LexEVS 6.0 CTS2 Guide

There are some pertinent questions terminology users are asking about CTS2 as it relates to available terminology servers. As you will see, this guide addresses these important questions in an attempt to steer users in the proper direction when they need to choose terminology services. If there are additional CTS2 areas where guidance would help, please let us know using the General VKC forums.

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What is CTS2?

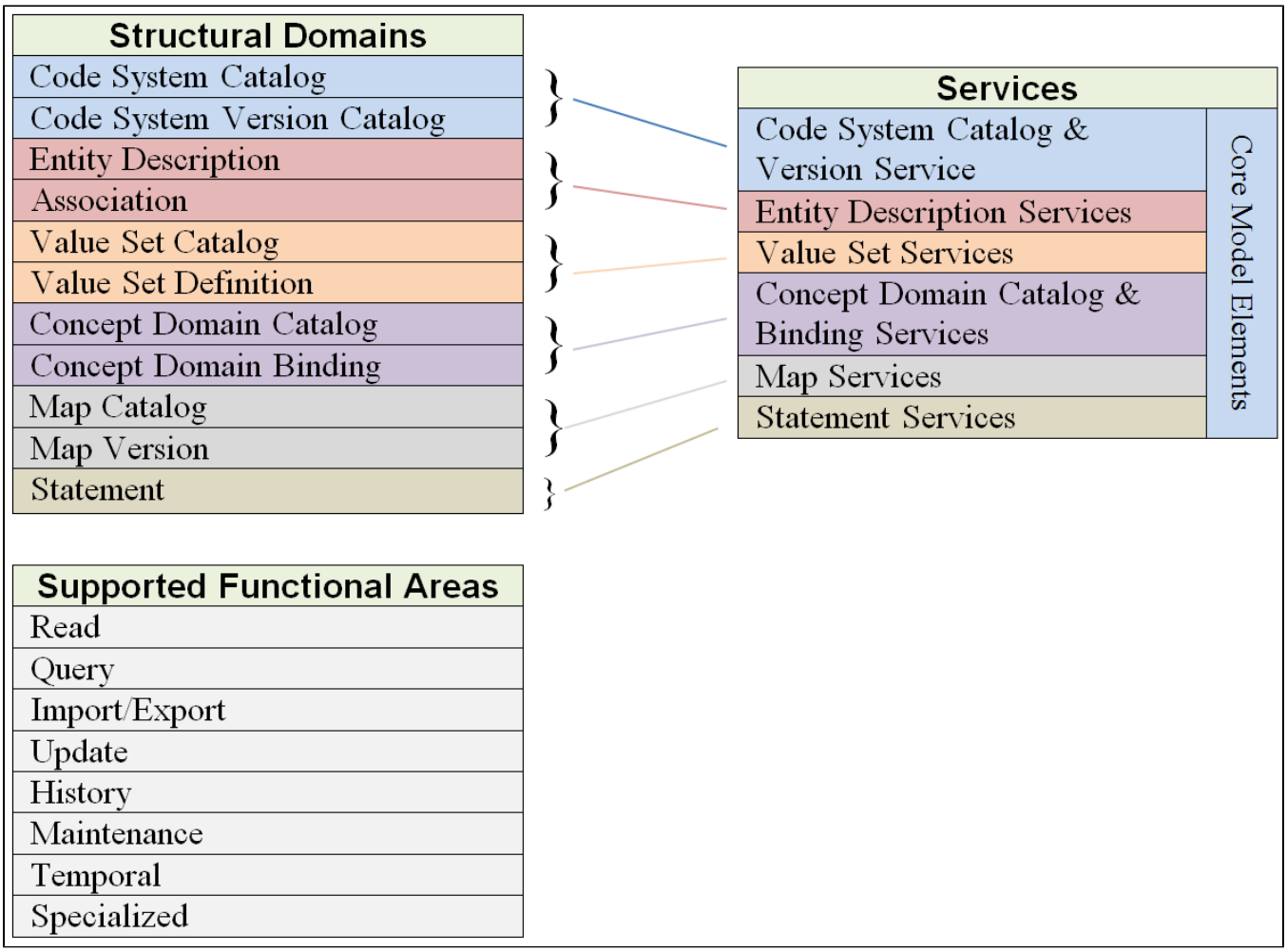
Developed through the Healthcare Services Specification Project (HSSP), Common Terminology Services Release 2 (CTS2) has been created as a standard as a shared semantic model and application programming interface (API) for the query, interchange and update of terminological content. As an API specification, CTS2 is a blueprint for building and using software which enables interoperability between CTS2 clients and services.

How is CTS2 important in vocabulary management?

Structured terminologies have some common ‘resources’ such as Code Systems, Domains, and Value Sets, and access to these resources is enabled usually through a service interface. CTS2 strives to provide a consistent representation and flexible service interfaces to structured terminologies. This enables us to accurately represent and manage a wide variety of vocabularies and other lexically-based resources in a common way.

The CTS2 Platform Independent Model (PIM) provides standard service information model and a computational model. The information model specifies the structural definition, attributes and associations of these common terminology ‘resources’ and the computational model specifies the service descriptions and interfaces needed to access and maintain structured terminologies.

The detailed description of the CTS2 PIM specifications can be found on the OMG site . The following tables provide a concise look at its structure. CTS2 organizes resources in terms of coding schemes, entities and value sets and provides various functional areas to access these resources using CTS2 modules and services.



Where can I learn more about CTS2? Are there some existing implementations or examples available?

This page helps with the choices one must make in regards to terminology services revolving around LexEVS and CTS2. In answer to the question, you may look here for other information on the VKC:

- CTS2 In Action - Uses of CTS2 already.
- LexEVS 6.0 CTS2 API - The pre-CTS2 APIs as they exist in LexEVS 6.0.
- Mapping CTS2 API to LexEVS 6.0 API - Mapping the CTS2 APIs to what is available in the LexEVS 6.0.

The CTS2 specification allows (and encourages) modular implementation of its model components and service interfaces. A CTS2 service instance (a particular implementation of the CTS2 specifications) may choose to implement only a subset of the model and services that it needs.

The CTS2 development team has a home site built around the implementation and use of CTS2. They also provide a developer's toolkit called CTS2 Development Framework for rapidly building CTS2 compliant applications.

I was planning to use LexEVS to manage my ontologies and terms? Should I switch to CTS2-based implementation? What is the difference?

LexEVS 6.0 has been very close to functionally equivalent to CTS2 specifications. Note that the LexEVS 6.0 APIs are *not* fully CTS2 compliant (refer to LexEVS 6.0 CTS2 API) but offer identical functionality as compared to most CTS2 services. The following table shows the functions that CTS2 specifies and whether they are available in the LexEVS 6.0 release. Please note that there are additional functions LexEVS 6.0 makes available in addition to what are listed here, but they are not listed since they do not coordinate with CTS2. To find more about those, please refer to the LexEVS 6.x Documentation.

HL7 SFM Section	Functions / Considerations	CTS2 Availability	LexEVS 6.0 Availability
6.1	**Administration Operations**	**Used to categorize functions**	**Used to categorize functions**
6.1.1	Import Code System	Available	Available

6.1.2	Import Code System Revision	Available	Available
6.1.3	Import Value Set Version	Available	Available
6.1.4	Import Association Version	Available	Available
6.1.5	Export Association	Available	Available
6.1.6	Export Code System Content	Available	Available
6.1.7	Change Code System Status	Available	Available
6.1.8	Register for Notification	Not Available	Available
6.1.9	Update Notification Registration	Not Available	Available
6.1.10	Update Notification Registration Status	Not Available	Available
6.2	**Search / Access Operations**	**Used to categorize functions**	**Used to categorize functions**
6.2.1	**Code System Search / Access**	**All functions in category are available**	**All functions in category are available**
6.2.1.1	List Code Systems	Available	Available
6.2.1.2	Return Code System Details	Available	Available
6.2.1.3	List Code System Concepts	Available	Available
6.2.1.4	Return Concept Details	Available	Available
6.2.1.5	List Association Types	Available	Available
6.2.1.6	Return Association Type Details	Available	Available
6.2.2	**Value Set Search / Access**	**All functions in category are available**	**All functions in category are available**
6.2.2.1	List Value Sets	Available	Available
6.2.2.2	Return Value Set Details	Available	Available
6.2.2.3	List Value Set Contents (Expand value set)	Available	Available
6.2.2.4	Check Value Set Subsumption	Available	Available
6.2.2.5	Check Concept Value Set Membership	Available	Available
6.2.3	**Concept Domain and Usage Context Search / Access**	**All functions in category are available**	**All functions in category are available**
6.2.3.1	List Concept Domains	Available	Available
6.2.3.2	Return Concept Domain Details	Available	Available
6.2.3.3	List Usage Contexts	Available	Available
6.2.3.4	Return Usage Context Details	Available	Available
6.2.3.5	List Concept Domain Bindings	Available	Available
6.2.3.5.1	Check Concept to Concept Domain Association	Available	Available
6.2.4	**Association related queries**	**All functions in category are available**	**All functions in category are available**
6.2.4.1	List Associations	Available	Available
6.2.4.2	Determine Transitive Concept Relationship	Available	Available
6.2.4.3	Compute Subsumption Relationship	Available	Available
6.2.4.4	Return Association Details	Available	Available
6.3	**Authoring/Curation Operations**	**Used to categorize functions**	**Used to categorize functions**
6.3.1	**Code System Authoring/Curation**	**All functions in category are available**	**All functions in category are available**
6.3.1.1	Create Code System	Available	Available
6.3.1.2	Maintain Code System Version	Available	Available
6.3.1.3	Update Code System Version Status	Available	Available
6.3.1.4	Create Code System Supplement	Available	Available
6.3.1.5	Maintain Code System Supplement	Available	Available

6.3.1.6	Create Concept	Available	Available
6.3.1.7	Maintain Concept	Available	Available
6.3.1.8	Update Concept Status	Available	Available
6.3.1.9	Create Association Type	Available	Available
6.3.1.10	Maintain Association Type	Available	Available
6.3.2	**Value Set Authoring/Curation**	**All functions in category are available**	**All functions in category are available**
6.3.2.1	Create Value Set	Available	Available
6.3.2.2	Maintain Value Set	Available	Available
6.3.2.3	Update Value Set Status	Available	Available
6.3.3	**Concept Domain and Usage Context Authoring /Curation**	**All functions in category are available**	**All functions in category are available**
6.3.3.1	Create Concept Domain	Available	Available
6.3.3.2	Maintain Concept Domain	Available	Available
6.3.3.3	Create Usage Context	Available	Available
6.3.3.4	Maintain Usage Context	Available	Available
6.3.4	**Association Authoring Operations**	**Some functions in category are available**	**Some functions in category are available**
6.3.4.1	Update Association Status	Available	Available
6.3.4.2	Create Association	Available	Available
6.3.4.3	Create Lexical Association between Coded Concepts	Available	Available
6.3.4.4	Create Rules Based Association between Coded Concepts	Not Available	Not Available