



The Microsoft Vision for IoT

David Coe

Director of Technical Strategy

US – Automotive, Manufacturing & Resources

Is IoT even a new thing?

Depending on who you ask, IoT is either:

1

Nothing new



We've been
doing this
for 40 years



2

A unicorn



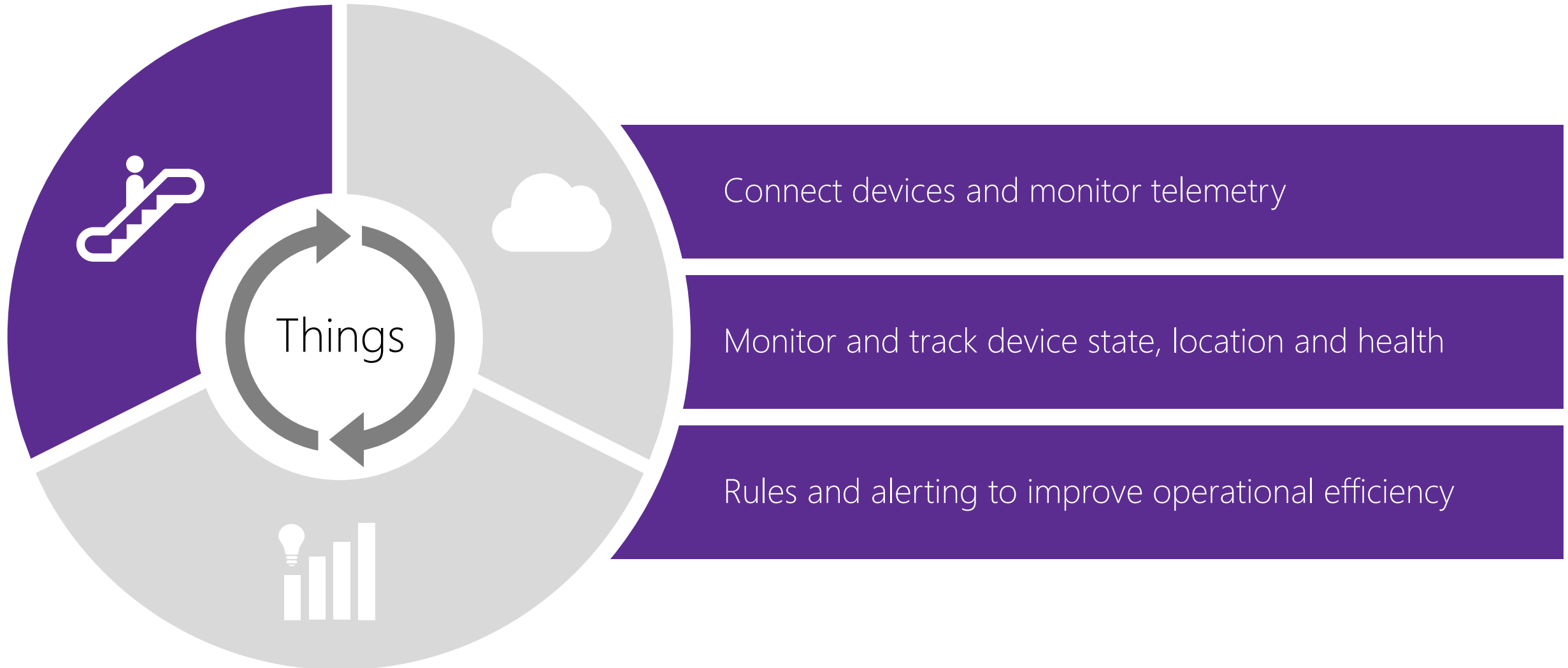
Magic, and will
soon change
everything. ★

Command and control scenarios have much in common with some parts of IoT

But falling hardware costs, cloud services and relatively ubiquitous communications do enable new approaches

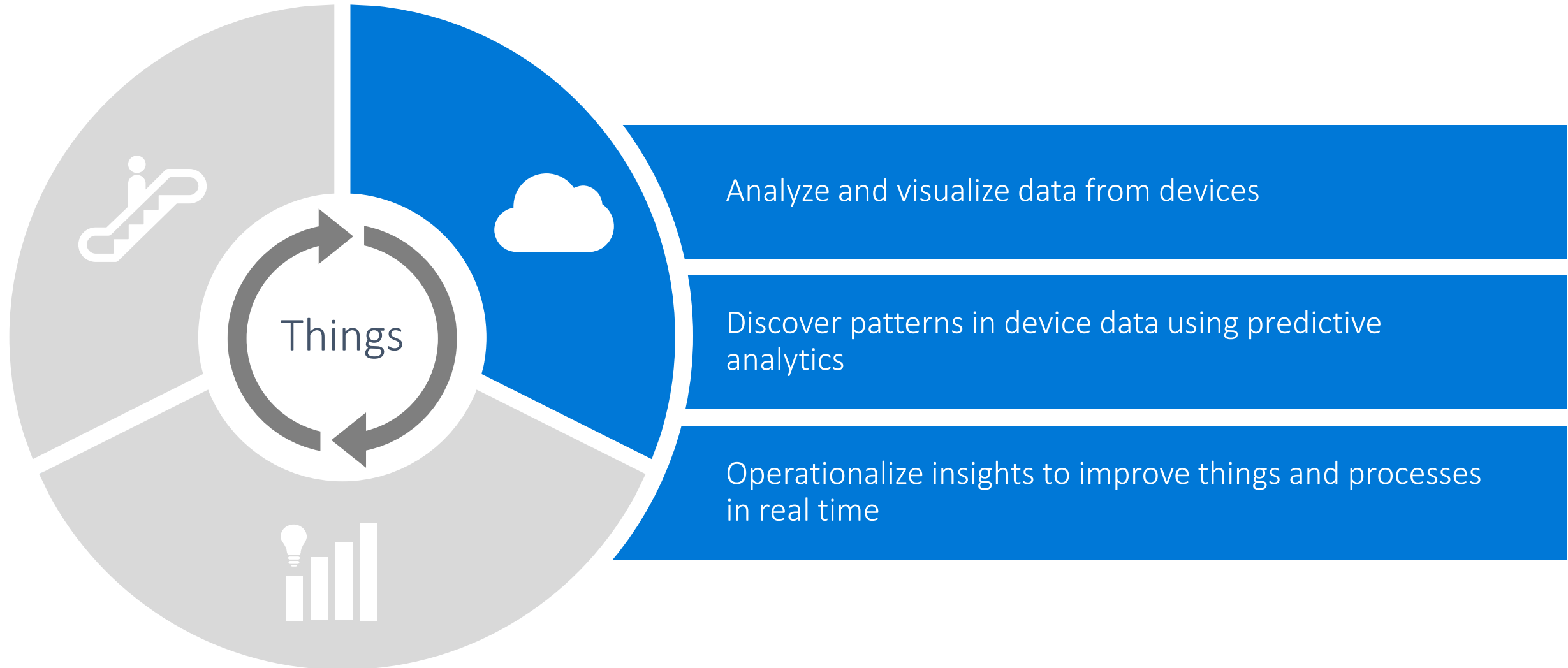
IoT Business Maturity Model

1. Operational efficiency



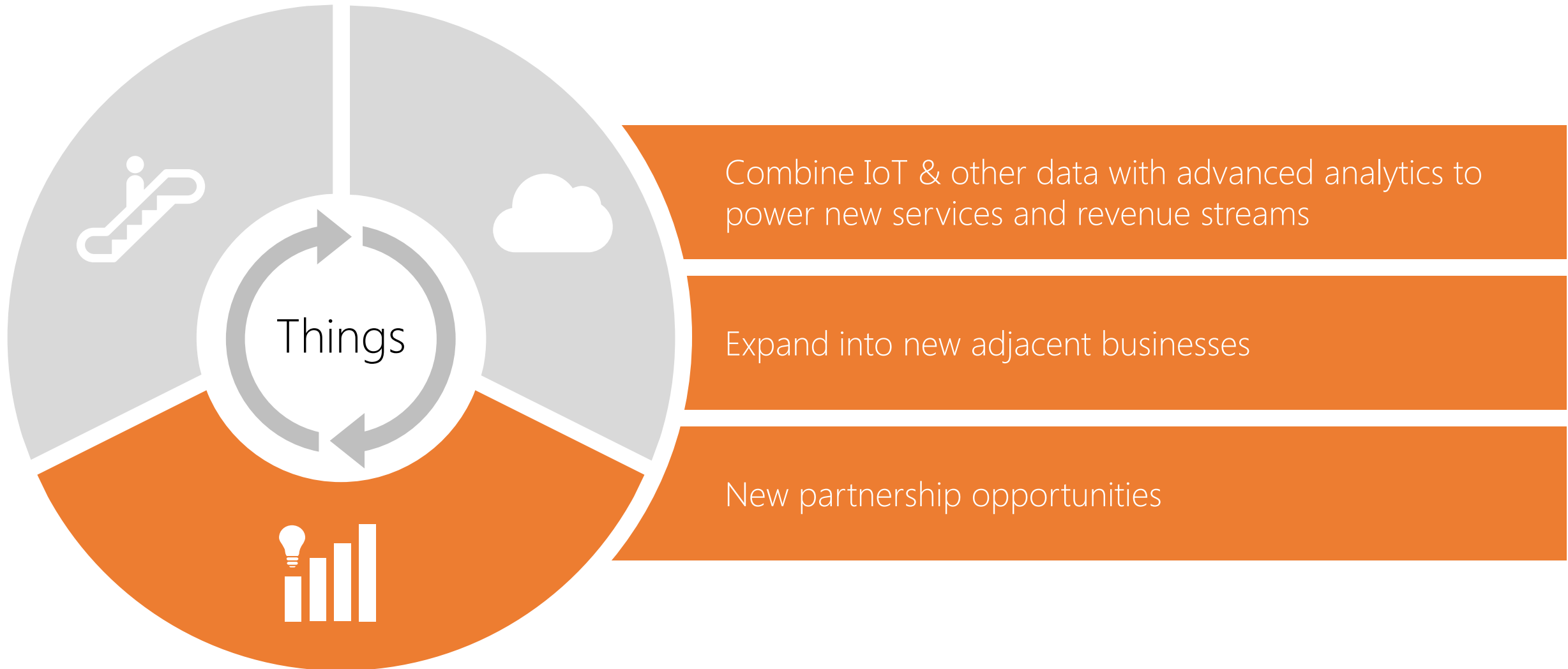
IoT Business Maturity Model

2. Business Intelligence



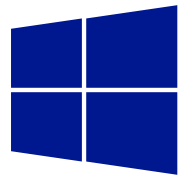
IoT Business Maturity Model

3. Business Transformation



Microsoft IoT

Comprehensive solutions from device to cloud



Windows



IoT Editions Power a Broad Range of Devices

20 years of history in embedded devices

One Windows platform for all devices

Enterprise-ready, Maker-friendly

Designed for today's IoT environments

Free IoT Core edition!

Cloud-Based IoT Services & Solutions

Easy to provision, use and manage

Pay as you go, scale as you need

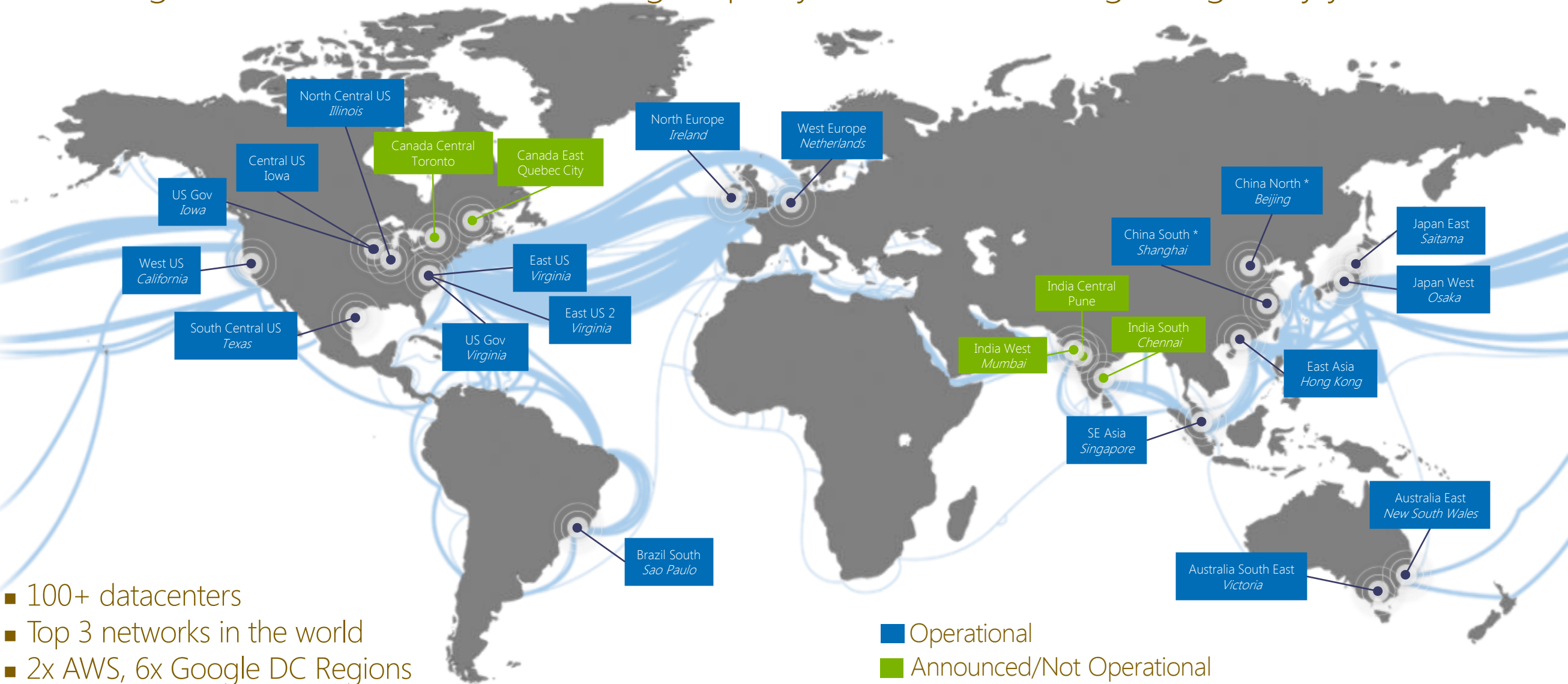
Global reach, hyper scale

End-to-end security & privacy

Windows, Mbed, Linux, iOS, Android, RTOS support

Huge infrastructure scale is the enabler

24 Regions Worldwide, 19 ONLINE...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 VM in World, 32 cores, 448GB Ram, SSD...

■ Operational

■ Announced/Not Operational

* Operated by 21Vianet

Platform Services

Security & Management

- Portal
- Active Directory
- Multi-Factor Authentication
- Automation
- Key Vault
- Store / Marketplace
- VM Image Gallery & VM Depot

Compute

- Cloud Services
- Service Fabric
- Batch
- Remote App

Web and Mobile

- Web Apps
- API Apps
- API Management
- Mobile Apps
- Logic Apps
- Notification Hubs

Developer Services

- Visual Studio
- Azure SDK
- Team Project
- Application Insights

Hybrid Operations

- Azure AD Connect Health
- AD Privileged Identity Management
- Backup
- Operational Insights
- Import/Export
- Site Recovery
- StorSimple

Integration

- Storage Queues
- Biztalk Services
- Hybrid Connections
- Service Bus

Media & CDN

- Media Services
- Content Delivery Network (CDN)

Analytics & IoT

- HDInsight
- Machine Learning
- Data Factory
- Event Hubs
- Stream Analytics
- Mobile Engagement

Data

- SQL Database
- SQL Data Warehouse
- Redis Cache
- Search
- DocumentDB
- Tables

Infrastructure Services

Compute

- Virtual Machines
- Containers

Storage

- BLOB Storage
- Azure Files
- Premium Storage

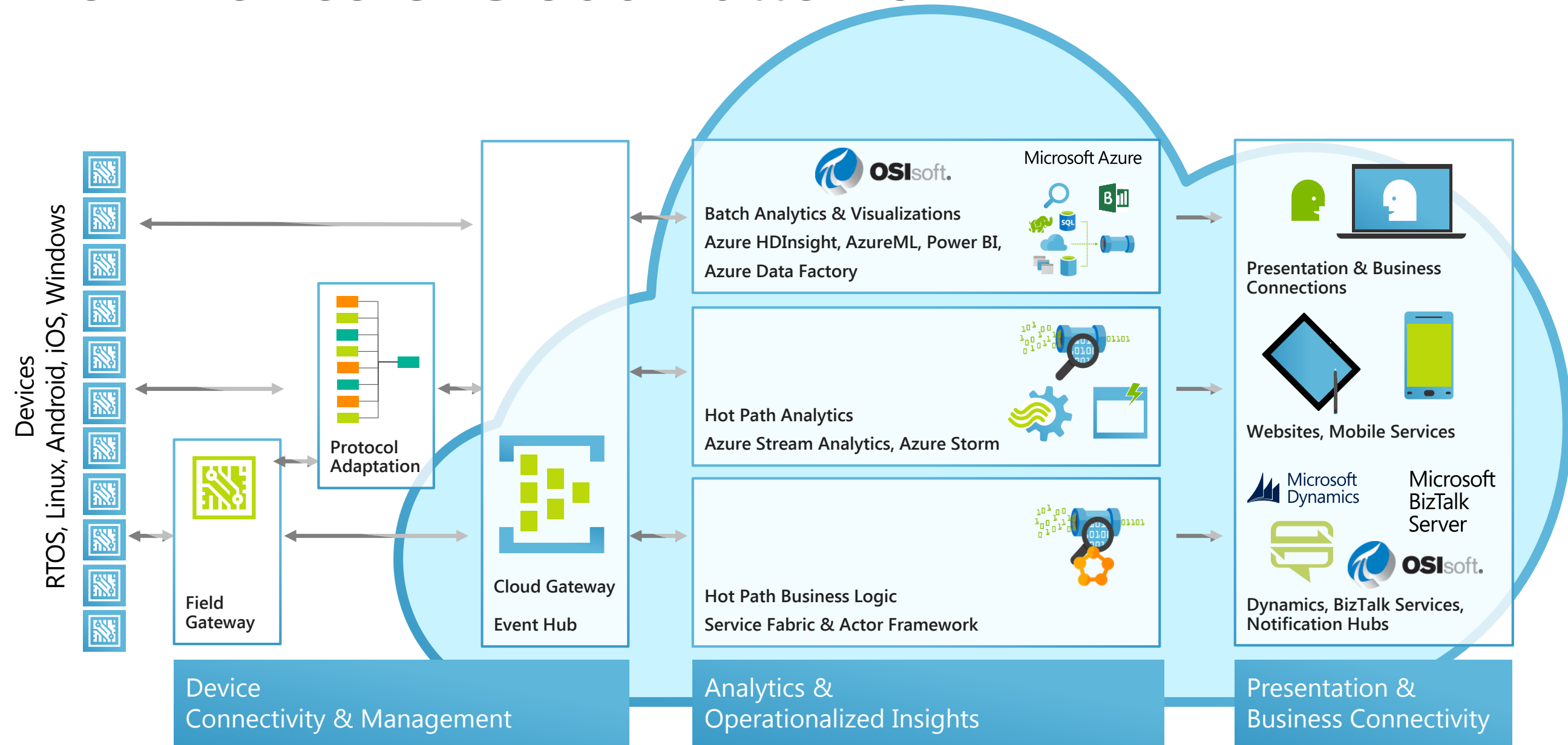
Networking

- Virtual Network
- Load Balancer
- DNS
- Express Route
- Traffic Manager
- VPN Gateway
- Application Gateway




















Datacenter Infrastructure (24 Regions, 19 Online)



IoT Device & Cloud Patterns



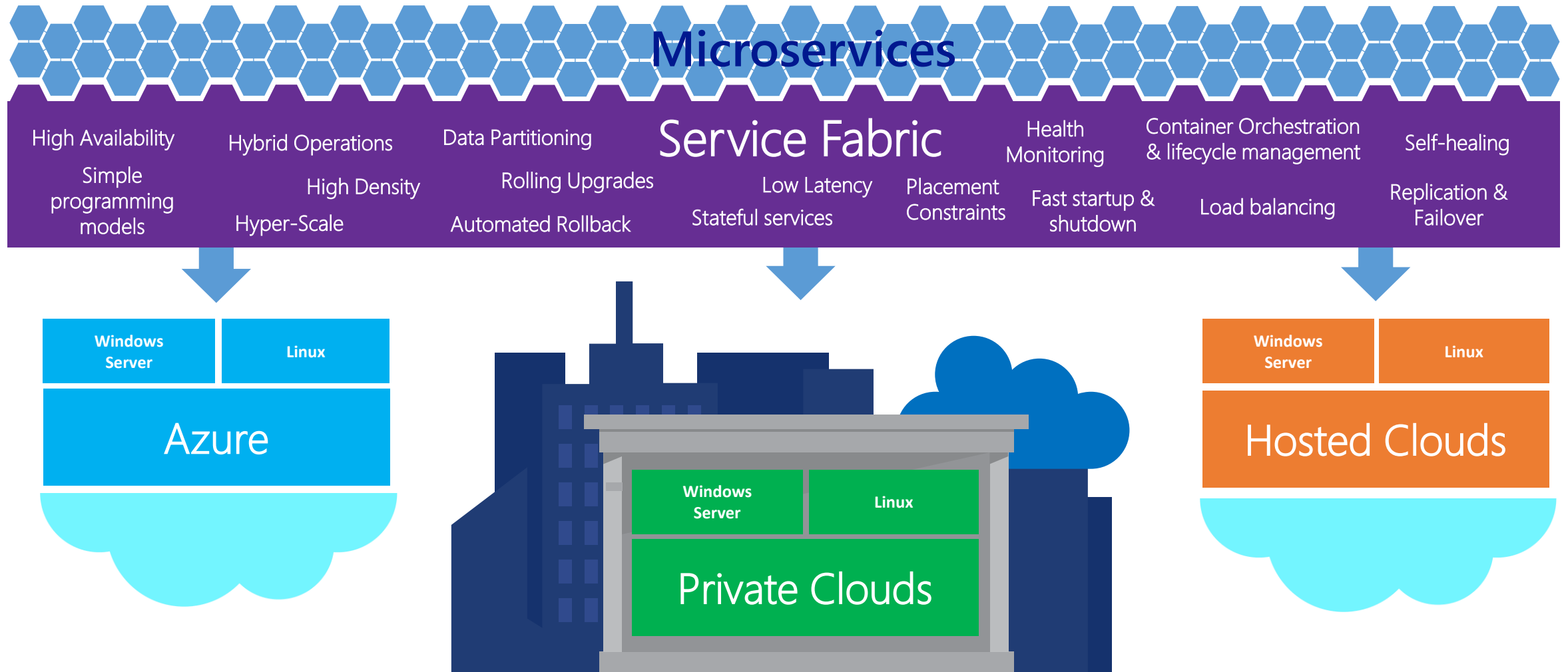
Microsoft Azure IoT services

Devices	Device Connectivity	Storage	Analytics	Presentation & Action
	 Event Hubs	 SQL Database	 Machine Learning	 App Service
	 Service Bus	 Table/Blob Storage	 Stream Analytics	 Power BI
	 External Data Sources	 DocumentDB	 HDInsight	 Notification Hubs
		 External Data Sources	 Data Factory	 Mobile Services
				 BizTalk Services

Introducing Azure Service Fabric

Microsoft Azure Service Fabric

A platform for reliable, hyperscale, microservice-based applications



Example Cloud Services Built On Service Fabric

Service	Description
Azure Database	Scale-out relational database
Azure DocumentDB	No-SQL store for JSON documents Integrated with O365
Azure Power BI	BI Pro Data Analysis Services
Azure Networking	Regional Network Manager (RNM) for cross cluster/DC VNET
Azure Compute and Networking	Resource Providers for Compute (CRP), Networking (NRP), Storage (SRP)
Event Hubs	Streaming messaging and event processing
Service Bus	Service Bus Resource Provider (SBRP)
Intune	Unified management of PCs and devices on the cloud.
Bing Cortana	Personal assistant

In production for five years

We're giving you the same bits we run!

OSIsoft and Azure

- OSIsoft chose Service Fabric to enhance their on-premises PI System with new Azure-based offerings to unlock an Internet of Things-scale solution.
- The OSIsoft solution leveraging Service Fabric enables new customer driven insights by durably processing data from hundreds of millions of meters every few seconds – shattering previous on-premises records.



Demo

IoT Telemetry with
Event Hubs and Stream Analytics

