Semantic & Event Integration

Managed documentation for Semantic & Event Integration.

OpenBus Integration

OpenBus Integration

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Reference event contract and OpenBus evidence
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

> **Verification boundary:** This page combines platform design guidance with static evidence from the release. It does not prove that every detected interface is enabled, reachable, secure, or operational in the deployed environment.

Event integration pattern

```
producer → validate/type → publish OpenBus event
         → subscribers enrich/correlate/persist/notify/task
         → audit and operational state update
```

Minimum event contract

Concern	Required behavior

Identity	Unique event ID, producer identity and subject/entity ID.
Meaning	Semantic type/URI and schema version.
Time	Observation, publication and receipt times plus source-clock quality.
Correlation	Mission, track, task, case, workflow and causal identifiers.
Delivery	Ordering key, duplicate/idempotency behavior, retry/dead-letter policy and retention.
Policy	Authentication, authorization, releasability, tenancy and audit.

Operational rule

Consumers must tolerate duplicate delivery and should make state transitions idempotent. A bus acknowledgement proves transport handling, not mission success; application-level completion and failure events remain necessary.

Release evidence

Status	Score	Evidence items
detected	105	12

Evidence type	Source	Match
path	`OPENBUS.md`	`openbus`
path	`drivers/openbus_agent.py`	`openbus`
path	`edge/openlvc/rti_openbus_gateway.py`	`openbus`
path	`examples/opencybersec/openbus-security-event.json`	`openbus`
path	`lib/open-networks/openbus.js`	`openbus`
content	`API.md`	`openbus`
content	`CHANGELOG.md`	`openbus`
content	`DEPLOY-GODADDY.md`	`openbus`
content	`MERGE-v0.13.1.md`	`openbus`
content	`OPENBUS.md`	`openbus`
path	`open-bus/app.js`	`open-bus`

Evidence type	Source	Match
path	`open-bus/index.html`	`open-bus`

Maintainer Notes

Add human-reviewed deployment notes, corrections, decisions, screenshots, and links here. Content outside the generated block is preserved on future runs.

RDF, SPARQL and Ontology Interfaces

RDF, SPARQL and Ontology Interfaces

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Semantic file/term scan and reference contract
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

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Observed semantic assets

File
`.opennetworks-backup-20260827T210646Z/ontology/openaar-mr.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/opencybersec.ttl`

File
`.opennetworks-backup-20260827T210646Z/ontology/opendaa-openanalytics.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/opendaa-opendata.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/openiia.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/opensof-applications.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/opensof-core.ttl`
`.opennetworks-backup-20260827T210646Z/ontology/opensof-ontology.ttl`
`ontology/openaar-mr.ttl`
`ontology/opencybersec.ttl`
`ontology/opendaa-openanalytics.ttl`
`ontology/opendaa-opendata.ttl`
`ontology/openiia.ttl`
`ontology/opennetworks.ttl`
`ontology/opensof-applications.ttl`
`ontology/opensof-core.ttl`
`ontology/opensof-ontology.ttl`
`third_party/ontowiki/application/config/SysBase.rdf`
`third_party/ontowiki/extensions/community/insert.sparql`
`third_party/ontowiki/extensions/datagathering/SyncSchema.rdf`
`third_party/ontowiki/extensions/exconf/resources/Examples.rdf`
`third_party/ontowiki/extensions/exconf/resources/PluginRepository.rdf`

Observed term indicators

Technology/concept	Occurrences
RDF	4239
OWL	2287
ontology	2031
provenance	271
SPARQL	258
SHACL	143
JSON-LD	18

SPARQL service contract

- Query endpoint, update endpoint and graph naming/version policy.
- Authentication and separate authorization for read, write and ontology administration.
- Timeout, row/result limits, expensive-query controls and audit.
- RDF serialization/content types and stable namespace registry.
- SHACL/constraint validation behavior and treatment of invalid statements.
- Backup/export, provenance and ontology migration procedures.

Example query pattern

```
PREFIX op: <https://example.invalid/openc5isr/ontology/>
SELECT ?entity ?observation ?time
WHERE {
  ?observation a op:Observation ;
               op:observes ?entity ;
               op:observationTime ?time .
}
ORDER BY DESC(?time)
LIMIT 100
```

Replace the placeholder namespace and properties with the governed ontology for this edition.

Maintainer Notes

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Provenance and Correlation

Provenance and Correlation

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Reference data-governance model
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

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Provenance chain

```
source/device → raw observation → processing step/model/version
→ derived product/correlation → human or automated decision
→ task/effect → outcome/evidence
```

Minimum provenance fields

- Source identity, location/frame, calibration/profile and source timestamp.

- Input object identifiers and immutable checksums for retained artifacts.
- Transformation/algorithm/model name, version, parameters and execution environment.
- Actor/service identity, authorization context and correlation identifiers.
- Output object identifiers, confidence/uncertainty and validation result.
- Handling policy, retention and release/dissemination actions.

Why this is operationally important

Provenance lets an operator understand why a track, alert or recommendation exists; lets an investigator reconstruct the decision trail; lets an analyst reproduce a result; and lets assurance personnel determine whether an effect was based on valid data and approved processing.

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