

MO-005a — Infrastructure Baseline Artifact Management

[Go to MO-005 — Reusable and Version-Controlled Infrastructure Baselines](#)

Statement

[Crucible](#) SHALL manage each [Infrastructure Baseline](#) as an [Artifact](#).

Derived From

This requirement derives from:

- [MO-005 — Reusable and Version-Controlled Infrastructure Baselines](#)

The Original Requirement states:

The system SHALL establish infrastructure as a reusable and version-controlled asset.[\[C1\]](#)

MO-005a preserves the portion of the Original Requirement that treats infrastructure as a managed asset by identifying the managed subject as an [Infrastructure Baseline](#) and the managed representation as an [Artifact](#).

The separate requirements derived from MO-005 address:

- [MO-005b — Infrastructure Baseline Identification](#)
- [MO-005c — Infrastructure Baseline Version Control](#)
- [MO-005d — Infrastructure Baseline Selection](#)
- [MO-005e — Infrastructure Baseline Reuse](#)
- [MO-005f — Approved Baseline Immutability](#)
- [MO-005g — Baseline Revision Deployment Traceability](#)

Assessment

The Original Requirement uses **infrastructure** without identifying the controlled representation subject to management.

The Original Requirement also uses **asset** without identifying the applicable managed information object.

The phrase **establish infrastructure as an asset** does not identify:

- The representation managed by Crucible
- The content included in the representation

- The metadata associated with the representation
- The storage and retrieval mechanisms
- The relationship between the representation and an Infrastructure Deployment
- The Evidence required to demonstrate Artifact management

MO-005a:

- Identifies [Crucible](#) as the responsible actor
- Identifies the [Infrastructure Baseline](#) as the managed subject
- Replaces the general term **asset** with the defined term [Artifact](#)
- Separates Artifact management from identification, Version Control, selection, reuse, immutability, and deployment traceability

Rationale

Managing an [Infrastructure Baseline](#) as an [Artifact](#) gives the baseline a controlled representation that Crucible can store, retrieve, inspect, compare, approve, select, and apply.

An Infrastructure Baseline Artifact can include:

- Infrastructure definitions
- Configuration definitions
- Machine Image references
- Image-layer references
- Package and dependency references
- Security configuration
- Compliance configuration
- Deployment parameters
- Validation criteria
- Supporting metadata
- Provenance information
- Traceability information

Artifact management establishes the foundation for the separate requirements governing:

- Unique identification
- Revision management
- Approval
- Selection
- Reuse
- Immutability
- Deployment traceability

This requirement does not define the identifier assigned to the Artifact. MO-005b establishes that requirement.

This requirement does not establish Version Control. MO-005c establishes that requirement.

This requirement does not require selection or reuse of the Artifact. MO-005d and MO-005e establish those requirements.

Applies To

This requirement applies to:

- [Crucible](#)
- [Infrastructure Baselines](#)
- [Artifacts](#)
- Infrastructure definitions
- Configuration definitions
- Machine Image references
- Image-layer references
- Package and dependency references
- Security configuration
- Compliance configuration
- Deployment parameters
- Validation criteria
- Artifact metadata
- Artifact repositories
- Artifact catalog records
- [Evidence](#)
- [Provenance](#)
- [Traceability](#)

Verification

Verification confirms that:

1. Each Infrastructure Baseline has a managed Artifact representation
2. The Artifact contains or references the content that constitutes the Infrastructure Baseline
3. Crucible can store the Artifact
4. Crucible can retrieve the Artifact
5. Crucible can inspect the Artifact content and associated metadata
6. The Artifact representation remains distinguishable from an Infrastructure Deployment created from the baseline
7. The management record preserves the required Evidence, Provenance, and Traceability

Verification includes:

- Infrastructure Baseline inspection
- Artifact inspection
- Artifact-content inspection
- Artifact-metadata inspection
- Artifact-repository inspection
- Artifact-catalog inspection
- Artifact storage testing
- Artifact retrieval testing
- Artifact integrity inspection
- Infrastructure Deployment comparison
- Evidence inspection

- Provenance inspection
- Traceability inspection

The verification record identifies:

1. The Infrastructure Baseline
2. The associated Artifact
3. The Artifact type
4. The Artifact location
5. The Artifact content or referenced content
6. The associated metadata
7. The storage result
8. The retrieval result
9. The inspection result
10. Each identified failure or exception
11. The observed result
12. 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-BAS-001 through FR-BAS-004](#)

Related Architecture Sections

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

Referenced By

The following pages reference this requirement:

- [MO-005b — Infrastructure Baseline Identification](#)
- [MO-005c — Infrastructure Baseline Revision Control](#)
- [MO-005d — Approved Infrastructure Baseline Selection](#)
- [MO-005e — Infrastructure Baseline Reuse](#)
- [MO-005f — Approved Infrastructure Baseline Preservation](#)
- [MO-005g — Infrastructure Deployment Baseline Traceability](#)

- [Annex D: Requirements Traceability](#)

Delivery Phase

Phase 1 and subsequent phases

Implementation Status

Not Assessed

Implementation status requires verification that the current [Crucible](#) implementation manages each Infrastructure Baseline as an Artifact.

Requirement Status

Draft

This requirement derives from MO-005 in the Crucible System Requirements Specification, Version 1.1 Draft.

Notes for Editors

This requirement page should retain the stable requirement identifier MO-005a.

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

Changes to the Statement should preserve the Infrastructure Baseline Artifact-management intent derived from MO-005.

The Artifact representation should identify or reference:

- The Infrastructure Baseline content
- The Artifact type
- The associated metadata
- The applicable repository or storage location
- The applicable Provenance
- The applicable Traceability
- 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-crusible:99-annexes:annex-c-requirements:01-mission-objectives:mo-005:mo-005a#Statement&noheader&nofooter&noeditbtn}}

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