

PLCS SDK

THE PLCS SDK IS A SET OF DEVELOPMENT TOOLS DESIGNED TO SIMPLIFY THE TASK OF IMPLEMENTING PLCS IN SOFTWARE PACKAGES THAT CREATE AND CONSUME PRODUCT DATA

Description

The PLCS Software Development Kit (SDK) provides the ability to read, write, and validate data in PLCS format. The PLCS SDK implements the PLCS standard for data exchange. It guarantees conformance to both the PLCS application protocol and the PLCS Data Exchange Specifications (DEXes).

PLCS stands for Product Life Cycle Support and it is the acronym adopted for the ISO 10303-239. PLCS is the international standard for the representation and the exchange of product data that covers the entire life cycle of the product, from the requirements definition to the logistic support and disposal.

PLCS formalizes the representation of product data in a non proprietary information model, internationally accepted and recognized. The coverage and the flexibility of PLCS make it suitable for complex data exchange scenarios.

Benefits

Key benefits of using the PLCS SDK include:

- reduced effort to develop PLCS data importers and exporters;
- fast deployment of PLCS within existing software and architectures;
- compliance with the PLCS standard (STEP ISO 10303-239) and its exchange formats;
- compliance with the PLCS Data Exchange Specifications (DEXes) and their templates, as contained in the official OASIS DEXLib repository and PLCSLib repository.

Software

PLCS API

The PLCS API (Application Programming Interface) is a Java class library. It is designed to navigate the PLCS information model and to read and write in the PLCS format.

The entities of the PLCS information model are mirrored by Java classes, which can be used to develop PLCS adapters to existing software applications. The PLCS API provides the ability to read and write instances in the standard data formats: ISO 10303-21, which consists of raw text data, and ISO 10303-28, which represents the data in XML format.

DEX & Template API

The Template API is a Java class library layered on top of the PLCS API. It is designed to implement the PLCS Data Exchange Specifications (DEXes) Templates, as published in the official OASIS DEXLib repository. A Template consists of a set of input and reference parameters and an instantiation path, where the instantiation path defines which PLCS entities need to be instantiated. A Template includes uniqueness constraints that define which combination of attribute values uniquely identifies an instance of a PLCS entity.

The Templates are mirrored by Java classes which represent the input parameters, reference parameters and the instantiation path of a Template. The Template API uses the PLCS API's ability to read and write in the standard data formats. Thus, the ISO 10303-21 and ISO 10303-28 files can be generated from the Template API for compliance to a DEX. These files also

Other components

PLCS Schemas

The PLCS Schemas are the standard ISO 10303-11 (EXPRESS) Schema and the associated XML Schema which describe the entities of the PLCS information model and the associations between the entities. The SDK components assure compliance to PLCS by supporting these schemas.

Programming Examples

The PLCS SDK further supports enterprise custom Business DEX and Template implementation. Example implementation shows how the enterprise can easily connect its own business DEX to the Template API and the PLCS API. Thus, the enterprise can create ISO 10303-21 and ISO 10303-28 files conformant to the developed DEX. Example programs that demonstrate working with PLCS to read and write files and to develop adapters are provided.

Documentation

The PLCS SDK comes with complete developer documentation. Detailed tutorials on the PLCS information model can also be provided if requested.

