

# GOOSE Monitor

Troubleshooting and Monitoring for IEC GOOSE & R-GOOSE



## OVERVIEW

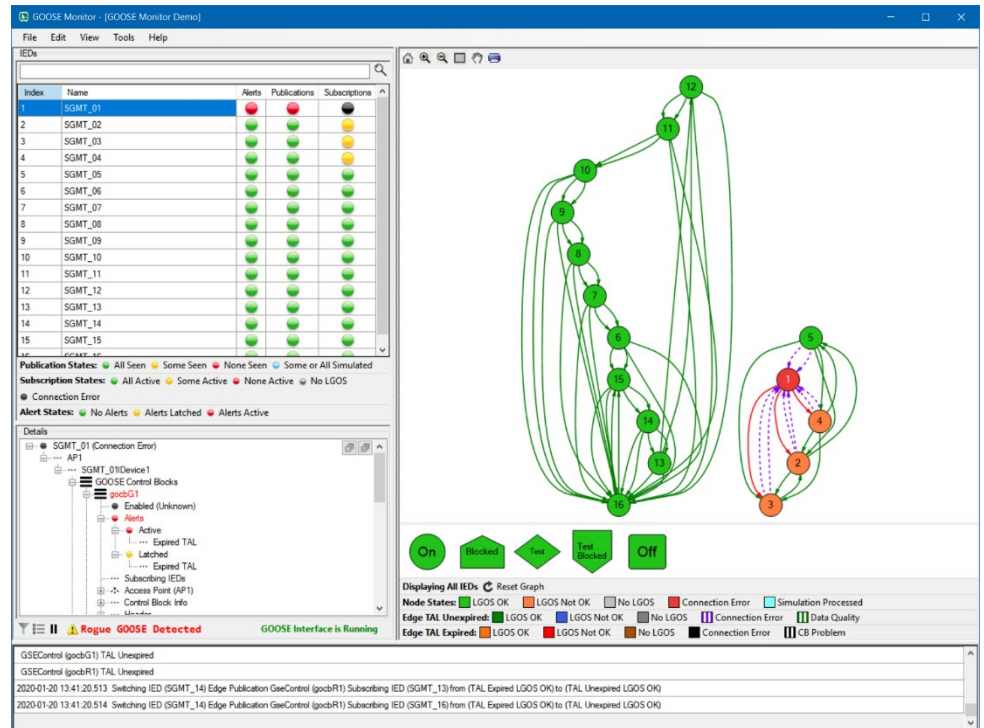
SISCO's GOOSE Monitor is an essential troubleshooting tool for substation automation and protection systems that use IEC 61850 GOOSE messaging. The GOOSE Monitor provides an intuitive visualization of the state of the GOOSE messaging to identify where problems are occurring, enabling the substation engineer to focus on those problems directly.

IEC 61850 GOOSE is a high-speed multicast messaging system used widely for protection coordination in and between substations. Operational substations using GOOSE can use thousands of messages per second between hundreds of devices. Trying to determine if the protection messaging is properly working using traditional network monitoring tools or network packet sniffers is very difficult.

The GOOSE Monitor captures the publication and subscription status for all the GOOSE messaging and shows it in a real-time display that gives the substation engineer the ability to see at a glance if there are any problems where the source of that problem might be.

## BENEFITS

- Intuitive visualization enables substation engineers to instantly see if any problems are occurring in multicast GOOSE messaging systems
- Once alerted, the engineer can easily see the source of the problem so that they can focus their efforts in the right area and get those problems resolved quickly
- Supports local or remote monitoring of error and potentially malicious conditions enabling pro-active maintenance to minimize the impact on the protection system
- Flexible configuration environment supports a variety of configuration methods enabling use in any IEC 61850 system even with incomplete or missing Substation Configuration Language (SCL) files
- Support for Ethernet GOOSE and Routable GOOSE (R-GOOSE) using IP Multicast enables use on both local and wide area networks



## Key Features

- Easy and flexible configuration automatically configures visualization and communications in a single step:
  - Automatic configuration using import of Substation Configuration Language (SCL) files:
    - Substation Configuration Description (SCD) file can completely configure the GOOSE Monitor with a single import action
    - Configured IED Description (CID) files can be imported individually or in bulk
    - Configurations can be updated incrementally when adding devices to the system
  - Manual and spreadsheet configuration available for cases where the SCL files are not available
- Subscription information from GOOSE subscription supervision logical nodes (LGOS) colorizes the node status to indicate which devices are not receiving the data they are expecting to receive
- GOOSE publication data from the network colorizes the edge/arrow states to indicate whether messages are available on the network
- Hovering over nodes and edges in the diagram displays the IED and control block names, respectively
- Details are displayed, including data set values, device mode, LGOS subscriptions, quality, timestamps, and much more
- Rogue GOOSE Detector displays unconfigured GOOSE and numerous error conditions, including duplicate publishers, out of sequence messages, mismatched ConfRevNum, and many more
- Includes Syslog client enabling TAL expirations, Rogue GOOSE messages, and other error conditions to be monitored locally or remotely for security purposes
- Runs on Server 2016, 2019 and Windows 10 as a 64-bit application
- GOOSE/R-GOOSE traffic monitoring performed via connection to Ethernet trunk port on a network switch
- Multiple Ethernet adapters supported
- "Focus" Mode allows the engineer to isolate messaging related to a specific device to provide a simplified view to assist in troubleshooting of large complex substations

