# The Best MQTT Broker, Tailored for AWS

## Seamless MQTT integration with AWS at hyper-scale

Benefit from the advanced services of AWS to enhance your applications' business value while keeping your environment agile by using an 'open' standards-based architecture.

HiveMQ's platform features a highly-scalable MQTT broker. Our Amazon Kinesis extension seamlessly integrates MQTT data with your AWS instance via Amazon Kinesis Data Streams.

This extension also enables reliable, bi-directional data movement to and from Amazon Kinesis, at hyper-scale (from millions of connected devices transmitting billions of messages daily).

# HiveMQ's MQTT Platform: Unparalleled Flexibility and Scale
## It's easy to get started

Natively deploy HiveMQ in AWS and seamlessly integrate MQTT data into AWS via the Amazon Kinesis Extension. Here's what the extension can do for you:

- Easily integrate MQTT data into Amazon Kinesis Data Streams and the broader AWS Service offerings (Redshift, Firehose, Data Analytics, Quicksight, and more).

- Enabled by this extension, HiveMQ's platform provides 100% MQTT compliance, the freedom to design topic trees, and the flexibility to adopt the solution for specific use cases.

- Configure access credentials of the Amazon Kinesis extension via AWS IAM — and manage permissions with the standard AWS authentication service.

- Bi-directional MQTT data transmission to and from Amazon Kinesis Data Streams and AWS.
  - For instance, a fitness app (running on an IoT device, i.e. a smartwatch) will need to send user activity data to AWS for data analysis and machine learning. This will help the app recommend better, personalized exercises to the user.
  - The app will then send the processed data back to the IoT device (i.e. smart watch) with personalized exercise recommendations.

„There were several solutions on the market, we looked at other well-known cloud services but HiveMQ is the only one that really supports MQTT. That transparency is important for our development process. We highly value the full MQTT support HiveMQ provides."

*Henri Leménicier, Research and Development, Arkéa On Life*

*HiveMQ's broker utilizes the Amazon Kinesis Extension to enable seamless bi-directional MQTT data movement with your AWS infrastructure. With data coming in from Amazon Data Streams, you can continue leveraging AWS's other services, including Amazon Firehose and Amazon Data Analytics, S3 buckets, etc.*
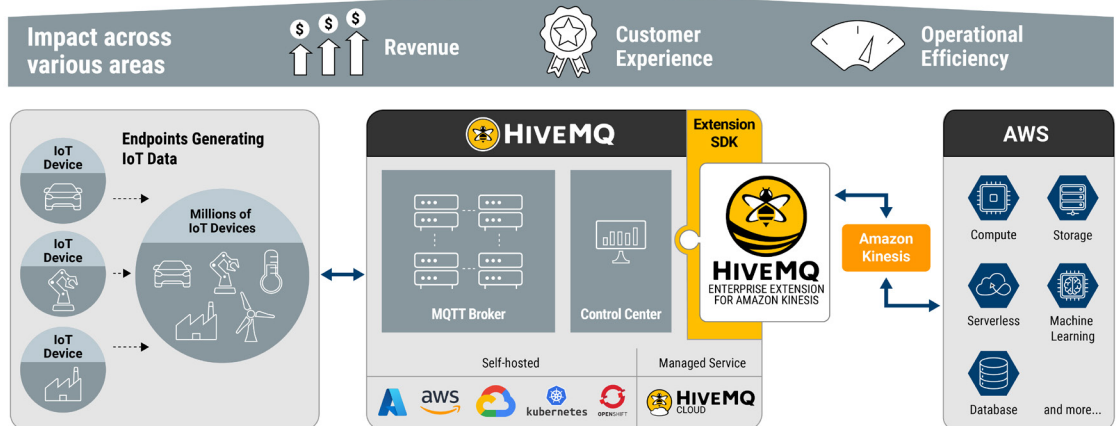
## Exceptional Reliability

HiveMQ's global enterprise customers with networks with over one million connected devices (running on hybrid or Multi-Cloud environments) have confirmed our ability to scale with reliability.

**Fault tolerance:**
- Advanced features of MQTT 3.1.1 and 5.0 versions to prevent and manage outages and disruptions.
- Optimized to write directly to disk (versus memory)
- Built-in queuing for slower connections and unavailable clients.

**High availability:**
- A highly distributed cluster architecture with no single point of failure.
- Add and remove nodes without downtime.

**Proficient Support and Services:**
HiveMQ provides 24/7 support for enterprise customers that operate 24/7 IoT systems.

## IoT Observability

With HiveMQ's OpenTelemetry integration, MQTT data is now instrumented to trace MQTT data from device to cloud — in real-time.

- The *Control Center* gives the big picture of your deployment and direct access to individual clients
- Open Telemetry based Distributed Tracing Instruments MQTT, to enable:
  - Device-to-cloud tracing on your IoT applications
  - Finding opportunities to improve performance
  - Unlock value from your APM investments with deep integration into your MQTT broker.
- 1500+ metrics, detailed logs, and traceability

## Proven Scalability

HiveMQ is built for IoT data ingestion at scale, in hybrid or Multi-cloud environments

- Maintain Concurrent and total connections — Keep tens of millions of devices connected reliably, ready for action.
- Fan-in/Fan-out messages
- Manage Topics at scale:
- This extension also enables reliable, bi-directional data movement to and from Amazon Kinesis, at hyper-scale (from millions of connected devices transmitting billions of messages daily).

## Flexibility

Avoiding the risks of a homogenous technology stack by diversifying it is essential.

You don't want to experience the cost or frustration of "Vendor Lock-in." This is why you want to adopt a platform-agnostic solution like HiveMQ that:

- Runs natively on all popular hyper-scale cloud providers.
- Open-Standards-based build offers wider compatibility and integration.
- Hybrid and Multi-Cloud deployments.
- Self-managed and fully-managed Cloud variants.
- Reliable integration with the Amazon Kinesis Data Streams Service
- Extensions SDK for building custom integrations with enterprise apps.

## Simplicity

Tools and strategies to implement and scale with ease

- Kubernetes operator and helm charts for easy deployment
- Send MQTT traffic to AWS via Data Streams, and its other services (Data Analytics, Amazon Firehose, etc.)
- Full MQTT specification compliance makes learning and implementation easy

## Security at IoT Scale

HiveMQ's platform offers industry-leading security features.

- TLS Encryption on all data between client and broker and between brokers
- Common and advanced Authentication and Access Controls including:
  - Username & password
  - OAuth 2.0
  - X.509 certificates
  - Enhanced Authentication (MQTT 5)
  - Role-based access controls
  - Fine-grained authorization
  - OCSP Stapling
- Prevent Denial of Service with *Dynamic Connect Overload Protection* that helps:
  - Prevent Cascading failures
  - Smooths out service degradations
  - Minimizes the number of impacted MQTT clients — i.e. in a cloud infrastructure degradation incident.
- Human-readable logs for analysis of incidents
- Configure access credentials of the Amazon Kinesis extension via AWS IAM

**Some of our customers**

Mercedes-Benz    BMW    ARKEA ON LIFE    SIEMENS