UNECE
UN / CEFACT

Executive Guide

Core Components

Introduction

In a paper document, information can be presented in free text. However, in official forms or common business documents, information is typically presented in structured boxes, which require the entry of specific information related to parties, places, transport or goods details, etc.

Within an electronic message, the majority of information is structured in order to provide specific, identifiable information that can be interpreted correctly by automated systems. In order for this to work, both the receiving and sending parties need to use the same semantics (or basic meaning) for each component of data. To provide these common semantic definitions, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) has developed the United Nations Core Component Library (UN/CCL).

If information is presented in a very "flat" manner (i.e. with all components being on an equal level), this may create confusion or redundancy. For example, if we have a data component called "City Name", do we mean the city name of the destination address, or that of the expedition address, or perhaps that of the freight forwarder, etc.? If we want to know which instance is being referred to, then one option is to qualify "City Name" each time it is used. If this is done for every component of an address, redundant data is required. On the other hand, if the "basic core component" of "City Name" is used in an aggregate core component such as "address" and is used in a business context such as "shipping destination", then "City Name" and all of the other basic core components used in "Shipping Destination" do not have to be individually qualified.

In order to make the UN/CCL more workable, the information is grouped into logical aggregations and/or it is associated with its business context. This enables a more flexible maintenance as the majority of concepts are expressed in aggregate core components that are built using a smaller number of basic core components (like building blocks) or by associating a core component with a business context. Each change to a basic core component will be inherited in all of its uses. For example, if the base component "City Name" is changed, then it will be changed in all types of "addresses" that include "City Name" and in all of the business contexts that use "City Name".

This requires a strict methodology for creating the base components: the aggregated components, and the components within business contexts. This methodology can be compared to the rules of grammar for a language, which allow language speakers to understand one another. For the UN/CCL, this methodology is called the United Nations Core Components Technical Specification (UN/CCTS). The specifications in the UN/CCTS are not only useful for creating and maintaining the UN/CCL, they can also be used by business analysts, business users and information technology specialists who supply data content and who design applications that use the data definitions from the UN/CCL.
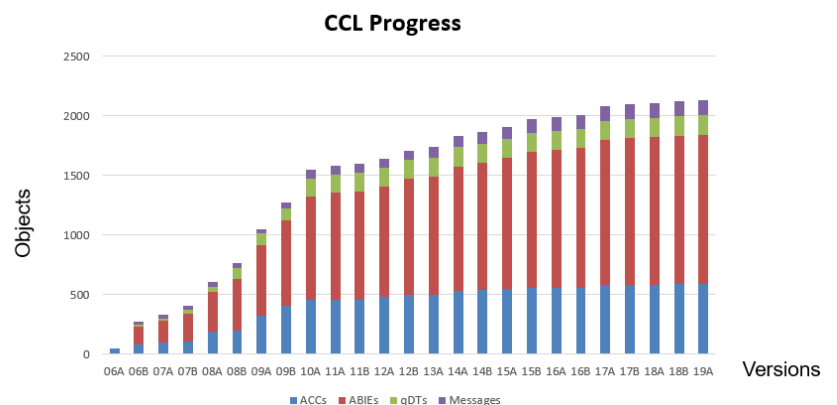
Applications

UN/CEFACT uses the UN/CCTS to develop the UN/CCL. The UN/CCL is used by UN/CEFACT to develop reference data models and business messages. The business messages developed by UN/CEFACT using the UN/CCL are currently in the XML syntax. These UN/CEFACT messages focus primarily on improving the exchange of trade data information among governments, government agencies, industries and private companies. At the same time, the UN/CCL can be used in other syntaxes and data formats because the core components have been specifically designed to be syntax neutral.

Benefits

The UN/CCTS provides a methodology for identifying and capturing business information in a standardized way that allows its maximum re-use while supporting and enhancing information interoperability across multiple business situations. The UN/CCTS specification focuses both on human-readable and machine-processable representations of this information.

The Core Components approach described in the UN/CCTS is more flexible than current standards in this area because the semantic standardization is done in a syntaxneutral fashion. The UN/CCTS enables UN/CEFACT to develop the UN/CCL.

The UN/Core Component Library (UN/CCL) is of global benefit since:

- It is continually being maintained to ensure that it is adapted to changes in processes, regulations and new areas;
- The increasing number of users ensures a wide pool of experts' knowledge globally,
- Its free availability supports the development of affordable software tools.

More Information

The UN/CCTS and UN/CCL are available free of charge on the UN/CEFACT web site:

- Core Component Library:
  http://www.unece.org/cefact/codesfortrade/unccl/ccl_index.html
- Core Component Technical Specification:
  http://www.unece.org/cefact/codesfortrade/ccts_index.html

What is UN/CEFACT?

UN/CEFACT, the United Nations Centre for Trade Facilitation and Electronic Business, supports activities dedicated to improving the ability of business, trade and administrative organizations, from developed, developing and transition economies, to **exchange products and relevant services effectively**. Its principal focus is on facilitating national and international transactions, through **the simplification and harmonization of processes, procedures and information flows**, and so contributing to the growth of global commerce.

UN/CEFACT has a global mandate. Participation in the UN/CEFACT Forum is open to all. There are 1000 experts from every region in the world.

Within the framework of the United Nations Economic and Social Council, the United Nations Economic Commission for Europe (UNECE) serves as the focal point for **trade facilitation recommendations and electronic business standards**, covering both commercial and government business processes that can foster growth in international trade and related services. In this context UN/CEFACT was established, as a subsidiary, intergovernmental body of the UNECE.

Participation in the development of UN/CEFACT standards and recommendations is free of charge.

If you are interested in joining us, you should register at https://uncefact.unece.org/display/uncefactpublic/UNCEFACT+Expert+Registration

All resulting deliverables are available online free of charge at http://www.unece.org/cefact

For more information:
http://www.unece.org/cefact
See also: http://tfig.unece.org/

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