# edgeAggregator

OPC UA aggregation server with IoT connection

- **Maximum security through vertical IT/OT integration on a standard basis (OPC UA and MQTT)**
- **Data aggregation and interface abstraction for efficient and flexible IoT solutions**
- **Deployment via Docker management systems, e.g. Azure IoT Edge, or Kubernetes**
- **Fully integratable in edge architectures as well as in cloud applications**
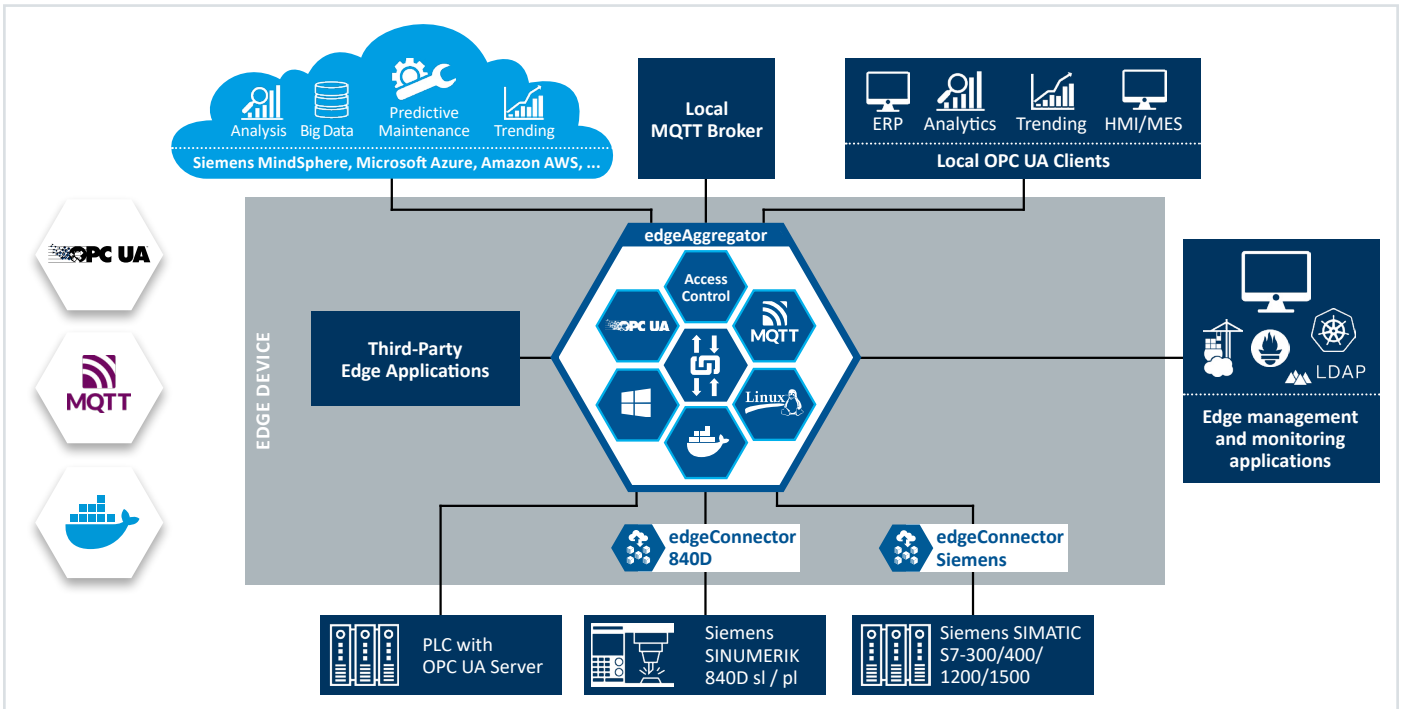
Secure communication

- Support of all security functions of OPC UA and MQTT
- Provision of different data for various users and applications
- Support for multiple OPC UA endpoints (client or server) each with their own certificates
- Filtered access depending on IP address (Whitelist / Blacklist for OPC UA endpoints)
- Detection of DoS (Denial of Service) attacks on OPC UA authentication

Data aggregation and interface abstraction

- Aggregation of data from multiple sources in a server (aggregation of the OPC UA namespace)
- Application access to aggregation servers, not too many individual data sources
- Extensive and flexible OPC UA Service-based address space filtering, down to OPC UA Item level
- Reduced configuration effort (Configuration not required individually for each OPC UA data source and each OPC UA Client)
- Common, stable OT interfaces for different IT applications
- Adaptations in the automation network transparent for IT applications
- Decoupling of investment decisions in IT and OT environment

Flexible container solution

- Fewer resources and increased scalability and flexibility
- Highly flexible modern application that can be easily distributed, updated as needed, and started or stopped
- Use and configuration also via management systems such as Kubernetes, Azure IoT Edge, or AWS IoT Greengrass
- Container images stored in various online repositories such as Docker Hub or Azure Container Registry (ACR)

Solutions for Edge Architectures

- Edge solution with features and benefits identical to those resulting from using central cloud platforms
- Operation of local clients (e.g., for Edge Analytics) parallel to cloud-based applications possible
- Start with a small edge-based IoT solution, later adaptation and expansion over time possible

optimize!

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Technical Data

Key Functionality	• OPC UA Aggregation Server • OPC UA Namespace aggregation, 50 virtual namespaces maximum • IoT Gateway • OPC UA Server with up to 25 OPC UA Server endpoints, 25 users per endpoint, separate application certificate per endpoint • OPC UA Client with up to 100 connections to OPC UA Servers, separate application certificate per OPC UA connection
Supported OPC Specifications	OPC Unified Architecture V1.04
OPC Roles	OPC UA Client and OPC UA Server (by both all profiles from nano to standard)
OPC UA Profiles	Data Access, Complex Data, Methods (including file transfer)
OPC UA Transport	• TCP Transport, UA Binary Encoding, UA Secure Conversation • HTTPS Transport, UA Binary Encoding
OPC UA Security	Security methods: Aes256Sha256-RsaPss, Aes128SHA256-RsaOaep, Basic256Sha256, Basic256, Basic128Rsa15, None Authentication: Anonymous, user name and password, certificate
OPC UA Firewall	• OPC UA Service-based address space filtering, down to OPC UA Item level • Limitation of OPC UA Client connections • Restriction of OPC UA services • IP access filter (Whitelist / Blacklist) • Detection of denial of service (DoS) attacks on OPC UA authentication
OPC Certification	Test based on compliance test tools of OPC Foundation
Supported MQTT Specifications	V3.1, V3.1.1 & V5
Supported MQTT Features	• MQTT Publisher & Subscriber • TCP, TLS/SSL, WS, WSS, (including certificates) • QoS, Retain, LastWill & Testament • Store & Forward
Configuration Interface Authentication	• Username / Password • LDAP/LDAPS
Logging, Diagnostics	• E-Mail Alert • Detailed system and test logging • Integrated logging functions for monitoring and audit, configurable and accessible via web interface • Test tools: OPC UA Demo-Server, OPC UA Demo-Client • Prometheus Metrics Information
Supported Operating Systems	Linux (Docker Engine), Windows 10 and Windows 11 (Docker Desktop), Windows Server 2019 and Windows Server 2022 (Docker Enterprise Edition)
Supported Architectures	AMD64, ARM64, ARM32
Supported Container Orchestration Systems	Kubernetes (K8s), Amazon ECS
Minimum Hardware Requirements	320 MB free disk space, 2GB RAM
Licensing	Licensed via Softing Floating License Server
Demo Version	Full functionality with a time limit of 72 hours
REST-API	Access using the edgeConfigurator, download via Docker Hub

Scope of Delivery

Software	edgeAggregator, download via Docker Hub or Azure Marketplace
License Key	e-mail delivery
Documentation	Online help (German / English) and online at: www.github.com/SoftingIndustrial/datafeed-edge-connector

Order Numbers

LRL-XX-161001	edgeConnection – Perpetual License*
LMA-XX-161001	edgeConnection – Software Upgrade License

*edgeConnection License already includes 1 Year Software Upgrade license (LMA-XX-161001)

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