

# 5 - Semantic Infrastructure Functional Requirements

Current Working Draft

The requirements for semantic infrastructure are defined as they relate to the architecture, use cases, and stakeholders. This section presents functional requirements with tracing up to the use cases and down to the service capabilities specified later in this document. This section is not an exhaustive list of requirements and is expected to evolve as additional requirements are analyzed and defined. In addition, Semantic Infrastructure 2.0 will fully support existing caDSR users, including supporting forms created in caDSR.

This section provides a description of the following requirement categories:

- [5.1 Artifact Management](#)
- [5.2 Service Discovery and Governance](#)
- [5.3 Clinical Data Forms Definition and Modeling](#)
- [5.4 Decision Support and Reasoning](#)
- [5.5 Conformance Testing](#)
- [5.6 caGrid 2.0 Platform and Terminology Integration](#)
- [5.7 Other Functional Requirements](#)

The requirements address one or more use cases in each domain, as described in section [4 - Semantic Infrastructure 2.0 Use Cases](#). In addition to the domain-specific use-cases, the requirements also address CBIIT internal development and architecture requirements.

Specifically, CBIIT has standardized on Service-Oriented Architecture (SOA) as the foundational principle for applications architecture and interoperability. CBIIT is currently working to develop a [CBIIT Implementation Guide \(IG\) for the HL7 Service-Aware Interoperability Framework \(SAIF\)](#) which includes the Enterprise Conformance and Compliance Framework (ECCF). This development effort is proceeding in parallel with, and based on, an ongoing dialogue with the caGrid 2.0 and Semantic Infrastructure 2.0 Roadmap projects, to ensure that CBIIT's SAIF IG is consistent with the requirements of the roadmaps. In particular, the CBIIT SAIF IG will contain details on the content, representation, and location within the ECCF Specification Stack for each artifact that will be resident in the Semantic Infrastructure 2.0 ECCF repository and runtime registry. Refer to the [NCI CBIIT SAIF Implementation Guide](#) for more details, as well as a discussion regarding the organizational requirements for supporting computable semantic interoperability and the need to publish formal specifications that can be adopted by external organizations and vendors.