

zenon IIoT Services

Distributed Intelligence and Networking – flexible, open and secure

The integration of machines, sensor data and people in a digital network is at the heart of the Industrial Internet of Things (IIoT). zenon IIoT Services connect machines, processes and complete systems in digital networks designed to meet a wide range of client requirements. Out-of-the-box and with no added implementation expense, it enables secure data exchange between local zenon installations, web services and cloud services.



THE CHALLENGE OF A GROWING NETWORK

The rapidly increasing digitalization of the business world places increasing requirements on industrial software. Faced with a steadily growing flood of data, connectivity is critical. In order to meet the need for increasing storage and computing capacities, cloud computing has become the go-to solution. IIoT Services by zenon follow this model and turns zenon into a distributed software platform.

FUNCTIONAL UPGRADE OF THE SOFTWARE PLATFORM

The individual services support state-of-the-art virtualization technologies, such as Docker and Kubernetes. IIoT Services can thus be used on a variety of cloud platforms, as the basic system serves not only physical machines but also virtual machines and containers. With the help of third-party applications, this creates extensive scenarios for further processing and enrichment of data, which provides flexibility and enables customer-specific solutions. The functional upgrade from zenon to distributed software platform also makes it easier to integrate these solutions in the IIoT.

SEAMLESS COMMUNICATION

The central element is zenon Service Hub, which controls the entire data exchange and consists of Data Hub and

Hub Controller. Data Hub ensures data is distributed to the corresponding recipients. Hub Controller is responsible for maintaining the access rights for each individual service. In addition to seamless communication via Service Hub between zenon Engineering Studio, zenon Service Engine and zenon Report Engine, IIoT Services API ensure the connection of additional clients in order to retrieve or provide data. As part of this process, IIoT Services API offer a REST interface that uses OAuth2, and OpenID for user authentication. The Data Storage function stores all historical data relating to the local equipment. This data can be accessed and processed by third-party applications via the IIoT Services API. With the easy connection of web applications, mobile apps, MES and ERP systems, IIoT Services API extend the application potential of the software platform.

FLEXIBILITY, NOT AT THE EXPENSE OF SECURITY

zenon IIoT Services communicate only using certificate-based TLS connections. This ensures secure transmission of information, even over public networks such as the Internet. Integrated authentication and authorization mechanisms allow for rights management tailored to each application. The Identity Service ensures high, project-specific security standards and checks all connection requests from users or clients made through the IIoT Services API. These requests are validated against Azure Active Directory, Microsoft Active Directory, RADIUS OpenID, Keycloak or Open Lightweight Directory Access Protocol (LDAP). Because read, write, and even configuration rights can be defined in detail, the result is a range of design options.

FAST FACTS

- ▶ zenon is a distributed software platform
- ▶ Seamless connectivity for web-based clients
- ▶ Secure transmission to third-party applications
- ▶ Highest security standards and extensive rights management
- ▶ Available for use with zenon 10 and higher