

GPR-019 — Implementation Replacement Without Client Changes

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Statement

An implementation SHOULD be replaceable by an alternative implementation satisfying the same applicable [Interface Contracts](#) and conformance conditions without requiring changes to conforming clients.

Requirement Level

Recommended

Rationale

Replacement without client changes reduces implementation coupling, migration cost, operational disruption, and dependence on a particular product or vendor.

A conforming client should depend on standardized Interfaces, externally observable behavior, and applicable conformance conditions rather than implementation-specific behavior or internal design choices.

Evaluation Criteria

A Submission satisfying this recommendation demonstrates that:

1. Applicable Interface Contracts and conformance conditions are sufficient to support implementation replacement
2. Conforming clients depend only on standardized Interfaces and externally observable behavior
3. Replacing an implementation with a conforming alternative does not require changes to conforming clients
4. Implementation-specific extensions are distinguishable from standardized capabilities
5. Dependencies that could prevent implementation replacement are identified
6. Any departure from this recommendation is identified and justified

Referenced By

- [5.1.10 Encapsulation](#)

Notes for Editors

This requirement uses SHOULD and is therefore a recommendation.

The requirement applies when the original and replacement implementations satisfy the same applicable Interface Contracts and conformance conditions.

A client that depends on implementation-specific extensions, undocumented behavior, or capabilities outside the proposed specification may require changes when the implementation is replaced. Such a client is not conforming with respect to those dependencies.

To transclude the authoritative Statement into another page, use:

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Last update: **2026/09/15 13:32**

