Webinar

Debugging MQTT Client Communications with MQTT.fx® and HiveMQ Cloud

& SOFTBLADE

WELCOME

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We asked our customers...

bservability

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Use Cases

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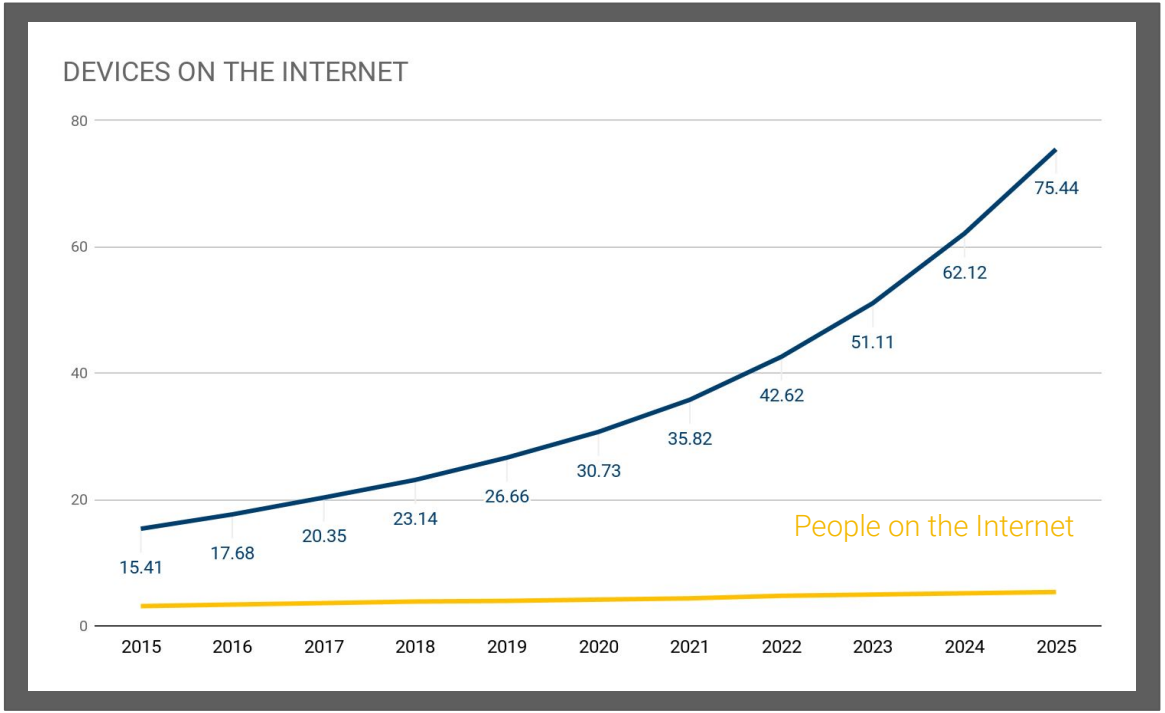
The Internet of Things is Huge



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HiveMQ - Enterprise MQTT Broker

- Connectivity and Messaging Platform
- Based on standard IoT protocol (MQTT)
- 100% compatible to all MQTT versions (v3.1, v3.1.1, v5)
- Scales to more than 10 million always-on devices
- Allow multi-cloud and Enterprise software integration
- Integrated observability and insights

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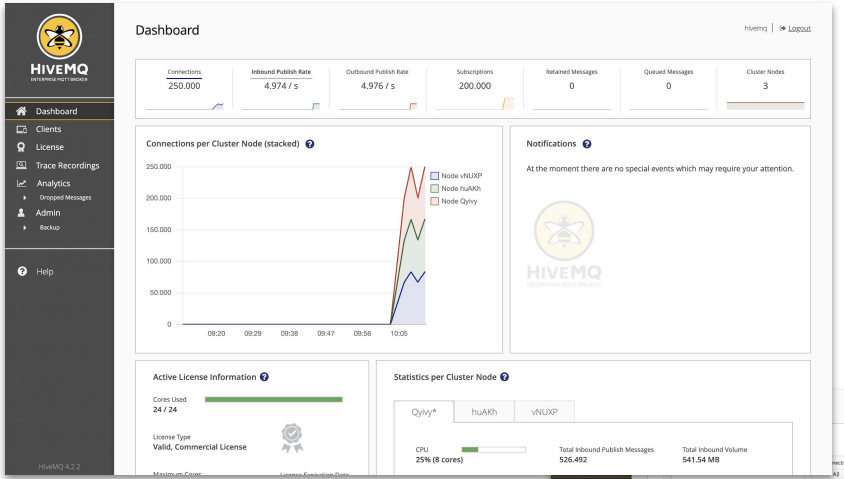
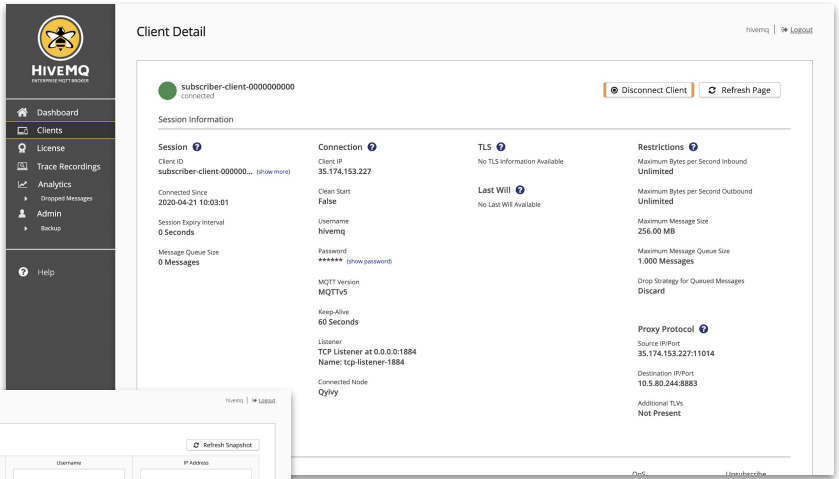
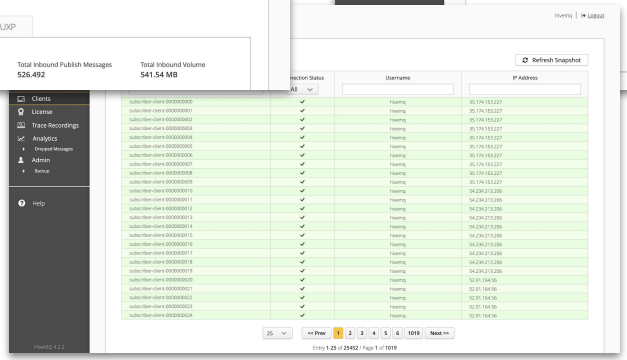
Observability and Insights from Operations







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Technical IoT Challenges

Scalability	• Massive scalability required for millions of devices
Instant Data Delivery	• Critical systems need reliable and instant data transfer
Unreliable Networks	• Excellent customer experience for IoT apps and devices

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HIVEMQ
We need **open standards**
designed for the
Internet of Things

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MQTT

What is MQTT?

- (I)IoT Messaging Protocol
- Created for extreme scale and instant data exchange
- Publish/Subscribe based architecture
- Easy on the device side, pushes all implementation complexity to the server
- Built for machines and constrained devices (binary, data agnostic)
- Designed for reliable communication over unreliable channels

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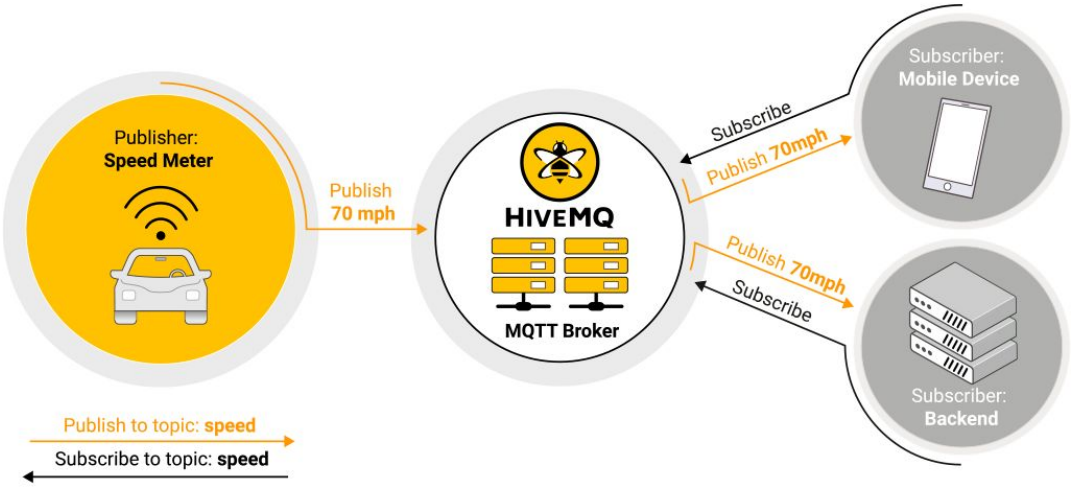
What is MQTT?

- Lightweight protocol on top of TCP/IP
- Publish / Subscribe pattern using topics
- De-coupling of sender and receiver



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MQTT Use Cases

Push Communication

Reliable Communication over unreliable networks

Constrained Devices

Low Bandwidth and High Latency

Industrial Message Bus

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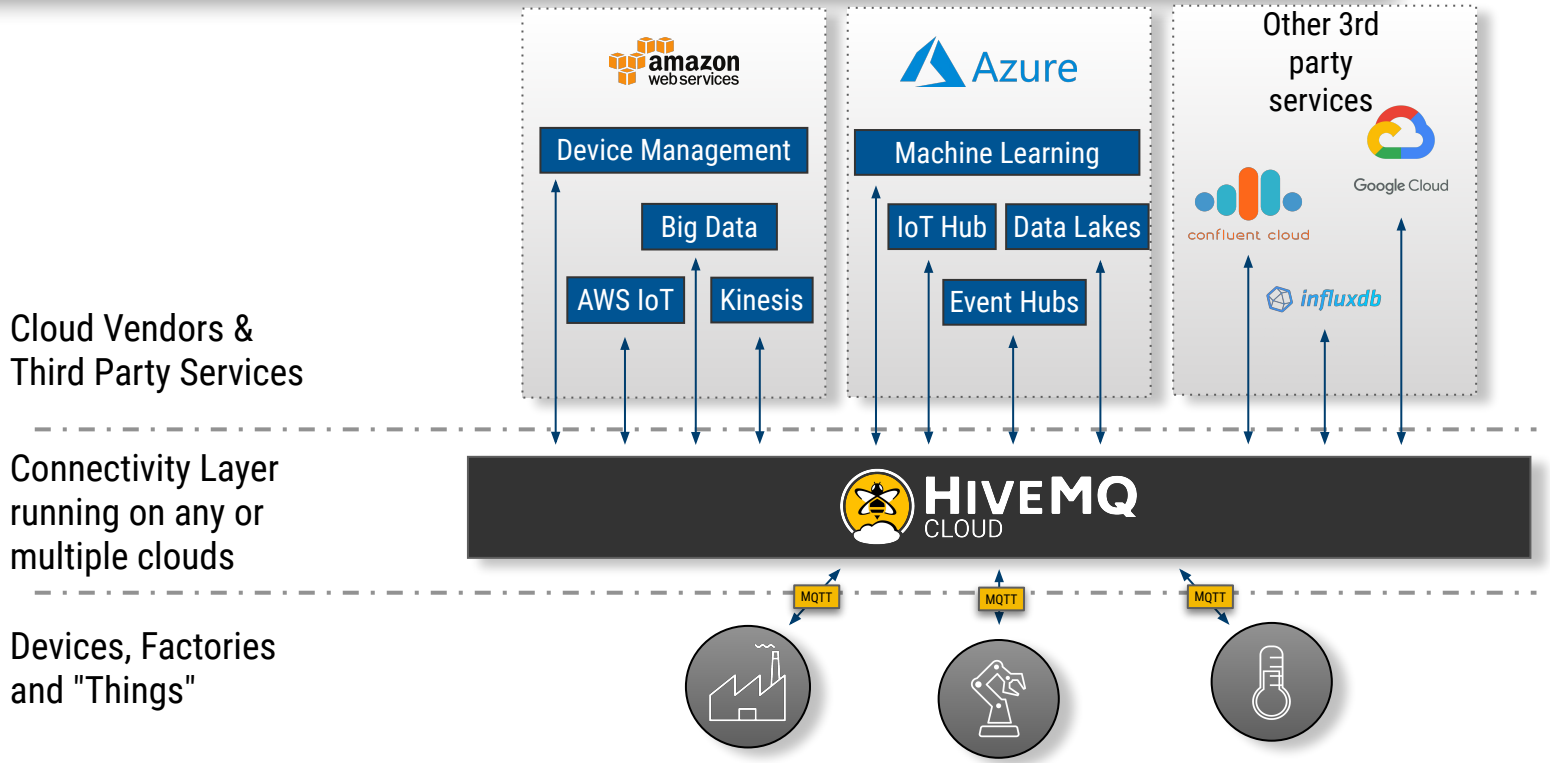
Cloud-Native IoT Messaging



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MQTT Toolbox

- Reliable tools for the everyday use
- Providing insights while debugging MQTT client behaviour

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MQTT.fx: A Brief Introduction

- **Started in 2014** a a private project
- Target: easy to use desktop application for MQTT testing and debugging
- the worldwide community has grown rapidly accordingly with MQTT popularity
- 1000s of users worldwide: smart home enthusiasts, cloud platforms tutorials, book, across all industries
- Since 2020 MQTT.fx is now at Softblade

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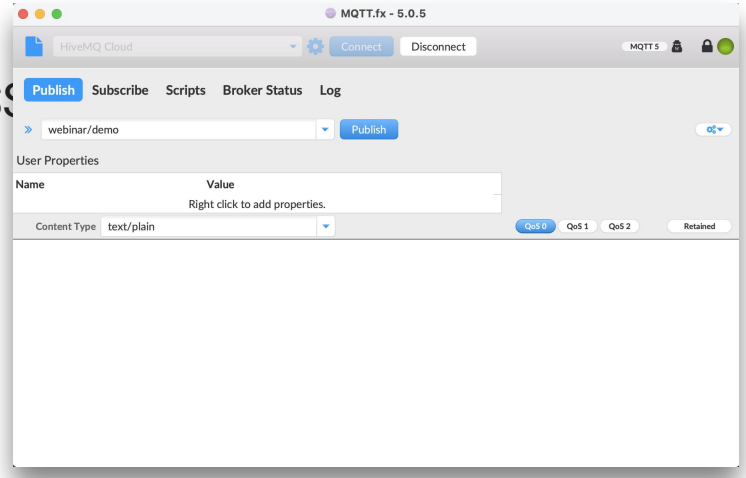
MQTT.fx Feature Highlights

- **Native installation packages** for all platforms (Windows, MacOS, Linux)
- Integration of the HiveMQ MQTT-Clients for full MQTTv5.0 support
- **Connection profiles** for broker connections
- **Topics Collector**
- **Security** (user name/password, support for SS
- **Logging Console**



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MQTT.fx MQTTv5 Support

- Published Messages
  - “User Properties” of the message
  - “Content Type” of the message payload
- Received Messages
  - “User Properties” of the message
  - Display of return codes and reason codes (if present in the message)
  - Display the content type of the message payload
  - Automatic selection of the appropriate payload decoder to decode the payload based on its content type

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MQTT.fx Add-Ons

Payload Decoders Presets

Payload Decoders

Name	Version	ContentType
Base64 Decoder	1.1.0	text/base64
Hex Format Decoder	1.1.0	application/hex
JSON Pretty Fomat Decoder	1.1.0	application/json
Plain Text Decoder	1.1.0	text/plain
Sparkplug Decoder	**1.1.0**	**application/sparkplug**

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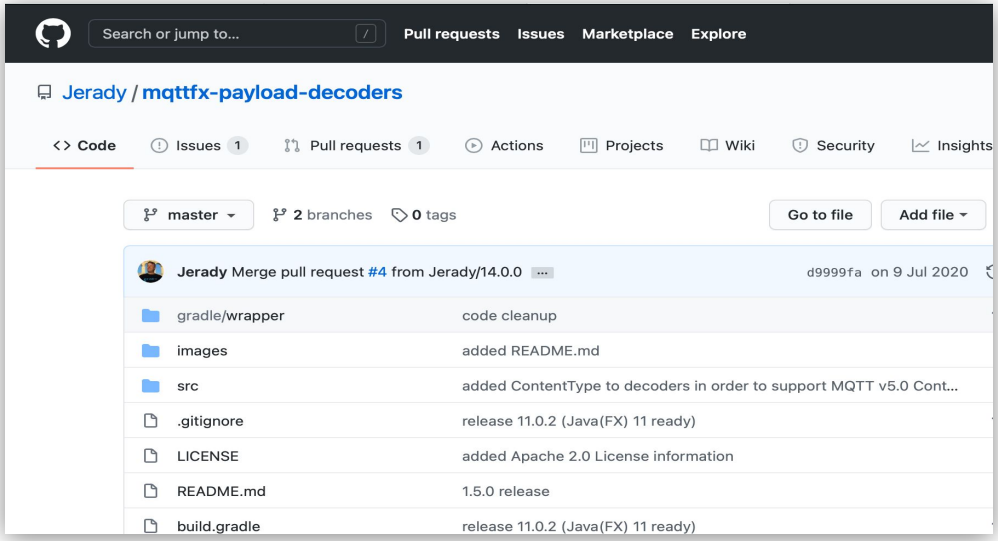
MQTT.fx Add-Ons

Custom Payload Decoders

https://github.com/Jerady/mqttfx-payload-decoders



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