

NOD-009 — Control Node Resources

[Go to Node Requirements](#)

Statement

The [DIDO-TE](#) SHALL control the resources used by each [Node](#) as specified by the governing [Test Definition](#).

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

Node resource control governs the allocation, availability, quantity, capacity, rate, duration, priority, access, retention, and release of resources used by a Node.

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

The governing Test Definition identifies the resources assigned to each Node and specifies the conditions and limits governing their use. The governing [Test Procedure](#) specifies the actions used to allocate, modify, restrict, suspend, restore, and release those resources.

Resource control prevents unauthorized use, exhaustion, contention, leakage, interference, uncontrolled retention, and resource use that changes the intended conditions of a Test Execution.

Resource control differs from resource-use observation. [NOD-008d — Observe Node Resource Use](#) governs the acquisition of information about resource use. NOD-009 governs actions that establish or change which resources the Node uses and the conditions governing that use.

A resource-control action may affect the Node state, Node activity, Node Bindings, other Nodes, or one or more Test Executions. The DIDO-TE therefore verifies the intended and actual effects of each resource-control action and preserves the information required for Test Results, Evidence, and Traceability.

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](#)

Derived Requirements

NOD-009 is decomposed into the following leaf requirements:

Verification

Verification confirms that the child requirements collectively:

1. Establish the controls governing the resources used by each Node.
2. Associate each controlled resource with the Node authorized to use it.
3. Allocate resources under the conditions specified by the governing Test Definition.
4. Enforce the quantities, capacities, rates, durations, priorities, access restrictions, and other limits specified by the governing Test Definition.
5. Prevent a Node from using an unauthorized resource.
6. Prevent a Node from exceeding an established resource limit.
7. Prevent resource control for one Node from unnecessarily affecting another Node or Test Execution.
8. Detect an unsuccessful, incomplete, delayed, bypassed, or unauthorized resource-control action.
9. Handle each Test Execution Exception arising from Node resource control through the governing Test Procedure.
10. Release resources when the governing Test Definition requires their release.
11. Detect a resource that remains allocated or accessible after its required release.
12. Verify the actual effect of each material resource-control action.
13. Determine the effect of a resource-control action or exception on affected Nodes, Test Environments, Test Executions, Test Results, and Evidence.
14. Record the resource allocations, restrictions, control actions, exceptions, releases, and resulting conditions specified for retention.
15. Maintain Traceability among the Node, controlled resources, governing Test Definition, governing Test Procedure, resource-control actions, Test Executions, Test Results, and resulting

Evidence.

16. Identify nonconformance with a child requirement as nonconformance with NOD-009.

Referenced By

The following pages reference this requirement:

- [NOD-009a — Establish Node Resource Controls](#)
- [NOD-009b — Allocate Node Resources](#)
- [NOD-009c — Control Node Resource Use](#)
- [NOD-009d — Handle a Node Resource-Control Exception](#)
- [NOD-009e — Release Node Resources](#)
- [NOD-009f — Record Node Resource Control](#)

Delivery Phase

☐ Assign the delivery phase.

Implementation Status

☐ Implementation status derives from the implementation status of the child requirements.

Requirement Status

☐ The proposed derived requirement and its decomposition require review and acceptance.

Issues

☐ Assign the source requirement identifier and obligation from the DIDO-TE Requirements Register.

Notes for Editors

The explicit child-requirement links remain on this page until all child pages have been created and finalized. The indexmenu then provides the maintained list of child pages.

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