

2.5.4 Lack of Conformance Criteria

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Without an explicit [Reference Architecture](#), reporting systems usually frame claims of compliance or alignment in terms of individual standards, formats, products, or tools.

A system may claim conformance because it:

- Produces syntactically valid output
- Implements a particular taxonomy
- Uses a recognised reporting format
- Adopts a specified technology
- Passes a schema-validation process

Such claims do not establish whether the system behaves consistently at the architectural level.

This creates a fundamental ambiguity: the meaning of architectural conformance remains undefined. Two systems may both claim alignment with the same reporting standard while handling [semantics](#), interpretation, versioning, provenance, validation, and governance in materially different ways.

Schema validation or format conformance may not expose these differences, even though they directly affect:

- Comparability
- Traceability
- Auditability
- Reproducibility
- Interoperability
- Governance
- Historical reconstruction

The absence of architectural conformance criteria therefore constitutes an architectural failure mode. Without a shared framework that defines responsibilities, boundaries, interfaces, lifecycle controls, and required behaviour, organisations cannot assess conformance consistently or durably.

Assertions of compliance remain fragmented, implementation-specific, and difficult to compare across:

- Agencies
- Vendors
- Products
- Jurisdictions
- Reporting periods
- Independently developed systems

A Reference Architecture addresses this gap by establishing explicit architectural responsibilities, relationships, constraints, interaction patterns, and conformance points against which systems can be assessed.

The architecture does not replace existing standards. Instead, it provides a framework for evaluating

how systems apply those standards within a complete architectural context.

Architectural conformance criteria can therefore extend beyond formats and schemas to include:

- Semantic handling
- Separation of reported, observed, and interpreted information
- Interpretive traceability
- Versioned semantic and rule context
- Provenance preservation
- Interface and contract governance
- Lifecycle control
- Inspectable conformance points
- Governance across the reporting lifecycle

The [Federated Data Interpretation Systems Reference Architecture \(FDIS-RA\)](https://wiki.didosolutions.com/dido/01-fdis-ra/02-background-and-motivation/02-5-why-a-reference-architecture-is-needed/02-5-4-lack-of-conformance-criteria/start?rev=1783886733) enables conformance to be defined in explicit, testable, comparable, and meaningful architectural terms across implementations and over time.

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