GOOSE Monitor

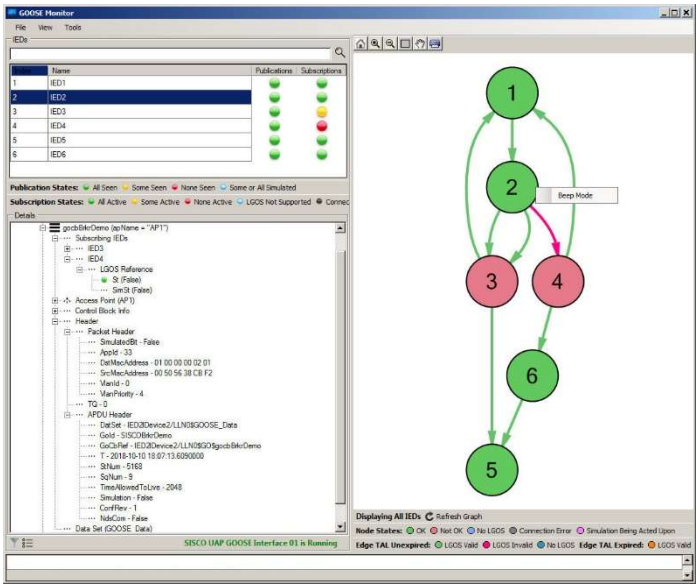
Troubleshooting and Monitoring for IEC GOOSE & R-GOOSE

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, and it enables the substation engineer to focus on those problems directly.

IEC 61850 GOOSE is a high-speed multicast messaging system that is used widely for protection coordination in and between substations. Operational substations using GOOSE can have thousands of messages per second being exchanged between hundreds of devices. Trying to determine if the protection messaging is working properly 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 multi-cast GOOSE messaging systems
- When problems are encountered 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
- 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) enables use on both local and wide area networks

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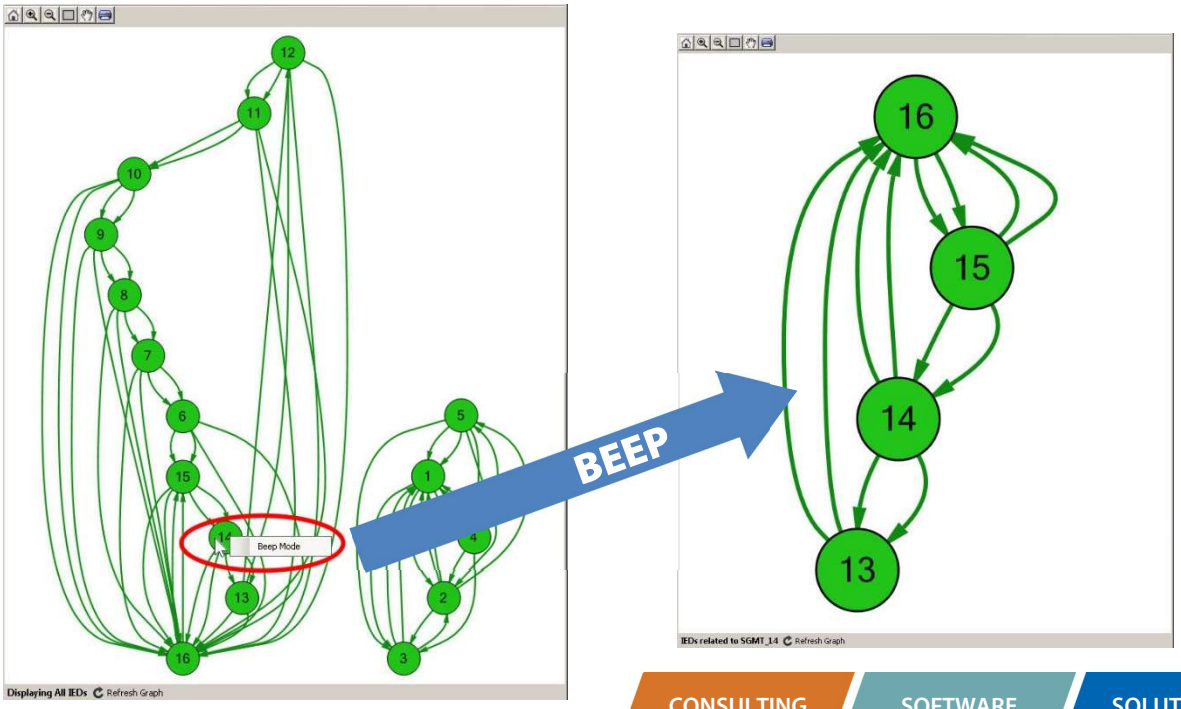
Key Features

- 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 for all the devices in the system in a single bulk import
    - Configurations can be updated incrementally as devices are added to the system
  - Flexible and easy-to-use manual methods available for cases where the SCL files are not complete:
    - Interactive configuration via GUI; or
    - Spreadsheet definition of subscriptions
- Subscription visualization information is derived from the Substation Configuration Language (SCL) files and displayed as arrows/edges between nodes (devices) in the diagram
  - Subscription information from GOOSE subscription supervision logical nodes (LGOS) is used to colorize the node status to indicate which devices are not receiving the data they are expecting to receive
  - GOOSE publication data from the network is used to colorize 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
- Detailed GOOSE data can be viewed including data set values, subscription states, quality and timestamps
- Runs on Windows 7, Windows 10, Server 2012 and Server 2016 as a 32-bit application
- GOOSE/R-GOOSE traffic monitoring performed via connection to Ethernet trunk port on a network switch
- Multiple Ethernet adapters supported
- BEEP Mode allows the engineer to isolate messaging related to a specific device to provide a simplified view of to assist in troubleshooting of large complex substations



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