WEBINAR

Connecting Factories Seamlessly with Azure and MQTT

Explained with Usecases and a Demo

HIVEMQ

Speakers

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AGENDA

- Business objectives
- What is MQTT?
- What is an Enterprise MQTT Broker
- Typical advantages of using Enterprise MQTT broker
- Example manufacturing use cases and architecture
- Demo

Business Objectives

- Improve factory efficiency
- Optimize intra plant logistics
- More flexible manufacturing
- Measure and Increase OEE [1]:
  - Increase availability of our equipment by avoiding non-planned standstill
  - Analyze and increase quality
  - Tune the performance of our machines and processes

[1] overall equipment effectiveness

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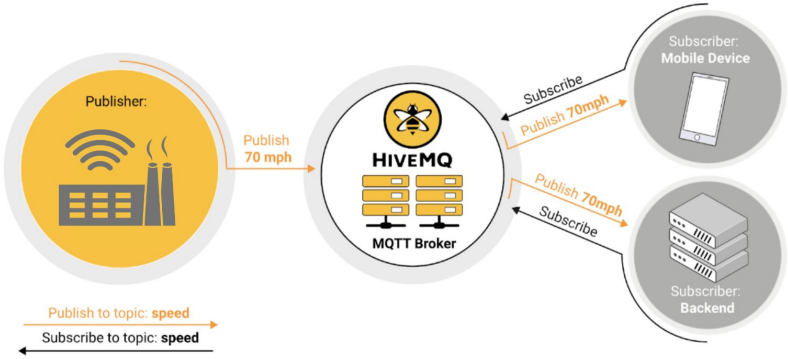
What is MQTT?

- A standard binary publish-subscribe messaging protocol designed for fast and reliable data transport between devices especially under very constrained conditions
- Constraints include unreliable network connectivity, limited bandwidth, limited battery power, and so on
- Built on top of TCP/IP
- Ideal for the Industrial Internet of Things



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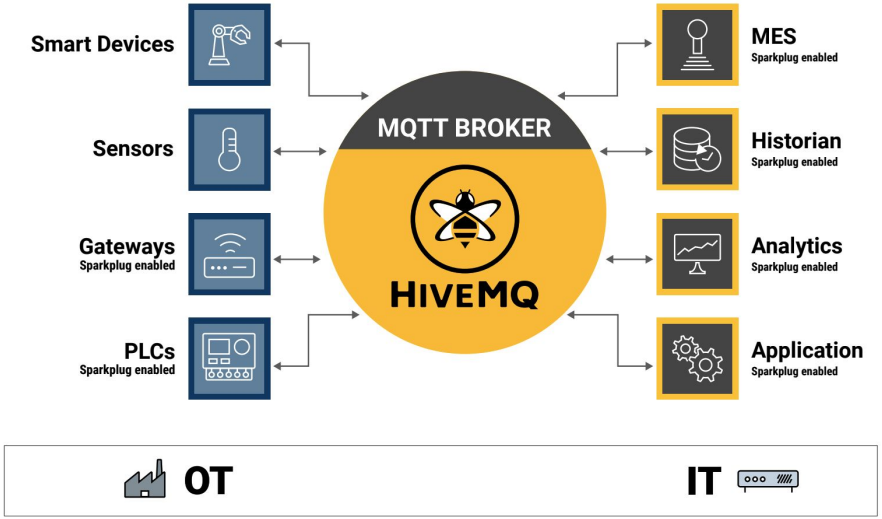
What is an Enterprise MQTT Broker

- Messaging platform designed for the fast, efficient and reliable movement of data to and from factory IoT systems
- Uses the MQTT protocol for instant, bi-directional push of data between factory systems, Edge or Cloud



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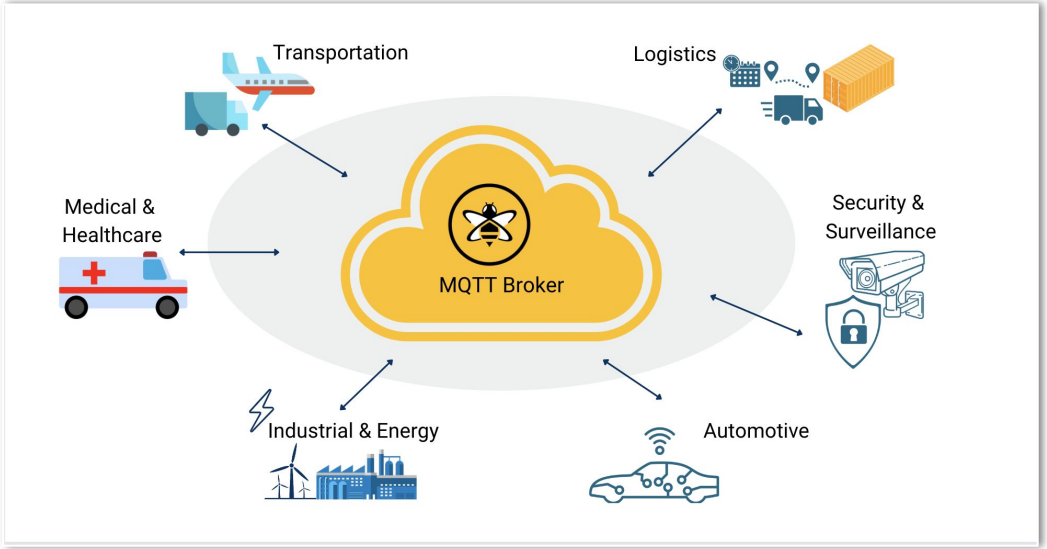
Typical advantages of using an Enterprise MQTT broker

- Based on cluster architecture, which means there is no single point of failure
- Scales with the underlying hardware and supports a number of concurrent factory systems connections
- Ensures secure transfer of factory IoT data
- Total factory network traffic is reduced since there is no client polling, small message size
- Bi-directional messaging



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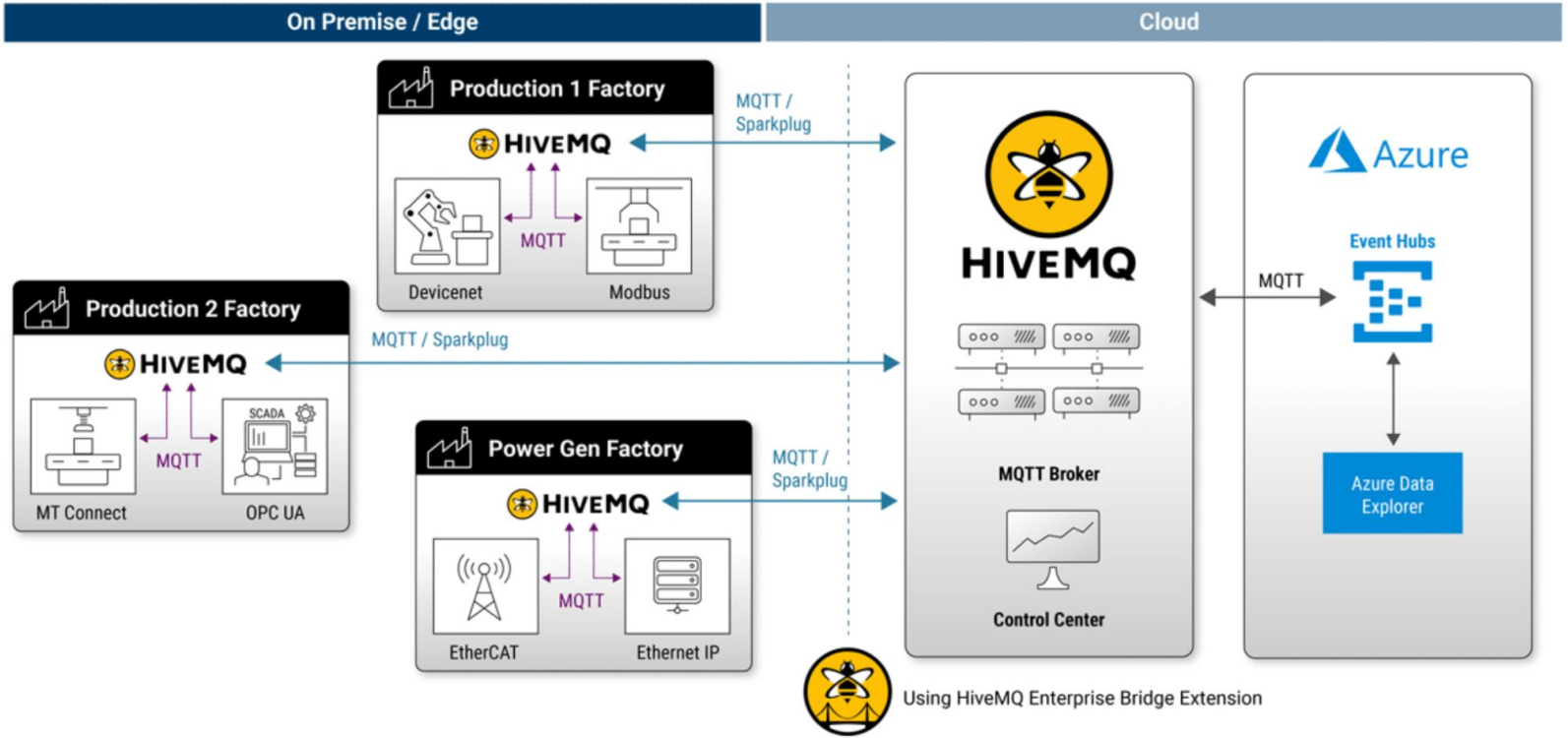
Example Manufacturing Use Case Architecture

Use case 1 : Inter Factory Data Correlation using MQTT and Azure



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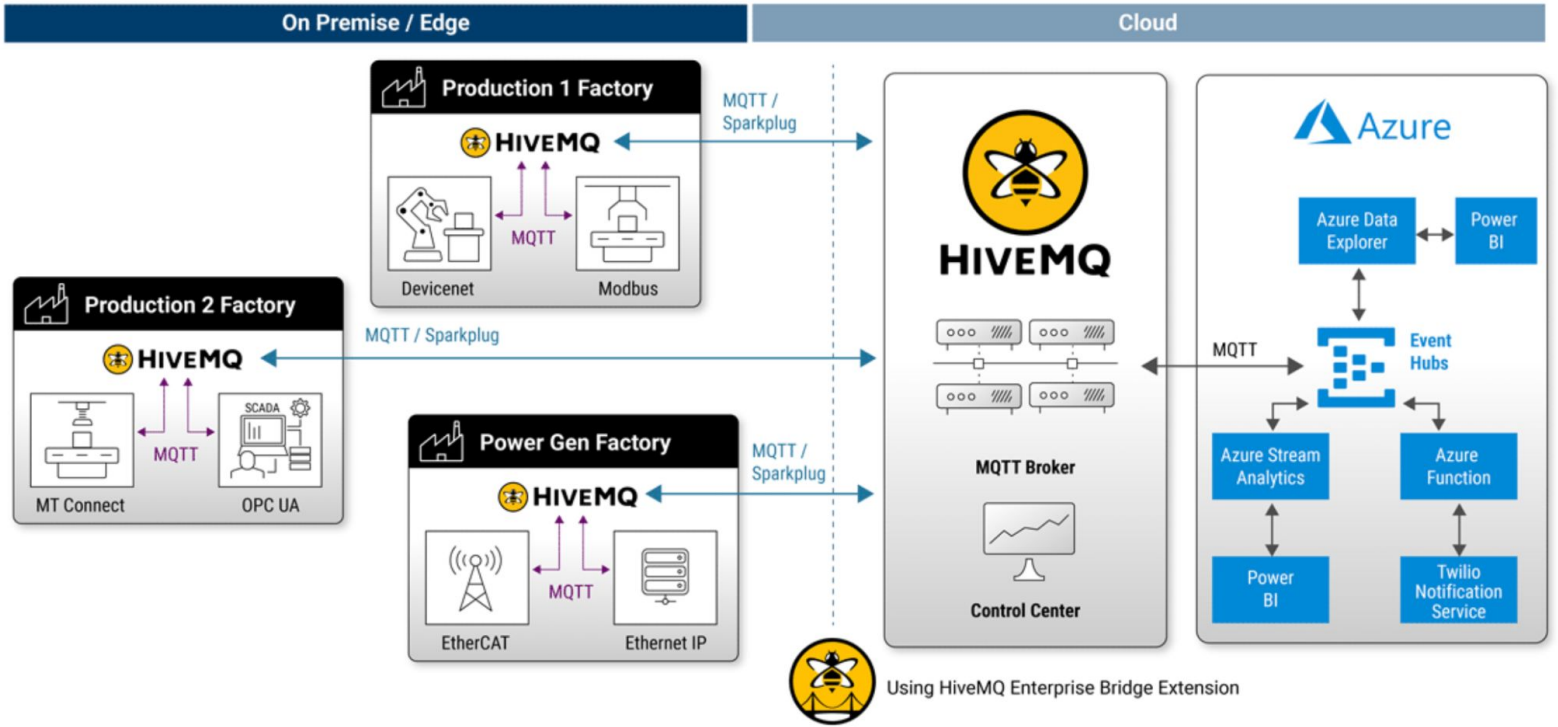
Example Manufacturing Use Case Architecture

Use case 2 : Remote Anomaly Detection in Factory Machines with MQTT and Azure



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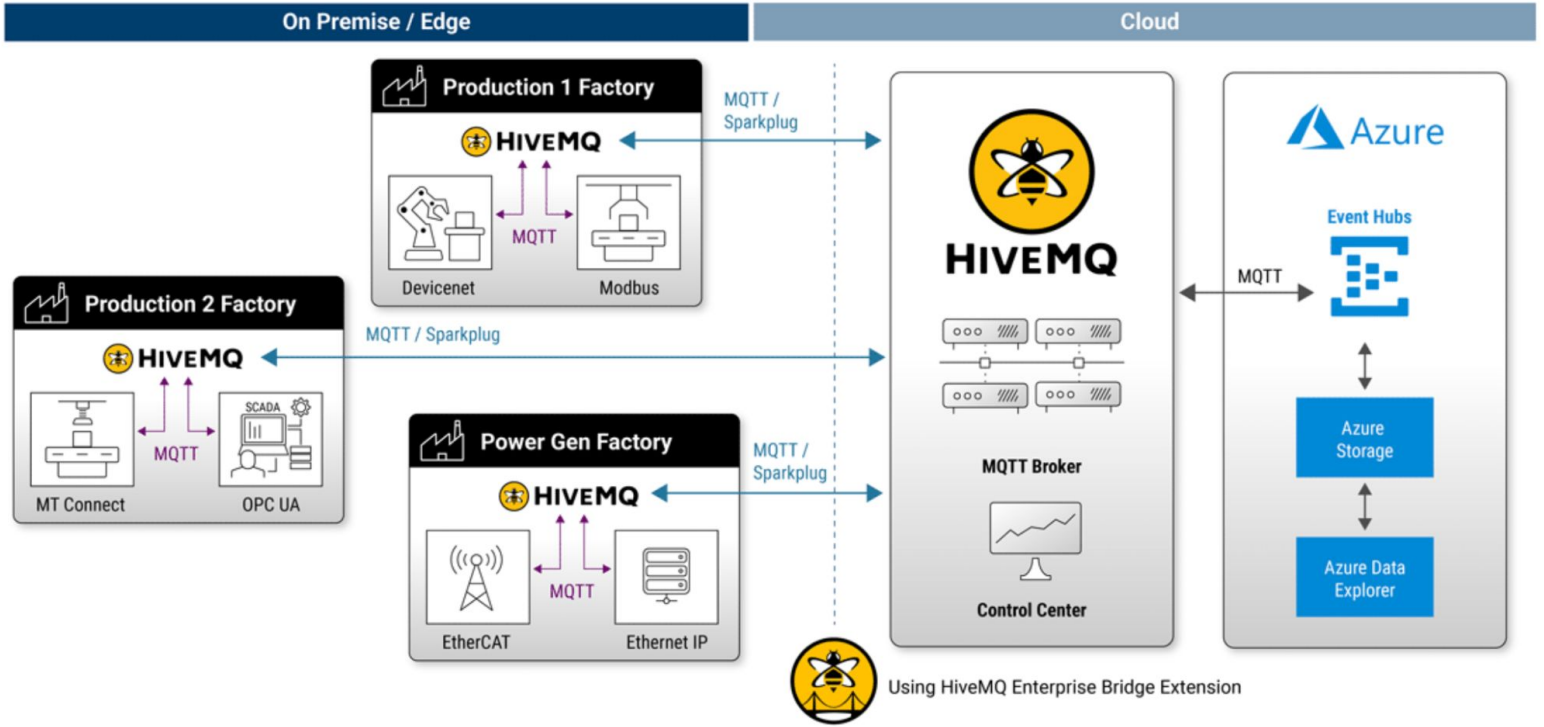
Example Manufacturing Use Case Architecture

Use case 3 : MQTT-Powered Inter Factory SCADA Alarm Data Analysis on Azure



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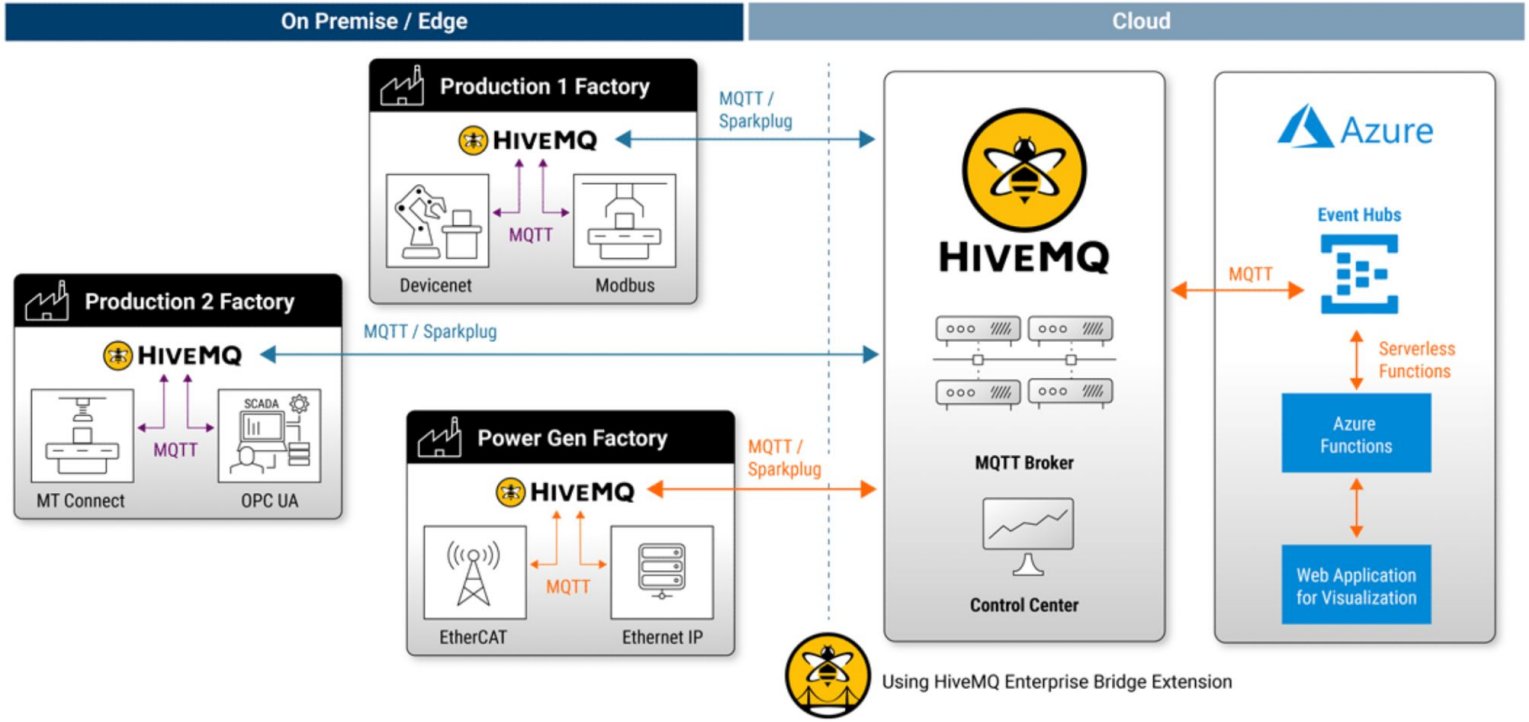
Example Manufacturing Use Case Architecture

Use case 4 : Efficient Factory Command and Control With MQTT and Azure



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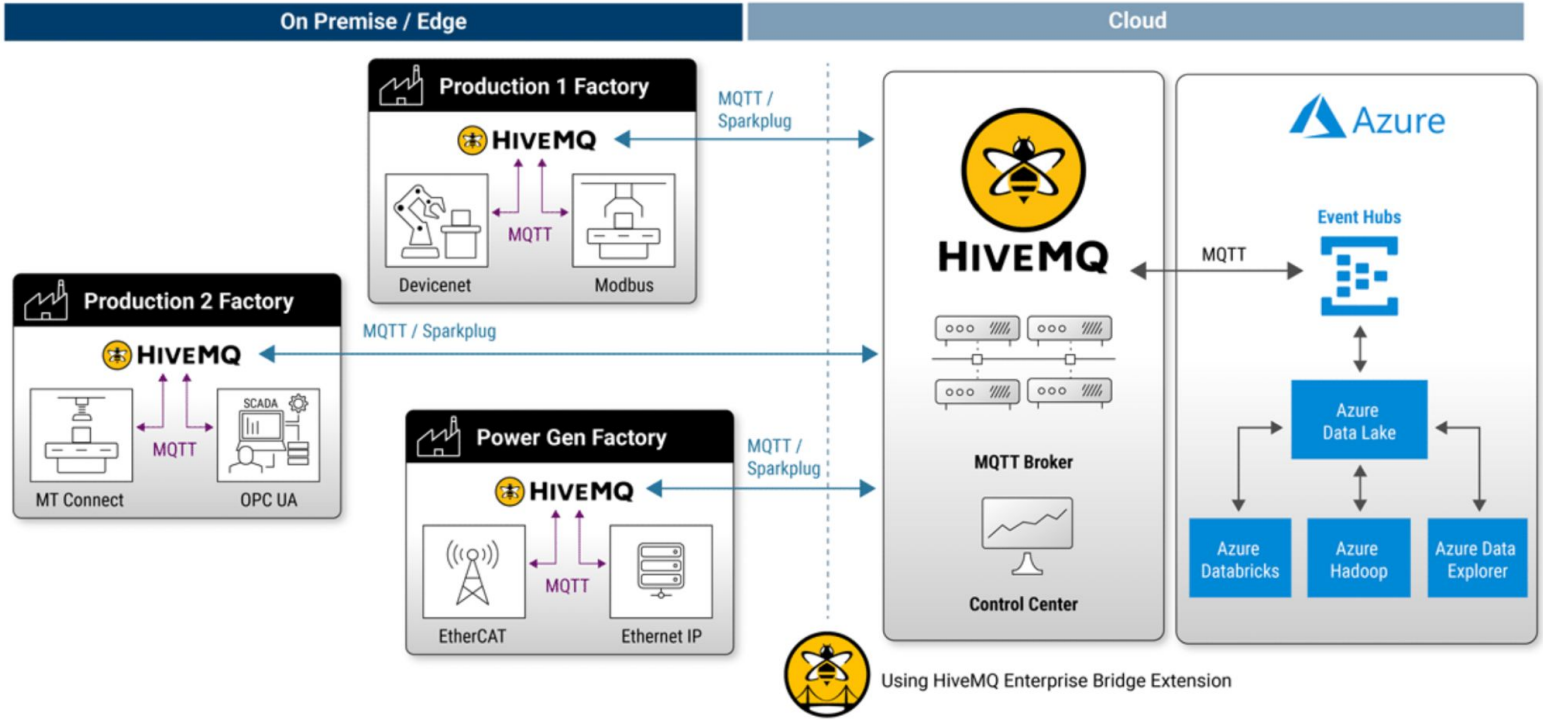
Example Manufacturing Use Case Architecture

Use case 5 : Using MQTT for Long-term Factory Data Analytics on Azure



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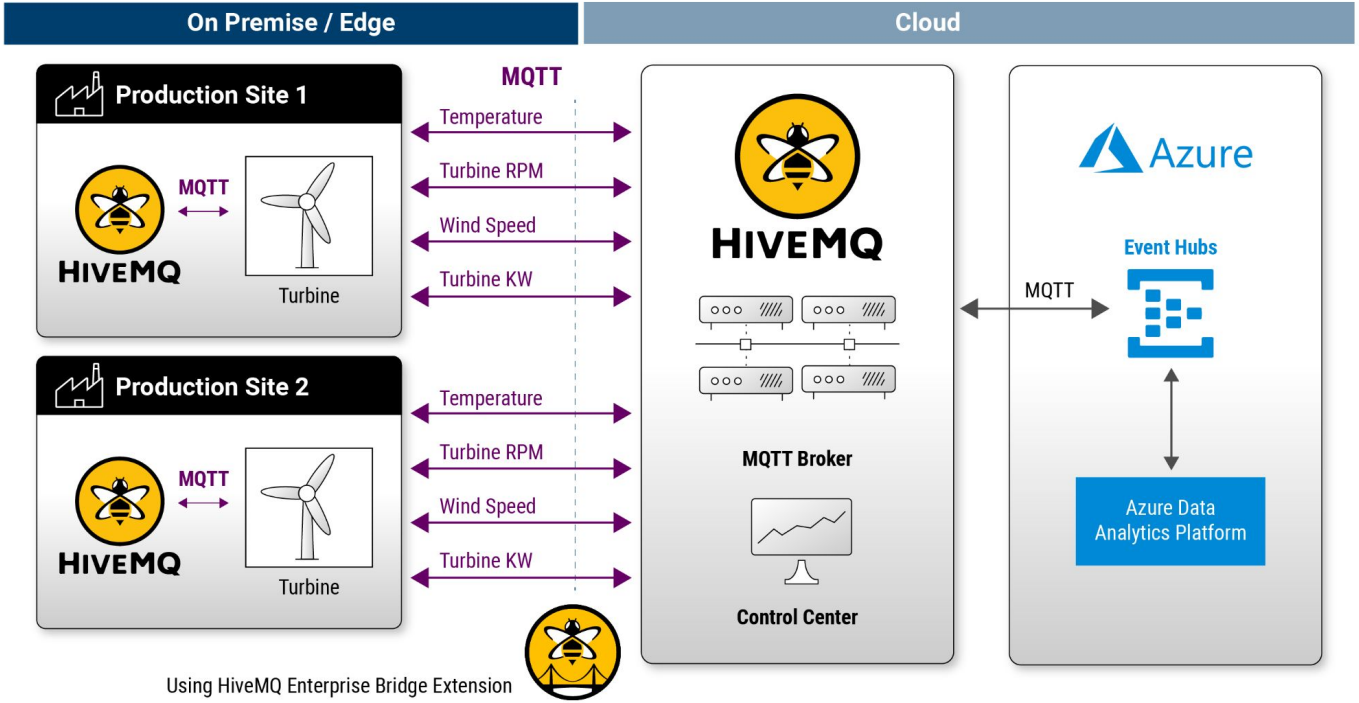
DEMO

Demo Setup

Use Case: Inter Factory Data Correlation using MQTT and Azure



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Next Steps

Read the Whitepaper

[MQTT-Based Manufacturing Reference Architectures Using HiveMQ on Azure]

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Additional Resources

Get Started with MQTT

Evaluate HiveMQ

Try HiveMQ Cloud

HiveMQ Documentation

HiveMQ Blog:
Connect HiveMQ to Azure Event Hubs

HiveMQ Blog:
Deploy a HiveMQ cluster on Azure Kubernetes Service

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ANY QUESTIONS?

THANK YOU

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