

MO-001a — Infrastructure Environment Creation

[Go to MO-001 — Repeatable, Compliant, and Secure Infrastructure Environments](#)

Statement

[Crucible](#) SHALL create an [Infrastructure Environment](#) from the selected [Controlled Inputs](#).

Derived From

This requirement derives from:

- [MO-001 — Repeatable, Compliant, and Secure Infrastructure Environments](#)

The Original Requirement states:

Crucible SHALL enable rapid creation of repeatable, compliant, and secure infrastructure environments.[C1]

MO-001a preserves the portion of the Original Requirement that requires [Crucible](#) to create an [Infrastructure Environment](#).

The separate requirements derived from MO-001 address:

- [Deployment Duration](#)
- [Reproducibility](#)
- [Security Baseline Conformance](#)
- [Compliance Baseline Conformance](#)

Source

Crucible System Requirements Specification, Version 1.1 Draft, Mission Objectives, MO-001.

Assessment

The Original Requirement uses **enable**, which describes facilitation rather than the behavior [Crucible](#) performs.

The Original Requirement also combines environment creation, deployment duration, reproducibility, security, and compliance within one normative statement. Each outcome can be implemented,

verified, and traced independently.

MO-001a:

- Replaces **enable** with the direct action **create**
- Identifies [Crucible](#) as the responsible actor
- Identifies the [Infrastructure Environment](#) as the required result
- Identifies the selected [Controlled Inputs](#) as the source from which Crucible creates the environment
- Separates environment creation from the independently verifiable duration, reproducibility, security, and compliance outcomes

Rationale

Infrastructure Environment creation provides the foundational outcome upon which the remaining MO-001 requirements depend.

The selected [Controlled Inputs](#) identify the approved and controlled material used during environment creation. Controlled Inputs may include applicable descriptions, baselines, configurations, Image Layers, Machine Images, packages, and other required [Artifacts](#).

Requiring Crucible to create the Infrastructure Environment from selected Controlled Inputs supports:

- Deterministic input selection
- [Provenance](#)
- [Traceability](#)
- Configuration control
- Subsequent reproduction and comparison
- Independent evaluation of security and compliance outcomes

This requirement does not establish a required creation duration, equivalence criterion, Security Baseline, or Compliance Baseline. The other requirements derived from MO-001 establish those outcomes.

Applies To

This requirement applies to:

- [Crucible](#)
- [Infrastructure Environments](#)
- [Controlled Inputs](#)
- [Declarative Descriptions](#)
- [Crucible Descriptions](#)
- [Baselines](#)
- [Baseline Composition](#)
- [Image Layers](#)
- [Infrastructure Baselines](#)
- [Machine Images](#)

- [Infrastructure Configurations](#)
- [Infrastructure Deployment](#)
- [Provisioning](#)
- [Artifacts](#)
- [Provenance](#)
- [Traceability](#)

Verification

Verification SHALL confirm that [Crucible](#) creates an [Infrastructure Environment](#) from the selected [Controlled Inputs](#).

Verification may include:

- Controlled Input inspection
- [Crucible Description](#) inspection
- [Baseline Composition](#) inspection
- Workspace inspection
- [Machine Image](#) build tests
- [Infrastructure Deployment](#) tests
- [Provisioning](#) tests
- Infrastructure state inspection
- End-to-end [CI/CD Pipeline](#) tests

The verification record SHALL identify:

1. The selected [Controlled Inputs](#)
2. The applicable input identifiers and revisions
3. The applicable [Crucible Description](#)
4. The applicable [Baseline Composition](#)
5. The created [Infrastructure Environment](#)
6. The applicable [Provenance](#)
7. The observed result
8. The generated [Evidence](#)

Outgoing Traceability

This requirement is realized by:

- [OR-002 — Deployment Environments](#)
- [OR-003 — Classified and Unclassified Environments](#)
- [OR-004 — Concurrent Environment Management](#)
- [OR-005 — Distributed Environment Management](#)
- [FR-CFG-001 through FR-CFG-005](#)
- [FR-IMG-001 through FR-IMG-006](#)
- [FR-DEP-001 through FR-DEP-007](#)
- [FR-DSO-001 through FR-DSO-006](#)
- [FR-BAS-001 through FR-BAS-004](#)

This requirement also relates to:

- [5. Descriptions, Composition, and Baselines](#)
- [6. Machine Images and Image Layers](#)
- [7. Infrastructure and Deployment](#)

Backlinks

- [MO-001b — Deployment Duration](#)
- [MO-001c — Reproducibility](#)
- [MO-001d — Security Baseline Conformance](#)
- [MO-001e — Compliance Baseline Conformance](#)
- [Annex D: Requirements Traceability](#)

Delivery Phase

Phase 1 and subsequent phases

Implementation Status

Not Assessed

Implementation status requires verification that the current [Crucible](#) implementation creates an Infrastructure Environment from the selected Controlled Inputs.

Requirement Status

Draft

This requirement derives from MO-001 in the Crucible System Requirements Specification, Version 1.1 Draft.

Notes for Editors

This requirement page should retain the stable requirement identifier MO-001a.

This page is a leaf requirement page and omits a trailing :start from its namespace.

Changes to the Statement SHALL preserve the environment-creation intent derived from MO-001.

Material changes should receive review and should update the related verification criteria, outgoing

traceability, ConOps relationship, and source records.

To reference this requirement Statement from another wiki page, insert:

```
{{section>dido:02-crusible:99-annexes:annex-c-requirements:01-mission-objectives:mo-001:mo-001a#Statement&noheader&nofooter&noeditbtn}}
```

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