

Credentialed Topology Graph

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What It Specifies

Each dependency relationship in the topology is governance-credentialed. Source unit, dependent unit, dependency class, and credentialing authority all enter the topology graph; the graph carries lineage.

The topology updates as units join, leave, or change their dependencies. Updates are credentialed events; the architecture admits the updates and propagates the topology changes structurally.

Why It Matters Structurally

Cascade analysis without explicit topology faces structural blindness. The cascade depends on dependency structure; without explicit structure, the analysis is ad-hoc.

Credentialed topology produces structural cascade support. The graph is auditable; cascade paths are traceable; mitigation operations target specific topology positions.

How It Composes With Mesh Operation

The architecture defines the topology-update protocol, the dependency-class taxonomy, and the topology query primitives. Implementations apply the

architecture; mesh participants maintain topology within the framework.

Topology composes with other features. Cross-mesh topology federation, byzantine-robust topology under disputed dependencies, and cascade-mitigation integration all build on the topology primitive.

What This Enables

Defense mesh resilience operations gain structurally-supported cascade analysis. Civilian critical-infrastructure mesh resilience gains the same.

The architecture also supports topology evolution. As mesh operations evolve, topology updates through governance procedures.