

Cross-Jurisdictional Coordinate Alignment

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What Cross-Jurisdictional Alignment Specifies

Different jurisdictions maintain different positioning-authority arrangements. National geodetic agencies operate authoritative reference frames within their borders; regulatory regions impose admissibility profiles on positioning observations; commercial operating authorities maintain proprietary anchor networks.

Cross-jurisdictional alignment establishes declared agreements between jurisdictional authorities. The agreements specify how cross-boundary observations are credentialed, which authorities produce which credentials, and how downstream consumers admit cross-jurisdictional positions.

Why Jurisdictional Authority Matters Structurally

Cross-jurisdictional operations face structural compliance pressure. National sovereignty over geodetic reference, regulatory authority over positioning compliance, and commercial authority over proprietary networks all impose constraints that the architecture must respect.

Cross-jurisdictional alignment lets the architecture respect the constraints structurally. Operations in jurisdiction A use jurisdiction A's authority for in-jurisdiction observations; operations crossing into jurisdiction B admit jurisdiction

B's authority through the declared agreement. The compliance is structural rather than implementation-dependent.

How Alignment Composes With Federation

Cross-jurisdictional alignment builds on frame federation. Each jurisdiction operates its regional mesh with its admissibility profile; cross-jurisdictional federation activates the declared inter-authority agreements; cross-boundary observations carry credentials from both jurisdictional authorities.

The agreements are governance-credentialed. Each jurisdictional authority signs the agreement; the architecture admits the agreement; cross-boundary observations satisfying the agreement enter the federated solution. Authority changes (regulatory updates, sovereignty transitions) propagate through agreement updates.

What This Enables for Multi-National Operations

Cross-border autonomous corridors gain structurally-compliant operation. Trans-national logistics, multi-jurisdiction maritime operations, and aviation crossing national airspace all benefit from declared alignment.

Defense coalition operations gain the same. Coalition partners maintain national authority over their positioning infrastructure; cross-coalition operations proceed through declared agreements; the architecture supports the political reality of coalition operations rather than forcing technical unification.

