

FR-AG-001 — Disconnected Deployment Operations

[Go to Crucible Air-Gapped Operations Requirements](#)

Statement

[Crucible](#) SHALL perform deployment operations within a [Disconnected Environment](#) without accessing an external network resource.

Source Statement

The system shall support disconnected deployment operations.

Source

Crucible System Requirements Specification, Version 1.1 Draft, Functional Requirements, FR-AG-001.

Assessment

The source statement identifies the intended operating condition 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
- **shall** does not follow the established uppercase normative convention
- **Support** is a weak verb that does not identify the required behavior
- **Disconnected deployment operations** does not identify the environmental condition that governs execution
- The source statement does not identify whether external network resources may be accessed
- The source statement does not prescribe a deployment tool, transfer mechanism, repository implementation, network technology, or target platform

The normalized Statement:

- Replaces **The system** with [Crucible](#)
- Replaces **support** with the direct behavior **perform**
- Identifies deployment operations as the required activity
- Uses the defined [Disconnected Environment](#) concept
- Excludes access to external network resources during the deployment operation
- Preserves implementation independence

- Retains one primary required behavior

The normalized Statement does not require every dependency to originate within the Disconnected Environment. Separate requirements govern dependency capture, transfer, import, authorization, integrity verification, and synchronization.

Rationale

A [Disconnected Environment](#) cannot depend on continuous access to external repositories, services, interfaces, or management systems.

Before deployment begins, the environment must contain or have authorized access to the artifacts, configurations, dependencies, credentials, metadata, and other resources required by the deployment.

Disconnected deployment operations may include:

- Deployment of [Infrastructure Resources](#)
- Deployment of [Virtual Machines](#)
- Deployment of [Kubernetes Clusters](#)
- Deployment of [Containerized Workloads](#)
- Deployment of [Platform Services](#)
- [Deployment Validation](#)
- [Deployment Rollback](#)

A Disconnected Environment differs from an [Air-Gapped Environment](#) because a Disconnected Environment may lack current connectivity without necessarily implementing the controlled physical or logical isolation associated with an Air-Gapped Environment.

Applies To

This requirement applies to:

- [Crucible](#)
- [Disconnected Environments](#)
- Deployment operations
- Deployment subjects
- Imported artifacts
- Imported dependencies
- Local repositories
- Local configuration sources
- Local credentials
- Local validation resources
- [CI/CD Pipelines](#)

Verification

1. Verification SHALL confirm that the tested deployment occurs within a [Disconnected Environment](#)
2. Verification SHALL confirm that [Crucible](#) performs the identified deployment operation
3. Verification SHALL confirm that Crucible does not access an external network resource during the deployment operation
4. Verification SHALL confirm that the deployment produces the expected deployment result

Verification may include:

- Network isolation testing
- External resource access monitoring
- Disconnected deployment testing
- Local repository inspection
- Dependency availability inspection
- Deployment output inspection
- Deployment log inspection

The verification record SHALL identify:

1. The Disconnected Environment
2. The deployment operation
3. The deployment subjects
4. The locally available artifacts and dependencies
5. The prohibited external network resources
6. The observed network activity
7. The deployment result
8. The generated [Evidence](#)

Outgoing Traceability

This requirement realizes:

- [MO-004](#)
- [MO-006](#)

This requirement relates to:

- [C.3.3 Deployment Orchestration](#)
- [FR-AG-002 — Artifact Export Packages](#)
- [FR-AG-003 — Artifact Import Packages](#)
- [FR-AG-004 — Baseline Synchronization](#)
- [FR-AG-005 — Deployment Traceability Across Disconnected Environments](#)
- [8. Dependencies and Air Gap Operations](#)

Referenced By

The wiki Backlinks function provides the current list of pages that reference FR-AG-001.

Incoming [Traceability](#) should be derived dynamically from backlinks rather than maintained as a duplicate manual list.

ConOps Relationship

The Crucible Concept of Operations describes a connected-to-disconnected supply chain in which dependencies and artifacts are captured in a Connected Environment, transferred through an authorized boundary, and consumed within a Disconnected Environment.

FR-AG-001 establishes the required deployment behavior after the required resources enter the Disconnected Environment.

Delivery Phase

Phase 1

Implementation Status

Not Assessed

Implementation status requires verification that Crucible performs deployment operations in a Disconnected Environment without accessing any external network resources.

Requirement Status

Draft

Notes for Editors

This requirements page should retain the stable requirement identifier 'FR-AG-001'.

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

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

The Statement should remain limited to the performance of deployment operations within a Disconnected Environment without access to external network resources.

Requirements for artifact export, artifact import, dependency capture, synchronization, and transfer authorization should remain in their applicable requirement pages.

Verification criteria should test only the behavior stated in the normalized Statement and should not introduce additional normative obligations.

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

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

```
{{section>dido:02-crusible:99-annexes:annex-c-requirements:03-functional-requirements:03-05-air-gap-operations:fr-ag-001#Statement&noheader&nofooter&noeditbtn}}
```

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