



winhec

Shenzhen 2015



Azure IoT kit & Window 10 IoT Core

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\$1.7 trillion

Market for IoT by 2020

IDC

25 billion

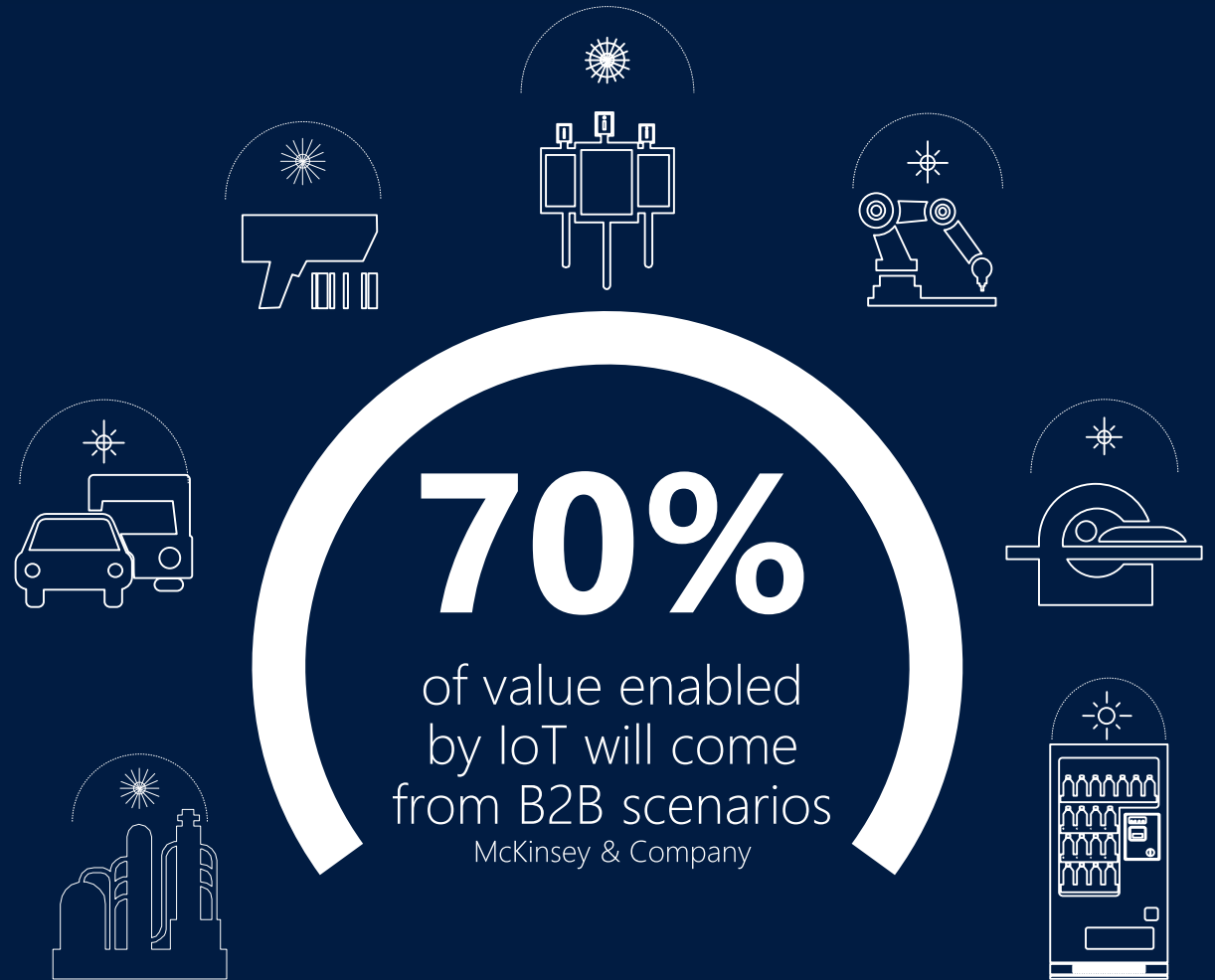
Connected "things" by 2020

Gartner






















Microsoft's view on IoT

The Internet of Things starts with your things

- ▶ Build on the infrastructure you already have
- ▶ Add more devices to the ones you already own
- ▶ Get more from the data that already exists



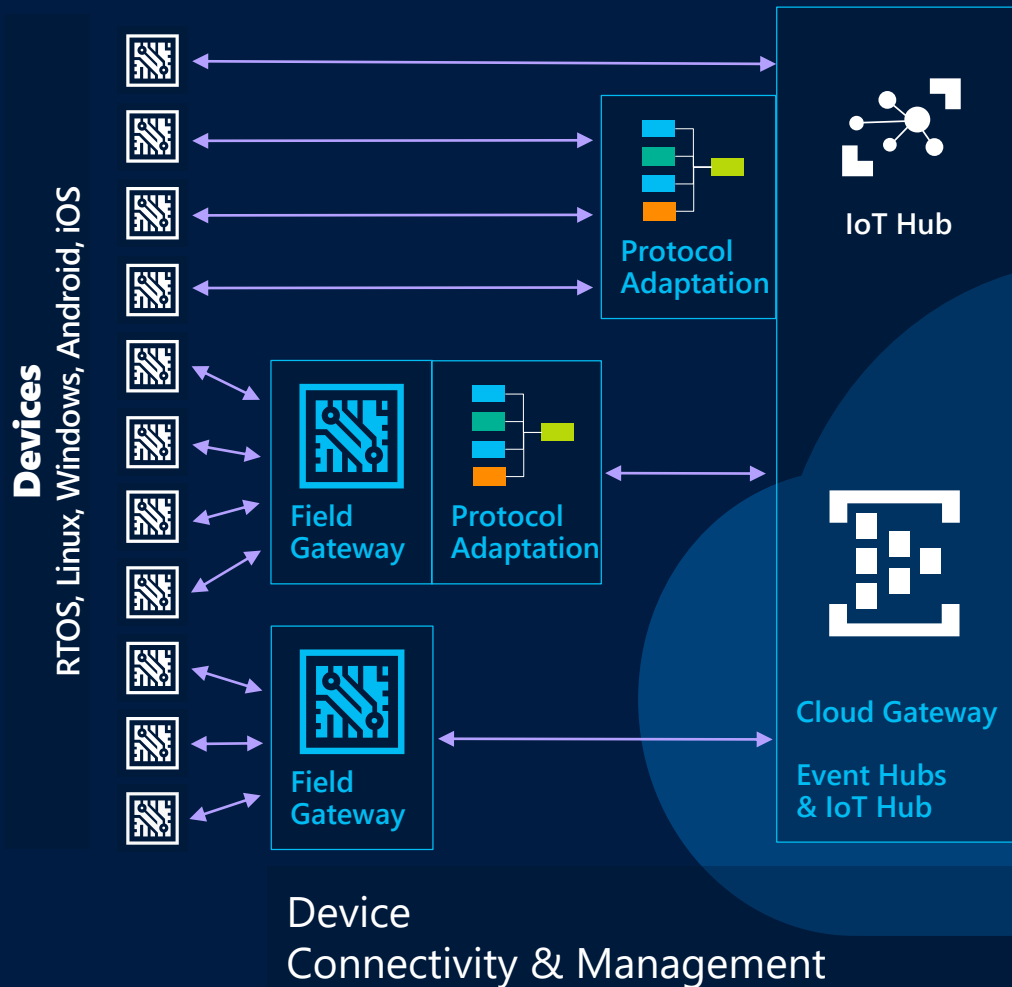
Microsoft Azure IoT Services

Devices	Device Connectivity	Storage	Analytics	Presentation & Action
	 Event Hub	 SQL Database	 Machine Learning	 App Service
	 IoT Hub	 Table/Blob Storage	 Stream Analytics	 Power BI
	 Service Bus	 DocumentDB	 HDInsight	 Notification Hubs
	 External Data Sources	 3rd party Databases	 Data Factory	 Mobile Services
			 Data Lake	 BizTalk Services

Azure IoT Hub



Azure IoT Hub



Azure IoT Hub

- Capability of the Azure IoT Suite
- Bi-directional device <-> cloud
- Up to 10 million devices
- Telemetry ingestion
- Command & control
- Device registry & identity
- Device Management
- HTTP/AMQP
- Extensible protocol support / MQTT

Azure IoT Hub

Designed for IoT

Connect up to 10 million devices

Service assisted communications

Secure bi-directional communication

Command and control

Cloud-scale messaging

Device-to-cloud and Cloud-to-device

Durable messages (at least once semantics)

Cloud-facing telemetry ingestion

Delivery receipts, expired messages

Device communication errors

Per-device authentication

Individual device identities and credentials

Connection multiplexing

Single device-cloud connection for all communications (C2D, D2C)

Multi-protocol support

Natively supports AMQP, HTTP

Designed for extensibility to custom protocols

Multi-platform

Device SDKs available for multiple platforms (e.g. RTOS, Linux, Windows)

Multi-platform Service SDK.

Agent Library

SDK, agent libraries

Easily accessible libraries in GitHub

Cross platform support

Choose real time OS, platform and language

Device support

IP and access control capabilities

Connect IP, and non-IP devices

Support for direct connection devices and resource strained or non-IP devices via gateway and field protocols

Open source framework

Develop custom agents for your devices

Secure communication

Simple and secure D2C and C2D connectivity for messaging, device management and command and control.

OS support

RTOS, Linux, Windows, Android, iOS etc.

Agent support

Operating systems supported:

Debian Linux (v 7.5)
Fedora Linux (v 20)
mbed OS (v 2.0)
Raspbian Linux (v 3.18)
Ubuntu Linux (v 14.04)
Windows Desktop (7, 8, 10)
Windows IoT Core (v 10)
Windows Server (v 2012 R2)
Yocto Linux (v 2.1)

C Libraries supported:

Debian Linux (v 7.5) HTTPS, AMQP, MQTT
Fedora Linux (v 20) HTTPS, AMQP, MQTT
mbed OS (v 2.0) HTTPS, AMQP
Ubuntu Linux (v 14.04) HTTPS, AMQP, MQTT
Windows Desktop (7,8,10) HTTPS, AMQP, MQTT
Yocto Linux (v 2.1) HTTPS, AMQP

Documentation, SDK support

Node.js library:

Node.js (v 4.1.0) HTTPS

Java library:

Java (v 1.7) HTTPS, AMQP

Java (v 1.8) HTTPS, AMQP

C# libraries supported:

Windows Desktop (7,8,10) HTTPS, AMQP

Windows IoT Core (10) HTTPS

Managed agent code requires .NET framework 4.5

Azure IoT Hub Demo

Introducing Azure IoT Suite

The logo for Azure IoT Suite is a dark blue cloud shape with the text "Azure IoT Suite" written in white inside it.

Azure IoT Suite

Comprehensive solution

Connect millions of devices and integrate your business systems with new insights to transform your business.

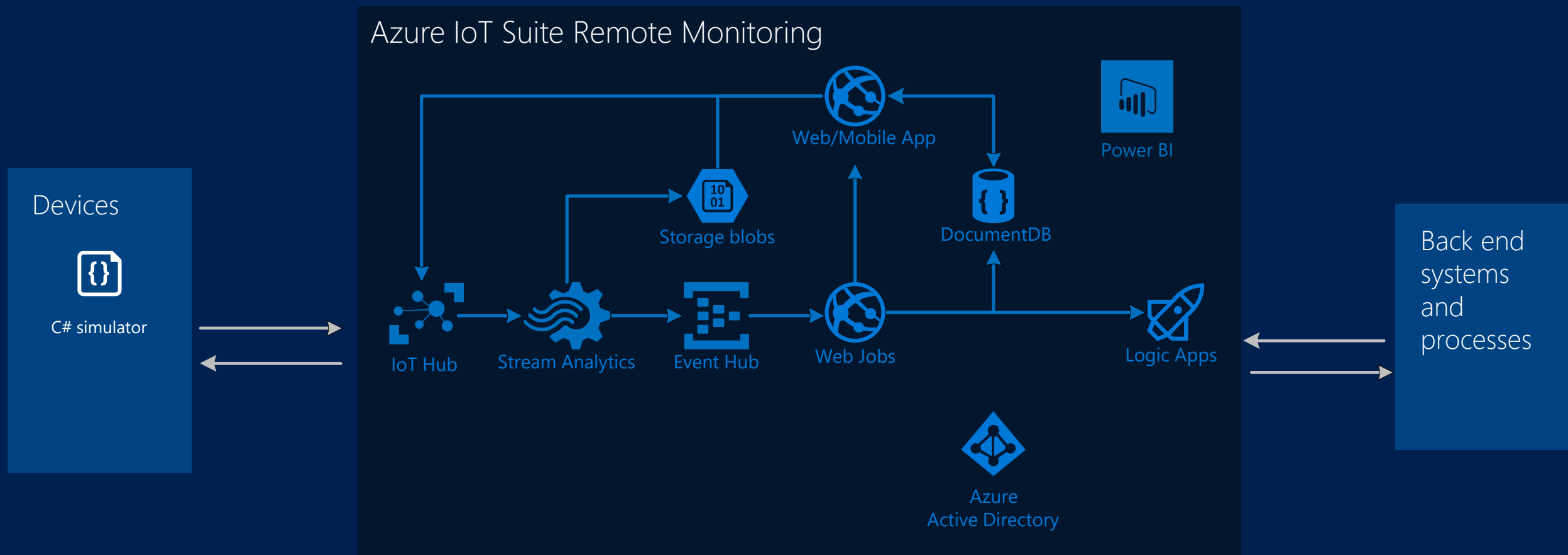
Accelerate time to value

Get started quickly with preconfigured solutions for common IoT scenarios.

Rich partner network

Leverage a worldwide ecosystem of experienced IoT partners to tailor IoT solutions to your needs.

Azure IoT Suite Architecture



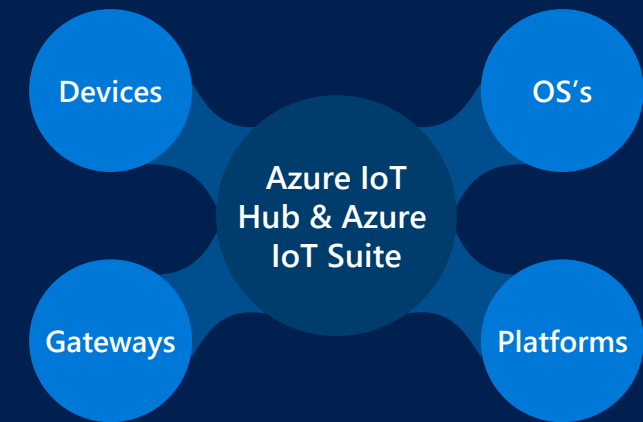
Azure IoT Suite Demo

Microsoft Azure Certified for IoT

- ▶ Designed to help you find a device partner for your IoT project
- ▶ Device partners will deliver Azure IoT Suite tested, certified hardware, platforms and services as part of the program

Open to all partners

Texas Instruments	Seeed
Intel Edison	Raspberry Pi 2
Freescale FRDM K64	Minnowboard max
Resin.io
Arrow	
Beaglebone Black	



Windows 10 IoT Devices

The power of Windows and the Windows ecosystem on my embedded devices gets me to value faster

Windows 10 IoT
Enterprise

Windows 10 IoT
**Mobile
Enterprise**

Windows 10 IoT
Core

One Windows Platform

One Windows core
scalable across
devices

One universal app
and driver platform

One management
and deployment
approach

Secure

Enterprise-grade
security

Advanced
Customization and
lockdown
capabilities

Continued
innovation and
support

Connected

Local
connectivity

Cloud
connectivity

Device
services

Universal Windows Drivers Platform

- Write **ONE** Universal Driver and target all Windows 10 editions - Converged device areas/APIs
- **Scale** and get **higher ROI** by selling same components to all Windows 10 editions OEMs/ODMSs
- We scanned over **100k drivers** to create a **universal driver API set**



Universal Windows App Platform

- **Converged** APIs, write **ONE** Universal Windows App and target all Windows 10 editions
- **Scale** and get **higher ROI** by selling same App to all Windows 10 editions OEMs/ODMSs
- Reuse **existing development skills**

Windows 10 IoT Device Network

