

Semantic Infrastructure Concept of Operations Mission

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Mission Statement

The Semantic Infrastructure project is an enabling project. It does not produce health data or business processes, but produces infrastructure for eliciting and capturing static and dynamic semantics, standards compliant terminology and metadata resources, ontology enabled Grid and Web resources, and semantically aware services such as natural language tools for the lab and clinic. Its orientation and initiatives will be aligned to support the NCI enterprise vision.

Priorities

NCI has made personalized medicine and translational research priorities. These are interrelated: each requires that researchers, clinicians, industry, and government agencies share information quickly, accurately and in ways that will accelerate the ability to discover, test and release new modalities for detection and treatment, and improve care. These capabilities must be effectively integrated with broader health IT systems, and are also requirements that any national health network would need to possess. Therefore the CBIIT/caBIG® semantic infrastructure must be designed to scale to national and international implementation and integration, as well as support interoperability from a technology neutral approach.

Tasks

The mission of the NCI CBIIT Semantics and Operations Group is to accomplish five specific tasks. These are to:

- Develop or adopt abstract general models or frameworks for specifying how standard terminologies, ontologies, message specifications, data elements, rules and other semantics building blocks can be leveraged to provide a shareable, interoperable electronic infrastructure to connect the biomedical research and care delivery communities;
- Develop or extend domain specific models, including standard rules and a common semantic style of representation to more easily develop applications that can share information;
- Employ the Enterprise Compliance and Conformance Framework to represent frameworks and models in an implementation independent manner;
- Build and adapt tools and interfaces for generation, curation, storage and use of semantic information, and for convenient lookup, retrieval and transformation of this information by both end-users and applications;
- Supply semantic content - terminology, ontology and metadata - to the infrastructure forming a basis for ongoing usage and expansion of the caBIG® data sharing and semantic discovery infrastructure, as well as directly to end users of these resources and infrastructure;
- Work with the caBIG® Knowledge Centers and other community based resources to provide training and support to the community in terms of evaluating or using NCI-based semantics resources as well as federated community-based resources as they become available.