NOD-012 — Reset a Node

Go to Node Requirements

Statement

The DIDO-TE SHALL reset each Node to the state specified by the governing Test Definition using the governing Test Procedure.

Derived From

- [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

Resetting a Node establishes a specified state by clearing, reinitializing, replacing, or returning identified elements of the Node’s current state to values specified by the governing Test Definition.

The governing Test Definition identifies the Node, reset condition, reset scope, source-state conditions, target state, information retained, information removed, configuration values, Node Bindings, resource conditions, time constraints, authorization conditions, and permitted subsequent activity.

The governing Test Procedure specifies the reset actions and their sequence. These actions may clear transient data, cancel pending work, reinitialize processing, return configuration values to a specified baseline, close or recreate Node Bindings, release resources, or place the Node in a specified lifecycle state.

A reset differs from stopping a Node. Stopping ends Node operation and places the Node in a specified non-operating state. A reset changes identified state elements and may leave the Node operating or place it in another state specified by the governing Test Definition.

A reset also differs from restarting a Node. Restarting stops and starts Node operation. A reset does not necessarily stop or start the Node.

A reset differs from recovery because recovery responds to a Fault, Failure, exception, or other disrupted condition. A reset may form part of a recovery procedure, but the governing Test Definition may also require a reset to establish repeatable initial conditions.

A reset differs from NOD-011f — Restore Preserved Node State. Restoration uses a verified preserved state representation. Reset establishes the target state specified by the governing Test Definition without requiring a preserved state representation.

An incomplete, incorrectly scoped, mistimed, unauthorized, or unverified reset may leave residual data, pending activity, unintended Node Bindings, allocated resources, or an unknown Node state. Such conditions may invalidate subsequent Test Executions or Test Results.

Applies To

- DIDO-TE
- Node
- Node Definition
- Node Implementation
- Node Configuration
- Node Binding
- Dependency
- Test Definition
- Test Procedure
- Test Environment
- Test Execution
- Test Execution Exception
- Test Resource
- Test Result
- Authorizing Authority
- Evidence
- Traceability

Verification

Verification confirms that:

1. The governing Test Definition uniquely identifies each Node subject to reset.
2. The governing Test Definition identifies the condition that initiates the reset.
3. The governing Test Definition identifies the permitted source states.
4. The governing Test Definition specifies the reset scope.
5. The governing Test Definition specifies the target state.
6. The governing Test Definition identifies the state information retained during reset.
7. The governing Test Definition identifies the state information removed or reinitialized during reset.
8. The governing Test Definition identifies the required Node Configuration, Node Bindings, Dependencies, and resource conditions after reset.
9. The governing Test Definition identifies the authorization conditions and permitted subsequent activity.
10. The governing Test Procedure specifies the reset actions and their sequence.
11. The DIDO-TE verifies the identity of the target Node before reset.
12. The DIDO-TE verifies the source state of the Node before reset.
13. The DIDO-TE verifies the required authorization before reset.
14. The DIDO-TE prevents reset of an unauthorized Node.
15. The DIDO-TE prevents reset from beginning when the Node occupies a prohibited source state.
16. The DIDO-TE performs each reset action in the sequence specified by the governing Test

Procedure.
17. The DIDO-TE retains the state information identified for retention.
18. The DIDO-TE removes, clears, cancels, replaces, or reinitializes the state information identified by the governing Test Definition.
19. The DIDO-TE closes, retains, or recreates each Node Binding specified by the governing Test Definition.
20. The DIDO-TE releases, retains, or reallocates each governed resource as specified by the governing Test Definition.
21. The DIDO-TE prevents the reset from unnecessarily affecting unrelated Nodes, Test Resources, Test Environments, or Test Executions.
22. The DIDO-TE observes the actual Node state after reset.
23. The DIDO-TE compares the actual resulting state with the specified target state.
24. The DIDO-TE detects residual data, pending activity, unintended Node Bindings, incorrect resource conditions, or an unexpected resulting state.
25. The DIDO-TE detects a missing, incomplete, interrupted, out-of-sequence, mistimed, incorrectly scoped, unsuccessful, or unauthorized reset action.
26. The DIDO-TE prevents the reset Node from performing activity prohibited by its resulting state.
27. The DIDO-TE prevents successful reset status from being treated as readiness or validation status.
28. The DIDO-TE determines the effect of an unsuccessful reset on affected Test Executions, Test Results, and Evidence.
29. An unsuccessful reset leaves the Node and affected Test Environment components in known states or identifies their actual states and required corrective action.
30. The DIDO-TE records the Node identity, initiating condition, authorization, source state, target state, governing Test Definition, governing Test Procedure, reset actions, timing, findings, exceptions, actual resulting state, and reset status.
31. The DIDO-TE maintains Traceability among the Node, Node Definition, Node Implementation, Node Configuration, Node Bindings, governing Test Definition, governing Test Procedure, reset actions, source state, target state, actual resulting state, Test Executions, Test Results, and resulting Evidence.
32. A missing, incomplete, interrupted, out-of-sequence, mistimed, incorrectly scoped, unsuccessful, unauthorized, or untraceable Node reset 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.

☐ Determine whether Reset requires a controlled Terms and Definitions entry.

Notes for Editors

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requirements:nod-012-reset-a-node#Statement&noheader&nofooter&noeditbtn}}
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