EMPOWERING ENERGY INTEGRATION

CIM Delta™

Precision Control for CIM Model Evolution

Every time your CIM model changes – new equipment, topology updates, profile revisions – someone has to find exactly what changed, confirm it is valid, and promote it from development to production without breaking anything. SISCO CIM Delta™ is a purpose-built differencing and merge engine that does this with full awareness of CIM structure, profiles, and grid topology. It catches conflicts before they cause model drift, so EMS, DMS, and market systems stay in sync. **Part of the SISCO GridCore™ Suite: GridCore™ governs. CIM Delta™ evolves.**

The Challenge: Generic Diff Tools Don't Speak CIM

As utilities run CIM (IEC 61970 / IEC 61968) across EMS, DMS, market, and enterprise platforms, model changes multiply. Generic XML diff tools compare text, not equipment: a reordered file looks like a changed model, while a broken terminal connection goes unnoticed. Manual comparison is slow and error-prone. The result: model drift, version conflicts, and integration delays.

Why It Matters

- **Utility model engineers:** Review exactly what changed, object by object, instead of scanning thousands of lines of XML.
- **CIM implementation teams:** Promote validated changes from development to staging to production with a full audit trail.
- **System integrators:** Merge change sets from multiple vendors without dangling references or broken containment.
- **Grid modernization programs:** Keep EMS, DMS, and market platforms on consistent model versions as the network grows.

Key Capabilities

- **CIM-aware differencing.** Compares models at the object and attribute level, not raw XML. Detects renamed equipment, added topology nodes, and modified parameters.
- **Profile-sensitive delta generation.** Constrains output to the active CIM profile, keeping out-of-profile objects out of the delta.
- **Standards-compliant difference files.** Produces Difference Model XML that downstream platforms consume directly, without custom transformation.
- **Dependency-ordered merge.** Applies multi-source change sets in dependency order, resolving object reference chains before writing to prevent dangling references and referential integrity failures.
- **Conflict detection and reporting.** Flags concurrent modifications to the same CIM object and reports the object ID, attribute path, and competing values for engineer review before commit.
- **Topology and integrity validation.** Checks connectivity nodes, terminals, and equipment containers after every merge. Rejects changes that would create isolated network islands or broken containment.
- **Version-controlled model lifecycle.** Tracks source/target versions and authors; promotes changes from dev to staging to production with a conflict gate at each stage.

Standards and Formats

- **CIM:** IEC 61970-301 (CIM base: equipment and topology classes) and IEC 61968-11 (distribution extensions for DMS)
- **Profiles:** IEC 61970-452
- **File formats:** CIM/XML (RDF/XML serialization) input; Difference Model XML output

Specifications

- **Deployment:** On-premises; no cloud dependency required
- **Integration:** Native to SISCO GridCore™
- **Audit trail:** Object ID, attribute path, before/after values, and author for every change

Why SISCO

SISCO engineers help write CIM in IEC TC57 Working Groups 13 and 14, and SISCO has delivered standards-based integration since 1983.

Get Started

Ready to see how CIM Delta™ handles your next model update? Contact SISCO to request a technical demo, discuss licensing, or talk with the engineers who built it.
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