

NOD-008d — Observe Node Resource Use

[Go to NOD-008 — Observe a Node](#)

Statement

The [DIDO-TE](#) SHALL observe the use of each resource identified for a [Node](#) by the governing [Test Definition](#).

Derived From

- [NOD-008 — Observe a Node](#)
- [NOD-008a — Establish Node Observation](#)
- [\[DTE5\] 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

Observation of Node resource use establishes which resources a Node uses, when it uses them, and whether that use remains within the limits established by the governing Test Definition.

Resources include [Test Resources](#) and the computing, processing, memory, storage, communication, service, interface, credential, and external resources identified for observation by the governing Test Definition.

The governing Test Definition identifies the resources subject to observation and the authorized quantities, capacities, rates, durations, limits, priorities, and conditions governing their use.

Resource-use observation supports the detection of exhaustion, contention, leakage, unauthorized access, unexpected consumption, unavailable resources, and interference between Nodes or Test Executions.

NOD-008d observes resource use across the lifecycle periods identified by the governing Test Definition. This includes resource allocation, use, retention, release, and attempted use occurring before, during, between, or after Test Executions.

Missing, delayed, incomplete, or incorrectly attributed resource-use observations may conceal conditions that change Node behavior, affect other participants, or invalidate Test Results and Evidence.

Applies To

- [DIDO-TE](#)
- [Node](#)
- [Node Definition](#)
- [Node Implementation](#)
- [Node Configuration](#)
- [Node Binding](#)
- [Dependency](#)
- [Test Definition](#)
- [Test Environment](#)
- [Test Execution](#)
- [Test Resource](#)
- [Test Result](#)
- [Evidence](#)
- [Traceability](#)

Verification

Verification confirms that:

1. The governing Test Definition identifies each resource whose use by the Node requires observation.
2. The governing Test Definition identifies the authorized quantities, capacities, rates, durations, limits, priorities, and conditions governing each observed resource.
3. The DIDO-TE observes the Node's allocation, use, retention, release, and attempted use of each identified resource.
4. The DIDO-TE uniquely identifies the Node associated with each resource-use observation.
5. The DIDO-TE uniquely identifies the resource associated with each resource-use observation.
6. The DIDO-TE identifies the source of each resource-use observation.
7. The DIDO-TE associates each resource-use observation with a controlled time, sequence, and operating context.
8. The DIDO-TE associates resource use with the Node activity or lifecycle state that caused the use.
9. The DIDO-TE distinguishes authorized, expected, reported, and observed resource use.
10. The DIDO-TE detects use of a resource that the governing Test Definition does not authorize for the Node.
11. The DIDO-TE detects resource use that exceeds an identified quantity, capacity, rate, duration, or limit.
12. The DIDO-TE detects resource exhaustion, contention, leakage, unexpected retention, or unsuccessful release.
13. The DIDO-TE detects the use of an unavailable, degraded, incorrectly configured, or unauthorized resource.
14. The DIDO-TE detects a difference between reported resource use and observed resource use.
15. The DIDO-TE detects an interruption or gap in required resource-use observation.
16. The DIDO-TE prevents resource use from being attributed to the wrong Node.
17. The DIDO-TE determines the effect of unexpected or unauthorized resource use on affected Nodes, Test Environments, Test Executions, Test Results, and Evidence.

18. The DIDO-TE maintains Traceability among the Node identity, resource identity, Node Definition, Node Implementation, Node Configuration, governing Test Definition, observed resource use, Test Environment, Test Executions, Test Results, and resulting Evidence.
19. Missing, delayed, incomplete, inaccurate, unauthorized, incorrectly attributed, or untraceable observation of Node resource use constitutes nonconformance with this requirement.

Referenced By

The following pages reference this requirement:

- [NOD-008e — Detect a Node Deviation](#)
- [NOD-008f — Record Node Observations](#)
- [NOD-009c — Control Node Resource Use](#)
- [NOD-009 — Control Node Resources](#)

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.
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Notes for Editors

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{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-node-requirements:nod-008-observe-a-node:nod-008d-observe-node-resource-use#Statement&noheader&nofooter&noeditbtn}}
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