

Common Logic (ISO 24707)

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What Is Common Logic?

- Common Logic (published as “ISO/IEC 24707:2007 — Information technology Common Logic : a framework for a family of logic-based languages”) is a language based on first-order logic, but extending it in several ways that ease the formulation of complex ontologies that are definable in first-order logic.

How Is Common Logic Used?

Ontologies

- An ontology is a computer-interpretable specification that is used by an agent, application, or other information resource to declare what terms it uses, and what the terms mean.
- There are many domains which require a logic that is at least as expressive as first-order logic, and Common Logic is the predominant language for the specification of ontologies in these domains.

How Is Common Logic Used?

Semantic Interoperability

- Common Logic specifies a family of logic languages designed for use in the representation and interchange of information and data among disparate computer systems.
- Languages in the family share the same declarative semantics, so that it is possible to understand the meaning of expressions in these languages without appeal to an interpreter for manipulating those expressions.

COLORE: Common Logic Ontology Repository

- The objective of the Common Logic Ontology Repository (COLORE) project is to construct an open repository of first-order ontologies that will serve as a testbed for ontology evaluation and integration techniques, and that can support the design, evaluation, and application of ontologies in first-order logic.
- As of April 3, 2013, there are 1132 ontologies in COLORE, which can be found at code.google.com/p/colore/
- COLORE is also a participant in the Open Ontology Repository (OOR) Initiative (oor.net).

Relationship to Other Standards

- Process Specification Language (ISO 18629)
- Date-Time Vocabulary (OMG)
- Foundational UML (OMG)
- Semantic Web Services Framework (W3C)
- OntoOp (ISO WD 17347)

Software Support for Common Logic

- Heterogeneous Tool Set (HETS)
- Samian Platform, Kojeware Corp
- MACLEOD
- OntologyPortal
- RECON

Resources

Research papers, presentations, and tutorials about Common Logic :
cl.tamu.edu

Material related to current discussions and proposals for extending
Common Logic is at

ontolog.cim3.net/cgi-bin/wiki.pl?CommonLogic

Issue tracking and other project management information is hosted at
<https://github.com/gruninger/Common-Logic>

Proposed Revisions to Common Logic

Syntactic Issues

- 1 Fixing the list of syntactic errors that have already been identified in Defect Report
- 2 Correction and completion of the XML syntax in Annex C
- 3 More general approach to annotation of cl-texts

Semantic Issues

- 1 Modification of semantics to allow the existence of definitional extensions in CL
- 2 Circular imports
- 3 Semantics of cl-module
- 4 Questions about segregated dialects and interoperability
- 5 Clarification of conformance conditions