

STC-005 — Control Test Timeline Rate

[Go to C.3.5 State and Time Control Requirements](#)

Statement

The [DIDO-TE](#) SHALL control the progression rate of the **test timeline** using the rate specified by the governing [Test Definition](#).

Source

- [\[DTE1\] U.S. Patent Application US20220237111A1](#), virtual system time progressing at rates equal to, faster than, or slower than real time
- [\[DTE3\] Broad Agency Announcement White Paper](#), State and Time Control
- [\[DTE5\] DIDO-TE Requirements Register](#), State and Time Control source requirements

Rationale

A **test timeline** may progress independently of **wall-clock time**.

The **timeline rate** determines how quickly test time progresses relative to elapsed wall-clock time.

The governing [Test Definition](#) specifies the required timeline rate. The [DIDO-TE](#) controls progression of the test timeline using that specified rate.

A test may require the timeline to progress at the same rate as real time, faster than real time, or slower than real time.

Controlling timeline rate allows time-dependent behavior to be exercised without requiring the duration of [Test Execution](#) to match the corresponding real-world duration.

Timeline-rate control remains distinct from establishing the timeline, setting its starting point, or resetting it. STC-003, STC-004, and STC-006 govern those separate obligations.

This requirement does not prescribe a clock implementation, simulation engine, scheduler, time service, or operating-system mechanism.

Applies To

- [DIDO-TE](#)
- [Test Environment](#)
- [Test Definition](#)
- [Test Execution](#)

- [Configuration](#)

Verification

Verification confirms that:

1. The governing Test Definition specifies a progression rate for the test timeline.
2. The test timeline progresses using the specified rate.
3. A rate equal to real time can be distinguished from a rate faster than or slower than real time.
4. The configured timeline rate can be determined independently of wall-clock time.
5. The timeline rate is traceable to the governing Test Definition.
6. Timeline-rate control does not require a particular clock service, simulation engine, scheduler, or operating-system mechanism.

Verification includes a Test Definition specifying a timeline rate different from real time and confirms that the test timeline progresses at the specified rate.

Traceability

Plugin Backlinks: Nothing was found.

ConOps Relationship

This requirement controls the **progression rate** of the test timeline established under STC-003 and initialized under STC-004.

STC-006 separately resets the test timeline for repeated execution.

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:03-05-state-and-time-control-requirements:stc-005-control-test-timeline-rate#Statement&noheader&nofooter&noeditbtn}}
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