

NOD-003b — Resolve Node Configuration Values

[Go to NOD-003 — Configure a Node](#)

Statement

The [DIDO-TE](#) SHALL resolve each required [Configuration Value](#) in a [Node Configuration](#) from an identified and authorized [Configuration Source](#).

Derived From

- [NOD-003 — Configure a Node](#)
- [NOD-003a — Select the Node Configuration](#)
- [\[DTE5\] 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 selected Node Configuration may contain literal Configuration Values, references, defaults, expressions, substitutions, environment-specific values, or Configuration Values obtained from controlled external Configuration Sources.

[Configuration Resolution](#) determines the actual Configuration Value applicable to the [Node](#) instance. It also preserves the Configuration Value's Configuration Source, authority, type, units, constraints, and derivation.

Unresolved, ambiguous, incorrectly converted, conflicting, or unauthorized Configuration Values may produce an unintended Node Configuration and affect [Test Execution](#).

Configuration Values remain distinct from [Test Inputs](#). Configuration Values establish how the Node operates, while Test Inputs provide data or stimuli consumed during Test Execution.

Applies To

- [DIDO-TE](#)
- [Node](#)
- [Node Configuration](#)
- [Configuration Parameter](#)
- [Configuration Value](#)

- [Configuration Source](#)
- [Configuration Resolution](#)
- [Test Input](#)
- [Test Execution](#)
- [Evidence](#)
- [Traceability](#)

Verification

Verification confirms that:

- Each required Configuration Parameter has a unique identity.
- Each Configuration Parameter identifies its permitted Configuration Source, data type, format, units, constraints, and cardinality.
- Each resolved Configuration Value identifies its Configuration Source and applicable authority.
- Configuration Resolution follows the defined precedence among explicit values, inherited values, referenced values, and defaults.
- Each reference resolves to an identified and accessible Configuration Source.
- Each substitution or transformation preserves the required type, format, units, and meaning.
- The DIDO-TE distinguishes resolved Configuration Values from unresolved expressions, references, and placeholders.
- The DIDO-TE distinguishes Configuration Values from Test Inputs.
- The DIDO-TE detects a missing, malformed, out-of-range, incompatible, conflicting, altered, expired, or unauthorized Configuration Value.
- The DIDO-TE detects an unresolved reference, variable, expression, or substitution.
- The DIDO-TE prevents [Configuration Application](#) when a Node Configuration contains an invalid or unresolved mandatory Configuration Value.
- The DIDO-TE records each resolved Configuration Value or a protected reference to it when the Configuration Value constitutes a [Sensitive Configuration Value](#).
- The DIDO-TE records each Configuration Source, default, substitution, conversion, precedence decision, finding, and exception used during Configuration Resolution.
- The DIDO-TE maintains Traceability among each Configuration Parameter, Configuration Source, unresolved representation, resolved Configuration Value, Node Configuration, Node instance, Configuration Resolution activity, and resulting Evidence.
- A missing, invalid, unresolved, unauthorized, ambiguous, or untraceable mandatory Configuration Value constitutes nonconformance with this requirement.

Verification includes:

- Inspection of required Configuration Parameters and permitted Configuration Sources
- Inspection of Configuration Source identities, authorities, and precedence rules
- Resolution of literal, referenced, inherited, defaulted, and derived Configuration Values
- Comparison of resolved Configuration Values with their types, formats, units, ranges, and constraints
- A negative assessment involving a missing mandatory Configuration Value
- A negative assessment involving an unresolved reference or substitution
- A negative assessment involving conflicting or unauthorized Configuration Sources
- Confirmation that an invalid mandatory Configuration Value prevents Configuration Application
- Inspection of resolution records, findings, exceptions, Evidence, and Traceability

Referenced By

- [NOD-003c — Apply the Node Configuration](#)
- [NOD-003d — Establish Node Bindings](#)
- [NOD-003e — Protect Sensitive Configuration Values](#)
- [NOD-003f — Record Node Configuration](#)
- [NOD-003g — Validate the Configured Node](#)

Related Architecture Sections

- Add links to the architecture sections governing Node Configuration, Configuration Parameters, Configuration Resolution, Configuration Sources, Test Inputs, 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-003-configure-a-node:nod-003b-resolve-node-configuration-values#Statement&noheader&nofooter&noeditbtn}}
```

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