

NOD-008e — Detect a Node Deviation

[Go to NOD-008 — Observe a Node](#)

Statement

The [DIDO-TE](#) SHALL detect each difference between an observed [Node](#) condition and the corresponding expected Node condition specified by the governing [Test Definition](#).

Derived From

- [NOD-008 — Observe a Node](#)
- [NOD-008a — Establish Node Observation](#)
- [NOD-008b — Observe Node State](#)
- [NOD-008c — Observe Node Activity](#)
- [NOD-008d — Observe Node Resource Use](#)
- [\[DTE5\] 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

Node observation produces information about Node state, activity, interactions, timing, and resource use. Deviation detection compares these observations with the corresponding expected conditions specified by the governing Test Definition.

An expected Node condition includes an expected state, activity, interaction, sequence, time, duration, value, range, output, resource use, operating constraint, or absence of prohibited behavior.

A detected difference does not, by itself, determine that the Node has failed or that a violation has occurred. The difference identifies a condition that requires classification, assessment, and disposition under the governing Test Definition and Test Procedure.

The DIDO-TE distinguishes the observed condition from the expected condition and preserves the basis for the comparison. This prevents an unexplained difference from being concealed by a summary, status, or conclusion.

Detection must occur within the time specified by the governing Test Definition. Delayed detection may permit an unexpected condition to affect other Nodes, Test Resources, Test Executions, Test Results, or Evidence.

Applies To

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

Verification

Verification confirms that:

1. The governing Test Definition specifies each expected Node condition used for comparison.
2. Each expected Node condition identifies the state, activity, interaction, sequence, time, duration, value, range, output, resource use, operating constraint, or prohibited behavior being evaluated.
3. The DIDO-TE compares each required Node observation with the corresponding expected Node condition.
4. The DIDO-TE detects a difference between an observed Node state and its corresponding expected state.
5. The DIDO-TE detects a difference between observed Node activity and its corresponding expected activity.
6. The DIDO-TE detects a difference between an observed interaction and its corresponding expected interaction.
7. The DIDO-TE detects a difference between an observed sequence or timing condition and its corresponding expected condition.
8. The DIDO-TE detects a difference between observed resource use and its corresponding expected resource use.
9. The DIDO-TE detects expected activity that does not occur.
10. The DIDO-TE detects prohibited activity that does occur.
11. The DIDO-TE detects a value outside a specified range or tolerance.
12. The DIDO-TE detects each difference within the time specified by the governing Test Definition.
13. The DIDO-TE uniquely identifies the Node associated with each detected difference.
14. The DIDO-TE identifies the expected condition, observed condition, observation source, comparison method, time, and operating context associated with each detected difference

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