

ENV-004 — Provide Deterministic Test Environment

[Go to C.3.1 Test Environment Requirements](#)

ENV-004 is a non-leaf requirement group governing control, measurement, and recording of environmental variation within a [Test Environment](#).

Conformance is assessed against the individual leaf requirements listed below. ENV-004 does not establish a separate conformance obligation.

Contents

The following child requirements decompose ENV-004 into individually verifiable obligations:

- [ENV-004a — Define Deterministic Environmental Conditions](#)
- [ENV-004b — Control Baselines and Configurations](#)
- [ENV-004c — Control Test Inputs](#)
- [ENV-004d — Control Time Sources](#)
- [ENV-004e — Control Random Values](#)
- [ENV-004f — Control Execution Ordering](#)
- [ENV-004g — Control Resource Allocation](#)
- [ENV-004h — Control External Dependencies](#)
- [ENV-004i — Control Communication Conditions](#)
- [ENV-004j — Detect Environmental Variation](#)
- [ENV-004k — Record Environmental Variation](#)
- [ENV-004l — Validate Environmental Determinism](#)
- [ENV-004m — Prevent Execution Under Uncontrolled Conditions](#)

Source

- [\[DTE5\] 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 deterministic [Test Environment](#) controls environmental conditions capable of influencing a [Test Execution](#) or its resulting [Test Results](#).

Relevant conditions include applied [Baselines](#), [Configuration](#) values, [Test Inputs](#), time sources, random values, execution ordering, resource allocation, communication conditions, and external

dependencies.

Some distributed-system characteristics cannot be fixed without changing the behaviour under test. In those cases, the Test Environment requires measurement and recording of the applicable variation rather than concealment or elimination of the variation.

Environmental determinism does not require every Test Execution to produce an identical Test Result. It requires environmental variation to be controlled or accounted for so that behaviour produced by the [Test Object](#) can be distinguished from behaviour produced by changes in the Test Environment.

The leaf requirements in this group define the individually verifiable obligations governing environmental control, measurement, variation detection, recording, and traceability.

This control supports [Reproducibility](#), [Comparability](#), [Traceability](#), and interpretation of Test Results.

Applies To

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

Traceability

- [ENV-004a — Define Deterministic Environmental Conditions](#)
- [ENV-004b — Control Baselines and Configurations](#)
- [ENV-004c — Control Test Inputs](#)
- [ENV-004d — Control Time Sources](#)
- [ENV-004e — Control Random Values](#)
- [ENV-004f — Control Execution Ordering](#)
- [ENV-004g — Control Resource Allocation](#)
- [ENV-004h — Control External Dependencies](#)
- [ENV-004i — Control Communication Conditions](#)
- [ENV-004j — Detect Environmental Variation](#)
- [ENV-004k — Record Environmental Variation](#)
- [ENV-004l — Validate Environmental Determinism](#)
- [ENV-004m — Prevent Execution Under Uncontrolled Conditions](#)

ConOps Relationship

Add links to the ConOps activities and architecture sections governing Test Environment determinism, Configuration control, Test Input control, time, randomness, execution ordering, resource allocation, external dependencies, communication conditions, environmental monitoring, Evidence, and Test Execution admission.

Delivery Phase

Assign the applicable delivery phase.

Requirement Status

Draft

Notes for Editors

The subordinate leaf requirements define the normative obligations and corresponding verification criteria for ENV-004.

The former ENV-004 Statement and Verification sections were removed because ENV-004 serves as a non-leaf requirement group and does not establish an independently verifiable conformance obligation.

After you create and finalize all subordinate requirement pages, you may remove explicit child links because the indexmenu automatically discovers the leaf pages.

© 2026 Dido Solutions, Inc. and Jackrabbit Consulting, Inc.

From:
<https://wiki.didosolutions.com/> - Dido Solutions, Inc Wiki

Permanent link:
<https://wiki.didosolutions.com/dido/03-dido-te/99-annexes/annex-c-requirements/03-functional-requirements/03-01-test-environment-requirements/env-004-provide-deterministic-test-environment/start>

Last update: 2026/08/18 13:58

