Rajant Kinetic Mesh Has Mobility, Lacks Credential Authority

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What Rajant's Kinetic Mesh Provides

Rajant's Kinetic Mesh architecture is fully mobile — every node is potentially mobile, with no requirement for stationary infrastructure or backhaul gateways. BreadCrumb radios operate in mining (Caterpillar haul-truck deployments, underground mining), industrial (manufacturing-floor mesh, large facility coverage), defense (tactical deployments where pre-positioned infrastructure is unavailable), and increasingly public-safety contexts.

The architectural property that distinguishes Kinetic Mesh — full mobility without fixed-infrastructure dependency — is well-matched to the operating environments where Rajant has commercial success. The product line is mature; the customer base is established; the deployment scale is significant.

Why Mobility Doesn't Solve the Trust Question

Kinetic Mesh's mobility operates at the link layer: nodes route around each other, the topology adapts to physical movement, the architecture survives nodes joining and leaving. The trust questions that operate above — which authority signs which observation, how revocation flows through a fully-mobile network without backhaul,

how multiple authorities (mining-company authority + safety-regulator authority + customer-credentialing authority) compose in a single mesh — are not addressed by the link-layer architecture.

Rajant customers reconstruct the trust layer above. Mining customers integrate with their safety and operational authority structures. Industrial customers integrate with their manufacturing-management infrastructure. Defense customers integrate with their command authority. Each integration is bespoke.

How the Architectural Primitive Composes With Kinetic Mesh

The governed-mesh wire format and admissibility framework operate above Rajant's link layer. The link layer continues to provide its mobility advantage; the architectural primitive operates at the layer above with credentialed authority, dynamic-device-hash continuity, and store-and-forward propagation.

Continuity-based revocation is particularly well-suited to Kinetic Mesh's no-backhaul property. CRL/OCSP-style revocation depends on backhaul connectivity that Kinetic Mesh customers often don't have. Continuity-based revocation operates without backhaul: the credentialing authority issues or fails to issue successor hashes, and the mesh propagates the revocation through the same channels it propagates other observations.

What This Enables for Rajant's Markets

Mining operations gain structural authority handling that current customer-built integrations have only approximated. Safety-credentialed observations from regulator-authorized sensors flow through the mesh under structural authority management. Cross-mine operations (multi-site mining companies, contractor-

operator arrangements) gain interoperability that current per-mine integration does not provide.

Industrial and defense Kinetic Mesh deployments gain the same architectural foundation. The patent positions the primitive at the layer where Rajant's no-fixed-infrastructure architecture has the most natural composition — both deal with the same fundamental challenge of operating without centralized infrastructure dependencies.