

NOD-010a — Specify a Node Fault

[Go to NOD-010 — Inject Node Faults](#)

Statement

The governing [Test Definition](#) SHALL specify each [Fault](#) designated for introduction into a [Node](#) or a condition governing its operation.

Derived From

- [NOD-010 — Inject Node Faults](#)
- [\[DTE5\] 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

Fault specification establishes the controlled conditions governing [Fault Injection](#) before the DIDO-TE introduces the Fault.

The Test Definition identifies the Fault, target Node, injection point, initiating condition, timing, duration, intensity, scope, expected effects, prohibited effects, termination conditions, and recovery conditions. It also identifies the observations and expected Node behaviour used to evaluate the effects of the Fault.

The Fault specification distinguishes the deliberately introduced condition from the Node response and the resulting [Test Outcome](#). The occurrence of an expected response does not describe the Fault itself.

A missing, ambiguous, incomplete, or internally inconsistent Fault specification prevents controlled preparation, authorization, injection, observation, containment, termination, recovery, and evaluation.

Applies To

- [DIDO-TE](#)
- [Fault](#)
- [Fault Injection](#)
- [Node](#)
- [Node Definition](#)
- [Node Implementation](#)
- [Node Configuration](#)

- [Node Binding](#)
- [Dependency](#)
- [Test Definition](#)
- [Test Procedure](#)
- [Test Environment](#)
- [Test Resource](#)
- [Test Outcome](#)
- [Test Result](#)
- [Evidence](#)
- [Traceability](#)

Verification

Verification confirms that:

1. The governing Test Definition uniquely identifies each Fault designated for introduction.
2. The governing Test Definition uniquely identifies the target Node.
3. The governing Test Definition identifies whether the Fault affects the Node or a condition governing its operation.
4. The governing Test Definition identifies the injection point.
5. The governing Test Definition specifies the initiating condition, timing, duration, intensity, and scope of the Fault.
6. The governing Test Definition specifies each expected effect of the Fault.
7. The governing Test Definition specifies each prohibited effect of the Fault.
8. The governing Test Definition specifies the conditions that require suspension or termination of the Fault Injection.
9. The governing Test Definition specifies the conditions governing recovery.
10. The governing Test Definition identifies the expected Node states, activities, interactions, timing, outputs, and resource use used to evaluate the Node response.
11. The governing Test Definition identifies the observations required to establish that the Fault was introduced.
12. The governing Test Definition identifies the observations required to determine the actual effects of the Fault.
13. The governing Test Definition identifies the Nodes, Node Bindings, Dependencies, Test Resources, and Test Environment components permitted within the Fault scope.
14. The governing Test Definition identifies the Nodes, Node Bindings, Dependencies, Test Resources, and Test Environment components excluded from the Fault scope.
15. The Fault specification distinguishes the injected Fault from the expected Node response and Test Outcome.
16. The Fault specification contains no missing, ambiguous, conflicting, or unverifiable condition.
17. The DIDO-TE maintains Traceability among the Fault specification, target Node, Node Definition, Node Implementation, Node Configuration, governing Test Definition, governing Test Procedure, Test Environment, expected effects, prohibited effects, Test Outcomes, Test Results, and resulting Evidence.
18. A missing, ambiguous, incomplete, conflicting, incorrectly scoped, or untraceable Fault specification constitutes nonconformance with this requirement.

Referenced By

The following pages reference this requirement:

- [NOD-010b — Authorize Node Fault Injection](#)
- [NOD-010c — Prepare Node Fault Injection](#)
- [NOD-010d — Inject a Node Fault](#)
- [NOD-010e — Control a Node Fault](#)
- [NOD-010f — Recover from a Node Fault](#)
- [NOD-010g — Record Node Fault Injection](#)

Delivery Phase

☐ Assign the delivery phase.

Implementation Status

☐ Assign the implementation status.

Requirement Status

☐ The proposed derived requirement requires review and acceptance.

Issues

☐ Assign the source requirement identifier and obligation from the DIDO-TE Requirements Register.

Notes for Editors

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{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-node-requirements:nod-010-inject-node-faults:nod-010a-specify-a-node-fault#Statement&noheader&nofooter&noeditbtn}}
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