

Twin Relationship

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Discussion

A Twin Relationship establishes the semantic relationship between a [Twin Identity](#) and the [Twin Realizations](#) associated with that identity.

The Twin Relationship identifies the characteristics, information, and conditions relevant to representing the logical twin across its Twin Realizations.

The applicable [Configuration](#) specifies the characteristics represented by the relationship and the parameters governing data mapping, source eligibility, source selection, communication, synchronization, and fidelity.

A Twin Relationship remains distinct from the communication mechanisms used to exchange information among Twin Realizations. Technologies such as [DDS](#) may realize information exchange within the relationship without defining its semantic meaning.

Definition

a semantic relationship between a [Twin Identity](#) and its associated [Twin Realizations](#) that identifies the characteristics and conditions represented across those realizations

Source

- [\[DTE1\] U.S. Patent Application US20220237111A1](#), virtual and physical Twin Node concepts and identifiers shared among Twin Nodes
- [\[DTE2\] Non-Traditional BAA Submission](#), Digital Twin concepts and F17, *Twin Nodes Selection*
- [\[DTE9\] Distributed Immutable Data Object Reference Architecture \(DIDO-RA\)](#), Appendix A, *Digital Twin*
- DIDO-TE normalization of the source concepts

Note

A Twin Relationship does not require every available characteristic of a Twin Realization to participate in the relationship.

The applicable Configuration identifies the characteristics that participate in a particular Twin Relationship.

A communication match, DDS discovery event, Topic match, or Quality of Service match does not, by

itself, establish a Twin Relationship.

Example

A Twin Identity has a virtual Twin Realization and a real-world Twin Realization. Their Twin Relationship identifies operational state, selected inputs and outputs, and timing behavior as represented characteristics while excluding unrelated implementation details.

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