

ENV-003 — Establish Controlled Starting State

[Go to C.2 Test Environment Requirements](#)

Statement

Before each [Test Execution](#), the [DIDO-TE](#) SHALL establish a controlled starting state for the applicable [Test Environment](#).

The controlled starting state SHALL:

- Apply the required [Baseline](#)
- Apply the required [Configuration](#) values
- Initialise each participating [Node](#)
- Initialise each [Test Object](#)
- Provision each required [Test Resource](#)
- Load each required [Test Input](#)
- Establish each required communication relationship
- Apply each applicable [Constraint](#)
- Remove or isolate residual state from prior Test Executions
- Validate the resulting starting state against the controlled descriptive information governing the Test Environment
- Record the validated starting state as [Evidence](#)

The DIDO-TE SHALL NOT begin the Test Execution when the starting state fails validation.

Derived Requirements

- [ENV-003a — Apply Required Baseline](#)
- [ENV-003b — Apply Required Configuration Values](#)
- [ENV-003c — Initialise Participating Nodes](#)
- [ENV-003d — Initialise Test Objects](#)
- [ENV-003e — Provision Required Test Resources](#)
- [ENV-003f — Load Required Test Inputs](#)
- [ENV-003g — Establish Required Communication Relationships](#)
- [ENV-003h — Apply Applicable Constraints](#)
- [ENV-003i — Remove or Isolate Residual State](#)
- [ENV-003j — Validate Controlled Starting State](#)
- [ENV-003k — Record Controlled Starting State](#)
- [ENV-003l — Prevent Execution from Invalid Starting State](#)

Derived From

- [\[DTE5\] 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 controlled starting state establishes the conditions under which a [Test Execution](#) begins.

Applying the required [Baseline](#), [Configuration](#) values, [Test Inputs](#), [Test Resources](#), and [Constraints](#) limits differences among repeated Test Executions to the variables governed by the applicable [Test Definition](#).

Removing or isolating residual state prevents a prior Test Execution from influencing a later [Test Result](#).

Validating and recording the controlled starting state supports [Reproducibility](#), [Comparability](#), and [Traceability](#).

Applies To

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

Verification

Verification confirms that:

- The DIDO-TE establishes a controlled starting state before each Test Execution.
- The starting state contains the required Baseline and Configuration values.
- The starting state contains the required Nodes, Test Objects, Test Resources, and Test Inputs.
- The starting state contains the required communication relationships.
- The starting state satisfies each applicable Constraint.
- The DIDO-TE removes or isolates residual state from prior Test Executions.
- The DIDO-TE validates the resulting starting state against the controlled descriptive information

governing the Test Environment.

- The DIDO-TE records the validated starting state as Evidence.
- The DIDO-TE maintains [Traceability](#) among the starting-state Evidence, applicable Baseline, Configuration, Test Definition, Test Environment, and Test Execution.
- The DIDO-TE prevents Test Execution when the starting state fails validation.
- The DIDO-TE records each starting-state validation failure as Evidence.
- A missing, incomplete, invalid, residual, or untraceable starting state constitutes nonconformance with this requirement.

Verification includes:

- Inspection of the controlled descriptive information governing the Test Environment
- Inspection of the applicable Baseline and Configuration records
- Inspection of Node and Test Object initialisation records
- Inspection of Test Resource provisioning records
- Inspection of Test Input loading records
- Inspection of the established communication relationships
- Inspection of applicable Constraint enforcement records
- Inspection of starting-state validation Evidence
- Inspection of Traceability records
- Repetition of a Test Execution from the same controlled starting state
- A negative assessment using a starting state that differs from the required state
- A residual-state assessment following a prior Test Execution
- Confirmation that the DIDO-TE prevents Test Execution when starting-state validation fails
- Inspection of Evidence recording the validation failure

Referenced By

- [ENV-003a — Apply Required Baseline](#)
- [ENV-003b — Apply Required Configuration Values](#)
- [ENV-003c — Initialise Participating Nodes](#)
- [ENV-003d — Initialise Test Objects](#)
- [ENV-003e — Provision Required Test Resources](#)
- [ENV-003f — Load Required Test Inputs](#)
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Related Architecture Sections

- Add links to the architecture sections governing Test Environment initialisation, state control, residual-state isolation, validation, Evidence, and Test Execution admission.

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-003-establish-controlled-starting-state:start#Statement&noheader&nofooter&noeditbtn}}
```

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