zenon security

zenon provides comprehensive protection from unwanted data loss and from unauthorized access. With the integrated security options, you can use zenon in conjunction with your existing security set-up without additional costs. COPA-DATA's many years of experience, ongoing internal and external research projects and in-house development according to IEC 62443-4-1 in the headquarters guarantee the highest level of safety in industrial automation.

SECURITY FEATURES

zenon offers a comprehensive security package with impressive consistency across its numerous features. It includes among others:

▸ TÜV Süd-certified secure development lifecycle, compliant with IEC 62443-4-1
▸ Signed product files: zenon recognizes manipulated program files
▸ Hash codes for product setups
▸ Engineering environment separated from the Service Engine
▸ Network encryption: AES-based communication encryption between server, standby server, and clients in the network and in the communication with web clients
▸ Authentication: only authenticated clients gain access to a zenon server
▸ HTTP tunneling for web server. Secure connection to the web server for client access via Internet Explorer or the web client starter
▸ TLS integration for zenon Energy drivers according to IEC 62351
▸ Encrypted communication with MS Azure cloud
▸ IPv6 support in the zenon core system; zenon redundancy and tools support IPv6-capable networks
▸ OPC UA: client and server-supported certificates/ encryption and user authentication
▸ Status processing for data points
▸ Versioning and status handling for recipes

▸ Seamless redundancy
▸ Full Active Directory support for central user administration
▸ Password protection in zenon Service Engine and zenon Engineering Studio
▸ Guaranteed compatibility between the individual versions
▸ History of changes and backup in zenon Engineering Studio
▸ Project versioning and comparison
▸ Error avoidance through working with assistants
▸ zenon Diagnosis Server and Chronologic Event List for network and control communication error analysis
▸ Syslog Server for implementing central logging strategies
▸ Consistent object orientation
▸ Integrated solutions
▸ Configurable communication ports
▸ Terminal Server support
▸ zenon Hardening Guide
▸ zenon runs on Docker

CERTIFICATIONS

TÜV Süd, part of the German Association for Technical Inspection, has certified COPA-DATA's steps to ensure security by design when developing products in line with IEC 62443-4-1. Part of the IEC international series of standards, IEC 62443 defines the security measures that industrial automation software developers are required to implement. Part 4-1 focuses on the requirements manufacturers need to meet during the development process. The certification process takes into account aspects such as process and quality assurance, the company's skill sets and areas of expertise, and the security provided by third-party components.

The international standard IEC 61850 regulates, among other things, communication between different components in automated power stations and transformers. Its current test bed for Edition 2 checks new functions and additions to the standard. TÜV Süd has certified the zenon software platform in line with this standard.

FAST FACTS

▸ Many years of security know-how at COPA-DATA
▸ Comprehensive security features
▸ Supports Windows user administration
▸ Security-relevant certifications, including IEC 62443, IEC 61850

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User administration	▸ The user administration parameters can be freely set with a range of options: ▸ As many users as desired (allocate up to 128 different user levels) ▸ User name/password system ▸ Administrator functionality: only an administrator can create new users, unblock users, or deactivate users ▸ Blocking of users or the whole system in the event of unauthorized access ▸ Deactivation of users ▸ Deletion of users can be restricted ▸ Minimum password lengths (configurable) ▸ Support of password aging: password must be changed in a defined period of time ▸ Obligatory password change on the first login ▸ Automatic logout after a configurable period of time ▸ Users log in to the network just once on one computer ▸ AD LDS, ADAM and Active Directory fully supported ▸ All changes to user accounts in Service Engine are logged in the Chronological Event List
Windows compatibility	▸ Windows 10 ▸ Windows 8 and Windows 8.1
Security in communication protocols	Statistics and monitoring functions integrated in zenon for each communication protocol. OPC UA: client and server-supported certificates/encryption and user authentication TLS integration for zenon Energy drivers