

MO-004a — Connected Environment Operations

[Go to MO-004 — Connected and Disconnected Operations](#)

Statement

[Crucible](#) SHALL execute each selected [Operational Lifecycle](#) activity in a [Connected Environment](#).

Derived From

This requirement derives from:

- [MO-004 — Connected and Disconnected Operations](#)

The Original Requirement states:

The system SHALL support both connected and disconnected operational environments.[\[C1\]](#)

MO-004a preserves the portion of the Original Requirement that requires [Crucible](#) to operate within a [Connected Environment](#).

The separate requirements derived from MO-004 address:

- [MO-004b — Disconnected Environment Operations](#)
- [MO-004c — Authorized Resource Use](#)
- [MO-004d — Disconnected Resource Availability](#)

Rationale

A [Connected Environment](#) provides network connectivity to resources required by selected Operational Lifecycle activities.

Operational Lifecycle activities can include:

- Artifact acquisition
- Dependency resolution
- Baseline composition
- Machine Image construction
- Infrastructure Deployment
- Provisioning
- Configuration
- Compliance Assessment

- Security assessment
- Deployment Validation
- Evidence generation
- Artifact promotion
- Operational maintenance

The selected activities define the required scope of execution. Selection prevents this requirement from implying that every Operational Lifecycle activity applies to every Connected Environment or operational context.

Execution in a Connected Environment supports access to network services, repositories, registries, data sources, and other resources available within the environment.

This requirement does not establish the requirements for execution in a Disconnected Environment. MO-004b addresses that outcome.

This requirement does not establish which resources Crucible is authorized to use. MO-004c addresses Authorized Resource use.

Applies To

This requirement applies to:

- [Crucible](#)
- [Connected Environments](#)
- [Operational Lifecycle](#)
- Selected Operational Lifecycle activities
- [Controlled Inputs](#)
- [Authorized Resources](#)
- [Artifacts](#)
- Artifact repositories
- Package repositories
- Image registries
- Authorized network services
- [CI/CD Pipelines](#)
- [Infrastructure Deployments](#)
- [Provisioning](#)
- [Compliance Assessments](#)
- [Deployment Validation](#)
- [Evidence](#)
- [Provenance](#)
- [Traceability](#)

Verification

Verification confirms that:

1. The [Connected Environment](#) is identified

2. Each selected [Operational Lifecycle](#) activity is identified
3. The inputs required by each selected activity are identified
4. The resources used by each selected activity are identified
5. [Crucible](#) executes each selected activity within the Connected Environment
6. Each selected activity reaches its defined completion condition
7. Each selected activity produces its required outputs
8. Each failure or exception is identified
9. The verification record preserves [Traceability](#) among the Connected Environment, selected activity, Controlled Inputs, resources used, execution result, and outputs produced

Referenced By

The following pages reference this requirement:

- [3.1 Connectivity Conditions](#)
- [MO-004b — Disconnected Environment Operations](#)
- [MO-004c — Authorized Resource Use](#)
- [MO-004d — Disconnected Resource Availability](#)
- [Annex D: Requirements Traceability](#)

Delivery Phase

- ☐ Determine the Delivery Phase for MO-004a.

Implementation Status

- ☐ Assess whether the current Crucible implementation executes each selected Operational Lifecycle activity in a Connected Environment.

Requirement Status

- ☐ Review and accept MO-004a as a proposed derived requirement created from the evaluation and decomposition of MO-004 in the Crucible System Requirements Specification, Version 1.1 Draft.

Issues

The following unresolved issues affect this requirement:

- ☐ Identify the Operational Lifecycle activities that Crucible must execute within a Connected Environment.

- ☐ Identify the controlling source that selects the Operational Lifecycle activities for a Connected Environment.
- ☐ Define the starting condition, completion condition, required inputs, required outputs, and failure criteria for each selected Operational Lifecycle activity.
- ☐ Identify the resources available within each Connected Environment and distinguish available resources from Authorized Resources.

Notes for Editors

This requirement page should retain the stable requirement identifier MO-004a.

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

The parent MO-004 page is a non-leaf page and retains a trailing :start in its namespace.

Changes to the Statement should preserve:

- [Crucible](#) as the responsible actor
- The selected [Operational Lifecycle](#) activity as the required behavior
- The [Connected Environment](#) as the operational context
- Execution of each selected activity as the required outcome

The unresolved activity-selection source should remain recorded in the Issues section until a controlling source identifies the activities required within a Connected Environment.

Material changes should receive review and should update the verification criteria, source records, and Issues section.

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

```
{{section>dido:02-crusible:99-annexes:annex-c-requirements:01-mission-objectives:mo-004:mo-004a#Statement&noheader&nofooter&noeditbtn}}
```

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