

MO-005

[Go to Mission Objectives](#)

Statement

Crucible SHALL maintain each **Infrastructure Baseline** as a uniquely identified, **version-controlled Artifact** that can be selected and applied to more than one **Infrastructure Deployment** without modifying the approved baseline content.

Source Statement

The system SHALL establish infrastructure as a reusable and version-controlled asset.

Source

Crucible System Requirements Specification, Version 1.1 Draft, Mission Objectives, MO-005.

Assessment

The source statement expresses the approved mission objective but does not provide a fully testable formulation.

The following Specification Discipline and Authoring findings apply:

- **The system** does not use the defined system name
- **Establish** does not identify the lifecycle behavior that **Crucible** performs
- **Infrastructure** does not identify whether the requirement applies to an **Infrastructure Baseline**, deployed infrastructure, infrastructure configuration, or another infrastructure representation
- **Reusable** does not identify the number of uses, permitted variation, selection criteria, or conditions under which reuse occurs
- **Version-controlled** does not identify the required revision identifier, revision history, repository record, or relationship between revisions
- **Asset** does not identify the information, configuration, provenance, and lifecycle records that constitute the managed asset
- The source statement does not distinguish modification of an approved baseline from selection and reuse of that baseline

The normalized Statement replaces **establish** with **maintain**, identifies the managed **Infrastructure Baseline**, and defines reuse as application to more than one **Infrastructure Deployment** without modifying the approved baseline content.

Rationale

Infrastructure definitions that exist only as deployment-specific scripts or manually maintained configurations cannot be reliably reused, compared, governed, or reproduced.

[Crucible](#) treats each [Infrastructure Baseline](#) as a managed [Artifact](#) with:

- A stable identifier
- A revision identifier
- A revision history
- Defined source content
- [Provenance](#)
- Approval status
- Selection criteria
- Relationships to preceding and succeeding revisions
- Relationships to the [Infrastructure Deployments](#) that use the baseline

This treatment permits multiple deployments to use the same approved baseline while preserving the distinction between:

- Reusing an approved baseline
- Creating a new baseline revision
- Applying platform specific parameters
- Recording deployment-specific state

[Version Control](#) preserves the baseline history and supports comparison, rollback, audit, [Reproducibility](#), and [Traceability](#) throughout the [Operational Lifecycle](#).

Applies To

This requirement applies to:

- [Crucible](#)
- [Crucible Descriptions](#)
- [Baselines](#)
- [Baseline Composition](#)
- [Infrastructure Baselines](#)
- [Infrastructure Deployments](#)
- [Artifacts](#)
- [Version Control](#)
- [Revisions](#)
- [Revision History](#)
- [Provenance](#)
- [Configuration Management](#)
- [Reproducibility](#)
- [Traceability](#)
- [CI/CD Pipelines](#)
- [Operational Lifecycle](#)

Verification

1. Verification SHALL confirm that each tested [Infrastructure Baseline](#) has a unique identifier
2. Verification SHALL confirm that each tested [Infrastructure Baseline](#) has a revision identifier
3. Verification SHALL confirm that the applicable [Version Control](#) system preserves the content associated with each baseline revision
4. Verification SHALL confirm that the applicable [Version Control](#) system preserves the relationship between successive baseline revisions
5. Verification SHALL confirm that the same approved [Infrastructure Baseline](#) can be selected for more than one [Infrastructure Deployment](#)
6. Verification SHALL confirm that reuse of the approved [Infrastructure Baseline](#) does not modify the approved baseline content
7. Verification SHALL confirm that changes to approved baseline content create a separately identified revision
8. Verification SHALL confirm that each tested [Infrastructure Deployment](#) records the identifier and revision of the selected [Infrastructure Baseline](#)
9. Verification SHALL confirm that platform specific parameters remain distinguishable from the approved baseline content
10. Verification SHALL confirm that the baseline record preserves the applicable [Provenance](#)
11. Verification SHALL confirm that an authorized user can retrieve a prior baseline revision
12. Verification SHALL confirm that an authorized user can compare two baseline revisions
13. Verification SHALL confirm that baseline reuse and revision records preserve [Traceability](#)

Verification may include:

- Baseline identifier inspection
- Revision identifier inspection
- Repository history inspection
- Baseline content comparison
- Revision comparison
- Repeated deployment tests
- Cross platform deployment tests
- Baseline selection tests
- Baseline immutability tests
- Provenance record inspection
- Deployment record inspection
- Prior revision retrieval tests
- End-to-end [CI/CD Pipeline](#) tests

The verification record SHALL identify:

1. The tested [Infrastructure Baseline](#)
2. The baseline identifier
3. The baseline revision identifier
4. The baseline source location
5. The baseline approval status
6. The preceding revision
7. The succeeding revision, when applicable
8. The tested [Infrastructure Deployments](#)
9. The platform specific parameters
10. The content comparison result

11. The revision comparison result
12. The applicable [Provenance](#)
13. The observed results
14. The generated [Evidence](#)

Outgoing Traceability

This requirement is realized by:

- [FR-CFG-001 through FR-CFG-005](#)
- [FR-DSO-001 through FR-DSO-006](#)
- [FR-BAS-001 through FR-BAS-004](#)
- [MAINT-001 through MAINT-005](#)
- [DATA-001 through DATA-005](#)
- [KVP-003 — Improve deployment repeatability](#)
- [KVP-005 — Reduce configuration drift](#)

This requirement also relates to:

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

Referenced By

The wiki Backlinks function provides the current list of pages that reference `MO-005`.

Incoming traceability should be derived dynamically from backlinks rather than maintained as a duplicate manual list.

Backlinks identify incoming references but do not define the semantics of each relationship. Referencing pages should identify whether the relationship represents realization, refinement, verification, dependency, or another defined traceability relationship.

ConOps Relationship

The Crucible Concept of Operations describes [Baseline Composition](#) as the use of versioned Image Layer and [Infrastructure Baseline](#) repositories alongside consumer source within a [CI/CD Pipeline](#) workspace.

The Phase 1 workflow:

- Selects the required baseline repositories
- Retrieves the identified baseline revisions
- Composes the selected baselines within the workspace
- Applies the selected [Infrastructure Baseline](#)

- Records the source revision identifiers
- Performs [Infrastructure Deployment](#)
- Preserves deployment history and [Provenance](#)

The ConOps permits a composition to contain application source, Image Layers, Infrastructure Baselines, or a combination of these inputs. A composition that contains only Image Layers or Infrastructure Baselines remains valid.

This operational model treats an [Infrastructure Baseline](#) as a reusable and versioned deployment input rather than a deployment-specific script or manually recreated configuration.

Delivery Phase

Phase 1 and subsequent phases

Implementation Status

Not Assessed

Implementation status requires verification that approved [Infrastructure Baselines](#) are uniquely identified, version controlled, reusable across multiple deployments, and traceable to the deployments that use them.

Requirement Status

Draft

The source System Requirements Specification identifies Version 1.1 as a draft.

Notes for Editors

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

Changes to the Statement SHALL preserve the approved intent of the source requirement.

Material changes should receive review and should update the related outbound traceability, verification criteria, acceptance criteria, and source records.

The Source Statement should preserve the original wording from the controlling System Requirements Specification.

Incoming traceability should use the wiki Backlinks function rather than a manually maintained list.

Do not rename this page once it has been cited externally unless a redirect or move plan is in place.

© 2026 Dido Solutions, Inc. and Jackrabbit Consulting, Inc.

From:
<https://wiki.didosolutions.com/> - **Dido Solutions, Inc Wiki**

Permanent link:
<https://wiki.didosolutions.com/dido/02-crusible/99-annexes/annex-c-requirements/01-mission-objectives/mo-005/start?rev=1784145064>

Last update: **2026/07/15 12:51**

