OSAI: Three-Record Schema Template Pack for Software and AI Agents

Technical Companion Artifact

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Scope:	Conceptual, non-operational field structure for three linked OSAI companion records: canonical identity, authority binding, and attestation.
Companion Artifacts:	OSAI-FW-MEM-01; OSAI-FW-GRM-01; OSAI-FW-RSL-01 OSAI-FW-DMO-01; OSAI-FW-RO-02; OSAI-FW-L2-DC-01

1) Purpose

This document defines a narrow upstream schema template pack for three linked OSAI record types: a Canonical Identity Record, an Authority Binding Record, and an Attestation Record.

Its purpose is to preserve separation between identity, authority, and attestation while allowing downstream systems to bind those layers in structured form. This document does not define an implementation standard, credential format, registry deployment model, policy engine, or enforcement framework.

2) Scope and Non-Scope

This document applies only to field-level structure for three conceptual record types associated with the OSAI naming/reference posture.

This document does not define:

- authentication methods
- authorization engines
- trust scoring
- compliance certification
- access-control behavior
- runtime orchestration
- resolver deployment architecture
- vendor-specific profile bindings

The three records defined here are intended to remain conceptually distinct even when used together in downstream systems.

3) Record Boundary Model

3.1 Canonical Identity Record (CIR)

The CIR defines the stable reference identity of a subject. It answers the question: what is this subject, in canonical OSAI terms?

3.2 Authority Binding Record (ABR)

The ABR defines a declared authority relationship associated with a subject. It answers the question: what authority has been bound, by whom, to whom, in what bounded context?

3.3 Attestation Record (AR)

The AR defines an evidence-linked assertion about a subject or about a related binding. It answers the question: what claim has been made, by whom, with what evidence reference?

3.4 Separation rule

No record type should absorb the function of another. Identity should not be encoded as authority. Authority should not be encoded as attestation. Attestation should not be treated as permission.

4) Shared Schema Conventions

4.1 Common conventions

- JSON-friendly field naming
- lowercase snake_case field names
- explicit schema_version
- explicit record_type
- stable unique record identifier per record
- ISO-style datetime values where dates are used
- nullable fields used sparingly
- status fields expressed as controlled values

4.2 Reference conventions

Where one record refers to another subject or record, it should do so through an explicit reference field rather than by embedding foreign record content directly.

4.3 Non-operational posture

These records express structure and linkage. They do not, by themselves, grant or deny access, prove compliance, or perform enforcement.

5) Canonical Identity Record (CIR)

5.1 Purpose

The Canonical Identity Record defines the stable identity anchor for a subject represented within the OSAI grammar.

5.2 Minimum fields

Field	Required	Type	Description
schema_version	Yes	string	Schema version for the CIR
record_type	Yes	string	Fixed value identifying this as a canonical identity record
cir_id	Yes	string	Unique identifier for the CIR itself
osai_id	Yes	string	Canonical OSAI identifier
display_name	Yes	string	Human-readable subject label
object_class	Yes	string	Subject class aligned to grammar class posture
jurisdiction_code	Yes	string	Jurisdiction value aligned to grammar
sector_code	Yes	string	Sector value aligned to grammar
subject_token	Yes	string	Stable subject token aligned to grammar
status	Yes	string	Record status
description	No	string	Short explanatory description

Field	Required	Type	Description
created_at	Yes	string	Record creation timestamp
updated_at	Yes	string	Record last updated timestamp
aliases	No	array	Optional alternate labels
related_ids	No	array	Optional related subject references

5.3 CIR boundary rule

The CIR should not contain permission scopes, authority assignments, approval states, attestation claims, trust scores, or environment-specific access rules.

5.4 Example CIR status values

- active
- superseded
- retired
- corrected

6) Authority Binding Record (ABR)

6.1 Purpose

The Authority Binding Record defines a declared authority relationship associated with a canonical subject.

6.2 Minimum fields

Field	Required	Type	Description
schema_version	Yes	string	Schema version for the ABR
record_type	Yes	string	Fixed value identifying this as an authority binding record
abr_id	Yes	string	Unique identifier for the ABR itself
osai_id	Yes	string	Referenced canonical OSAI identifier
grantor_ref	Yes	string	Reference to the declaring or delegating authority source
grantee_ref	Yes	string	Reference to the subject or actor receiving authority
authority_scope	Yes	string	Bounded description of authority scope
authority_context	Yes	string	Context in which authority applies
effective_from	Yes	string	Binding start timestamp
effective_to	No	string	Binding end timestamp if bounded
status	Yes	string	Binding status
basis_ref	No	string	Reference to basis or source instrument
constraints	No	array	Optional constraints applied to the binding

6.3 ABR boundary rule

The ABR should not redefine the subject's identity. It binds authority relative to an existing subject reference.

6.4 ABR non-scope rule
The ABR is not an access token, a policy engine result, a credential, or a runtime enforcement artifact.

6.5 Example ABR status values
- active
- expired
- revoked
- superseded

7) Attestation Record (AR)

7.1 Purpose
The Attestation Record defines an evidence-linked assertion about a subject or about a related binding.

7.2 Minimum fields

Field	Required	Type	Description
schema_version	Yes	string	Schema version for the AR
record_type	Yes	string	Fixed value identifying this as an attestation record
attestation_id	Yes	string	Unique identifier for the attestation record
subject_ref	Yes	string	Reference to the subject or related record being attested
subject_ref_type	Yes	string	Type of referenced object
attester_ref	Yes	string	Reference to the attesting entity
attestation_type	Yes	string	Type of attestation being made
claim_summary	Yes	string	Short description of the asserted claim
evidence_ref	No	string	Reference to supporting evidence artifact
issued_at	Yes	string	Attestation issue timestamp
expires_at	No	string	Expiration timestamp if applicable
status	Yes	string	Attestation status
method	No	string	Optional method or process descriptor

7.3 AR boundary rule
The AR should not be treated as identity or authority. It is evidence-linked assertion only.

7.4 Example AR status values
- issued
- expired
- withdrawn
- superseded

8) Record Linking Model

8.1 Linking pattern
- CIR anchors the subject
- ABR binds authority relative to that subject

- AR attaches evidentiary claims about the subject or about a binding

8.2 Minimal relationship model
One CIR may have zero or more ABRs and zero or more ARs. One ABR may have zero or more related ARs.

8.3 Anti-collapse rule
No downstream convenience should justify collapsing all three records into a single flat object in the conceptual model.

9) Worked Example Set
This section should eventually include one complete example set built around a single canonical subject.

Recommended subject:

osai:us-la:energy:agent:grid-balance-001

Use that one subject to show one CIR, two ABRs with different authority contexts, and one or two ARs linked separately. That example will later feed directly into Artifact 5 and Artifact 6.

10) Relationship to Companion Artifacts
This document defines field-level record structure only.

- Artifact 3 (OSAI-FW-GRM-01) defines the canonical identifier grammar
- Artifact 4 (OSAI-FW-SCH-01) defines the three-record schema structure
- Artifact 5 (OSAI-FW-RSL-01) will define minimal resolver posture
- Artifact 6 (OSAI-FW-DMO-01) will demonstrate stable identity with changing authority

References

OSAI-FW-GRM-01
OSAI: Canonical Identifier Grammar for Software and AI Agents
Issued Companion Technical Artifact, v1.0, issued May 7, 2026.
https://www.InfrastructureOSAI.com/assets/OSAI-FW-GRM-01.pdf

OSAI-FW-RSL-01
OSAI: Minimal Resolver Illustration for Software and AI Agents
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https://www.InfrastructureOSAI.com/assets/OSAI-FW-RSL-01.pdf

OSAI-FW-DMO-01
OSAI: Narrow Demonstration of Stable Identity with Changing Authority
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https://www.InfrastructureOSAI.com/assets/OSAI-FW-DMO-01.pdf

OSAI-FW-MEM-01
OSAI: A Neutral Naming and Reference Substrate for Software and AI Agents
Standards-Facing Memo (Public), v1.0, issued March 5, 2026.
https://www.InfrastructureOSAI.com/assets/OSAI-FW-MEM-01.pdf

OSAI-FW-RO-02
Reader's Orientation
Issued public artifact.
https://www.InfrastructureOSAI.com/assets/OSAI-FW-RO-02.pdf

OSAI-FW-L2-DC-01
Document Control & Revision History
Issued publication control record, v1.3, issued May 7, 2026.
https://www.InfrastructureOSAI.com/assets/OSAI-FW-L2-DC-01.pdf