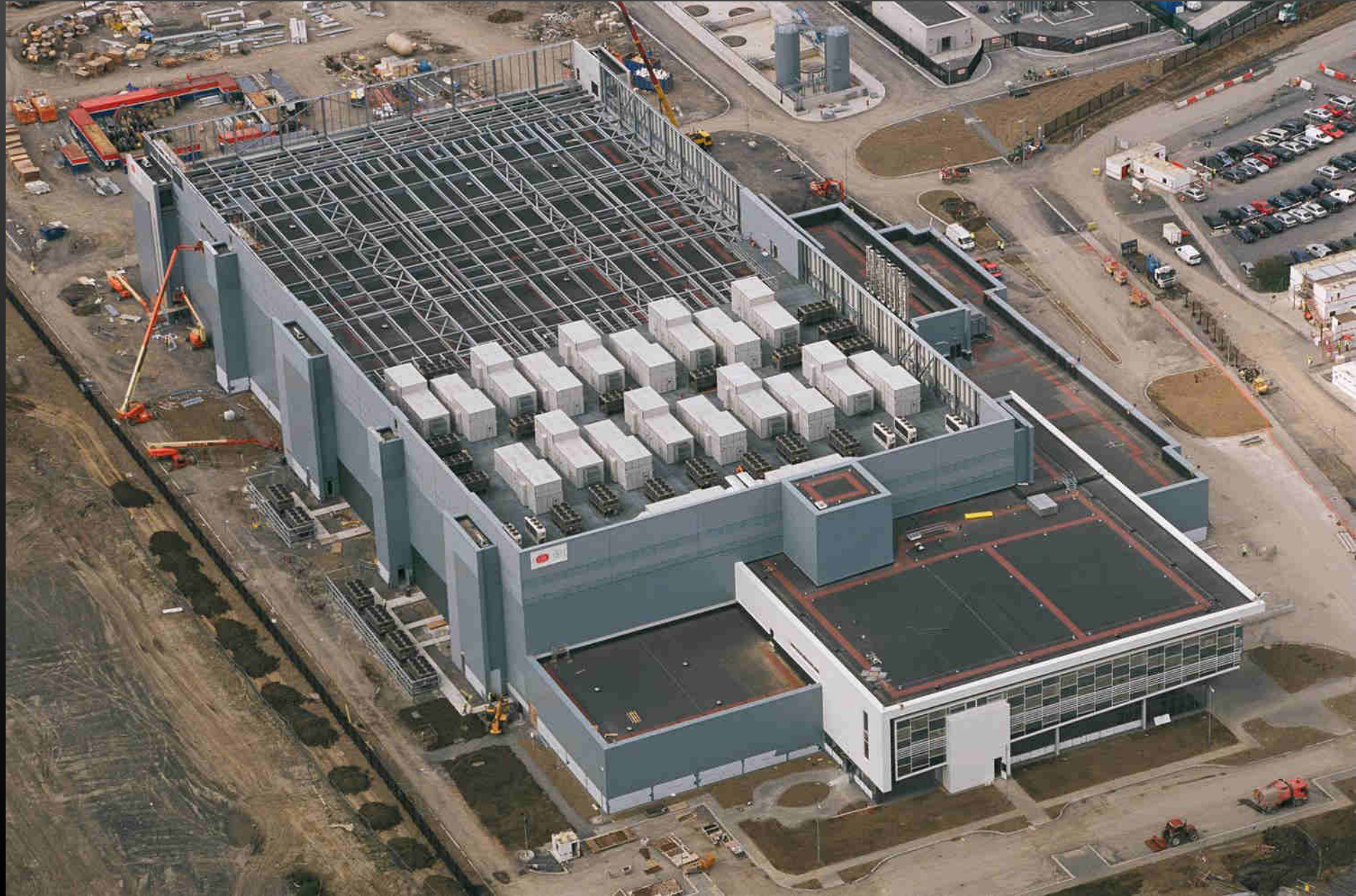
## Infrastructure Services

Datacenter Infrastructure (24 Regions, 22 Online)

# Blockchain Developer Playground



Oh my...  
1 of 4  
identical  
buildings  
per data  
center





# Huge infrastructure scale is the enabler

24 Regions Worldwide, huge capacity around the world...growing every year



- 100+ datacenters
- Top 3 networks in the world
- 2x AWS, 6x Google DC Regions
- G-Series – Largest in World, 32 cores, 448GB Ram, SSD

■ Operational

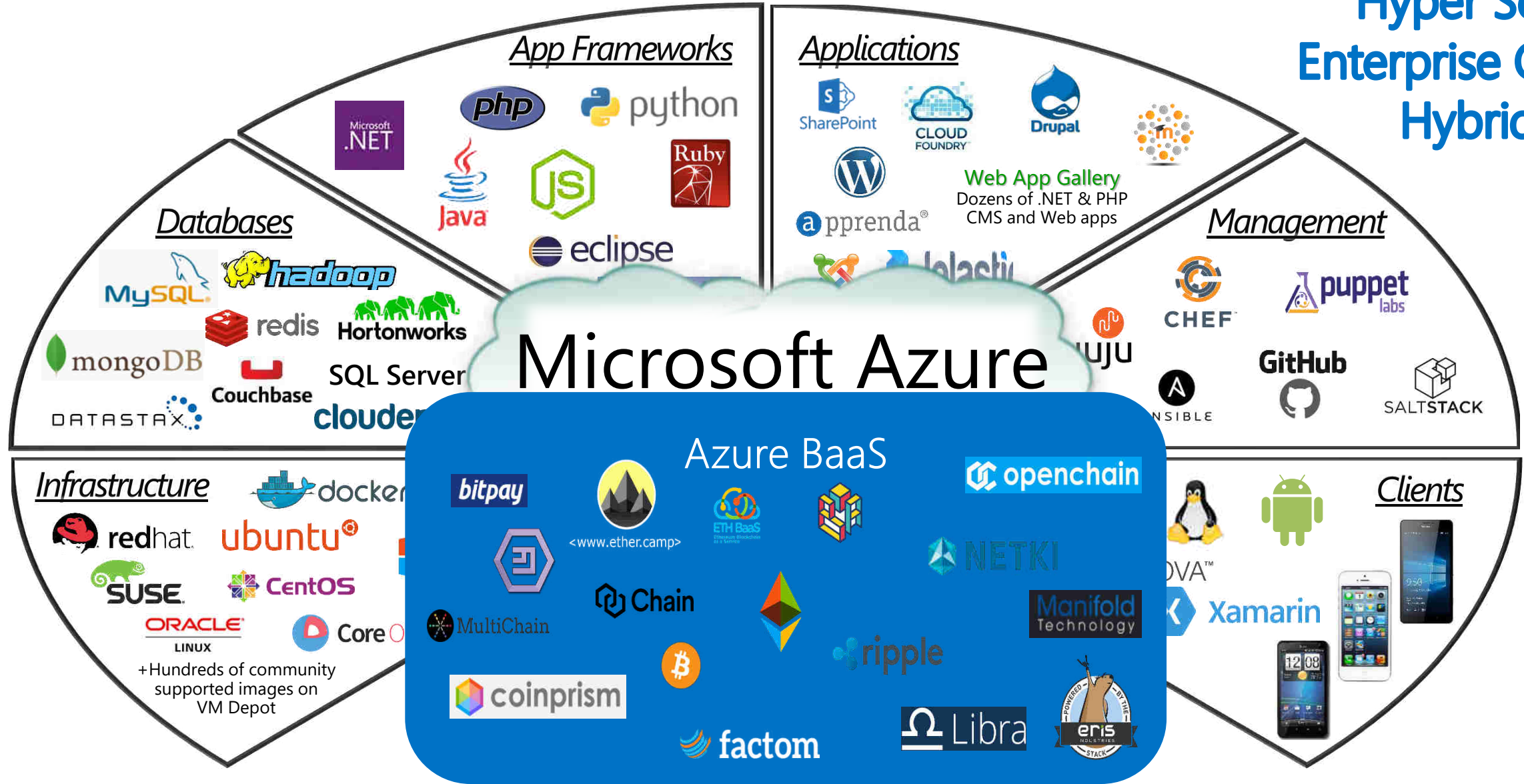
■ Announced/Not Operational

\* Operated by 21Vianet

# Microsoft Azure is an Open Cloud

*We've delivered an open, broad, and flexible cloud across the stack*

**Hyper Scale  
Enterprise Grade  
Hybrid**



# Regulatory Compliance

Microsoft cloud services have the largest compliance portfolio in the industry

## Industry



ISO 27001



SOC 1 Type 2



SOC 2 Type 2



PCI DSS Level 1



Cloud Controls  
Matrix



ISO 27018



Content Delivery and  
Security Association



Shared  
Assessments

## United States



FedRAMP  
JAB P-ATO



HIPAA /  
HITECH



FIPS 140-2



21 CFR  
Part 11



FERPA



DISA Level 2



CJIS



IRS 1075



ITAR-ready



Section  
508 VPAT

## Regional



European Union  
Model Clauses



EU Safe  
Harbor



United  
Kingdom  
G-Cloud



China Multi  
Layer Protection  
Scheme



China  
GB 18030



China  
CCCPF



Singapore  
MTCS Level 3



Australian  
Signals  
Directorate



New  
Zealand  
GCIO



Japan  
Financial  
Services



ENISA  
IAF

# Blockchain as a Service?

- A set of services provided by Microsoft Azure that allows for our customers and partners to:
  - Play, Learn and Fail Fast at VERY low cost in a ready made Dev/Test/Production environment
  - Create Private, Public, Permissioned and Consortium Blockchain environments using industry leading frameworks RAPIDLY.
  - Mix and Match technologies to come up with Innovative products
  - Expose their Blockchain products as a Service with Azure's World Wide distributed platform
  - ONE CLICK – provisioning of Blockchain environments



Marketplace

Blockchains

Marketplace

## Lab VM

Configure settings - PREVIEW

Lab VM Name

Test123

\* Base

Ubuntu Server 14\_04 LTS

\* User Name

hiro

Authentication Type

Password SSH Public Key

\* Password

●●●●●●●●

## Add Artifacts

PREVIEW



Feedback

Dev Test Labs

NAME	DESCRIPTION	REPOSITORY
 C++Ethereum-Linux	Add an Linux based C++ Et...	BaaS
 Chain-Linux	Add a Chain based node to...	BaaS
 Eris-Linux	Add an Linux based Eris no...	BaaS
 Go-Ethereum-Linux	Add an Linux based Go Eth...	BaaS
 Chef Client	Downloads and installs the...	Public Repo
 Deploy App from Azure St...	Deploy an app stored in an...	Public Repo
 Docker	Install Docker on Linux	Public Repo
 Docker Container	Install a Docker container...	Public Repo



# Containers and virtual machines

Deployment options suited to many scenarios



**Containers in VMs:** By combining containers with VMs, users can deploy multiple, different VM operating systems, and inside, deploy multiple containers within those guest OSs.

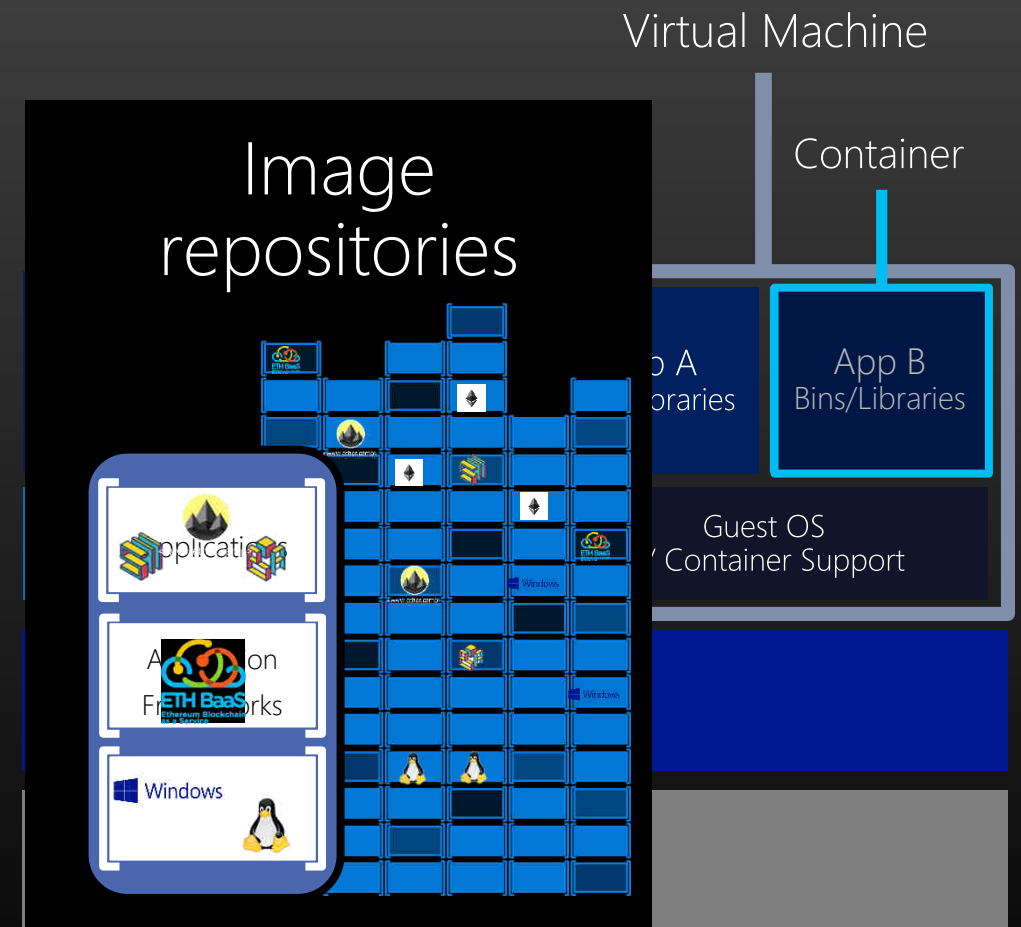
By combining containers with VMs, fewer VMs would be required to support a larger number of apps.

Fewer VMs would result in a reduction in storage consumption.

Each VM would support multiple isolated apps, increasing overall density.

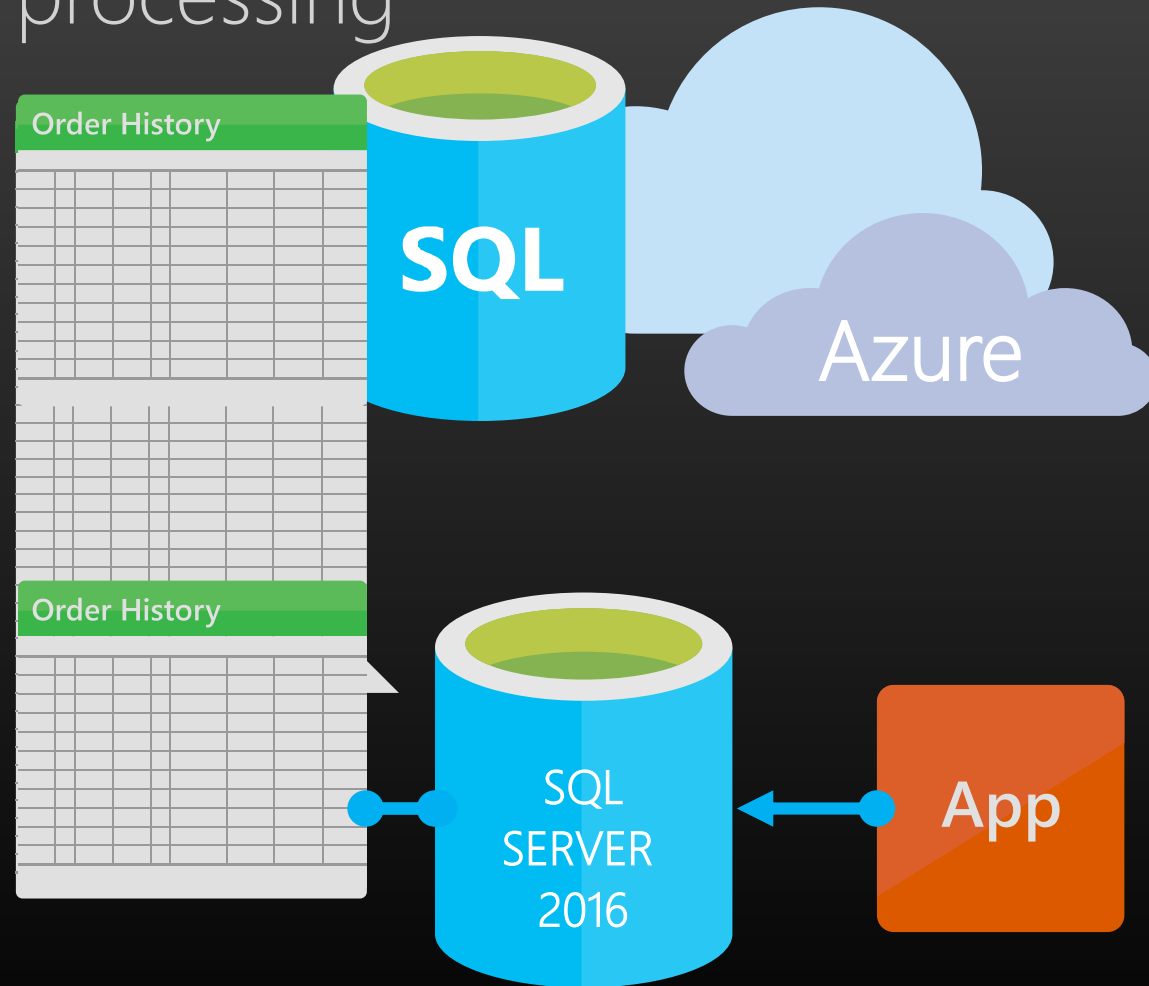
**Flexible:** Running containers inside VMs enables features such as live migration for optimal resource utilization and host maintenance.

Which leads to...



# Stretch SQL Server into Azure

Securely stretch cold tables to Azure with remote query processing



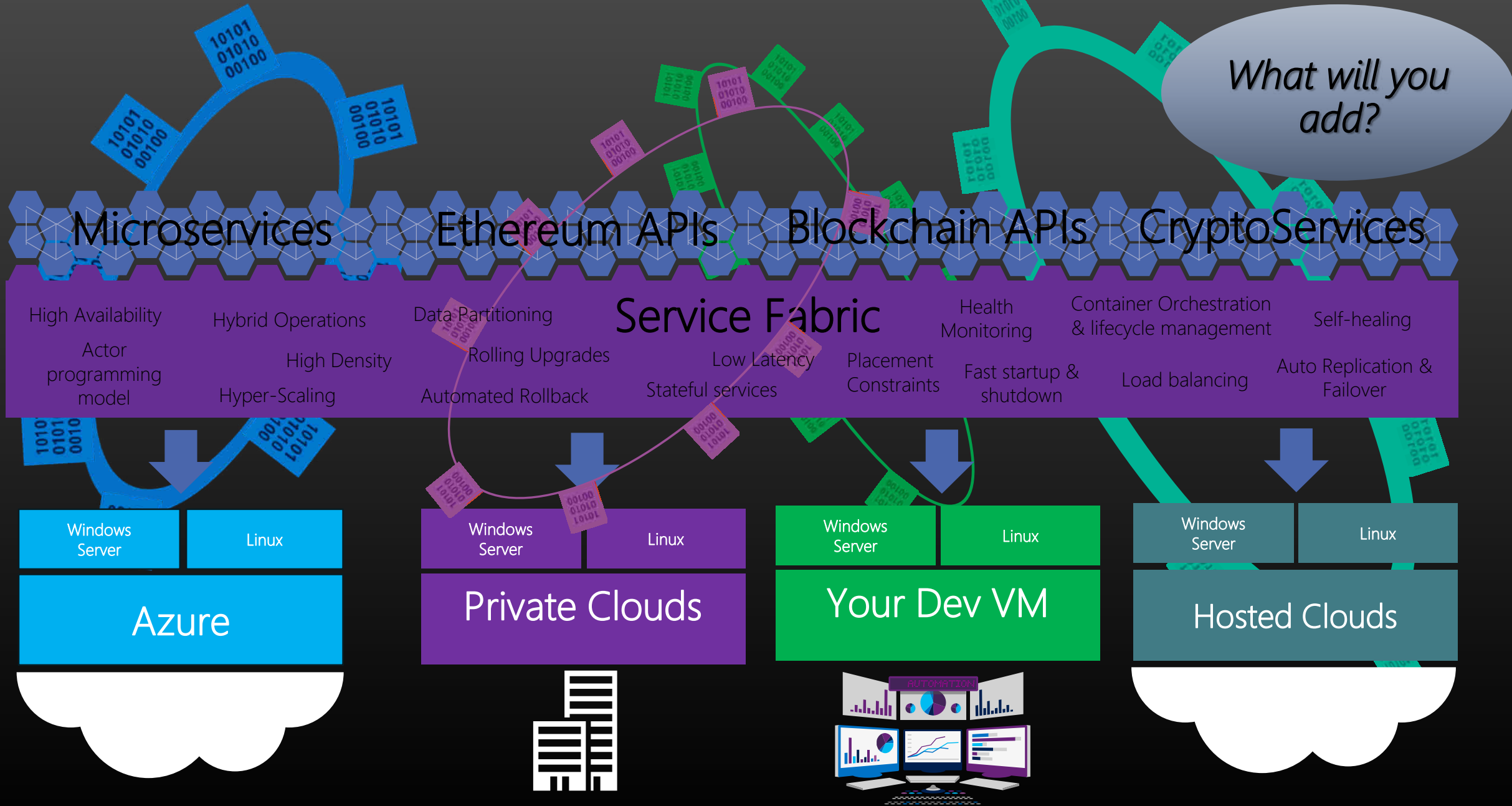
## Capability

Stretch cold tables securely from on-premises SQL Server databases to Azure with remote query processing

## • Benefits

- Cost effective online cold data
- Entire table is online and remains queryable from on-premises apps
- Transparent to applications
- Supports Always Encrypted and Row Level Security

# Blockchain as a Service Vision



# Roadmap

- Blockchain Category in Azure Marketplace Spring 2016
- Dev Test Labs in Preview – BaaS Artifacts coming in Spring 2016 in preview now.
- Try today:
  - <https://azure.microsoft.com/en-us/documentation/templates/>
  - Search for Ethereum, Blockchain, Bitcoin, etc...
  - Templates added every week, 11 different partners available today
- Many more to come
- Future Azure Blockchain Services coming

