

SIP-047 — Platform Independent Model Formal Semantics

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Statement

The [Platform Independent Model \(PIM\)](#) SHALL define the formal [Semantics](#) of its architectural constructs, relationships, and constraints independently of any specific implementation technology.

Rationale

Abstract syntax identifies which model elements and relationships may be expressed. Formal Semantics establishes what those elements, relationships, and constraints mean.

Defining Semantics independently of implementation technology enables separate implementations to interpret the same architectural model consistently. It also supports model validation, transformation, comparison, and conformance assessment without depending on a particular platform or product.

Evaluation Criteria

A conforming Submission demonstrates that:

1. Each architectural construct has a defined meaning
2. Each relationship has defined semantics
3. The meaning of each applicable constraint is specified
4. Semantic definitions are consistent with the abstract syntax
5. Ambiguous, contradictory, and undefined interpretations are identified or excluded
6. Semantic rules distinguish permitted interpretations from prohibited interpretations
7. The defined Semantics does not depend on a specific programming language, runtime platform, database, transport, or vendor product
8. Independent implementations can derive consistent interpretations from the normative model

Referenced By

- [6.4.2 Platform-Independent Model Definition](#)

Notes for Editors

Formal Semantics need not require a particular semantic representation language. The Submission must define meaning with sufficient rigor to remove material ambiguity and support independent interpretation and conformance assessment.

Use the following syntax to include the authoritative Statement on another wiki page:

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{{section>public:00-sip-ra:99-annexes:annex-c-requirements:sip-047-platform-independent-model-formal-semantics#Statement&noheader&nofooter&noeditbtn}}
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