

ENV-005d — Emulate Time and Clock Conditions

[Go to ENV-005 — Emulate Distributed Systems](#)

Statement

The [DIDO-TE](#) SHALL emulate time and clock conditions in accordance with the applicable [Test Definition](#).

Derived From

- [ENV-005 — Emulate Distributed Systems](#)
- [ENV-005b — Emulate Participating Nodes](#)
- [ENV-005c — Emulate Communication Behaviour](#)
- [\[DTE5\] DIDO-TE Requirements Register](#), source requirement identifier and obligation to be assigned
- [\[DTE6\] Structured Information Processing Reference Architecture \(SIP-RA\)](#)
- [\[DTE7\] Federated Data Interpretation Systems Reference Architecture \(FDIS-RA\)](#)

Rationale

Distributed-system behaviour depends on the time sources and clock conditions observed by participating [Nodes](#).

Relevant conditions include clock identity, reference time, time zone, resolution, precision, offset, drift, skew, synchronisation, discontinuity, rate, and availability. These conditions affect ordering, timeout processing, leases, expiration, scheduling, coordination, event correlation, and [Evidence](#) timestamps.

Differences in time and clock conditions may produce different results even when all other [Test Environment](#) conditions remain unchanged. Controlled emulation permits the DIDO-TE to reproduce nominal conditions and specified variations.

Applies To

- [Test Environment](#)
- [Test Definition](#)
- [Test Execution](#)
- [Test Object](#)
- [Node](#)
- [Test Resource](#)

Related Architecture Sections

- Add links to the architecture sections governing time sources, clock control, synchronisation, distributed execution, Evidence timestamps, and Traceability.

Delivery Phase

Assign the applicable delivery phase.

Requirement Status

Draft

Statement Reference

Use the following syntax to reference this requirement's Statement section from another DokuWiki page:

```
{{section>dido:03-dido-te:99-annexes:annex-c-requirements:02-test-environment-requirements:env-005-emulate-distributed-systems:env-005d-emulate-time-and-clock-conditions#Statement&noheader&nofooter&noeditbtn}}
```

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