

ENV-004k — Record Environmental Variation

[Go to ENV-004 — Provide Deterministic Test Environment](#)

Statement

The [DIDO-TE](#) SHALL record each detected environmental variation.

Derived From

- [ENV-004 — Provide Deterministic Test Environment](#)
- [ENV-004j — Detect Environmental Variation](#)
- [\[DTE5\] 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

A detected environmental variation identifies a difference between an observed environmental condition and the condition specified by the applicable [Test Definition](#).

Detection without a persistent record provides insufficient support for later analysis. The record preserves the identity of the affected condition, the expected condition, the observed condition, and the circumstances surrounding the variation.

Environmental-variation records support interpretation of [Test Results](#). They also support [Traceability](#), [Reproducibility](#), [Comparability](#), and assessment of environmental determinism.

Applies To

- [Test Environment](#)
- [Test Definition](#)
- [Test Execution](#)
- [Test Object](#)
- [Node](#)
- [Test Resource](#)
- [Baseline](#)
- [Configuration](#)
- [Evidence](#)
- [Test Result](#)

Verification

Verification confirms that:

- The DIDO-TE creates a record for each detected environmental variation.
- Each record identifies the affected environmental condition.
- Each record identifies the expected condition.
- Each record identifies the observed condition.
- Each record identifies the applicable tolerance.
- Each record identifies the occurrence time.
- Each record identifies the duration, where applicable.
- Each record identifies the affected Test Environment element.
- Each record identifies the associated Test Execution.
- Each record identifies the detection mechanism.
- Each record preserves the detected variation as [Evidence](#).
- Each record maintains Traceability to the applicable Test Definition and Test Results.
- Each record receives protection against unauthorised modification or deletion.
- An omitted, incomplete, altered, unprotected, or untraceable environmental-variation record constitutes nonconformance with this requirement.

Verification includes:

- Inspection of environmental-variation records
- Comparison of detected variations with their corresponding records
- Inspection of expected conditions, observed conditions, and tolerances
- Inspection of occurrence times and durations
- Inspection of affected Test Environment elements
- Inspection of Evidence protections
- Inspection of Traceability records
- Testing with environmental variations affecting different controlled conditions
- Confirmation that the DIDO-TE records each detected variation
- Confirmation that an omitted or incomplete record produces a nonconformance result

Referenced By

- [ENV-004I — Validate Environmental Determinism](#)

Related Architecture Sections

- Add links to the architecture sections governing environmental monitoring, environmental variation, Evidence, Test Results, 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-004-provide-deterministic-test-environment:env-004k-record-environmental-variation#Statement&noheader&nofooter&noeditbtn}}
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