



# Product Life Cycle Support DEXs Version R1

## Public Review Draft 01

11 March 2008

### Specification URIs:

#### This Version:

[http://docs.oasis-open.org/plcs/dexlib/R1/dexlib/oasis\\_cover.htm](http://docs.oasis-open.org/plcs/dexlib/R1/dexlib/oasis_cover.htm)  
[http://docs.oasis-open.org/plcs/dexlib/R1/dexlib/oasis\\_cover.pdf](http://docs.oasis-open.org/plcs/dexlib/R1/dexlib/oasis_cover.pdf)

#### Previous Version:

N/A

#### Latest Version:

[http://docs.oasis-open.org/plcs/dexlib/oasis\\_cover.htm](http://docs.oasis-open.org/plcs/dexlib/oasis_cover.htm)  
[http://docs.oasis-open.org/plcs/dexlib/oasis\\_cover.pdf](http://docs.oasis-open.org/plcs/dexlib/oasis_cover.pdf)

#### Technical Committee:

OASIS PLCS TC

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#### Related Work:

This specification is related to:

ISO 10303-239 (2005) Industrial automation systems and integration - Product data representation and exchange: Application Protocol: Product life cycle support

#### Declared XML Namespace(s):

<http://docs.oasis-open.org/plcs/plcs-std-rdl>  
<http://docs.oasis-open.org/plcs/plcs-arm-lf-express>  
urn:iso10303-28:schema/Product\_life\_cycle\_support  
urn:iso:std:iso:10303:28:ed-2:2005:schema:common

#### Abstract:

The purpose of the OASIS Product Life Cycle Support (PLCS) DEXs standard is to establish structured data exchange and sharing capabilities for use by industry to support complex engineered assets throughout their total life cycle. The OASIS Product Life Cycle Support (PLCS) DEXs standard is defined by Data Exchange Specifications (DEXs) that are based upon ISO 10303 (STEP) Application Protocol 239 (Product Life Cycle Support).

The scope of the information content of ISO 10303-239 covers:

- The identification and composition of a product design from a support viewpoint;

- The definition of documents and their applicability to products and support activities;
- The identification and composition of individual products;
- Configuration management activities, over the complete life cycle;
- Activities required to sustain product function;
- The resources needed to perform such activities;
- The planning and scheduling of such activities;
- The capture of feedback on the performance of such activities, including the resources used;
- The capture of feedback on the usage and condition of a product;
- The definition of the support environment in terms of people, organizations, skills, experience and facilities.

The business goals of the OASIS PLCS DEXs are to satisfy three significant requirements for owners/operators of complex products and systems such as aircraft, ships and power plants, namely:

- Reduction in the total cost of ownership
- Increased asset availability
- Effective information management throughout the product lifecycle

### Status:

This document was last revised or approved by the OASIS PLCS TC on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

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## 1. Introduction

The purpose of the OASIS Product Life Cycle Support (PLCS) standard is to support complex engineered assets such as planes and ships throughout their total life cycle. It puts particular emphasis on the in-service phase of the product and, in particular, it supports the seamless transition from design and manufacture through to product support and feedback of usage and change.

The data needed is often distributed over multiple IT systems and organizations, and historically has been difficult to access and consolidate. The PLCS standard provides a large, integrated information model covering the whole lifecycle. Together with the XML binding described in ISO 10303-28, the PLCS standard provides the basic mechanisms enabling neutral file exchanges between IT systems and organisations. This helps remove delays and costs for both the end user of the product and the supplier, and is particularly important for service-based contracts such as "power-by-the-hour".

The PLCS information model is larger than any single existing application, and needs detailed application rules in order to be used uniformly by different users and supported by different software applications. This standard, "OASIS PLCS

DEXs ed. 2008:1" defines the usage of the PLCS information model by breaking it up into smaller parts (DEXs) that directly support real life business processes. It builds the DEXs from reusable components (Templates) that guarantees uniform interpretation of PLCS between different DEXs, and adds extendible business terminology (Reference Data) to the model. Each Data Exchange Specification (DEX) provides data exchange and sharing capabilities for a focused set of transactions based upon the integrated data model of ISO 10303 (STEP) Application Protocol 239 (Product Life Cycle Support).

The information content of PLCS covers:

- The identification and composition of a product design from a support viewpoint;
- The definition of documents and their applicability to products and support activities;
- The identification and composition of individual products;
- Configuration management activities, over the complete life cycle;
- Activities required to sustain product function;
- The resources needed to perform such activities;
- The planning and scheduling of such activities;
- The capture of feedback on the performance of such activities, including the resources used;
- The capture of feedback on the usage and condition of a product;
- The definition of the support environment in terms of people, organizations, skills, experience and facilities.

The business goals of the OASIS PLCS DEXs are to satisfy three significant requirements for owners/operators of complex products and systems such as aircraft, ships and power plants, namely:

- Reduction in the total cost of ownership;
- Increased asset availability;
- Effective information management throughout the product lifecycle.

This first edition of the OASIS PLCS [DEX](#) standardizes the following components:

- The DEXs:
  - [Aviation maintenance DEX](#)
  - [Task specification DEX](#)
- Templates used by the DEXs
- EXPRESS and XML Schemas of the DEXs
- PLCS Reference Data
- The PLCS Help and Information Pages

Future editions of the OASIS PLCS DEXs will extend the number of DEXs, Templates and Reference Data, as well as other parts to facilitate the adoption of the PLCS standard.

## 1.1 Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in [RFC2119](#).

## 1.2 Normative References

[\[rfc2119\]](#)

S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*, <http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC 2119, March 1997.

[\[iso10303239\]](#)

*Industrial automation systems and integration - Product data representation and exchange: Application Protocol: Product life cycle support*, ISO 10303-239, 2005.

## Appendix A. Acknowledgements

The following individuals have participated in the creation of this specification and are gratefully acknowledged:

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## Appendix B. Revision History

Release	Date	Changes
Version Public Review Draft	Tue Mar 11 17:25:11 2008	<ol style="list-style-type: none"><li>1. New DEX: <a href="#">aviation_maintenance</a></li><li>2. New DEX: <a href="#">task_set</a></li></ol>