# EdgeIQ Orchestration for Amazon Web Services

Simplicity, Scale and High Availability for AWS IoT Services

Today's connected products have tremendous native compute capabilities. With Amazon Web Services (AWS) IoT Services, organizations can leverage this compute power and distribute important data and application services between the edge and the cloud. With the ability to leverage distributed computing comes management, orchestration, and uptime challenges ranging from service provisioning and updating, to service health monitoring, and maximizing system uptime.

EdgeIQ Orchestration was purpose-built to meet the orchestration and uptime challenges that come from integrating software-defined devices with AWS IoT and other AWS cloud services.

EdgeIQ Orchestration for AWS IoT Benefits

EdgeIQ Orchestration for AWS dramatically simplifies and scales the deployment and management of AWS services, particularly AWS IoT Core and Greengrass. By extension, EdgeIQ also helps organizations leverage AWS Lambdas and edgebased machine learning models on connected devices and network infrastructure. Together with AWS, EdgeIQ delivers unmatched power, simplicity, and manageability to ensure optimal performance for your connected devices while:
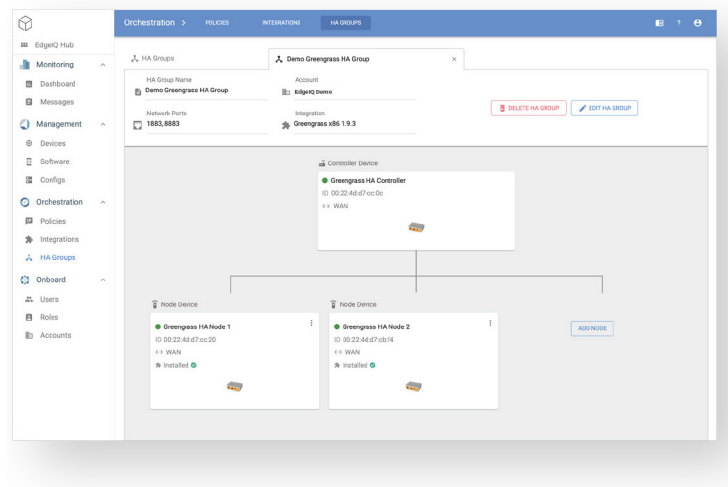
- Managing multiple device groups, hierarchies, and customer accounts to mirror your business needs.
- Ensuring all AWS data and device management functions execute directly from the edge to AWS IoT Core and Greengrass.
- Quickly incorporating your TCP/ IP endpoints as well as non-TCP/IP endpoints using Modbus, OPC UA, BACnet, and other industrial automation protocols.

Key Capabilities

Executing as a process on the connected device, EdgeIQ Orchestration for AWS is low-footprint software that delivers the following capabilities with simplicity at scale.

High Availability of AWS Greengrass at the Edge

With automated service monitoring, EdgeIQ fully manages edge-based AWS Greengrass to maximize system uptime.

-Automatically reboot or restart edge components and applications including AWS Greengrass and installed Lambdas.

-Configure automatic failover of AWS Greengrassand associated services to other EdgeIQ-enabled devices running AWS Greengrass

In-Depth Service Monitoring

Monitor AWS IoT Greengrass, installed Lambdas, and other services using configurable policies that trigger notifications and other actions.

-Based on user-specified policies, alerts and notifications can be created and deployed to take action based on predefined events.

-Support for event-based actions using HTTP/ HTTPS Calls, AWS IoT, Twilio, Postmark, and other third-party appli- cations.

Zero-Touch Provisioning and Updates

Automatically configure and update AWS components on initial power-up. EdgeIQ-enabled devices will receive all their necessary configurations and software updates, including Lambdas and Machine Learning Models, along with their AWS IoT Core and Greengrass credentials.

-Schedule updates for configurations and software updates, including Lambdas and Machine Learning Models based on specific devices, accounts, locations, channel partners, networks and more.

-Handle provisioning and update failures through comprehensive retry management.

-Generate audit reports on software update.

AWS Service Integration & Management

Deploy AWS Greengrass, Lambdas and machine learning models and services to the edge at scale and with ease. With EdgeIQ, AWS customers bring their own accounts and leave behind the need for complicated resource and certificate management. There is no need to pre-configure any of these services.

-All data and device management unctions execute directly from the edge to AWS IoT Core and Greengrass in the cloud.

-Cross account management and resource synchronization of AWS Device Shadows and Greengrass Groups.

-Supports AWS Greengrass auto discovery service.

Integrates Seamlessly into EdgeIQ's Device Management Capabilities

For those that want to extend the lifecycle management beyond AWS services, EdgeIQ Device Lifecycle Management offers cradle to grave management of connected devices that includes:

Onboard
Device and
User

Provision
Devices
Auto-Configure

Monitor
Device and
Network
Wellness

Update
Device Software
and Configurations

Retire
Decommission
Devices

System Requirements for Orchestration on Edge Devices

Hardware

- Architecture: x86, amd64, mips32/64, armv5/6/7, arm64
- System Memory: Minimum of 32MB; 64MB or greater recommended
- Disk space: at least 40-60 MB for EdgeIQ and EdgeIQ updates, additional disk space for endpoint data and other software components is application specific

Operating Systems

- Linux: Any standard Linux Distribution
- Microsoft Windows: Windows 10 or greater

AWS IoT Services

- AWS Greengrass: Any version

EdgeIQ

Connect

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