AI OSI Stack Expansion Blueprint Register
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> ## Normative Language Notice
> This document uses normative language consistent with ISO/IEC 42010 and NIST conventions.
> SHALL denotes mandatory requirements, SHOULD denotes strong recommendations, and MAY denotes optional practices.
> Interpretations SHALL preserve authorial intent: layered accountability, epistemic integrity, and human dignity as binding design constraints.

1. Persona-PKI
- **Purpose:** Establish a distributed credential authority that binds Persona Architecture roles to cryptographic identities, ensuring refusals, affect constraints, and mandate boundaries remain verifiable across deployments.
- **Inputs:** Persona briefs, mandate definitions, key provenance attestations, AEIP node registry metadata.
- **Outputs:** Signed persona certificates, revocation manifests, cross-layer trust anchors for AEIP sessions.
- **Implementation Status:** Proposed specification drafted, awaiting custodial review and interoperability testing.

2. Open Governance Registry (OGR)
- **Purpose:** Provide a federated disclosure catalogue through which institutions MAY publish Governance Disclosure Statements (GDS), Integrity Ledger Entries (ILE), and oversight actions to satisfy transparency obligations.
- **Inputs:** Validated governance artifacts (GDS, ILE, OAM), custodial approvals, temporal legitimacy attestations.
- **Outputs:** Searchable registry entries, subscription feeds for auditors, notarized snapshots for archival partners.
- **Implementation Status:** Proposed registry schema aligned; hosting, access policies, and data minimization controls pending ratification.

3. RegOps Bridge (API Adapters)
- **Purpose:** Translate AEIP artifacts into sectoral regulatory submission formats (e.g., supervisory portals, NIS2 registers) without diluting normative commitments.
- **Inputs:** AEIP handshake transcripts, DRR and OAM payloads, jurisdiction-specific compliance templates.
- **Outputs:** Deterministic export bundles (XML/JSON/PDF), submission logs, regulator acknowledgment receipts.
- **Implementation Status:** Proposed adapter interface defined; awaiting liaison

agreements with regulatory bodies.

4. Federation Testnet
- **Purpose:** Simulate multi-jurisdiction AEIP exchanges across sandboxed nodes to validate resilience, consensus on ledger replay, and escalation workflows before production deployment.
- **Inputs:** Reference AEIP node configurations, signed test artifacts, persona PKI stubs, governance council adjudication scripts.
- **Outputs:** Replayable handshake archives, drift diagnostics, federation readiness reports for governance councils.
- **Implementation Status:** Proposed network topology drafted; requires hardware allocation and custodial oversight approval.

5. Stewardship Roadmap Governance
Governance councils SHALL review each proposed system quarterly. Progress MAY advance only after risk controls, human oversight protocols, and archival requirements are validated against the canonical AI OSI Stack specification.