FORCE EDGE CONNECT
Machine Repository
System Requirements
Version 230721

Document: FORCE EDGE CONNECT Machine Repository -
System Requirements

Release date: 2023-07-21

Document version: 1

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Content

Disclaimer

The data for the EDGE is based on standardized scenarios. This scenario assumes 50 machines per node and approx. 30 signals per machine. Other requirements may be necessary for customer-specific scenarios and IT landscapes. In this case, our consultants will discuss these with the relevant IT departments to plan a possible hardware environment.

The disc space given in this document are the minimal hosting requirements for the machine repository. It may occur that specific projects need adjusted requirements.

Some features like the "Machine Repository" mentioned below are not included in the standard EDGE package and must be purchased separately.

Docker Technology

- **For productive use of FORCE EDGE CONNECT, we recommend an Ubuntu operating system with Docker runtime environment for performance reasons.**

- Alternatively, we assume Windows Server 2019
  (Hyper-V + Ubuntu VM + Docker)

- The provision, installation and maintenance of the Docker runtime environment is the responsibility of the customer.

⚠ FORCAM does not assume any warranty regarding stability and performance for the Docker runtime environment!

⚠ Windows desktop operating systems are not supported.

System Requirements (Customer Responsibility)

Machine Repository Minimal Hosting Requirements

The minimal hosting requirements for the possible Machine Repository servers are as follows.

Ubuntu

- Ubuntu = 20.04.3 LTS or a newer version of Ubuntu 20.04.
- Docker Engine = 20.10.22
- Docker Compose version = V2.14.1
- OpenSSL version: >= OpenSSL 1.1.0l
- AdoptOpenJDK 11 64 Bit Version >= 11.0.11

Infrastructure

- >= 4GB RAM
- Dual-Core processor >2Ghz
- Minimum 30 GB free SSD disc space

Windows with Ubuntu VM

- Windows Server 2019 (>= Version 1809)
- Hyper-V must be enabled in Windows
- Ubuntu 20.04.3 LTS (or a newer version of Ubuntu 20.04.) VM in Hyper-V:
    - Docker Engine = 20.10.22
    - Docker Compose Version = V2.14.1
    - OpenSSL version: >= OpenSSL 1.1.0l
    - AdoptOpenJDK 11 64 Bit Version >= 11.0.11

Infrastructure of the UBUNTU VM:

- >=4GB RAM (must be assigned to the VM)
- Dual-Core processor > 2Ghz (must be assigned to the VM)
- Minimum 30 GB free SSD disc space (must be assigned to the VM)

Client Requirements

For the Browser: Google Chrome or Microsoft Edge with Chromium engine.

User Rights for Installation

It is mandatory to create a non-root user.

The rights must be assigned to the user to be able to install correctly.

User

- Must be a non-root user (name doesn't matter)
- This user must have the right to run the docker + docker compose command
- User id while installing must be the id of the current user (number):
  - *"id"* (command)
- Add the current user into the docker group:
  - *"sudo usermod -aG docker $USER"* (command)
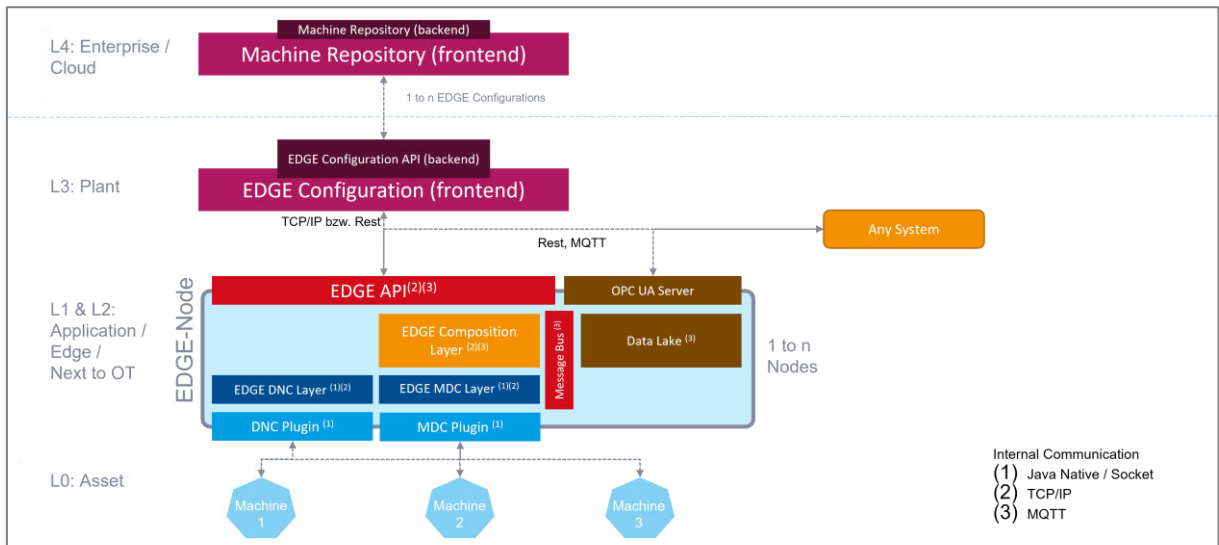
EDGE Architectural Concept

Fig. 1: Basic EDGE architectural setup for the use of additional nodes

L4: **Machine Repository as a central component with various templates for managing the machine park**

L3: User interface with a graphic representation of FORCE EDGE CONNECT and the user administration

L2: Composition layer for data processing with MDC and DNC plugins, Data Lake, and OPC UA

L1: Communication software component that can be accessed using plugins

L0: All assets to be connected

Network Requirements

General Network Requirements

     –   Active Internet connection

     ⓘ   If an online license is involved, the following URLs must be available:
         Primary: **https://qlm1.net/forcam/qlmlicenseserver/qlmservice.asmx**
         Fallback: **https://qlmdr.com/forcam/qlmlicenseserver/qlmservice.asmx**

Ports/Firewall
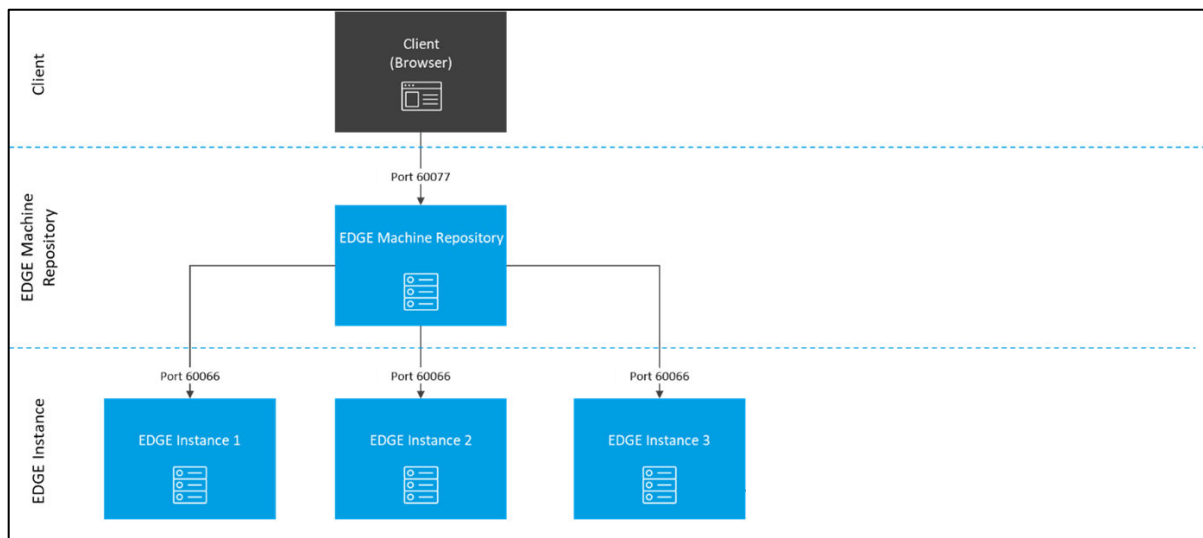
Ports that must be open:
- 60077 UI
- 60066 FORCE EDGE UI

Fig. 2: Communication of EDGE CONNECT Machine Repository