

WEBINAR

**Bridging OPC UA Data to
Azure Cloud with MQTT**



HIVEMQ



Speaker



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Kudzai is Technology Communicator and Founder at Industry40.tv. He is currently involved in four efforts: Industry4.0 Research, Educational Videos, Podcast Host, and IIoT Systems Integration. He has a background in Embedded Systems Design, Software Engineering, and Industrial Automation.



Why Send OPC UA Data To The Cloud?



IloT Analytics Applications

- Asset Monitoring
- Process Dashboards
- Overall Equipment Effectiveness
- Predictive Maintenance
- Forecasting

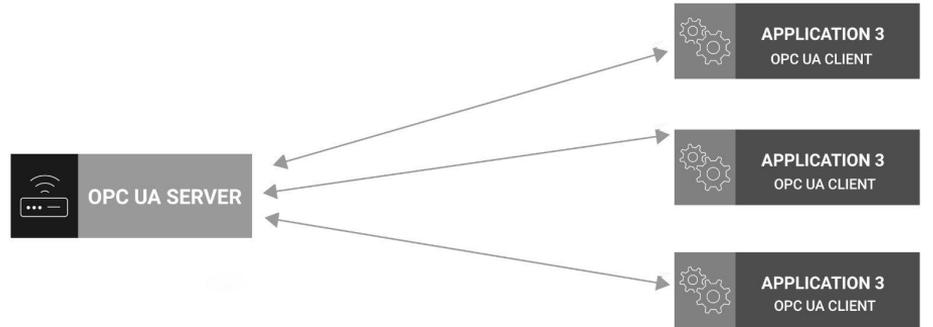


Challenges of Sending OPC UA Data To The Cloud For Analytics



OPC UA CLIENT/SERVER COMMUNICATION DISADVANTAGES

- Tightly Coupled
- Computationally expensive
- Difficult to Integrate IIoT Systems
- Lack of Real-Time Communication
- Not Scalable



THE SOLUTION

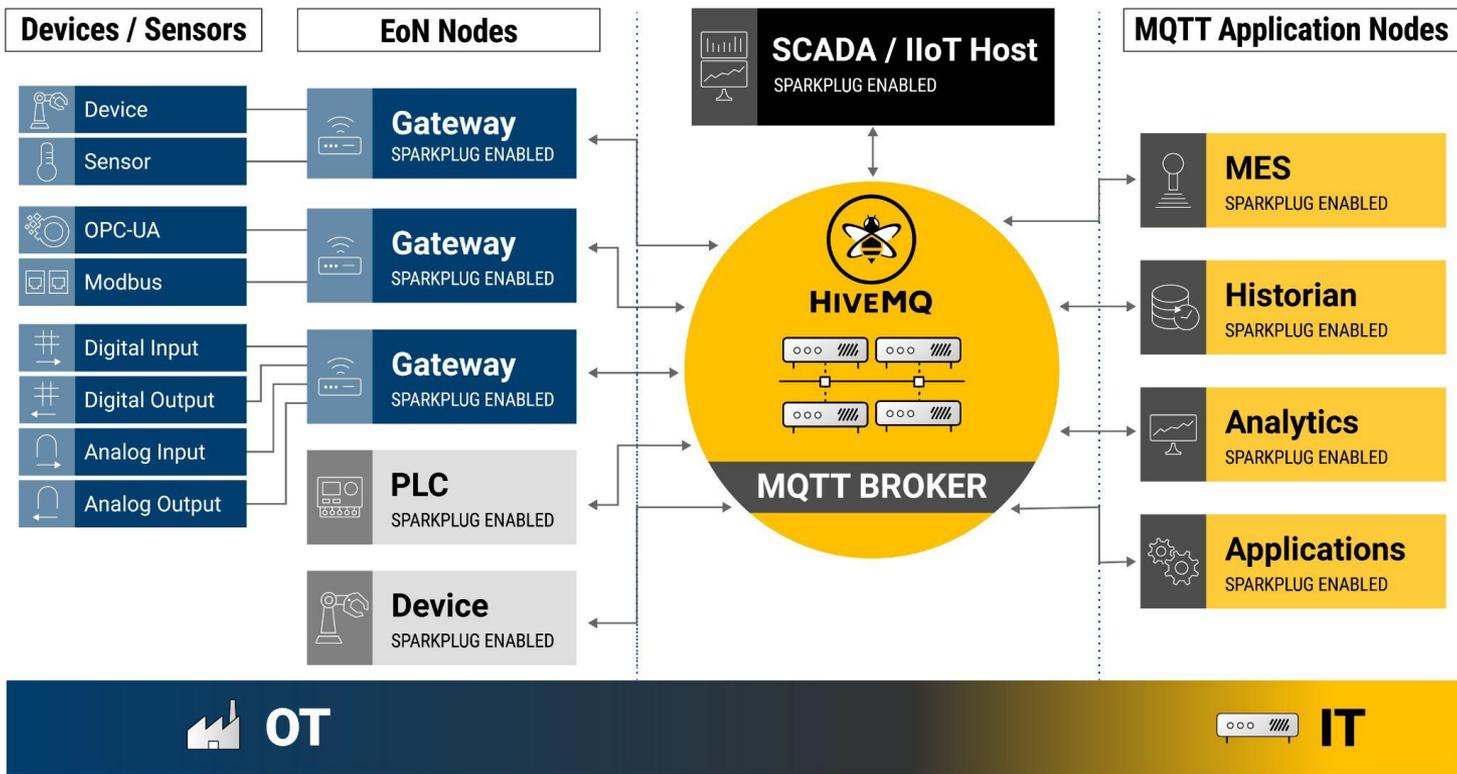
Bridging OPC UA with MQTT



Basic Concepts of MQTT



MQTT Network



Benefits of Using MQTT

- Lightweight and Efficient
- Scale to Millions
- Easy to Integrate IIoT Systems
- Fast Communication
- Works in Unreliable Networks
- Security enabled

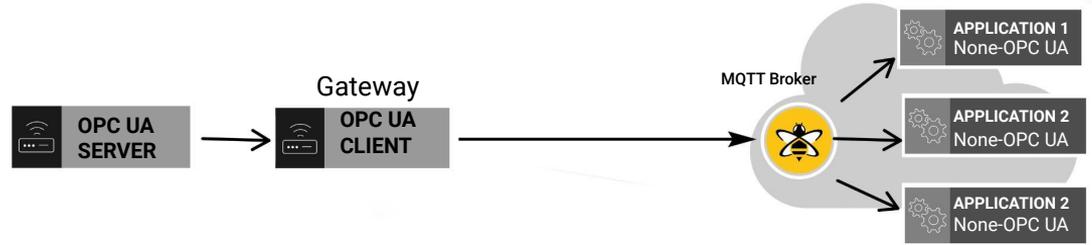


OPTION 1

Using OPC UA Gateway

FACTORY-FLOOR

CLOUD



OT



IT



Bridging OPC UA with MQTT Using Gateway

PROS

- Widespread Implementation
- Flexibility

CONS

- Compromised Security - Open Ports
- Requires Engineering Effort

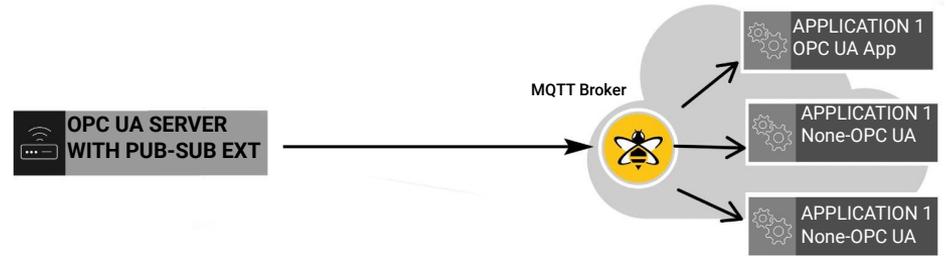


OPTION 2

Using OPC UA PubSub

FACTORY-FLOOR

CLOUD



OT



IT



Bridging OPC UA with MQTT Using OPC UA PubSub

PROS

- No Open Ports
- Direct Connectivity

CONS

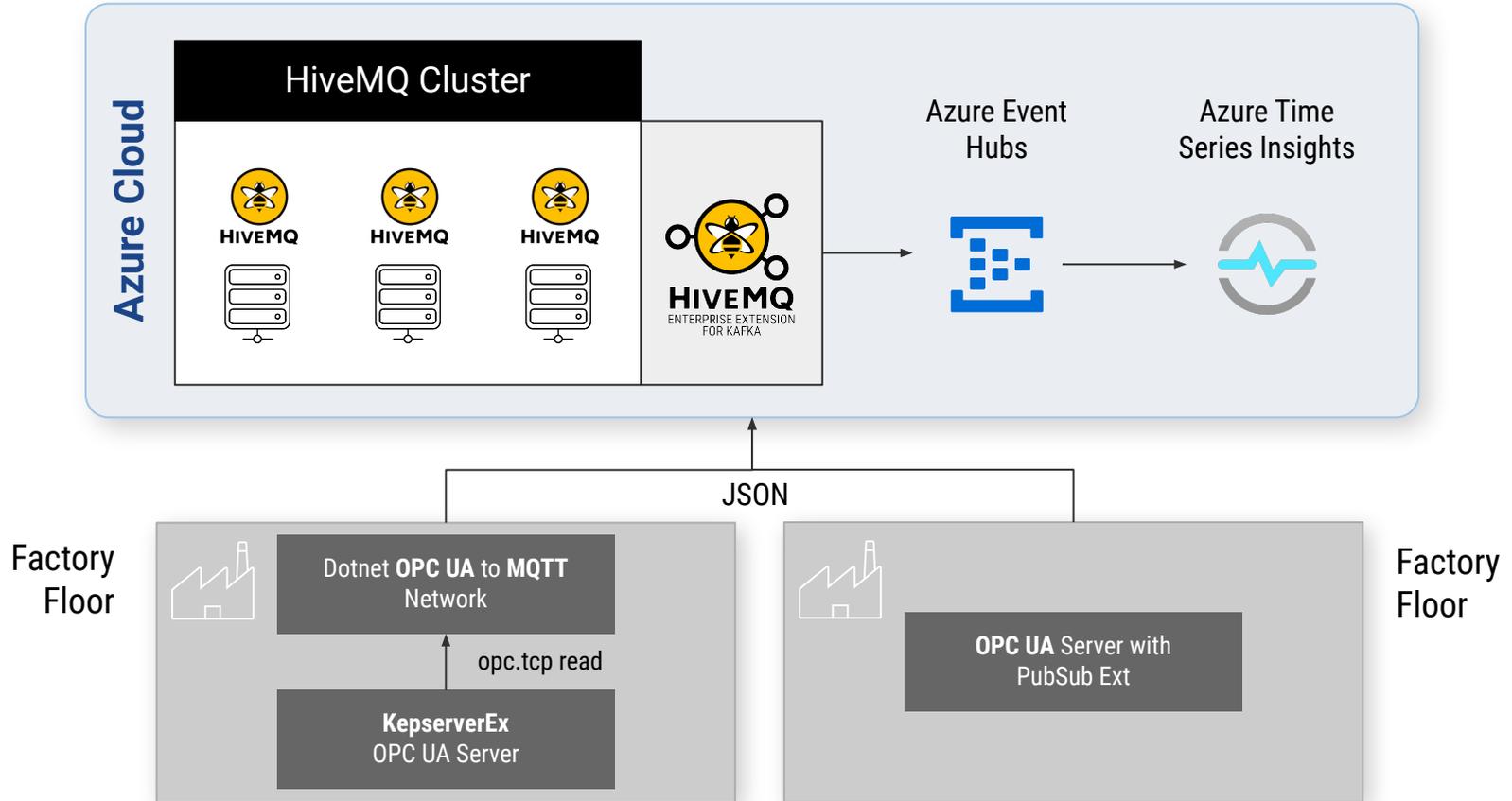
- Few Implementations of OPC UA PubSub
- Not Flexible



Demo Architecture



Demo Architecture



Demo



Conclusion



ANY QUESTIONS?

Reach out to community.hivemq.com



Resources



[Get Started with MQTT](#)



[Evaluate HiveMQ](#)



[Try HiveMQ Cloud](#)



HiveMQ Blog:

[Send OPC UA Data to Azure With HiveMQ and MQTT](#)



HiveMQ Blog:

[What is the best way to ingest IoT data to Microsoft Azure?](#)



THANK YOU

Contact Details

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