IEC 61850

Networking for Industrial Applications

What is IEC 61850?

International standard for communication networks and systems in substations.

Supports **automation and protection** applications.

Ensures **efficient and reliable** communication in electrical substations.

Facilitates **interoperability** between devices from different manufacturers.

Key Components of IEC 61850 Networking

Communication Protocols

GOOSE: Fast transmission of event data
MMS: For device management and control

Network Infrastructure

Ethernet-based communication for high-speed data transfer.

Intelligent Electronic Devices (IEDs)

Devices that use IEC 61850 for communication (e.g., relays, sensors).

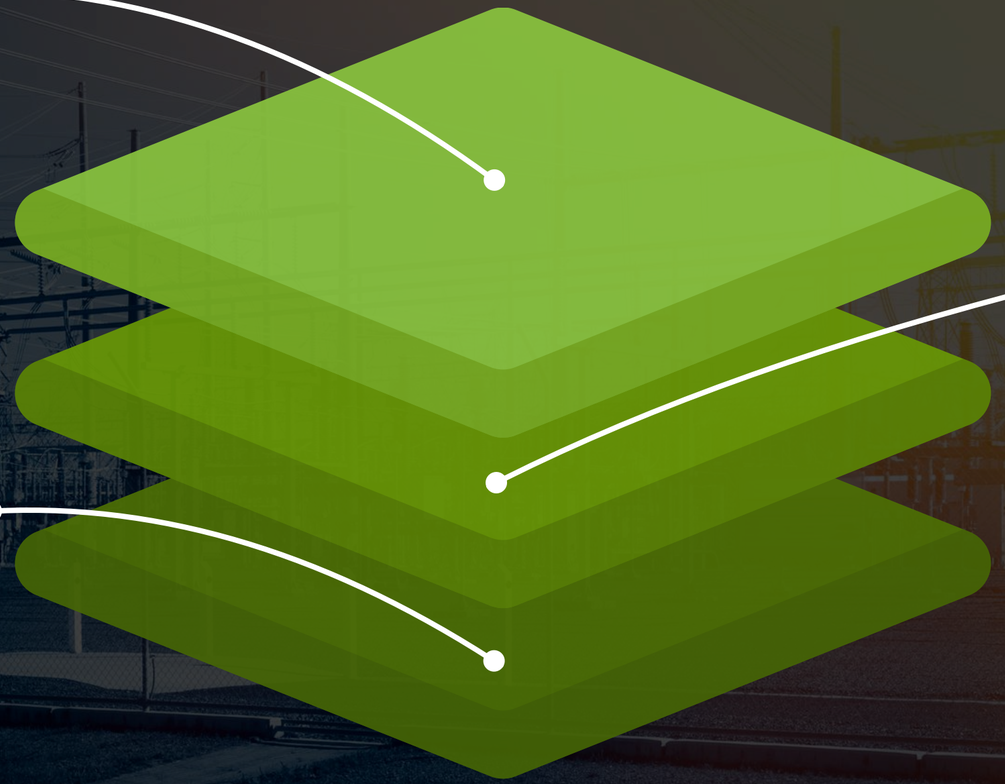
Structure of IEC 61850 Networking

Station Level

Sends data to SCADA or external management. The ability to handle large amounts of data is essential, as is cybersecurity.

Process Level

Collects data from IEDs. In the case of legacy stations, must also convert protocols for higher-level communication.



Bay Level

Consolidates data from large numbers of downlinks and passes it on to higher levels. Requires high reliability and redundancy in case of disruptions.

The IEC 61850 network can be further divided into 3 levels, Process, Bay, and Station.

Want to learn more about ATOP solutions in an IEC 61850 substation?
Stay tuned for our next issue.

For more information, reach out to our experts.

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