



Systems Integration Specialists

GOOSE Blaster

Simulate GOOSE and R-GOOSE Messaging for Testing

SISCOnet.com

About SISCO

Founded in 1983, Systems Integration Specialists Company (SISCO) set out to harness the emerging power of personal computers to transform factory automation. Early in its journey, SISCO pioneered the first commercial implementation of the Manufacturing Message Specification (MMS), advancing how robots helped reshape the automotive industry.

In the 1990s, the Electric Power Research Institute (EPRI) launched its Utility Communication Architecture initiative. SISCO became a key contributor, demonstrating that its MMS technology aligned seamlessly with the needs of the electric utility sector.

This milestone marked a pivotal shift: SISCO turned its focus to the utility industry, helping to define and drive the adoption of critical standards, such as **ICCP**, **IEC 61850**, and **CIM**. Over the decades, the company has remained deeply engaged in industry organizations and user groups, ensuring these standards continue to evolve.

Today, SISCO is recognized as a leader in utility communications—providing deep expertise, robust products for rapid deployment, and services that connect systems and data with efficiency and reliability.



SISCO Committed to Standards

- IEC Technical Committee 57 (TC57)
 - » WG07/19 – IEC60870-6 TASE.2 (ICCP)
 - » WG10 – IEC 61850 (power system automation communications)
 - » WG13 – IEC 61970 for EMS (CIM modeling and model exchange)
 - » WG14 – IEC 61968 for DMS (CIM modeling and messaging)
 - » WG15 – IEC 62351 Communications Security
 - » WG17 – IEC 61850-420 and 8-2 Distributed Energy Resources
 - » WG19 – Interoperability and Harmonization with TC57
- IEEE
 - » Power System Relaying Committee (PSRC)
 - » Power System Communications and Cybersecurity Committee (PSCC)
 - » CIM Task Force
- UCA International Users Group
 - » Founding Member
 - » CIM Users Group
 - » IEC 61850 Users Group
- ISO
 - » TC 184 - ISO 9506 (MMS)

SISCO Technology

- Communication Protocol Software and Tools for:
 - » Control Center-Control Center and Control Center-Power Plant communications
 - Intercontrol Center Communications Protocol (ICCP) IEC 60870-6 TASE.2
 - » Power System Automation Communications
 - IEC 61850
- Common Information Model
 - » CIM-based messaging for model-driven application integration
 - » Adapter and tools to apply CIM to data and tag name management for operational systems
- COMTRADE Enterprise-level power system disturbance file management system for PI
- Unified Analytic Platform
 - » A high-speed analytic platform for processing real-time data streams such as GOOSE (and Routable GOOSE) for wide-area protection, measurement, and control
- Systems Integration Services
 - » Training
 - » Adapter/application development
 - » Consulting to assist our customers based on international standards



GOOSE Blaster

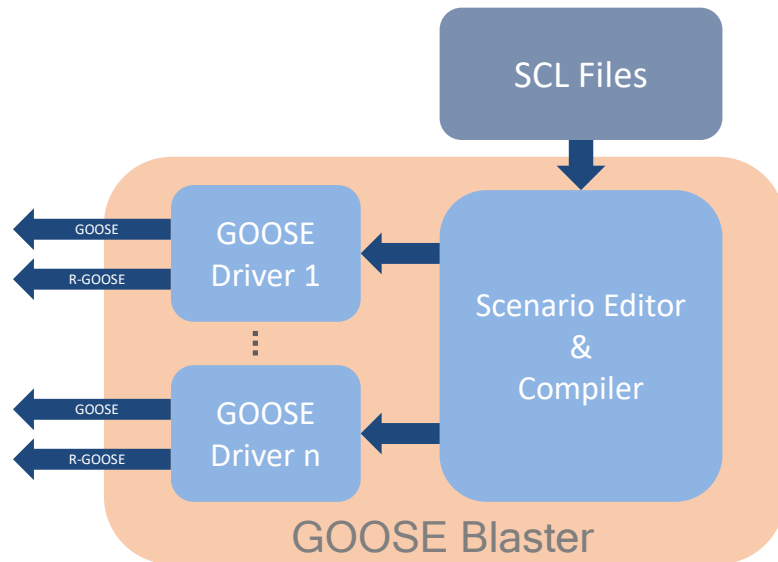
Architecture & Applications

Testing GOOSE Based Systems

- High-speed multicast messaging of multiple devices is difficult to simulate for testing of logic and interlocking
- Utilities typically purchase expensive power system simulation tools, connect them to relays, and run power system simulations
 - » Effective for testing functional characteristics of devices
 - » Very expensive to test interactions between multiple devices
- Packet playback effectiveness is limited due to the difficulty of editing packets to update timestamps
- Testing of device performance under anomalous and high-traffic conditions is difficult

GOOSE Blaster

- Simulates GOOSE and R-GOOSE messaging
- Capable of supporting large-scale simulations of many devices, including:
 - » Critical state changes
 - » Out of sequence and missing message scenarios
 - » Good/bad quality
 - » Realistic network loading for testing
 - » Many realistic and anomalous conditions can be simulated
- Automatic state time stamp generation
- Supports execution of multiple scenarios simultaneously
- Initial configuration via SCL file import



Adding GOOSE to the Scenario

- Simply select the GOOSE from imported IED files

Add Device

Device

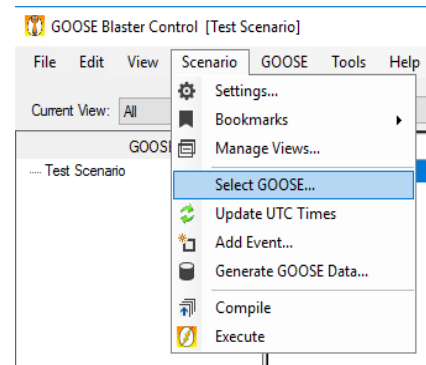
SCL File: C:\SISCO\Samples\SISCO_GOOSEIncoming.cid ...

IED Name: <All> v

Access Point: <All> v

New IED Name: ☐ Override Imported IED Name

Add Close



GOOSE Selector

Available GOOSE

<Filter> [Filter Icon]

IED	Logical Device	GOOSE Name
SISCOIED_1	SISCOIED_1Dev1	LLN0\$GO\$GOOSEIn...
SISCOIED_2	SISCOIED_2Dev2	LLN0\$GO\$GOOSEO...

→

→

←

←

Current GOOSE

<Filter> [Filter Icon]

IED	Logical Device	GOOSE Name
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OK Cancel

Creating a Scenario

- Create a Scenario Name
- Set an Execution count or Repeat Indefinitely
- Modify Retransmission Curve

Scenario Settings

Scenario Settings

Scenario Information

Name: Test Scenario

Description:

Default Retransmission Curve: <Global_Default>

Scenario Epilogue Time

Enter the amount of milliseconds to continue transmitting after the last event.

Milliseconds: 0

Scenario Repeat

☐ Repeat Indefinitely

☒ Execution Count

Count: 1

GOOSE Settings

Name	Network Alias	Retransmission Curve	Event Count	First Event	Last Event	
SISCOIED_1.SISCOIED_1...	<Default>	<Global_Default>	11	00.000	10.000	
SISCOIED_2.SISCOIED_2...	<Default>	<Global_Default>	11	00.000	10.000	

OK Cancel

Generating Scenario Data

Scenario Settings

Scenario Settings

Scenario Information

Name:

Description:

Default Retransmission Curve: [<Global Default>](#)

Scenario Epilogue Time

Enter the amount of milliseconds to continue transmitting after the last event.

Milliseconds:

Scenario Repeat

☐ Repeat Indefinitely

☒ Execution Count

Count:

GOOSE Settings

Name	Network Alias	Retransmission Curve	Event Count	First Event	Last Event	
SISCOIED_1.SISCOIED_1...	<Default>	<Global Default>	11	00.000	10.000	
SISCOIED_2.SISCOIED_2...	<Default>	<Global Default>	11	00.000	10.000	

OK

Cancel

GOOSE Blaster Scenario Editor

File Edit Tools Scenario GOOSE View Bookmarks Window Help

Current View: All

GOOSE Blaster Control [herb1]

Initial Values << < Initial Values > >>

	Initial Values	00.000	02.000	04.000	06.000	08.000	10.000	12.000	14.000	16.000	18.000	20.000	22.000	24.000	
herb1															
IED1 IED1Device1.LLN0GG0gocb8kDemo															
Events															
Power Up															
Disconnect															
Connect															
Parameters															
Ethernet Parameters															
MacAddr	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01	01 00 00 00 01 01
MacAddr	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	00 00 00 00 00 01	
VLAN-ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VLAN-PRI	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
GOOSE Parameters															
APPID	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
GoCBRef	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	
DaSet	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	IED1Device1.LLN0GG0gocb8kDemo	
GoID	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	SISC0Bk8kDemo	
SigNum															
SigNum															
Test															
ConfRev															
NdsCom															
Data Values															
CSW11ST\$Pos\$InVa\$Btmg2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
CSW11ST\$Pos\$InVa\$Vtmg3	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	
CSW11ST\$QopCts\$General\$Bool	1	1	0	1	0	1	0	1	0</						

Running the GOOSE Blaster

- The GOOSE Blaster scenario is compiled into an executable application, allowing the GOOSE to publish precisely as designed in the scenario
- Executing the GOOSE Blaster scenario in your environment will fully emulate all GOOSE traffic per the scenario, allowing you to test the system
- The tool can be configured in any number of ways to test the reaction of any specific sequence of events
- Each scenario can be saved and reloaded for future testing. This allows for automated testing



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**For more information or to
schedule a demo, contact us at
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