NOD-010g — Record Node Fault Injection

Go to NOD-010 — Inject Node Faults

Statement

The DIDO-TE SHALL record each Fault Injection identified for retention by the governing Test Definition.

Derived From

- NOD-010 — Inject Node Faults
- NOD-010a — Specify a Node Fault
- 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
- [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

Recording Fault Injection preserves the specification, authorization, preparation, injection, control, observations, exceptions, termination, recovery, and resulting conditions associated with the deliberate introduction of a Fault.

The record distinguishes the fault-injection action, introduced Fault, expected effects, observed effects, Node response, Test Outcome, and Test Result.

The governing Test Definition identifies the Fault Injection information retained to support reconstruction, repeatability, independent evaluation, exception disposition, Test Results, and Evidence.

A summary, finding, or Test Result does not replace the underlying Fault Injection records identified for retention. Those records demonstrate what the DIDO-TE introduced, when it introduced it, which conditions governed the injection, and how the Node and Test Environment responded.

Incomplete, altered, inconsistently timed, misattributed, or untraceable records prevent reconstruction of the Fault Injection and weaken the resulting Evidence.

Applies To

- DIDO-TE
- Fault
- Fault Injection
- Node
- Node Configuration
- Node Binding
- Test Definition
- Test Procedure
- Test Environment
- Test Execution
- Test Execution Exception
- Test Resource
- Test Outcome
- Test Result
- Authorizing Authority
- Evidence
- Traceability

Verification

Verification confirms that:

1. The governing Test Definition identifies each Fault Injection requiring retention.
2. Each Fault Injection record has a unique identity.
3. Each record identifies the Fault and target Node.
4. Each record identifies the governing Test Definition and Test Procedure.
5. Each record identifies the Authorizing Authority and authorization.
6. Each record identifies the injection point, initiating condition, timing, duration, intensity, and scope.
7. Each record identifies the expected effects and prohibited effects.
8. Each record identifies the preparation actions and their completion status.
9. Each record identifies the injection action and whether the DIDO-TE introduced the specified Fault.
10. Each record identifies the observed Fault and its actual timing, duration, intensity, and scope.
11. Each record identifies the expected and observed Node responses.
12. Each record identifies the Fault-control actions and their actual effects.
13. Each record identifies each Test Execution Exception and its disposition.
14. Each record identifies the termination condition and termination actions.
15. Each record identifies the recovery actions and resulting Node and Test Environment states.
16. Each record identifies affected Test Executions, Test Outcomes, Test Results, and Evidence.
17. The DIDO-TE distinguishes the injection action, introduced Fault, Node response, Test Outcome, and Test Result.
18. The DIDO-TE associates each action, observation, exception, and state change with a controlled time and sequence.
19. The DIDO-TE detects a missing, incomplete, duplicated, altered, out-of-sequence, ambiguously timed, misattributed, or unauthorized Fault Injection record.

20. A material correction produces a distinguishable revision and preserves the prior record.
21. The DIDO-TE protects Fault Injection records from unauthorized alteration, disclosure, or deletion.
22. The DIDO-TE preserves each record for the retention period specified by the governing Test Definition.
23. The DIDO-TE supports reconstruction of the Fault Injection from specification through recovery.
24. The DIDO-TE maintains Traceability among the Fault specification, authorization, preparation, injection, control, observations, exceptions, termination, recovery, Test Outcomes, Test Results, and resulting Evidence.
25. A missing, incomplete, inaccurate, altered, unauthorized, ambiguous, misattributed, prematurely removed, or untraceable Fault Injection record constitutes nonconformance with this requirement.

Referenced By

The following pages reference this requirement:

Plugin Backlinks: Nothing was found.

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-
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requirements:nod-010-inject-node-faults:nod-010g-record-node-fault-
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