10.4 Logical Element / PIM to Implementation Artifact / PSM

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A Logical Element / PIM traces to an Implementation Artifact / PSM when an implementation profile maps the Platform Independent Model (PIM) to selected technologies.

For example, a logical Communication Endpoint may map to a DDS Topic in a DDS-based implementation profile. A logical Data Structure Definition may map to an IDL structure. A logical Node may map to a Python process packaged as an OCI-compatible container image.

This mapping realizes the logical model for a selected implementation context. It does not redefine the logical element or the conceptual element behind it.

Examples include:

Table 10.4-1: Examples of logical elements traced to implementation artifacts

Logical Element / PIM	**Implementation Artifact / PSM**
Logical Node	Python process, service process, or containerised executable
Logical Communication Endpoint	DDS Topic, API endpoint, message queue, event stream, or file exchange point
Logical Data Structure Definition	IDL structure, JSON Schema, XML Schema, SysML block, or generated language type
Logical Runtime Plane	DDS topic namespace, DDS partition, topic family, or implementation grouping
Logical Evidence class	Test output, captured message, provenance record, audit record, or configured evidence package
Logical Traceability relationship	Trace matrix entry, metadata link, configuration reference, model relationship, or generated report