

MO-003a — Cross-Platform Deployment

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

Statement

[Crucible](#) SHALL deploy an [Infrastructure Environment](#) to two or more supported [Deployment Platforms](#).

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-003a preserves the portion of the Original Requirement that requires [Crucible](#) to perform deployment across multiple Deployment Platforms.

The separate requirements derived from MO-003 address:

- [MO-003b — Common Crucible Description](#)
- [MO-003c — Common Infrastructure Baseline](#)
- [MO-003d — Provider-Specific Dependency Limitation](#)

Assessment

The Original Requirement uses **provide** without identifying the behavior [Crucible](#) performs.

The phrase **deployment capabilities** does not identify:

- The subject deployed
- The target Deployment Platforms
- The minimum number of target Deployment Platforms
- The required deployment outcome
- The criteria used to determine whether a Deployment Platform is supported

MO-003a:

- Replaces **provide** with the direct action **deploy**
- Identifies [Crucible](#) as the responsible actor
- Identifies an [Infrastructure Environment](#) as the required deployment outcome

- Requires deployment to at least two supported Deployment Platforms
- Separates cross-platform deployment from common-input and provider-dependency requirements

Rationale

[Cloud Agnosticism](#) requires more than deployment to a single platform.

Deployment to two or more supported Deployment Platforms provides the minimum observable basis for evaluating whether Crucible performs cross-platform deployment.

A supported Deployment Platform has an available and approved mechanism through which Crucible performs the required deployment behavior. The applicable lower-level requirements define the provider contracts, provider implementations, platform-specific parameters, acceptance criteria, and deployment controls associated with each supported Deployment Platform.

Cross-platform deployment can include Deployment Platforms associated with:

- Commercial cloud providers
- Private cloud environments
- On-premises infrastructure
- Virtualized infrastructure
- Container platforms
- Edge environments
- Connected Environments
- Disconnected Environments
- Air-Gapped Environments

Deployment to multiple platforms does not alone establish full Cloud Agnosticism. The other requirements derived from MO-003 address common deployment inputs and limitation of provider-specific dependencies.

Applies To

This requirement applies to:

- [Crucible](#)
- [Cloud Agnosticism](#)
- [Infrastructure Environments](#)
- [Infrastructure Deployments](#)
- [Deployment Platforms](#)
- [Provider Contracts](#)
- [Provider Implementations](#)
- [Platform Specific Parameters](#)
- [Controlled Inputs](#)
- [Connected Environments](#)
- [Disconnected Environments](#)
- [Air-Gapped Environments](#)

- [CI/CD Pipelines](#)
- [Evidence](#)
- [Provenance](#)
- [Traceability](#)

Verification

Verification confirms that:

1. Two or more supported Deployment Platforms are identified
2. Crucible performs an Infrastructure Deployment to each identified Deployment Platform
3. Each Infrastructure Deployment creates an Infrastructure Environment
4. Each resulting Infrastructure Environment satisfies the applicable deployment acceptance criteria
5. Each deployment result identifies the target Deployment Platform
6. Each deployment result identifies the applicable Provider Implementation
7. Each deployment preserves the required Evidence, Provenance, and Traceability

Verification includes:

- Supported Deployment Platform inspection
- Provider Contract inspection
- Provider Implementation inspection
- Cross-platform deployment tests
- Infrastructure Deployment tests
- Resulting Infrastructure Environment inspection
- Deployment acceptance-criteria evaluation
- Deployment-record inspection
- Evidence inspection
- Provenance inspection
- Traceability inspection

The verification record identifies:

1. Each tested Deployment Platform
2. The support status of each tested Deployment Platform
3. The Provider Contract applicable to each tested Deployment Platform
4. The Provider Implementation used for each tested Deployment Platform
5. The Controlled Inputs used for each deployment
6. The deployment result for each tested Deployment Platform
7. The resulting Infrastructure Environment for each deployment
8. The applicable acceptance criteria
9. The observed result
10. The generated Evidence

Requirements Realized By

This requirement is realized by:

- [OR-001 — Operational Roles](#)
- [OR-002 — Deployment Environments](#)
- [OR-003 — Classified and Unclassified Environments](#)
- [OR-005 — Distributed Environment Management](#)
- [FR-DEP-001 through FR-DEP-007](#)
- [FR-MC-001 through FR-MC-005](#)
- [FR-AG-001 through FR-AG-005](#)
- [FR-DSO-001 through FR-DSO-006](#)
- [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-003b — Provider-Independent Crucible Description](#)
- [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 successful Infrastructure Deployment to at least two supported Deployment Platforms.

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-003a.

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

Changes to the Statement SHALL preserve the cross-platform deployment intent derived from MO-003.

The criteria for a supported Deployment Platform should identify:

- The Deployment Platform
- The applicable Provider Contract
- The approved Provider Implementation
- The supported Platform Specific Parameters
- The applicable deployment acceptance criteria
- The required deployment 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-crusible:99-annexes:annex-c-requirements:01-mission-objectives:mo-003:mo-003a#Statement&noheader&nofooter&noeditbtn}}
```

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