

NET-003 — Connect Nodes Through a Virtual Network

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Statement

The [DIDO-TE](#) SHALL connect each [Node](#) specified by the governing [Test Definition](#) through the [Virtual Network](#) assigned to that Node.

Source

- [\[DTE1\] U.S. Patent Application US20220237111A1](#), Virtual Networks that communicatively couple distributed virtual Nodes and management systems
- [\[DTE2\] Non-Traditional BAA Submission](#), Virtual Networks and Communication
- [\[DTE5\] DIDO-TE Requirements Register](#), distributed Nodes and inter-node communication requirements

Rationale

A [Virtual Network](#) provides the communication environment used by participating [Nodes](#) during distributed testing.

NET-001 establishes the Virtual Network, and NET-002 defines its [Network Topology](#). This requirement establishes participation by connecting the Nodes specified for the test through the Virtual Network assigned to those Nodes.

Connecting a Node through a Virtual Network does not imply that the Node may communicate with every other Node participating in that Virtual Network. The permitted communication relationships remain defined by the Network Topology and other governing communication controls.

Connection also does not prescribe the technology used to realize communication. The connection may be realized through physical networking, virtual networking, middleware, overlays, software-defined networking, or other implementation mechanisms.

Applies To

- [DIDO-TE](#)
- [Virtual Network](#)
- [Network Topology](#)
- [Node](#)
- [Test Environment](#)

- [Test Definition](#)
- [Configuration](#)

Verification

Verification confirms that:

1. Each Node specified by the governing Test Definition is connected through the Virtual Network assigned to that Node.
2. A Node connected through a Virtual Network is identifiable within that Virtual Network.
3. Connection of a Node does not create communication relationships that are absent from the defined Network Topology.
4. Nodes assigned to different Virtual Networks remain distinguishable by their Virtual Network assignments.
5. Connection of a Node is independent of the particular networking technology used to realize the Virtual Network.
6. The connection of each Node is traceable to the governing Test Definition.

Verification includes a Test Definition specifying multiple Nodes and confirms that each Node is connected through its assigned Virtual Network without introducing communication relationships not defined by the Network Topology.

Traceability

Plugin Backlinks: Nothing was found.

ConOps Relationship

This requirement connects the Nodes participating in a distributed test through the Virtual Network established under NET-001 and structured by the Network Topology defined under NET-002.

NET-004 governs the Communication Characteristics applied to communication through the Virtual Network.

Delivery Phase

TBD

Requirement Status

Draft

Statement Reference

{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-functional-requirements:03-04-virtual-network-and-communication-requirements:net-003-connect-nodes-through-a-virtual-network#Statement&noheader&nofooter&noeditbtn}}

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