Cross-Mesh Divergence Detector

by Nick Clark | Published April 25, 2026

What It Specifies

Detector evaluates parallel observations across meshes (the same physical event observed in both meshes, the same time observation across reconciled time, the same authority observation across federated authorities). Divergence above declared thresholds enters as credentialed events.

Divergence events carry: contributing observations, divergence magnitude, divergence pattern, monitoring authority signature. Downstream operations admit the events against admissibility.

Why It Matters Structurally

Cross-mesh integration without divergence detection produces architectural blindness to inconsistencies. Real cross-mesh integrations occasionally produce inconsistent observations; the architecture must detect them structurally.

Divergence detection produces structural specificity. The architecture surfaces inconsistencies; downstream operations target the underlying causes; the events are auditable.

How It Composes With Mesh Operation

The architecture defines the divergence-evaluation primitives, the threshold-declaration format, and the event recording. Implementations apply the architecture; detection operations proceed within the framework.

Detection composes with other features. Cross-jurisdictional divergence detection, byzantine-robust detection under adversarial divergence, and dispute mechanism for divergence disputes all build on the detection primitive.

What This Enables

Cross-organization integration, cross-jurisdiction integration, and coalition integration all gain structurally-supported divergence detection.

The architecture also supports detection evolution. As cross-mesh integration patterns mature, detection algorithms update through governance procedures.