

STM32 with Azure IoT Cloud Portfolio with Demo

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Agenda

- IoT Potential and Challenges
- IoT Product Portfolio
- Azure IoT Hub and Device Provisioning Service
- Demo- STM32F7 to IoT Hub and Device Twin (C2D Messages)
- Demo – STM32F7 to Device Provisioning Service
- IoT Central/PnP device
- Demo
- Secure IoT Central
- ADU
- Next Steps – Call to Action (Azure for Students)

IoT can unlock great business impact



\$100 million
average increase in operating
income among more digitally
transformed enterprises¹



90% of organizations now
consider IoT as **critical to the
overall success** of their business⁶



80% of companies have
increased revenue as a result
of IoT implementation³



56% of organizations
**improve efficiency and
productivity** with IoT⁴



49% of organizations
**improve product or service
quality** with IoT⁵

Customers face many challenges



TOO COMPLEX
TO SCALE

43%

are overwhelmed
by options



LACK OF EXPERTISE OR
INFRASTRUCTURE

90%

lack partners
to help



NO END-TO-END PLAN
FOR ADOPTION

100%

don't have a
comprehensive plan




SECURITY
CONCERNS

91%

worry about
security issues

End-to-end security



Azure Defender for IoT



Azure Defender for IoT

IoT Solutions



Manufacturing



Energy



Smart Cities



Transportation



Healthcare



Retail



Telco

IoT Solutions

Azure IoT Central
(SaaS)

Dynamics Connected Store (SaaS)

Dynamics Connected
Field Service
(SaaS)

Azure Services for IoT

- Azure IoT Hub
- Azure IoT Hub Device Provisioning Service
- Azure Digital Twins
- Azure Time Series Insights
- Azure Maps

- Azure Stream Analytics
- Azure Cosmos DB
- Santa Cruz Service
- Azure Cognitive Services
- Azure AI/ML
- Azure Logic Apps

- Azure Active Directory
- Azure Monitor
- Azure DevOps
- Power BI
- Azure Data Share
- Azure Spatial Anchors

IoT & Edge device support

- Azure RTOS
- Azure Sphere
- Azure IoT Device SDK
- Azure IoT Edge
- Azure Stack Edge

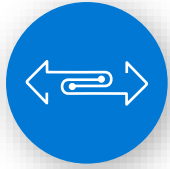
Windows IoT
Azure Certified for IoT—
Device Catalog
Azure Stream Analytics
Azure Storage

- Azure ML
- Azure SQL
- Azure Functions
- Azure Cognitive Services

Azure devices and appliances

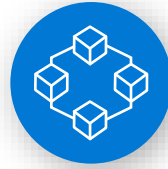
Azure Percept
Azure Stack Edge

Azure IoT Hub



Bi-directional communication

- Millions of Devices
- Multi-language, open-source SDKs
- HTTPS/AMQPS/MQTTs
- Send Telemetry
- Receive Commands
- Device Management
- Device Twins
- Queries & Jobs



Enterprise scale & integration

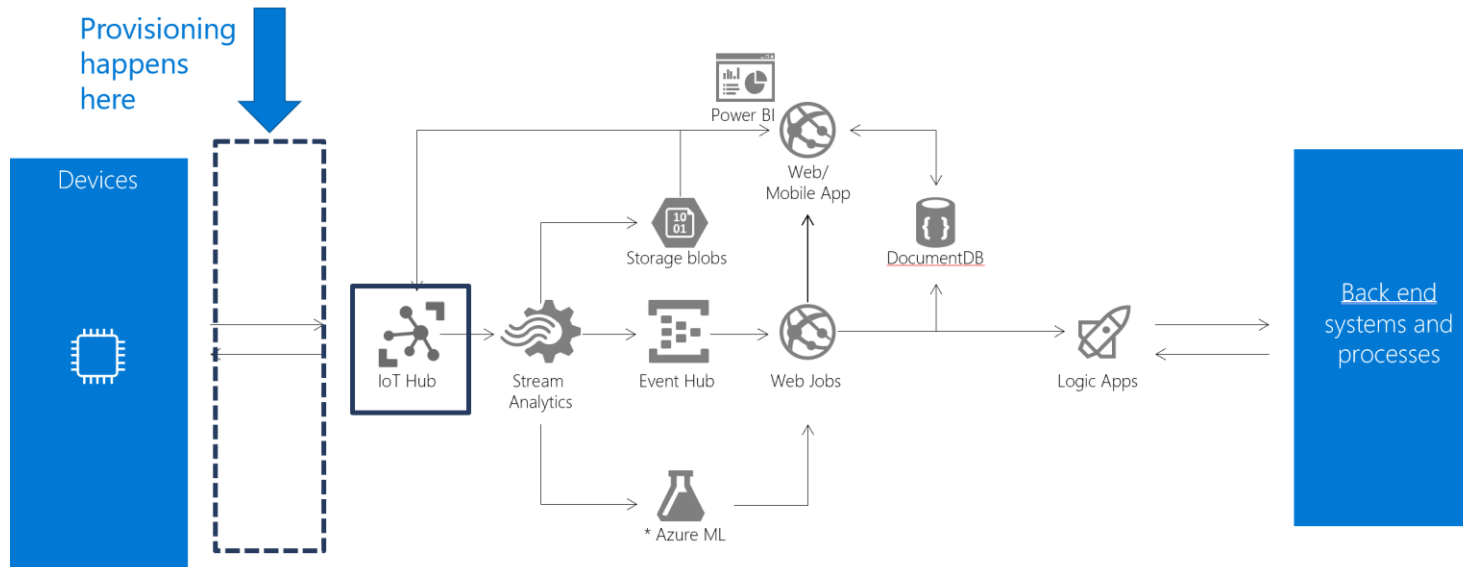
- Billions of messages
- Scale up and down
- Declarative Message Routes
- File Upload
- WebSocket's & Multiplexing
- Azure Monitor
- Azure Resource Health
- Configuration Management



End-to-end security

- Per Device Certificates
- Per Device Enable/Disable
- TLS Security
- X.509 Support
- IP Whitelisting/Blacklisting
- Shared Access Policies
- Firmware/Software Updates

Azure Device Provisioning Service



- Simplify with zero touch provisioning
- Supports multiple locations
- Easiest way to mass-provision devices
- URL stability
- Enhanced security through HSM
- For any device compatible with IoT Hub
- Remove human error
- Minimize manual connection requirements
- Multitenancy support

IoT Central/PnP device