

TWIN-006b — Limit Synchronization to Represented Characteristics

[Go to TWIN-006 — Synchronize Twin Realization State](#)

Statement

The [DIDO-TE](#) SHALL synchronize only the characteristics represented by the governing [Twin Relationship](#).

Source

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

Rationale

A [Twin Relationship](#) identifies the characteristics represented across participating [Twin Realizations](#).

A Twin Realization may expose or maintain additional characteristics that are outside the scope of the Twin Relationship. Synchronizing those characteristics would extend the semantic scope of the relationship beyond its configured definition.

Limiting synchronization to represented characteristics preserves the boundary established by the Twin Relationship and prevents observable or technically accessible information from becoming subject to synchronization without architectural intent.

The associated [Twin Data Mappings](#) establish the correspondence among the data representations used for the represented characteristics.

Applies To

- [DIDO-TE](#)
- [Twin Relationship](#)
- [Twin Realization](#)
- [Twin Data Mapping](#)
- [Configuration](#)
- [Synchronization Parameter](#)

Verification

Verification confirms that:

1. Synchronization is limited to characteristics represented by the governing Twin Relationship.
2. Each synchronized characteristic is identifiable as a represented characteristic of the Twin Relationship.
3. Characteristics outside the scope of the Twin Relationship are not modified by synchronization.
4. Technical availability or observability of an unrepresented characteristic does not cause that characteristic to participate in synchronization.
5. The data used to synchronize each represented characteristic conforms to the governing Twin Data Mapping.

Verification includes a Twin Realization containing both represented and unrepresented characteristics and confirms that synchronization affects only the represented characteristics.

Traceability

Plugin Backlinks: Nothing was found.

ConOps Relationship

This requirement constrains synchronization to the semantic scope established by the Twin Relationship.

It prevents synchronization activity from extending into characteristics that are outside the represented scope while allowing participating Twin Realizations to retain implementation-specific or otherwise unrelated state.

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-006-synchronize-twin-state:twin-006b-limit-synchronization-to-represented-
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