

MO-003b — Common Crucible Description

[Go to MO-003 — Cloud-Agnostic Deployment](#)

Statement

Crucible SHALL use the same identified version of the platform-independent [Crucible Description](#) for each selected [Deployment Platform](#).

Derived From

This requirement derives from:

- [MO-003 — Cloud-Agnostic Deployment](#)

The Original Requirement states:

The system SHALL provide cloud-agnostic deployment capabilities.[\[C3\]](#)

MO-003b preserves the portion of the Original Requirement that requires common platform-independent deployment intent across the selected Deployment Platforms.

The separate requirements derived from MO-003 address:

- [MO-003a — Cross-Platform Deployment](#)
- [MO-003c — Common Infrastructure Baseline](#)
- [MO-003d — Provider-Specific Dependency Limitation](#)

Assessment

The Original Requirement does not identify the deployment information that remains common across Cloud Providers or Deployment Platforms.

The phrase **cloud-agnostic deployment capabilities** does not identify:

- The platform-independent deployment intent
- The Artifact that records the deployment intent
- The version of that Artifact
- The Deployment Platforms to which the common deployment intent applies
- The distinction between changes to platform-independent intent and changes to platform-specific information

MO-003b:

- Identifies the [Crucible Description](#) as the source of platform-independent deployment intent

- Requires use of the same identified Crucible Description version across the selected Deployment Platforms
- Prevents a change of target Deployment Platform from implicitly creating a different platform-independent deployment intent
- Separates common Crucible Description use from cross-platform deployment, common Infrastructure Baseline use, and provider-specific dependency limitation

Rationale

A common platform-independent Crucible Description allows one deployment intent to apply across multiple Deployment Platforms.

The Crucible Description identifies the desired deployment without embedding the proprietary interfaces, services, data formats, software development kits, or operational mechanisms of a particular Cloud Provider.

Using the same identified version supports:

- Consistent deployment intent
- Controlled comparison of deployment results
- [Provenance](#)
- [Traceability](#)
- Change control
- Detection of provider-specific information within platform-independent content
- Reuse across supported Deployment Platforms

The requirement uses an identified version rather than the unqualified word **same**. The identifier and version establish the specific Crucible Description used for each deployment.

Platform-specific values required by a target Deployment Platform remain separate from the platform-independent Crucible Description. The applicable provider-specific mechanisms translate the common deployment intent for the target platform.

This requirement does not require use of the same Infrastructure Baseline. MO-003c establishes that requirement.

Applies To

This requirement applies to:

- [Crucible](#)
- [Cloud Agnosticism](#)
- [Crucible Descriptions](#)
- [Platform Independent Information](#)
- [Platform Specific Information](#)
- [Platform Specific Parameters](#)
- [Deployment Platforms](#)
- [Provider Contracts](#)

- [Provider Implementations](#)
- [Infrastructure Deployments](#)
- [Artifacts](#)
- [Provenance](#)
- [Traceability](#)
- [Evidence](#)

Verification

Verification confirms that:

1. Two or more selected Deployment Platforms are identified
2. Each deployment uses a Crucible Description with the same identifier
3. Each deployment uses the same identified version of the Crucible Description
4. The Crucible Description contains platform-independent deployment intent
5. Changing the selected Deployment Platform does not require modification of the identified Crucible Description version
6. Platform-specific values remain separate from the platform-independent Crucible Description
7. The deployment records identify the Crucible Description identifier and version used for each Deployment Platform

Verification includes:

- Crucible Description inspection
- Crucible Description identifier comparison
- Crucible Description version comparison
- Artifact Representation comparison
- Cryptographic digest inspection
- Platform-independent information inspection
- Platform-specific information inspection
- Cross-platform deployment tests
- Deployment-record inspection
- Provenance inspection
- Traceability inspection
- Evidence inspection

The verification record identifies:

1. The selected Deployment Platforms
2. The Crucible Description identifier
3. The Crucible Description version
4. The applicable Crucible Description Artifact Representation
5. The cryptographic digest of the applicable Artifact Representation
6. The platform-independent deployment intent
7. The platform-specific information used for each Deployment Platform
8. The deployment result for each Deployment Platform
9. Any detected modification to the Crucible Description
10. The observed result
11. The generated Evidence

Requirements Realized By

This requirement is realized by:

- [OR-002 — Deployment Environments](#)
- [OR-005 — Distributed Environment Management](#)
- [FR-CFG-001 through FR-CFG-005](#)
- [FR-DEP-001 through FR-DEP-007](#)
- [FR-MC-001 through FR-MC-005](#)
- [FR-DSO-001 through FR-DSO-006](#)
- [FR-BAS-001 through FR-BAS-004](#)
- [INT-001 through INT-007](#)
- [KVP-006 — Enable Cloud Portability](#)

Related Architecture Sections

- [5. Descriptions, Composition, and Baselines](#)
- [7. Infrastructure and Deployment](#)
- [8. Dependencies and Air Gap Operations](#)
- [10. Reproducibility, Provenance, and Traceability](#)

Referenced By

The following pages reference this requirement:

- [3.2 Deployment Environments](#)
- [MO-003a — Cross-Platform Deployment](#)
- [MO-003c — Provider-Independent Infrastructure Baseline](#)
- [MO-003d — Limitation of Provider-Specific Dependencies](#)
- [Annex D: Requirements Traceability](#)

Delivery Phase

Phase 1 and subsequent phases

Implementation Status

Not Assessed

Implementation status requires verification that deployments to the selected Deployment Platforms use the same identified version of the platform-independent Crucible Description.

Requirement Status

Draft

This requirement derives from MO-003 in the Crucible System Requirements Specification, Version 1.1 Draft.

Notes for Editors

This requirement page should retain the stable requirement identifier MO-003b.

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

Changes to the Statement SHALL preserve the common platform-independent Crucible Description intent derived from MO-003.

The applicable deployment records should identify:

- The Crucible Description identifier
- The Crucible Description version
- The applicable Artifact Representation
- The cryptographic digest
- The selected Deployment Platform
- The applicable Provider Implementation
- The platform-specific information used for the deployment
- The deployment result
- The supporting Evidence

Material changes should receive review and should update the related verification criteria, requirements realization, related architecture sections, and source records.

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

```
{{section>dido:02-crucible:99-annexes:annex-c-requirements:01-mission-objectives:mo-003:mo-003b#Statement&noheader&nofooter&noeditbtn}}
```

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Last update: **2026/07/20 08:26**

