

Governed Tool Lifecycle

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Tool lifecycle operations initiated by the agent, evaluated against governance policy, and recorded in lineage with cryptographic continuity. The tool lifecycle controller performs installation, retraining, replacement, archival, and removal of managed inference endpoints. Each lifecycle operation is initiated by the semantic agent in response to a trigger event, evaluated against the governance policy field for admissibility, executed by the lifecycle controller, and recorded in the lineage field as a deterministic lifecycle event. The tool registry is configured for atomic registration, deregistration, and substitution of endpoints under governed lifecycle operations, and each lifecycle record is verifiable against its predecessor through cryptographic chaining of the lineage field.

Disclosure Scope

This article describes subject matter disclosed in U.S. Provisional Application No. 64/070,239. It is a technical disclosure for educational purposes and is not legal advice. The scope of any patent protection is defined by the claims of an issued patent.

Agent-Resident Execution

[All 40 steps → \(/inventive-steps\)](#)

Substrate (/agent-resident-execution-substrate)

Persistent execution environment carried by the agent, not the host — identity, state, and lineage across power cycles, devices, and upgrades.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- [{step.name}, Articles \(/articles/agent-resident-execution-substrate\)](#)

SECONDARY TECHNICAL

- [Persistent Semantic Agent \(/articles/agent-resident-execution-substrate/persistent-semantic-agent\)](#)
- [Managed Inference Tool Registry \(/articles/agent-resident-execution-substrate/managed-inference-tool-registry\)](#)
- [Agent-to-Tool Dispatcher \(/articles/agent-resident-execution-substrate/agent-to-tool-dispatcher\)](#)
- [Lineage-Derived Training Signal \(/articles/agent-resident-execution-substrate/lineage-derived-training-signal\)](#)
- [Identity Preservation Across Upgrades \(/articles/agent-resident-execution-substrate/identity-preservation-across-upgrades\)](#)
- [Cognitive State-Conditioned Dispatch \(/articles/agent-resident-execution-substrate/cognitive-state-conditioned-dispatch\)](#)
- [**Governed Tool Lifecycle \(/articles/agent-resident-execution-substrate/governed-tool-lifecycle\)**](#)
- [Continuity-Proof Lineage \(/articles/agent-resident-execution-substrate/continuity-proof-lineage\)](#)
- [Substrate Runtime Continuity \(/articles/agent-resident-execution-substrate/substrate-runtime-continuity\)](#)
- [Personal Corpus Model Training \(/articles/agent-resident-execution-substrate/personal-corpus-model-training\)](#)
- [Heterogeneous Inference Endpoints \(/articles/agent-resident-execution-substrate/heterogeneous-inference-endpoints\)](#)
- [Atomic Lifecycle Substitution \(/articles/agent-resident-execution-substrate/atomic-lifecycle-substitution\)](#)
- [Integrity Signal Feedback \(/articles/agent-resident-execution-substrate/integrity-signal-feedback\)](#)
- [Hardware-Bound Identity \(/articles/agent-resident-execution-substrate/hardware-bound-identity\)](#)

- [Cognitive State Append-Only Invariant \(/articles/agent-resident-execution-substrate/cognitive-state-append-only-invariant\)](/articles/agent-resident-execution-substrate/cognitive-state-append-only-invariant).
- [Counterparty Identity Records \(/articles/agent-resident-execution-substrate/counterparty-identity-records\)](/articles/agent-resident-execution-substrate/counterparty-identity-records).
- [Privacy Egress-Controlled Disclosure \(/articles/agent-resident-execution-substrate/privacy-egress-controlled-disclosure\)](/articles/agent-resident-execution-substrate/privacy-egress-controlled-disclosure).
- [Federated Cross-Device Agent Identity \(/articles/agent-resident-execution-substrate/federated-cross-device-agent-identity\)](/articles/agent-resident-execution-substrate/federated-cross-device-agent-identity).

[Agent-Resident Execution Substrate overview → \(/agent-resident-execution-substrate\)](/agent-resident-execution-substrate).