

FR-MC-005 — Edge Deployments

[Go to Crucible Multi-Cloud Management Requirements](#)

Statement

[Crucible](#) SHALL deploy identified deployment subjects to an Edge Environment.

Source Statement

The system shall support edge deployments.

Source

Crucible System Requirements Specification, Version 1.1 Draft, Functional Requirements, FR-MC-005.

Assessment

The source statement identifies a target deployment context but does not state the required deployment behavior.

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
- **Edge deployment** does not identify the deployment subjects
- **Edge** does not identify a controlled target-environment concept
- The source statement does not prescribe an edge platform, device class, provider, network architecture, orchestration mechanism, or connectivity model

The normalized Statement:

- Replaces **The system** with [Crucible](#)
- Replaces **support** with the direct behavior **deploy**
- Identifies deployment subjects
- Identifies an Edge Environment as the target
- Preserves implementation independence

Edge Environment and possibly **Edge Deployment** should receive glossary definitions. Defining Edge Environment is the higher priority because it identifies the deployment target.

Rationale

An Edge Environment operates computing capabilities near a source or consumer of data, an operational process, a physical location, or another point where local processing provides an architectural benefit.

Edge deployment subjects may include:

- [Infrastructure Resources](#)
- [Virtual Machines](#)
- [Kubernetes Clusters](#)
- [Containerized Workloads](#)
- [Platform Services](#)
- Configuration
- Security controls
- Monitoring capabilities

An Edge Environment may operate with:

- Limited network connectivity
- Intermittent connectivity
- Restricted bandwidth
- Limited computing capacity
- Limited storage capacity
- Location-specific security controls
- Local operational authority
- Low-latency processing requirements

FR-MC-005 does not independently require disconnected operation. The Air-Gapped Operations requirements govern disconnected and Air-Gapped Environment behavior.

Applies To

This requirement applies to:

- [Crucible](#)
- Edge Environments
- Edge Deployments
- Deployment subjects
- [Infrastructure Resources](#)
- [Virtual Machines](#)
- [Kubernetes Clusters](#)
- [Containerized Workloads](#)
- [Platform Services](#)
- Edge deployment workflows

Verification

1. Verification SHALL confirm that the tested target is identified as an Edge Environment
2. Verification SHALL confirm that the deployment subjects assigned to the Edge Environment are identified
3. Verification SHALL confirm that [Crucible](#) deploys the identified subjects to the Edge Environment
4. Verification SHALL confirm that the resulting deployment satisfies the applicable Edge Environment [Acceptance Criteria](#)

Verification may include:

- Edge Deployment testing
- Target-environment inspection
- Limited-connectivity testing
- Resource-constraint testing
- Deployment-state inspection
- Acceptance testing
- Deployment-log inspection

The verification record SHALL identify:

1. The Edge Environment
2. The deployed subjects
3. The applicable environment constraints
4. The applicable Acceptance Criteria
5. The deployment operation
6. The observed deployment result
7. The generated [Evidence](#)

Outgoing Traceability

This requirement realizes:

- [MO-003](#)
- [MO-006](#)

This requirement relates to:

- [C.3.3 Deployment Orchestration](#)
- [FR-MC-004 — Hybrid-Cloud Deployments](#)
- [C.3.5 Air-Gapped Operations](#)
- [7. Infrastructure and Deployment](#)
- [8. Dependencies and Air Gap Operations](#)

Referenced By

The wiki Backlinks function provides the current list of pages that reference FR-MC-005.

Incoming Traceability should be derived dynamically from backlinks.

ConOps Relationship

FR-MC-005 establishes deployment to an Edge Environment without prescribing the edge platform, device class, provider, or connectivity model.

Delivery Phase

Phase 1

Implementation Status

Not Assessed

Requirement Status

Draft

Notes for Editors

This requirement page should retain the stable requirement identifier FR-MC-005.

The Statement should remain limited to deployment of identified deployment subjects to an Edge Environment.

Edge Deployment should not be treated as synonymous with disconnected or Air-Gapped Environment deployment.

Requirements for dependency capture, disconnected operation, synchronization, resource constraints, and network isolation should remain in their applicable requirement pages.

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

```
{{section>dido:02-crusible:99-annexes:annex-c-requirements:03-functional-requirements:03-04-multi-cloud-management:fr-mc-005#Statement&noheader&nofooter&noeditbtn}}
```

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