NOD-009b — Allocate Node Resources

Go to NOD-009 — Control Node Resources

Statement

The DIDO-TE SHALL allocate to each Node the resources assigned to that Node by the governing Test Definition.

Derived From

- NOD-009 — Control Node Resources
- NOD-009a — Establish Node Resource Controls
- [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

Resource allocation assigns an identified resource or resource capacity to an identified Node under the conditions specified by the governing Test Definition.

Allocation provides the Node with the computing, processing, memory, storage, communication, service, interface, credential, Test Resource, or external resource required for its authorized participation in the Test Environment.

The governing Test Definition identifies the resource, Node, quantity, capacity, priority, start condition, duration, sharing condition, and release condition governing each allocation. The governing Test Procedure specifies the actions used to perform and verify the allocation.

Allocation differs from resource use. Allocation makes a resource available to the Node under controlled conditions. The Node uses the resource when it accesses, consumes, invokes, modifies, occupies, or retains the allocated resource.

An incorrect, incomplete, delayed, duplicate, or unauthorized allocation may prevent Node operation, change test conditions, create contention, expose protected resources, or affect unrelated Nodes and Test Executions.

Applies To

- DIDO-TE
- Node

- Node Definition
- Node Implementation
- Node Configuration
- Node Binding
- Dependency
- Test Definition
- Test Procedure
- Test Environment
- Test Execution
- Test Resource
- Authorizing Authority
- Evidence
- Traceability

Verification

Verification confirms that:

1. The governing Test Definition uniquely identifies each resource assigned to the Node.
2. The governing Test Definition identifies the quantity, capacity, priority, start condition, duration, sharing condition, and release condition governing each allocation.
3. The governing Test Procedure specifies the actions used to allocate each resource.
4. The DIDO-TE uniquely identifies the Node receiving each resource allocation.
5. The DIDO-TE verifies the identity and availability of each resource before allocation.
6. The DIDO-TE verifies that the required resource controls exist before allocation.
7. The DIDO-TE verifies that the Node satisfies the conditions governing allocation.
8. The DIDO-TE allocates each resource to the Node identified by the governing Test Definition.
9. The DIDO-TE allocates each resource in the quantity and capacity specified by the governing Test Definition.
10. The DIDO-TE applies the priority, duration, access, and sharing conditions specified for the allocation.
11. The DIDO-TE prevents allocation of a resource to an unauthorized Node.
12. The DIDO-TE prevents allocation of an unidentified, unavailable, degraded, incorrectly configured, or uncontrolled resource.
13. The DIDO-TE prevents duplicate allocation when the governing Test Definition prohibits sharing.
14. The DIDO-TE prevents an allocation from exceeding the available resource quantity or capacity.
15. The DIDO-TE prevents an allocation from unnecessarily affecting unrelated Nodes or Test Executions.
16. The DIDO-TE verifies that the allocation reaches the intended Node.
17. The DIDO-TE verifies the actual state of the resource after allocation.
18. The DIDO-TE detects a missing, delayed, incomplete, duplicate, conflicting, misdirected, incorrectly scoped, or unauthorized allocation.
19. An unsuccessful allocation leaves the resource and Node in known states or identifies their actual states and required corrective action.
20. The DIDO-TE maintains Traceability among the Node identity, resource identity, governing Test Definition, governing Test Procedure, resource controls, allocation, Test Environment, Test Executions, and resulting Evidence.
21. A missing, delayed, incomplete, duplicate, conflicting, misdirected, incorrectly scoped, unauthorized, or untraceable resource allocation constitutes nonconformance with this

requirement.

Referenced By

The following pages reference this requirement:

- 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

☐ 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.

Notes for Editors

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