C-RAS

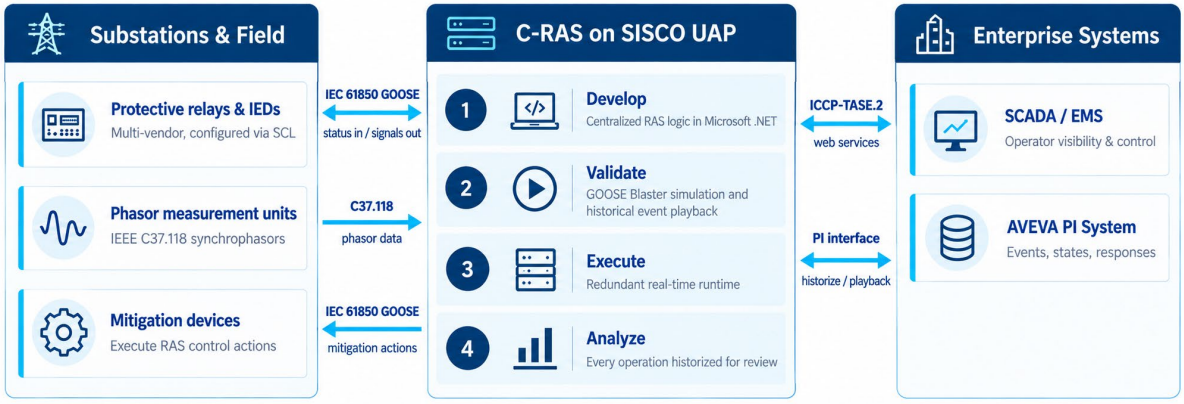
Centralized Remedial Action System for Wide-Area Protection

Building new transmission lines takes years. Until they arrive, utilities must move more power through existing corridors without compromising reliability. **Remedial action schemes (RAS)** make that possible, but distributed RAS buries logic in device programming across multiple substations. Every scheme is hard to build, harder to test, and expensive to change.

C-RAS moves that logic to one place. Engineers develop algorithms in a high-level **Microsoft .NET** environment, validate them against **simulated faults and replayed historical events**, and deploy changes without reprogramming field devices. **IEC 61850 GOOSE** carries wide-area signaling, **ICCP-TASE.2** and web services connect to SCADA/EMS, and the **AVEVA PI System** historizes every event and response. C-RAS runs on SISCO's **Unified Analytic Platform (UAP)**.

Why It Matters

- **More capacity from existing corridors.** Effective mitigation strategies lower the reserve margin required on critical lines, helping defer or avoid new transmission construction
- **Cascade prevention at scale.** Run multiple complex, multi-line, contingency-based schemes from a single platform.
- **Lower deployment cost.** Centralized processing removes complex logic from remote substations. Utilities can save millions compared with distributed RAS or adding corridor capacity.
- **Lower testing cost, continuous improvement.** Emulate complex events, debug centrally, and replay past events to prove every change before it reaches the field.
- **Fits existing operations.** Standard ICCP-TASE.2 and web service interfaces connect to the control center you already run.



C-RAS centralizes wide-area RAS logic between substation devices and enterprise systems, on SISCO's Unified Analytic Platform.

Four Stages, One Platform

Develop	Validate	Execute	Analyze
• Build RAS algorithms in a high-level Microsoft .NET environment • Debug and maintain logic centrally, not device by device	• SISCO GOOSE Blaster creates complex multi-device fault simulations • Scenario playback feeds past events into new algorithm versions	• Redundant, real-time runtime for time-critical schemes • IEC 61850 GOOSE signaling over modern networks • SCL-based configuration for multiple device types and brands	• AVEVA PI historizes system events, states, and application responses • Review fault behavior and algorithm performance side by side

Built for the Teams Who Own Wide-Area Protection

- **Transmission planning engineers.** Mitigate contingencies in existing corridors and test strategies against real system events.
- **Protection and control teams.** Change scheme logic in one place, prove it in simulation, and deploy without field reprogramming.
- **Grid reliability engineers.** Review every scheme operation in PI alongside the event data that triggered it.

Built on the Unified Analytic Platform

UAP is SISCO's real-time analytics environment for developing, testing, simulating, and improving wide-area control algorithms around popular real-time data historians. Applications built on UAP are **high-performance, redundant, repeatable, testable, and maintainable**. Beyond C-RAS, UAP supports high-speed anomaly detection and real-time synchrophasor analysis.

Specifications

Item	Specification
Platform	SISCO Unified Analytic Platform (UAP)
Development environment	Microsoft .NET
Substation signaling	IEC 61850 GOOSE
Device configuration	IEC 61850 Substation Configuration Language (SCL); multiple device types and brands
Control center integration	ICCP-TASE.2 (IEC 60870-6); web service interfaces
Synchrophasor data	IEEE C37.118 data streams
Historian	AVEVA PI System: system events, states, and application responses
Testing and simulation	SISCO GOOSE Blaster fault simulation; scenario playback of historical events
Runtime	Redundant, real-time architecture for time-critical applications

Next Step

Request a technical briefing scoped to your RAS portfolio and transmission corridors.
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