

TWIN-010d — Prevent Unauthorized State-Changing Interactions

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

Statement

The [DIDO-TE](#) SHALL prevent execution of a state-changing interaction that lacks authorization.

Source

- [\[DTE1\] U.S. Patent Application US20220237111A1](#), modification of virtual and physical 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 and governance concepts

Rationale

TWIN-010c establishes that a permitted state-changing interaction requires authorization.

This requirement enforces that authorization decision by preventing execution when the required authorization is absent or denied.

Separating the authorization requirement from enforcement keeps the obligations independently verifiable. A system may correctly identify that authorization is required yet still fail to prevent an unauthorized interaction from executing.

Prevention of unauthorized execution protects the state of participating [Twin Realizations](#), [Nodes](#), and [Resources](#) from unauthorized modification.

Applies To

- [DIDO-TE](#)
- [Twin Relationship](#)
- [Twin Realization](#)
- [Node](#)
- [Resource](#)
- [Configuration](#)
- [Test Execution](#)

Verification

Verification confirms that:

1. A state-changing interaction without authorization does not execute.
2. A state-changing interaction for which authorization is denied does not execute.
3. An authorization granted for one interaction does not authorize a different interaction.
4. An authorization granted for one target entity does not authorize modification of another target entity.
5. Prevented execution does not change the state of the target Twin Realization, Node, or Resource.
6. Prevention of unauthorized execution is traceable to the interaction and authorization decision.

Verification includes an attempted state-changing interaction without authorization and confirms that the interaction does not execute and the target state remains unchanged.

Traceability

Plugin Backlinks: Nothing was found.

ConOps Relationship

This requirement enforces the authorization prerequisite established by TWIN-010c before a state-changing interaction executes.

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-010d-prevent-unauthorized-state-changing-interactions#Statement&noheader&nofooter&noeditbtn}}
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