

OPC-UA Data Acquisition for the C2MON framework

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C2MON and OPC UA

C2MON is an open-source **control and monitoring** platform developed and used at CERN

Features OPC UA data acquisition within C2MON:

- extends range of supported devices
- improved redundancy and security
- externalized configuration management, dependency injection, and endpoint exposure through the Spring framework

Figure 1: C2MON architecture

The Strengths of OPC UA

- Platform- and vendor-independence
- High-level SDKs
- Widely supported by hardware
- Scalability: Namespaces, Discovery service
- Integrated security: Authentication, Authorization, Auditing
- Flexible to use cases **across all levels** of the organizational and industrial infrastructure

As a **standardized interface OPC UA** can serve as an **integration platform** and **simulation interface**.

The DAQ as a Translator

SCADA / C2MON

Figure 2: Mapping of C2MON concepts to OPC UA concepts

OPC UA everywhere!

- OPC UA can be **used and simulated** on all levels of an organization
- Process and configuration optimization
- Verification of hardware changes
- Simulation of new use cases

Insulation layer to improve quality, optimize costs and reduce risks

Figure 3: OPC UA within an organization

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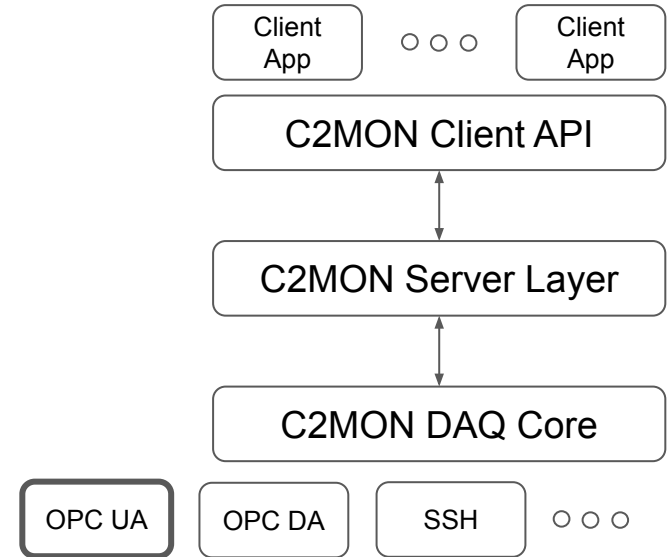


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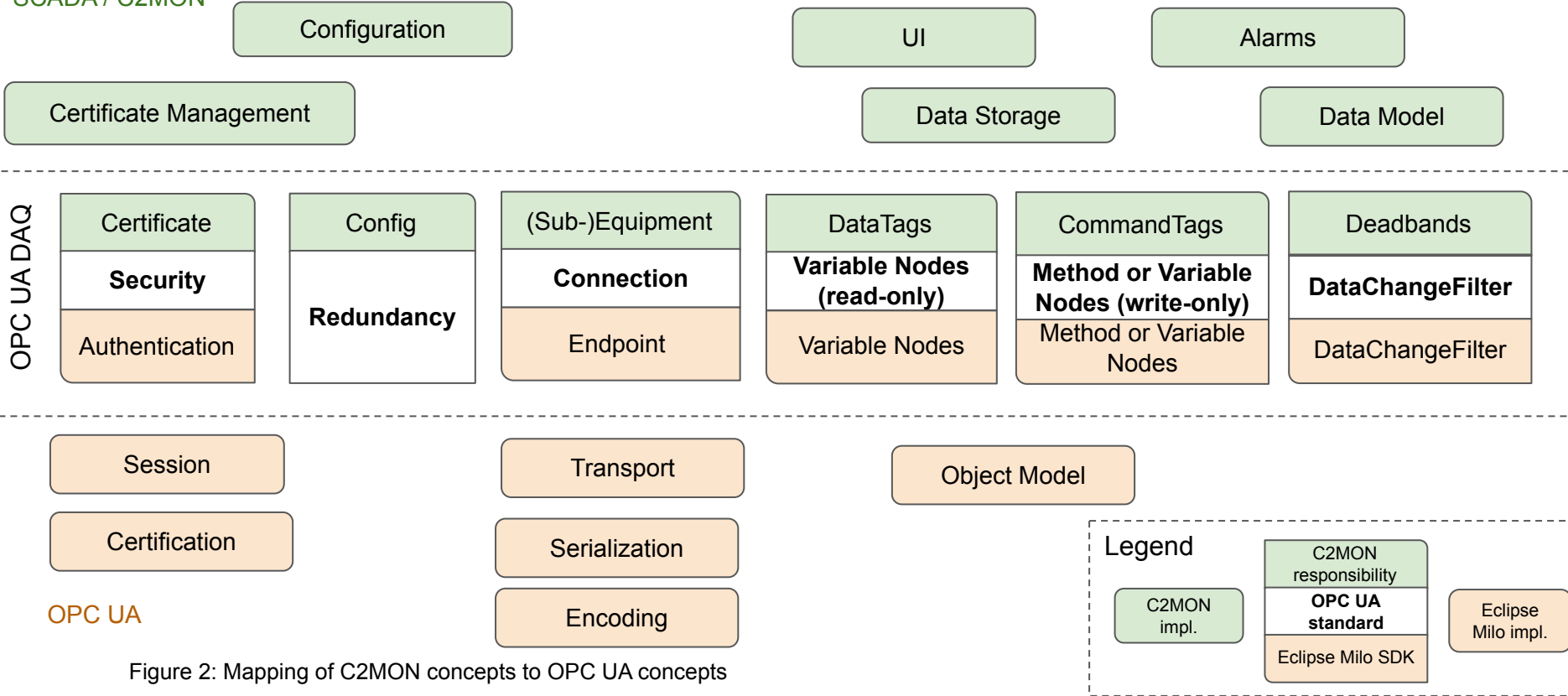


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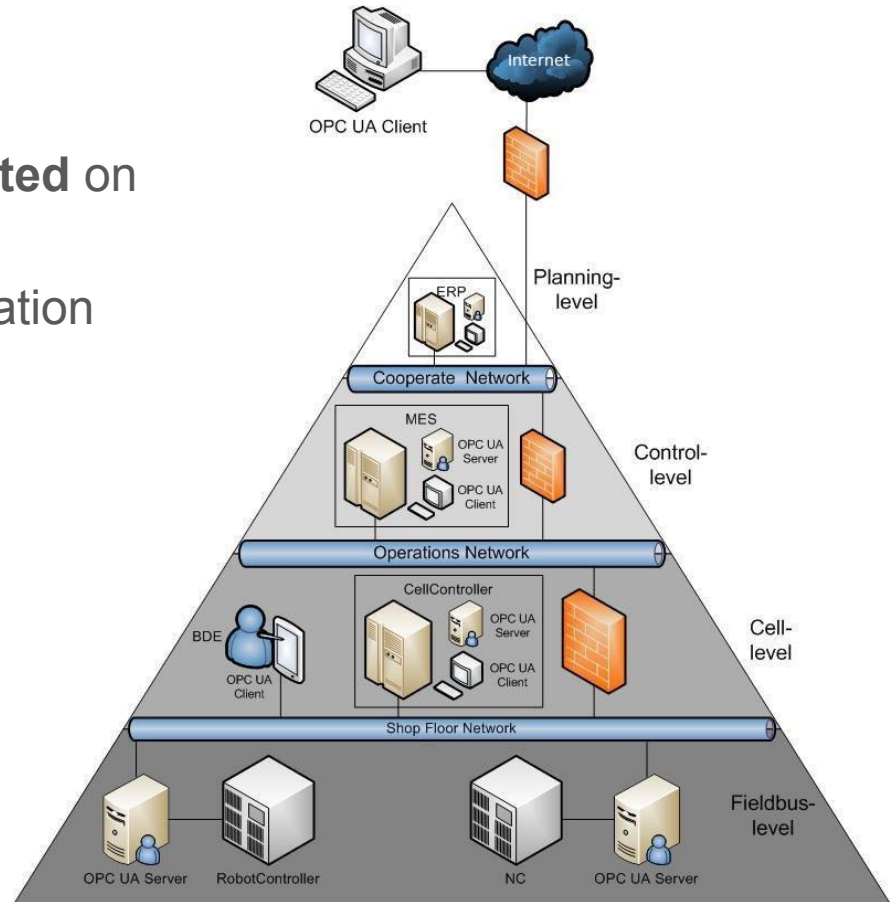


Figure 3: OPC UA within an organization