

TWIN-010c — Authorize State-Changing Twin Interactions

[Go to TWIN-010 — Control Twin Interaction](#)

Statement

The [DIDO-TE](#) SHALL authorize each permitted interaction that changes the state of a [Twin Realization](#), [Node](#), or [Resource](#) before executing that interaction.

Source

- [\[DTE1\] U.S. Patent Application US20220237111A1](#), virtual and physical Twin Node concepts, modification of Twin Nodes, comparison of results, and validation
- [\[DTE2\] Non-Traditional BAA Submission](#), Digital Twin concepts, scenario testing, integration, monitoring, and Twin Nodes Selection
- [\[DTE9\] Distributed Immutable Data Object Reference Architecture \(DIDO-RA\)](#), Digital Twin, distributed data, governance, and DDS concepts

Rationale

A [Twin Relationship](#) may permit interactions that alter the state of a participating [Twin Realization](#), [Node](#), or other [Resource](#).

Permission to perform an interaction does not, by itself, establish authority to execute a state-changing interaction under every condition.

Authorization provides the controlled decision that permits a state-changing interaction to execute under the governing conditions.

Requiring authorization before execution prevents observation capability, communication access, DDS discovery, Topic matching, API availability, or possession of a technically usable interface from being interpreted as authority to modify another entity.

Authorization remains distinct from interaction permission and direction. TWIN-010a identifies permitted interactions, TWIN-010b specifies their permitted direction, and this requirement governs authorization of state-changing interactions before execution.

Applies To

- [DIDO-TE](#)
- [Twin Relationship](#)

- [Twin Realization](#)
- [Node](#)
- [Resource](#)
- [Configuration](#)
- [DDS](#)
- [Test Definition](#)
- [Test Execution](#)

Verification

Verification confirms that:

1. Each permitted state-changing interaction is subject to authorization before execution.
2. An authorized state-changing interaction can execute when the governing authorization conditions are satisfied.
3. A state-changing interaction cannot execute when authorization is absent or denied.
4. Authorization applies to the specific interaction and target entity for which it was granted.
5. Interaction permission or direction does not replace authorization for a state-changing interaction.
6. Technical connectivity, DDS discovery, Topic matching, API availability, or interface access does not establish authorization.
7. The authorization decision is traceable to the state-changing interaction that it governs.

Verification includes one authorized state-changing interaction and one unauthorized state-changing interaction and confirms that only the authorized interaction executes.

Traceability

Plugin Backlinks: Nothing was found.

ConOps Relationship

This requirement governs authorization of permitted state-changing interactions after interaction permission and direction have been established and before execution occurs.

Authorization decisions support controlled modification of Twin Realizations, Nodes, and Resources during Test Execution and related operations.

Delivery Phase

TBD

Requirement Status

Draft

Statement Reference

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{{section>dido:03-dido-te:99-annexes:annex-c-requirements:03-functional-requirements:03-03-twin-node-requirements:twin-010-control-twin-interaction:twin-010c-authorize-state-changing-twin-interactions#Statement&noheader&nofooter&noeditbtn}}
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