

NOD-004h — Record Node Lifecycle Activity

[Go to NOD-004 — Control the Node Lifecycle](#)

Statement

The [DIDO-TE](#) SHALL record the lifecycle activity of each [Node](#).

Derived From

- [NOD-004 — Control the Node Lifecycle](#)
- [NOD-004a — Establish the Initial Node State](#)
- [NOD-004b — Start the Node](#)
- [NOD-004c — Confirm Node Readiness](#)
- [NOD-004d — Transition the Node State](#)
- [NOD-004e — Stop the Node](#)
- [NOD-004f — Restart or Recover the Node](#)
- [NOD-004g — Handle a Node Lifecycle Exception](#)
- [\[DTE5\] 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

A Node lifecycle record preserves the sequence of states, transitions, operations, observations, decisions, exceptions, and outcomes associated with a Node.

The record identifies what occurred, when it occurred, which Node it affected, the authority or mechanism that initiated it, the state before and after the activity, and the procedure governing the activity.

Lifecycle records distinguish intended state changes from actual state changes. They support reconstruction of [Test Execution](#), synchronization analysis, fault diagnosis, exception disposition, recovery, evaluation of [Test Results](#), and production of [Evidence](#).

Incomplete, inaccurate, mutable, inconsistently timed, or untraceable lifecycle records prevent the DIDO-TE from demonstrating which Node state governed an operation or Test Execution.

Applies To

- [DIDO-TE](#)
- [Node](#)

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

Verification

Verification confirms that:

- Each Node lifecycle record has a unique identity.
- Each Node lifecycle record identifies the applicable Node.
- Each Node lifecycle record identifies the applicable Node Definition, Node Implementation, and Node Configuration.
- Each Node lifecycle record identifies the lifecycle activity or observed state.
- Each recorded lifecycle operation identifies its initiating authority or mechanism.
- Each recorded lifecycle operation identifies the applicable authorized procedure.
- Each recorded lifecycle transition identifies the source state, requested destination state, and actual resulting state.
- Each Node lifecycle record identifies the start time, completion time, and applicable sequence.
- Each Node lifecycle record uses a controlled and consistent time reference.
- Each Node lifecycle record identifies the operation parameters, preconditions, observations, findings, exceptions, and outcome.
- Each Node lifecycle record identifies affected Node Bindings, Dependencies, Test Resources, and related Nodes when applicable.
- Each Node lifecycle exception identifies its detection, classification, disposition, responsible authority, corrective actions, and closure status.
- Each restart or recovery record identifies the initiating condition, restored configuration, restored bindings, validation result, and readiness result.
- Each stop record identifies the stop type, preserved data, released resources, and resulting Node state.
- Each readiness record identifies the applicable readiness criteria, observations, and result.
- The DIDO-TE associates each lifecycle activity with the applicable Test Environment and Test Execution.
- The DIDO-TE identifies the effect of a lifecycle activity or exception on applicable Test Results.
- The DIDO-TE records both requested and externally observed lifecycle activity.
- The DIDO-TE detects a missing, incomplete, inconsistent, duplicate, altered, out-of-sequence, ambiguously timed, or unauthorized lifecycle record.
- A material correction to a lifecycle record produces a distinguishable revision and preserves the prior record.
- The DIDO-TE protects lifecycle records from unauthorized alteration or deletion.
- The DIDO-TE preserves lifecycle records for the retention period governing the applicable Test Execution and Evidence.
- The DIDO-TE supports reconstruction of the sequence of Node states and lifecycle operations

for an applicable Test Execution.

- The DIDO-TE maintains Traceability among the Node Definition, Node Implementation, Node Configuration, Node Bindings, lifecycle procedures, lifecycle operations, Node states, exceptions, Test Environment, Test Execution, Test Results, and resulting Evidence.
- A missing, incomplete, inaccurate, altered, unauthorized, ambiguous, or untraceable Node lifecycle record constitutes nonconformance with this requirement.

Verification includes:

- Inspection of Node lifecycle record identities
- Inspection of Node, Node Definition, Node Implementation, and Node Configuration references
- Inspection of recorded lifecycle states, transitions, authorities, procedures, parameters, and timing
- Inspection of startup, readiness, transition, stopping, restart, recovery, and exception records
- Confirmation that records distinguish requested states from actual states
- Confirmation that lifecycle records use a controlled and consistent time reference
- Reconstruction of the lifecycle sequence for a selected Node and Test Execution
- A negative assessment involving a missing lifecycle record
- A negative assessment involving an altered or unauthorized lifecycle record
- A negative assessment involving an out-of-sequence or ambiguously timed record
- Confirmation that a material correction preserves the prior record
- Inspection of retention controls, Test Result associations, Evidence, and Traceability

Referenced By

Plugin Backlinks: Nothing was found.

Related Architecture Sections

- Add links to the architecture sections governing Node lifecycle records, lifecycle states, time synchronization, Test Execution records, Test Results, Evidence, retention, and Traceability.

Delivery Phase

☐ Assign the applicable delivery phase.

Requirement Status

Draft

Statement Reference

Use the following syntax to reference this requirement's Statement section from another DokuWiki page:

{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-node-requirements:nod-004-control-the-node-lifecycle:nod-004h-record-node-lifecycle-activity#Statement&noheader&nofooter&noeditbtn}}

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