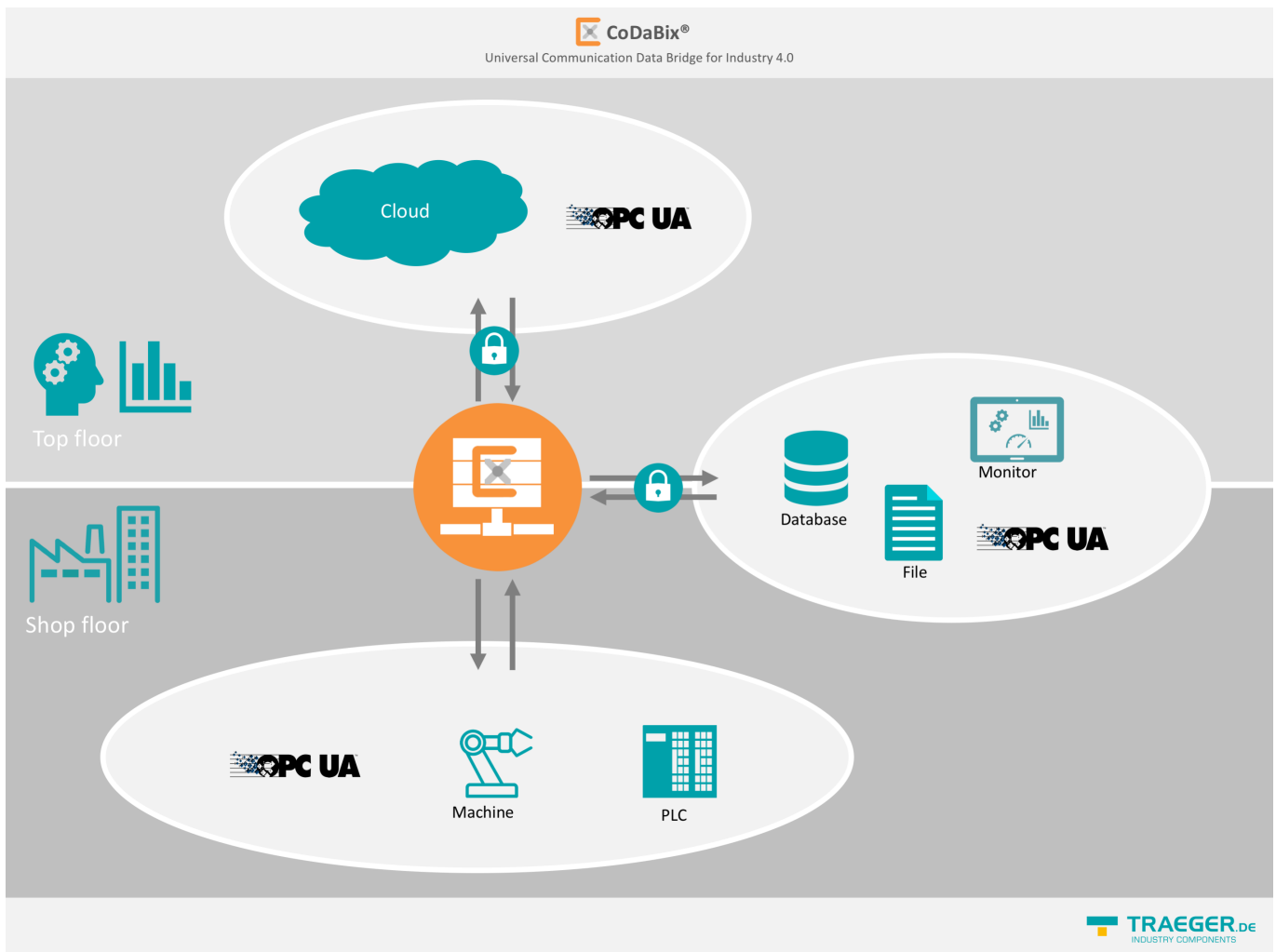


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CoDaBix® - Middleware for Industry 4.0



CoDaBix® is a bidirectional universal 'Communication Data Bridge'

CoDaBix® is the key element in Industry 4.0 - used in projects for factory automation, building control and much more.

The System is used as:

- **Middleware**
 - connection to MES/PPS
 - realizing Industry 4.0 networks (e.g. cloud of your organisation in intranet or internet)
- **Edge Device**
 - CoDaBix® runs on tiny systems too (MiniPC, Raspberry Pi). The networking property provide excellent requirements to be used as a Industry 4.0 Edge Device.

CoDaBix® is fully developed under C# (.NET Standard bzw. .NET Core).

So CoDaBix® runs an any platform which is supported by .NET Core / .NET Standard.

OPC UA Companion Specification

Due to the flexible modeling of the data structure in CoDaBix®, we have created the best conditions for mapping complete OPC UA Companion specifications.

The logical functionality can be easily implemented by the user with integrated Typescript. Everything in one system.

No matter OPC UA Methods or dynamic nodes need to be created / removed - anything is possible.



Use / Application

With CoDaBix® a heterogeneous machine environment with different intelligence characteristics, control systems, data formats and connection (bus) protocols can be lifted (and harmonized) to a customer-specific standard.

The core is the OPC UA conform structure as well as the central OPC UA connection to all "CoDaBix® data".

"Real" machine data and "virtual" variables (= data from / to database, text file, or web interface etc.) is processed in the same manner.

The Node tree ("Variable tree") by OPC UA standard thus plays a major part in CoDaBix®. The data of the connected sources can be mapped arbitrarily in a logical and hierarchical tree structure.

Each element is treated as a "Node" in CoDaBix®.

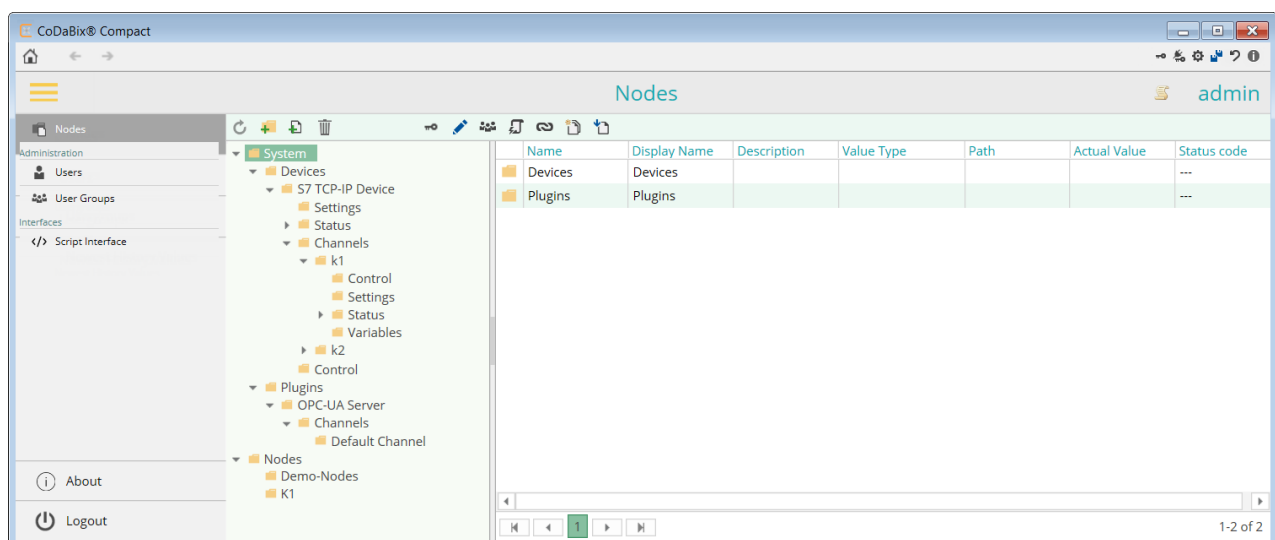
All variables and their properties such as name, current value, timestamp, min / max value and so on are provided in the internal high-speed cache. The access is possible in a bidirectional way as a read and write access.

The integrated database allows historical storing of any desired process variables. For further processing by higher-level systems (for example MES, ERP) CoDaBix® provides its own standardized, but also customized interfaces in form of “plugins”. Access to current values and stored historical values is easily possible via OPC UA, REST / JSON, directly via the database or by script plugin (JavaScript). This allows CoDaBix® to be connected to any data source or data storage in horizontal and vertical direction. The data is automatically exchanged (after a change), occurring event- or trigger-controlled.

Plugins for Devices / Interfaces and Data Exchanges

- OPC UA (Server and Client)
- OPC Classic (DA)
- SQL databases
 - MySQL
 - MSSQL
 - Oracle SQL
 - any other database system if required
- CSV / XML / text files
- web application via REST / JSON interface
- SAP
- Devices
 - SIMATIC S7, S5
 - RFC-1006 (ISO on TCP)
 - SINEC H1
 - Allen Bradley
 - Beckhoff
 - Schneider
 - Mitsubishi
 - Omron
 - your PLC is missing - no problem contact us
- OPC Classic

Configuration



The CoDaBix® configuration is done via the integrated web interface. For the plugins a configurator for each on its own is available.

In general, the parameterization via an XML config file is possible. The format of the XML config file is freely selectable and documented accordingly. Therefore, CoDaBix® can be combined and connected in a simple way with available project planning system / parameterization applications (e.g. COMOS).

Requirements

CoDaBix® is supported by following operation systems:

- Windows
 - Workstation Windows 7/8/10 (32/64 Bit)
 - Server Windows Server 2008/2012/2016/2019
- Linux
 - Debian 9 or higher
 - Fedora 29 or higher
 - Ubuntu 16.04 or higher
 - OpenSuse Leap 15.0 or higher
- Raspberry Pi (z.B. UniPI, KUNBUS)
 - Raspbian 9 (Stretch) or higher
- macOS

[Detailed requirements see here.](#)

The requirements for CPU power, memory and hard drive are dependent on the desired data throughput and data volume.

From:

<https://codabix.de/> - **CoDaBix®**

Permanent link:

<https://codabix.de/en/start>

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