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# Content Format, Management & Interoperability at the Semantic Level

## Definition

*Content Management Interoperability Services (CMIS) [1] is a proposed standard consisting of a set of Web services for sharing information among disparate content repositories that seeks to ensure interoperability for people and applications using multiple content repositories.*

From [http://en.wikipedia.org/wiki/Content\\_Management\\_Interoperability\\_Services](http://en.wikipedia.org/wiki/Content_Management_Interoperability_Services)

Semantic CMIS (SCMIS) add to 'basic' CMIS standardized ontology that permits direct machine interpretation of the data.

## Related concepts and technologies

- CMIS
- Web Services
- Ontologies
  - An ontology in both computer science and information science is a formal representation of a set of concepts within a domain and the relationships between those concepts. It is used to reason about the properties of that domain, and may be used to define the domain. Ontologies are used in artificial intelligence, the Semantic Web, software engineering, biomedical informatics, library science, and information architecture as a form of knowledge representation about the world or some part of it. From: [http://en.wikipedia.org/wiki/Ontology\\_\(computer\\_science\)](http://en.wikipedia.org/wiki/Ontology_(computer_science))
- Semantic Web
  - The Semantic Web is an evolving extension of the World Wide Web in which the semantics of information and services on the web is defined, making it possible for the web to understand and satisfy the requests of people and machines to use the web content. From [http://en.wikipedia.org/wiki/Semantic\\_web](http://en.wikipedia.org/wiki/Semantic_web)
- Web 2.0
  - Web 2.0 is a term describing changing trends in the use of World Wide Web technology and web design that aims to enhance creativity, secure information sharing, collaboration and functionality of the web. Web 2.0 concepts have led to the development and evolution of web-based communities and its hosted services, such as social-networking sites, video sharing sites, wikis, blogs, and folksonomies. From [http://en.wikipedia.org/wiki/Web\\_2.0](http://en.wikipedia.org/wiki/Web_2.0)
- Web 3.0
  - Web 3.0, a phrase coined by John Markoff of the New York Times in 2006, refers to a supposed third generation of Internet-based services that collectively comprise what might be called 'the intelligent Web'—such as those using semantic web, microformats, natural language search, data-mining, machine learning, recommendation agents, and artificial intelligence technologies—which emphasize machine-facilitated understanding of information in order to provide a more productive and intuitive user experience. From [http://en.wikipedia.org/wiki/Web\\_3.0](http://en.wikipedia.org/wiki/Web_3.0)
  - Web 1.0 is likened to the simple ability to read content over the Internet, 2.0 offers read-write powers (hence, multiuser-created and shared data), and 3.0 will expand this to include read-write-execute. What does execute mean? For me, it means that computing will become ubiquitous, with devices interacting with our every step, from the portable unit that automatically adapts to our tastes as it feeds news, sports, weather, music, videos, and messages to us as we travel about in our own private cocoon to the devices in our homes that

monitor and learn from our preferences. From  
<http://www.britannica.com/blogs/2007/07/web-30-the-dreamer-of-the-vine/>

## ***Status and market potential***

The technology and its associated business model are still under development.

OASIS has just created a TC for CMIS. CMIS may become available in some commercial products in 2010.  
<http://xml.coverpages.org/OASIS-CMIS-CharterProposal.html>

## ***Standards***

CMIS standards are currently being developed by OASIS.

Web services standards are being principally developed by the IETF, W3C, OASIS, WS-I and JTC 1/SC6.

Semantic Web standards are principally developed by the W3C. See <http://www.w3.org/2001/sw/>

Ontologies are being developed for many application domains by OASIS (Legal XML, Automotive Repair, Education, etc...), by Rosettanet for procurement, by HL7 for healthcare, HR-XML (<http://www.hr-xml.org/>) for human resources, etc... Just recently CEN/ISSS has revived a Worskop called WS/METALEX with the objective to prepare a revised version of CWA 15710: Open XML Interchange Format for Legal and Legislative Resources. The work is based on the outcome of the EU research project ESTRELLA, and will agree additional provisions and clarify terminology already used in the previous agreement. The section on metadata will be rewritten for purposes of clarity, and to take into account the RDF/A working draft of 18 November 2007.

Two other CEN/ISSS Workshops related to Metadata that have been completed are:

- Metadata for Multimedia Information (MMI)  
[http://www.cen.eu/cenorm/sectors/sectors/iss/iss/about\\_iss/mmidc.asp](http://www.cen.eu/cenorm/sectors/sectors/iss/iss/about_iss/mmidc.asp)
- Meta-Data (Dublin Core) (WS/MMI-DC)  
<http://www.cen.eu/cenorm/sectors/sectors/iss/activity/wsmmi.asp>

Finally, a CEN/ISSS Workshop on Modelling for Automotive Repair Information has also been held :  
<http://www.cen.eu/CENORM/sectors/sectors/iss/activity/ws+ima.asp>