

Defense Field Adaptation

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What This Application Specifies

Defense participants integrate runtime-signed adaptation artifacts certified through sandbox pre-activation. Mission-specific adaptations activate through mission-authority credentialing; cross-mission adaptations admit through cross-mission federation; cascade-deactivation handles mission-completion or mission-abort scenarios.

Authority composition structures map to defense reality: tactical-mission authority for mission-specific adaptations, theater authority for theater-level adaptations, service authority for service-specific adaptations, joint authority for joint adaptations. The architecture supports the multi-level authority reality of defense field operations.

Why It Matters Operationally

Current defense field adaptation depends on pre-mission system configuration, in-mission ad-hoc parameter adjustment, and post-mission system update cycles. The operations face structural limitations: pre-mission rigidity, in-mission integrity concerns, post-mission cycle latency.

Architectural spatial-adaptation produces structural improvement. Runtime-signed artifacts support in-mission adaptation under credentialed authority; sandbox pre-

activation supports adaptation integrity; cascade-deactivation supports mission-end deactivation.

How It Composes With the Domain

Each adaptation activation enters as a credentialed event. Cross-mission operations admit through declared federation. Adversarial actions (forced-adaptation attempts, adaptation-integrity attacks, adaptation-extraction attempts) surface as credentialed integrity events. Federated skill training supports field-experience-driven adaptation.

Coalition operations gain structural support. Coalition mission adaptations integrate through declared coalition federation; coalition partners maintain national authority over national adaptations; cross-coalition operations admit through declared specification.

What This Enables

Defense field operations gain structurally-supported runtime adaptation. Mission authorities gain structurally-supported adaptation governance. Coalition operations gain structurally-supported coalition adaptation. Adversarial-aware adaptation becomes structural rather than implementation-dependent.

The architecture also supports defense evolution. As emerging defense capabilities (mission-specific AI adaptation, autonomous-system mission adaptation, multi-domain mission adaptation) mature, the architecture admits the new capabilities through declared specification.

