

NOD-008c — Observe Node Activity

[Go to NOD-008 — Observe a Node](#)

Statement

The [DIDO-TE](#) SHALL observe each activity of a [Node](#) identified 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 activity establishes what a Node does while participating in a Test Environment.

Node activity includes lifecycle operations, processes, interactions, receipt and production of information, use of [Node Bindings](#), service requests, service responses, control actions, state changes, and other behavior identified by the governing Test Definition.

The governing Test Definition identifies the Node activities subject to observation and the expected sequence, timing, sources, destinations, inputs, outputs, interactions, and operating constraints used to evaluate those activities.

The DIDO-TE preserves the distinction between expected, authorized, commanded, reported, and observed activity. A Node report does not establish that an activity occurred when other observations contradict the report.

NOD-008c governs lifecycle-wide observation of Node activity. [NOD-005d — Observe Node Execution](#) governs observation of Node activity within the bounded context of a particular Test Execution.

Missing, delayed, incomplete, or incorrectly attributed activity observations may prevent the DIDO-TE from reconstructing Node behavior, detecting unauthorized interaction, or determining the validity of affected Test Results.

Applies To

- [DIDO-TE](#)

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

Verification

Verification confirms that:

1. The governing Test Definition identifies each Node activity subject to observation.
2. The governing Test Definition identifies the expected sequence, timing, sources, destinations, inputs, outputs, interactions, and operating constraints governing each observed activity.
3. The DIDO-TE observes each Node activity identified by the governing Test Definition.
4. The DIDO-TE observes the lifecycle operations, processes, interactions, inputs, outputs, Node Bindings, control actions, and state changes identified by the governing Test Definition.
5. The DIDO-TE identifies the source of each activity observation.
6. The DIDO-TE associates each observed activity with the identity of the Node.
7. The DIDO-TE associates each observed activity with a controlled time, sequence, and operating context.
8. The DIDO-TE associates each observed interaction with its source, destination, direction, and Node Binding.
9. The DIDO-TE associates each observed input and output with the Node activity that consumes or produces it.
10. The DIDO-TE distinguishes expected, authorized, commanded, reported, and observed Node activity.
11. The DIDO-TE distinguishes activity occurring within a Test Execution from activity occurring outside that Test Execution.
12. The DIDO-TE detects Node activity occurring while the Node occupies a state that prohibits the activity.
13. The DIDO-TE detects activity using an invalid, unavailable, unauthorized, or incorrectly configured Node Binding.
14. The DIDO-TE detects an unauthorized source, destination, service, interface, process, data flow, or control path involved in Node activity.
15. The DIDO-TE detects missing, unexpected, duplicate, conflicting, stale, mistimed, out-of-sequence, or misdirected activity.
16. The DIDO-TE detects a difference between reported Node activity and observed Node activity.
17. The DIDO-TE detects an identified Node activity that does not occur.
18. The DIDO-TE detects an interruption or gap in the observation of required Node activity.

19. The DIDO-TE prevents observed activity from being attributed to the wrong Node.
20. The DIDO-TE determines the effect of unexpected, unauthorized, missing, or incorrectly sequenced Node activity on affected Test Executions, Test Results, and Evidence.
21. The DIDO-TE preserves the information required to reconstruct the sequence of material Node activity.
22. The DIDO-TE maintains Traceability among the Node identity, Node Definition, Node Implementation, Node Configuration, Node Bindings, governing Test Definition, expected activity, observed activity, Test Environment, Test Executions, Test Inputs, Test Resources, Test Results, and resulting Evidence.
23. Missing, delayed, incomplete, inaccurate, unauthorized, incorrectly attributed, or untraceable observation of Node activity constitutes nonconformance with this requirement.

Referenced By

The following pages reference this requirement:

{{backlinks>.#dido:03-dido

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