NOD-002b — Select the Node Implementation

Go to NOD-002 — Provision a Node

Statement

The DIDO-TE SHALL select a Node Implementation that conforms to the selected Node Definition and the applicable Test Environment.

Derived From

- NOD-002 — Provision a Node
- NOD-002a — Select the Node Definition
- [DTE5] DIDO-TE Requirements Register, source requirement identifier and obligation to be assigned
- [DTE6] Structured Information Processing Reference Architecture (SIP-RA)
- [DTE7] Federated Data Interpretation Systems Reference Architecture (FDIS-RA)

Rationale

A Node Definition describes required characteristics and behaviour. A Node Implementation provides the executable or deployable realization used to create a Node instance.

Implementation selection establishes which implementation, version, build, artifact set, and platform variant realize the selected Node Definition. The selection must account for interface compatibility, Dependencies, resource requirements, lifecycle behaviour, observation capabilities, security controls, and Test Environment constraints.

Selecting an unidentified, altered, incompatible, or unauthorised implementation prevents reliable interpretation and reproduction of Test Results.

Applies To

- DIDO-TE
- Node
- Node Definition
- Node Implementation
- Provisioning
- Test Environment
- Test Definition
- Dependency
- Evidence

Verification

Verification confirms that:

- The selected Node Implementation has a unique identity.
- The selected Node Implementation identifies its version, revision, build, variant, and release status.
- The selected Node Implementation identifies its supplier, source, owner, or authoritative repository.
- The selected Node Implementation identifies its applicable platform, runtime, operating system, architecture, middleware, and packaging characteristics.
- The selected Node Implementation identifies the Node Definition and version it realizes.
- The selected Node Implementation realizes the required Node role and Node type.
- The implementation provides each mandatory interface defined by the selected Node Definition.
- The implementation satisfies the applicable interface versions and compatibility rules.
- The implementation supports the required lifecycle states and transitions.
- The implementation provides the observations required to assess Node behaviour and condition.
- The implementation satisfies the applicable resource requirements and constraints.
- The implementation identifies its mandatory, conditional, optional, and transitive Dependencies.
- The implementation remains compatible with the applicable Test Environment.
- The implementation remains compatible with the applicable Test Definition.
- The implementation satisfies applicable security, integrity, provenance, licensing, and approval requirements.
- The DIDO-TE verifies the identity and integrity of each selected implementation artifact.
- The DIDO-TE identifies the criteria used to select among available implementations, builds, versions, or variants.
- The DIDO-TE identifies any approved deviation between the selected Node Definition and Node Implementation.
- Each approved deviation has a documented authority, rationale, scope, and effect on testing.
- The DIDO-TE rejects an unidentified, altered, incompatible, unauthorised, unsupported, or obsolete Node Implementation.
- The DIDO-TE prevents a rejected Node Implementation from governing Node Provisioning.
- The DIDO-TE records the selected implementation identity, version, build, variant, source, and integrity information.
- The DIDO-TE records the selection criteria, compatibility assessment, deviations, findings, exceptions, and resulting determination.
- The DIDO-TE maintains Traceability among the Node Definition, selected Node Implementation, implementation artifacts, Dependencies, Test Environment, provisioning activity, provisioned Node instance, and resulting Evidence.
- Selection of an unidentified, incompatible, altered, unauthorised, unsupported, obsolete, or untraceable Node Implementation constitutes nonconformance with this requirement.

Verification includes:

- Inspection of the selected Node Implementation
- Inspection of its identity, version, build, variant, source, status, and integrity information
- Comparison with the selected Node Definition
- Comparison with the applicable Test Definition and Test Environment

- Inspection of supported interfaces, lifecycle behaviour, observations, resource requirements, and Dependencies
- Verification of implementation artifact provenance and integrity
- Confirmation of applicable approvals and licences
- A negative assessment involving an incompatible implementation version or variant
- A negative assessment involving an altered or unidentified implementation artifact
- A negative assessment involving a missing mandatory interface or observation
- Confirmation that a rejected implementation cannot govern provisioning
- Inspection of selection records, deviations, findings, exceptions, Evidence, and Traceability

Referenced By

- NOD-002c — Resolve Node Dependencies
- NOD-002d — Allocate Node Resources
- NOD-002e — Instantiate the Node
- NOD-002g — Record Node Provisioning
- NOD-002h — Validate the Provisioned Node

Related Architecture Sections

- Add links to the architecture sections governing Node Implementations, implementation artifacts, conformance, compatibility, Provisioning, security, Evidence, and Traceability.

Delivery Phase

Assign the applicable delivery phase.

Requirement Status

Draft

Statement Reference

Use the following syntax to reference this requirement's Statement section from another DokuWiki page:

```
{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-node-requirements:nod-002-provision-a-node:nod-002b-select-the-node-implementation#Statement&noheader&nofooter&noeditbtn}}
```