

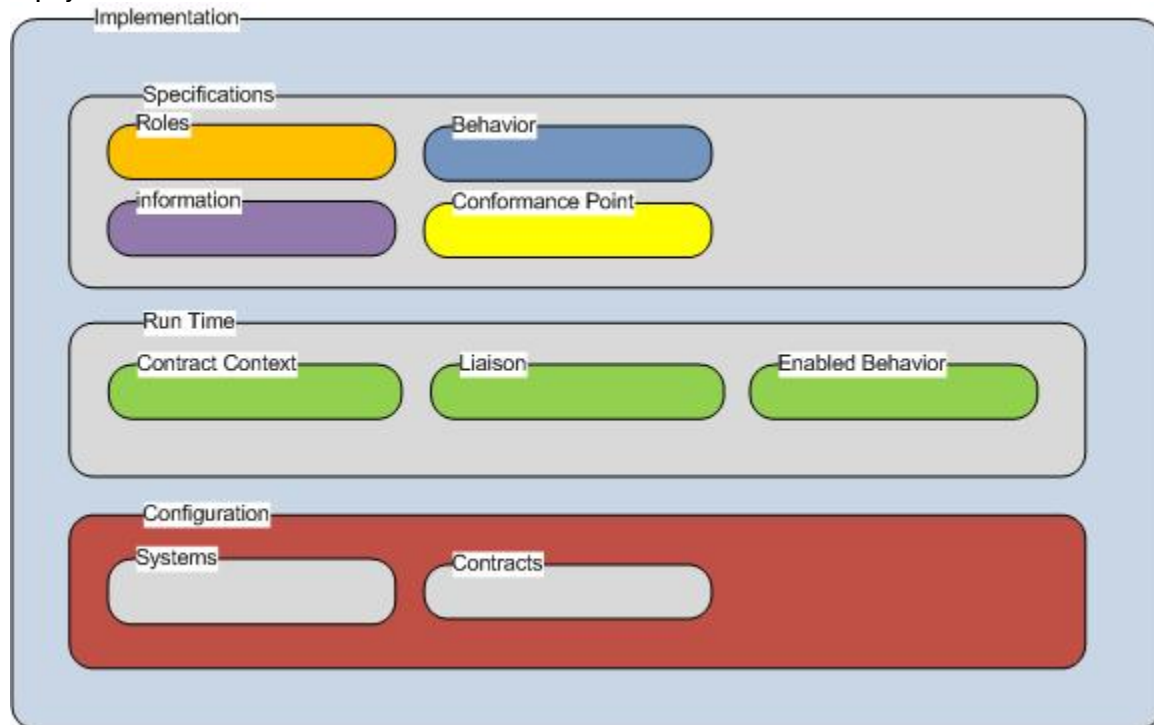
Semantic Infrastructure Concept of Operations Deployment and Run Time View

Semantic Infrastructure Concept of Operations Links

- [Semantic Infrastructure](#)
- [Vision](#)
- [Background](#)
- [Mission](#)
- [Objectives](#)
- [Overview](#)
- [Initiatives](#)
- [Stakeholders](#)
- [Alternatives](#)

The [VKC:Deployment and Run Time View](#) shown in the [architectural infrastructure diagram](#) (Deployment and Run Time <<import>> Contract and Design <<import>> Semantic) comprises implementable specifications (which represent the key semantics); a configuration of enabling systems and contracts; and a run time view of systems interacting with each other to fulfill their contracts. Artifacts from this view are used in the ECCF to assess compliance. Each implementation of a service is expected to state its level of conformance with the implementation-independent specification of that service as expressed as RM/ODP enterprise/information/computation artifacts, such as *Enterprise Metamodel - ITU-T Rec. X. 906* | *ISO/IEC 19793 Use of UML for ODP system specifications*. The closer the asserted level of conformance the higher the degree of semantic interoperability should be. Implementation viewpoint artifacts and functionalities are critical to empirically verifying that the expected level of interoperability has been achieved.

Deployment and Run Time View



This is a static view of the components involved. The following are shown within Implementation.

- Specifications
 - Roles and Information
 - Behavior and Conformance Point
- Run Time
 - Contract Context
 - Liaison
 - Enabled Behavior
- Configuration
 - Systems
 - Contracts

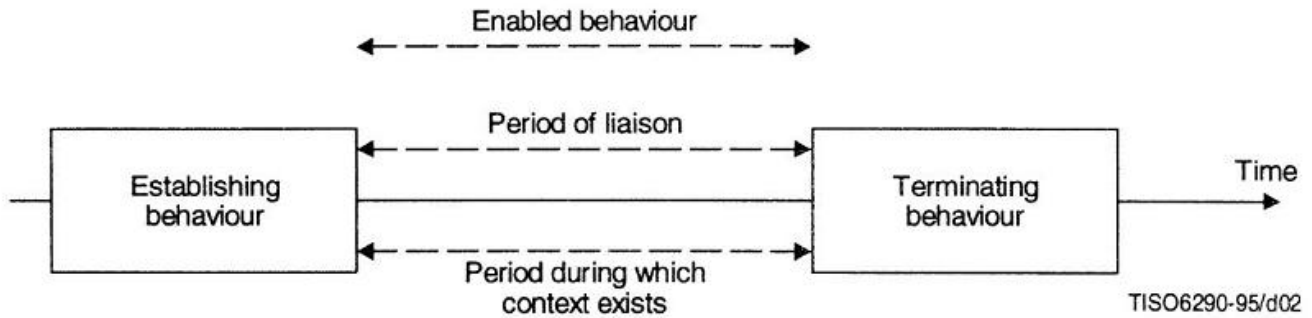
The Implementation is the instantiation of the configuration of systems with a particular objective(s) whose validity is subject to verification.

Specifications are implementable collections of rules about systems and their interactions. Specifications require a set of conformance points. Conformance points are empirically testable assertions that the implementation will interoperate with another system, or that the implementation conforms at a specified level of faithfulness to the specification that it implements. The specification is to be defined so that the semantics used in building may be verified. Semantic components include information, behaviors, and roles.

The configuration of an implementation consists of a collection of systems able to interact at interfaces as governed by contracts. A configuration of systems is designed to meet a specific objective(s), designated in the contract.

Run time is characterized by contracts being realized as liaisons between systems, resulting in sets of enabled behaviors. Contractual context is the knowledge that a particular contract is in place and that a particular behavior is required. Run time is demonstrated in the following behavioral model.

Time Graph Representing the States of a Contract



The diagram shows that Enabled behavior occurs between Establishing behavior and Terminating behavior, over the Period of liaison and the Period during which context exists. A contract may be instantiated multiple times with different liaisons.