GOOSE Auditor Applications

GOOSE Auditor is a solution for engineers commissioning IEC 61850 substations. It consists of two components: a tap for filtering and capturing GOOSE packets and a protocol analysis application. A handheld tap captures the messages to GOOSE Monitor, which displays the topology of the installation, the configuration and status of each node, the messages between IEDs, the changes caused by the protocol, and reports any events that may occur.

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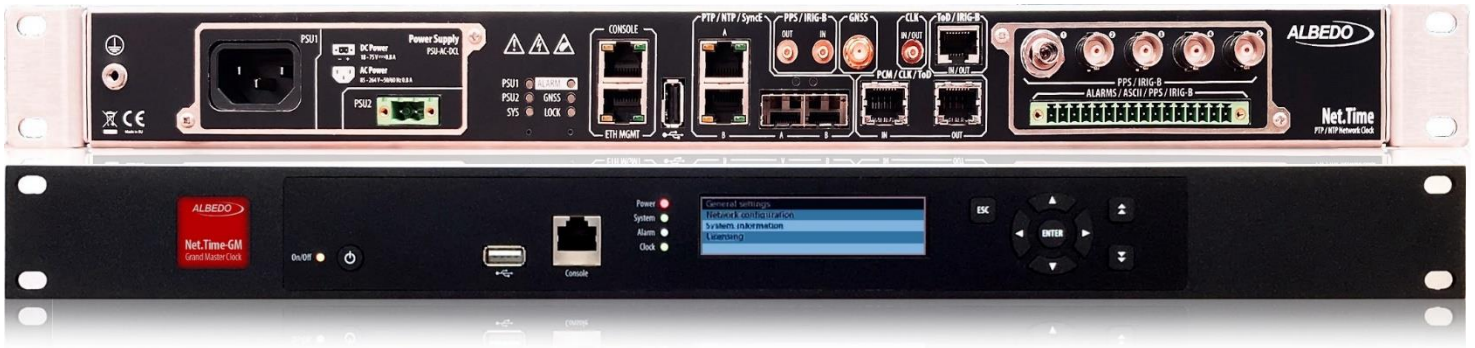
ICT electronics (1983)

Trend Comms (2001)



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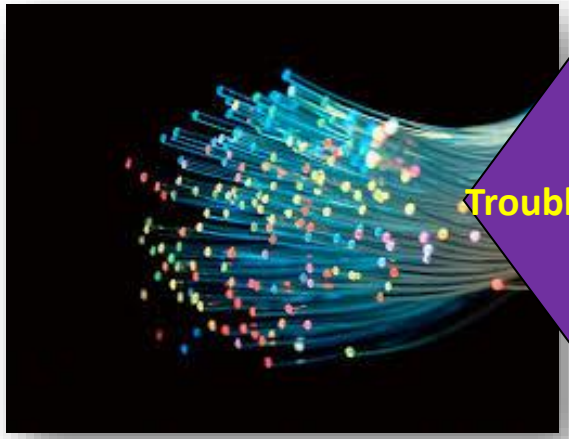
GOOSE Auditor **Applications**

Utility Substations

Automation + Protection



Monitoring

Troubleshooting

GOOSE Auditor

Commissioning

Configuration

IEC-61850 deployments

IEDs & Relays

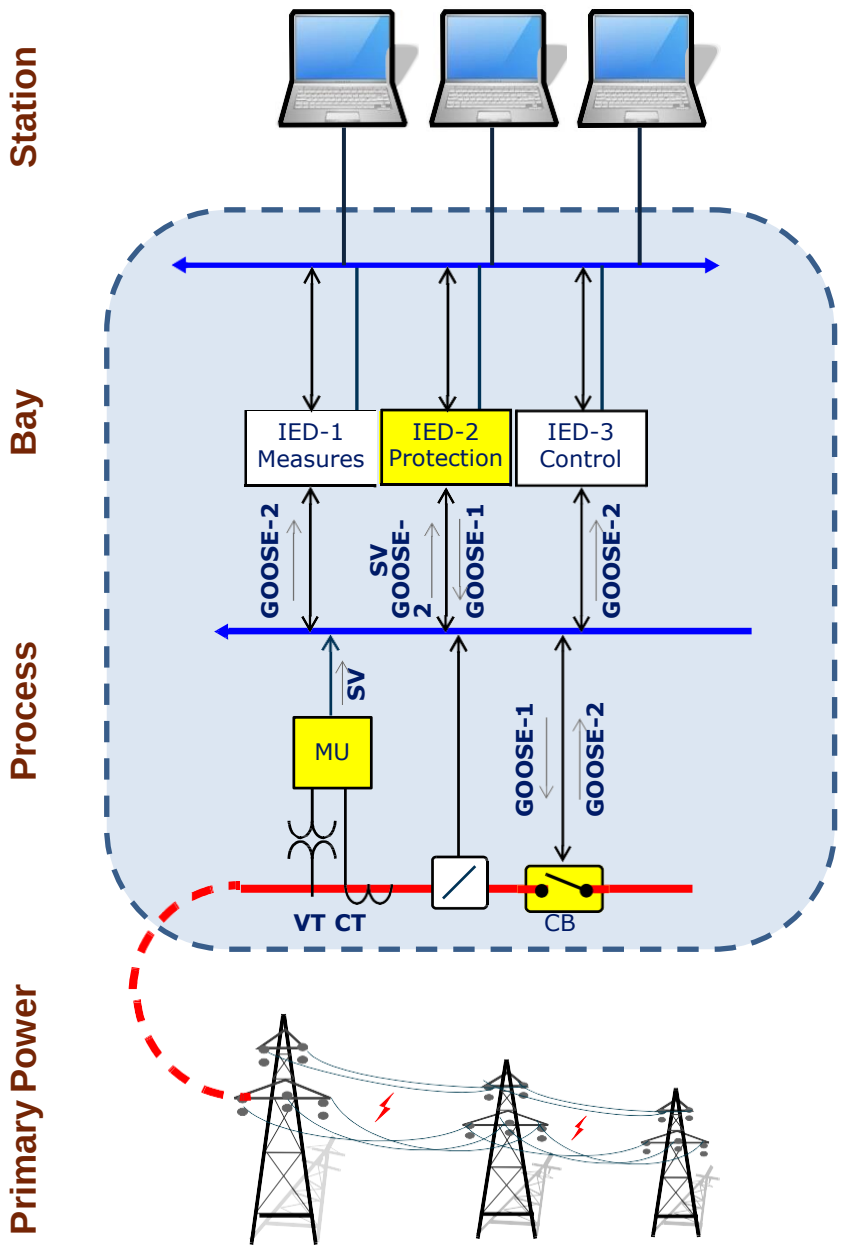
Design & **Configuration**

GOOSE Auditor facilitates the design of substations, the IEDs configuration and monitors the operation providing information on data structure, traffic, status and alerts:

- Unrecognised message
- Configuration error
- Invalid source or destination address
- Unpaired message due to invalid ID
- Block does not match definitions
- Message published from multiple sources
- Message out of range
- Missing message

All the messages and events can be are reported in the log.

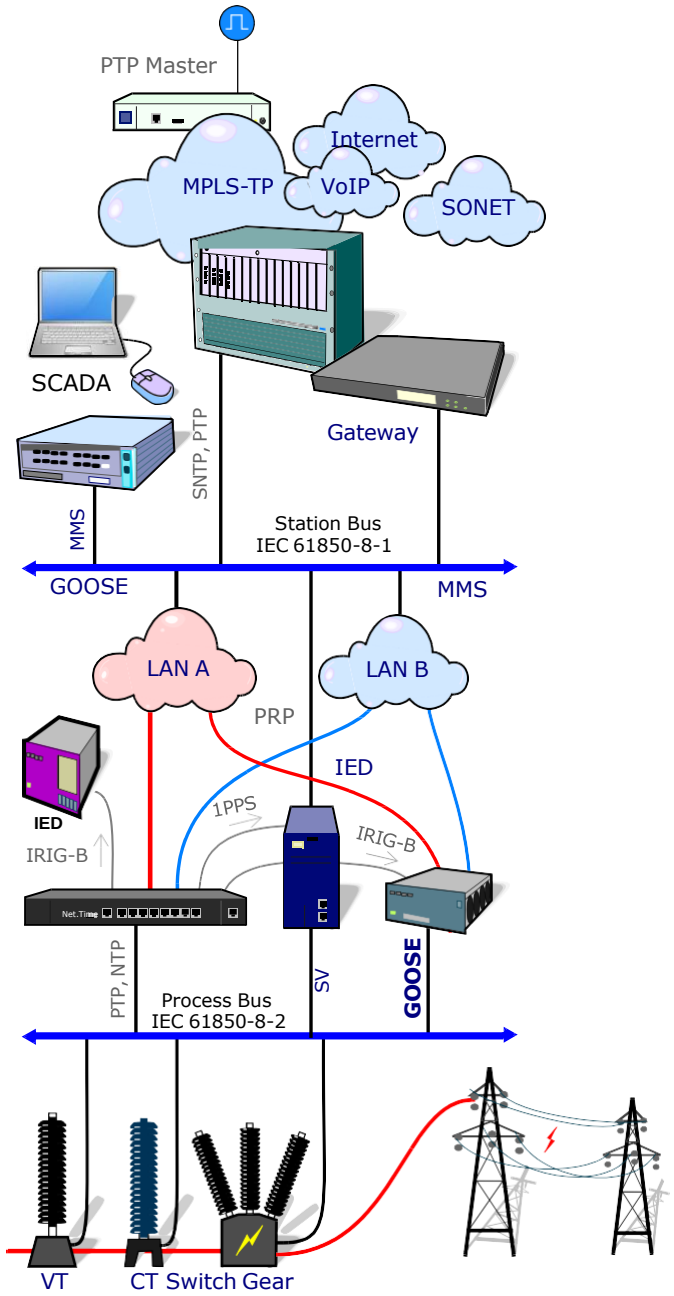
GOOSE **Installation**



GOOSE Auditor can support GOOSE deployment by decoding messages, checking latencies, detecting rogue and invalid messages, generating special commands that are key factors to consider when verifying:

1. **Device Compatibility**: Ensure that all devices are compatible and support the GOOSE standard.
2. **Network Topology**: Determine the requirements such as bandwidth, latency, redundancy required by GOOSE.
3. **Message Configuration**: Configure the messages with the appropriate data attributes and types of events that will trigger the transmission of GOOSE messages.
4. **Security**: Ensure protection against unauthorised access, hacking, or other security breaches.

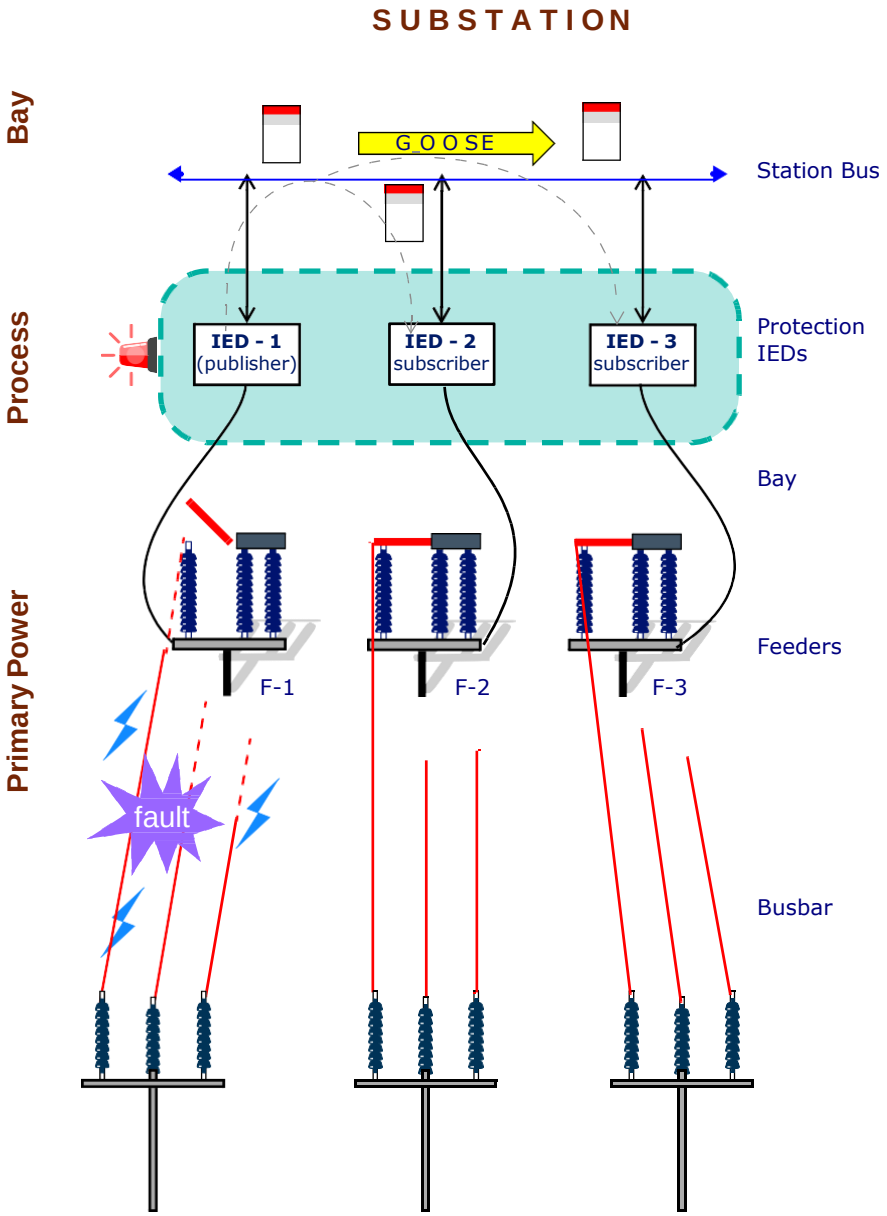
IEC-61850 **Acceptance** & **Commissioning**



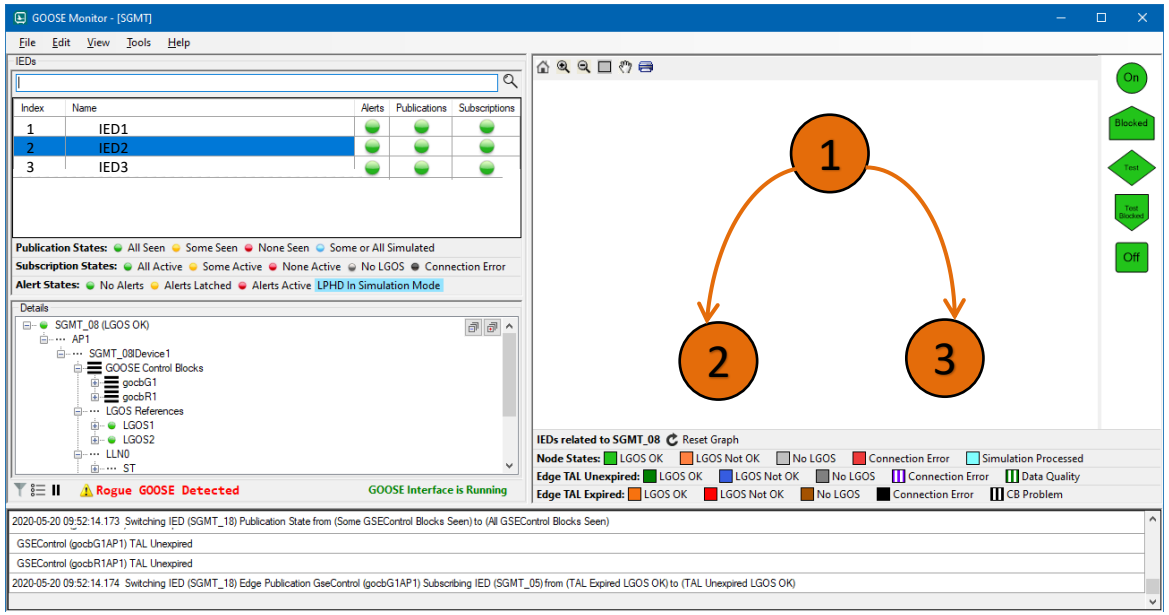
IEC-61850 acceptance and commissioning requires a detailed and rigorous testing process using GOOSE Auditor:

1. **Documentation**: Verify details and ensure that all required documentation, including manuals, datasheets and test reports are available and complete.
2. **Configuration**: Verify that the IED is correctly configured, including GOOSE messages (data attributes, data type, data length, etc).
3. **Test**: Verify that the IED is functioning correctly and that the GOOSE is functioning as intended. Perform functional, interoperability and performance tests.
4. **Communication**: Verify that the topology is appropriate and then ensure that the Publisher and Subscriber IEDs communicate properly.
5. **Security**: Apply security measures to prevent unauthorised access and detect rogue messages.
6. **Commissioning**: Verify that all connections are secure, and that settings are well configured.

Troubleshooting sample: Sympathetic Trip Logic



IED-1, which protects Feeder-1, detects a fault and then sends a GOOSE message to indicate that an inrush condition will occur as a result of a voltage recovery. On receiving the message, IED-2 and IED-3 adjust their settings in anticipation of the inrush.



During the test of this procedure, GOOSE Auditor displays the IED and the sequence of messages and changes of the IED to block the sensitive overcurrent. It will also display any events that may eventually occur.

That' all

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