

GOOSE Blaster

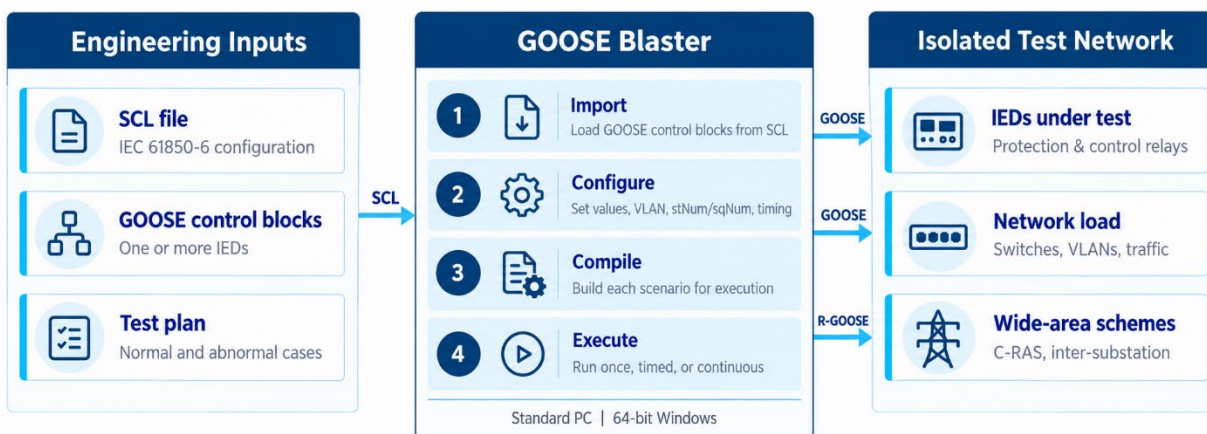
GOOSE and R-GOOSE Simulation for IEC 61850 Testing

Every protection scheme in an IEC 61850 substation depends on **GOOSE** messages arriving with the right values, in the right order, at the right time. Proving that used to mean waiting for a real fault or rigging up complex lab setups. Edge cases such as invalid, out-of-sequence, or delayed messages rarely got tested at all.

GOOSE Blaster gives test engineers direct control. Import your **Substation Configuration Language (SCL)** file, build any **GOOSE** or **Routable GOOSE (R-GOOSE)** sequence with any parameter values and any timing, then compile and execute. Stress-test IED configurations, interlocking logic, and protection schemes before they ever go live.

Why It Matters

- **Find configuration errors before commissioning.** Verify IED response to normal and abnormal GOOSE traffic in the lab or at FAT, not after energization.
- **Test what a live system should never produce.** Inject invalid, out-of-sequence, and anomalously timed messages to prove protection and interlocking logic respond correctly.
- **Validate the network under realistic load.** Simulate large numbers of IEDs and GOOSE messages to check switch, VLAN, and priority configuration.
- **Make FAT/SAT repeatable.** Compiled scenarios run the same way every time, across commissioning, certification, and regression testing.
- **Extend coverage to wide-area protection.** R-GOOSE support brings inter-substation schemes into the same workflow. SISCO uses GOOSE Blaster to build multi-device fault simulations for its **C-RAS** wide-area protection platform.
- **No specialized test hardware.** Runs on a standard 64-bit Windows PC.



GOOSE Blaster turns SCL configuration into repeatable GOOSE and R-GOOSE test scenarios for an isolated test network.

Four Steps, Full Control

1 Import	2 Configure	3 Compile	4 Execute
<ul style="list-style-type: none">• Import SCL files per IEC 61850-6• Populate GOOSE control blocks for one or more IEDs• No manual control block entry	<ul style="list-style-type: none">• Set dataset values per message• Control VLAN ID, priority, sequence number, state number, simulation flag, and CB names per message• Define timing by retransmission curve or per-message edit	<ul style="list-style-type: none">• Compile each scenario for execution at maximum performance• Save and reuse scenarios for regression testing	<ul style="list-style-type: none">• Run once, for a set duration, or continuously• Run multiple scenarios simultaneously• Simulate normal and abnormal conditions

Built for the Teams Who Test IEC 61850 Systems

- **Protection and automation test engineers.** Prove IED behavior against any GOOSE scenario, including the ones a live system should never produce.
- **Substation commissioning teams.** Run the same validated scenarios at FAT and SAT, and get consistent, repeatable results.
- **Relay engineers.** Verify GOOSE subscriptions, dataset mapping, and simulation-flag handling before relays reach the field.
- **OEMs and system integrators.** Stress-test IEC 61850 products and multi-vendor integrations before customer delivery.

Specifications

Item	Specification
Protocols	GOOSE (IEC 61850-8-1); Routable GOOSE (R-GOOSE)
Configuration input	Substation Configuration Language (SCL) per IEC 61850-6; GOOSE control blocks for one or more IEDs
Message control	Per message: dataset values, VLAN ID, VLAN priority, sequence number, state number, simulation flag, control block names
Transmission timing	Customizable retransmission curves or individual per-message timing
Execution modes	Run once, repeat for a specified duration, or run continuously; multiple scenarios simultaneously
Scenarios	Compiled and reusable for commissioning, FAT/SAT, certification, and regression
Platform	Standard PC hardware; 64-bit Microsoft Windows; isolated test networks only

Laboratory use only. Do not run GOOSE Blaster on operational systems. It generates invalid and anomalous messages by design, which can interfere with protection and control functions.

Next Step

Request a live demo with SISCO's IEC 61850 specialists, scoped to your test plan and IED portfolio.

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