



DI1.7: Promotion of PROMISE Standards

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Abbreviations

PEID: Product Embedded Information Device
PMI: PROMISE Middleware Interface
PDKM: Product Data Knowledge Management
PLCS: Product Life Cycle Support
UML: Unified Modelling Language
XML: eXtensible Markup Language
ISO: International Standards Organisation
WSDL: Web Services Definition Language
OMG: Object Management Group
EPCIS: Electronic Product Code Information Services
NIST: National Institute of Standards and Technology

1 Introduction

The overall goal for PROMISE work package I1 is to ensure that there is an open channel for the continuing promotion and acceptance of key elements of the standards (or set of standards) and interfaces defined during the PROMISE project. The need for an “open” standard, rather than a de facto one or even no standard at all, was outlined in deliverable DI1.3 [1]. The users of PROMISE technology need well-specified approaches to using the technology without being locked in to particular vendors. In addition, it is well established in the literature that standards encourage innovation. Using open standards will mean that technology vendors outside PROMISE will know how to develop PROMISE-compatible components.

The EU Commission reviewers at the review meeting in January 2007 made the following recommendation regarding standardisation:

“Recommendation 8: Developing an action plan for standards’ promotion

Next DI1.7 (Promotion of PROMISE standards), scheduled at month 30, should include a detailed action plan for standards’ promotion, indicating which organisations, bodies or working groups will be contacted, how, by whom, when and for which scope. The consortium shall in particular consider PLM Services (promoted by the Object Management Group, OMG) and a potential collaboration with the Open Group. The middleware being the core element of the PROMISE project could be proposed as a full standard by itself, not limited to additions to existing standards. Web Services that are used by the middleware could have their interface, described in WSDL, described by this standard.”

In accordance to the above recommendation, this deliverable presents the following:

- Action plan for standards promotion
- Organisations that will be involved
- Scope of collaboration
- Responsibilities for the above

The remaining part of the recommendation is addressed in DI1.6 [2].

The report is structured as follows: Section 2 provides an overview of standardisation activities planned by PROMISE. Namely, we focus our standardisation efforts in two areas: (a) a standard for product lifecycle data representation based on the PDKM object model, and (b) a standard for product lifecycle data exchange based on the PMI. In section 3, we provide a brief introduction of the different relevant standards bodies and discuss ways by which PROMISE can collaborate with these bodies. Section 4 focuses on describing a detailed action plan for standards promotion, and section 5 concludes the report.

2 Overview of PROMISE Standardisation activities

This section will provide a brief overview of the key areas where PROMISE intends to propose standards or specifications for standards. A review of PROMISE architectural components, presented in DI1.6 [2] during the past six months has resulted in a revision of PROMISE’s standardisation plans.

The key variation in the standardisation plan is that PROMISE will expand its focus on the standardisation efforts on Product Lifecycle Event notifications to the whole PROMISE Middleware Interface (PMI) as recommended by the reviewers. Summarising, PROMISE standardisation activities will focus on the following:

1. PROMISE Architecture: The standardisation work package partners will continue to support WP R12's activities on the development of the architecture specifications, and will promote these specifications to the wider standards community.
2. Standard for product lifecycle data representation: This standard will be based on the PDKM object model, and is described briefly in section 2.1.
3. Standard for product lifecycle data exchange: This standard will be based on the PMI, and is described briefly in section 2.2.

We will now specifically examine the two activities that the standardisation WP will focus. The PROMISE architecture is not specifically explained here as it will be covered by WP R12.

2.1 Product Lifecycle Data representation standard

This part of the PROMISE standardization proposal provides a basis for representing product data throughout the whole product lifecycle, according to the PROMISE viewpoint, thus enabling a real closed-loop approach to PLM. In particular, the resulting semantic object model provides a conceptual view on the PROMISE PDKM (Product Data and Knowledge Management) system as a fundamental component of the PROMISE system architecture and of the overall PROMISE approach.

The focus of this new type of product lifecycle data management standard is shifted, with respect to the vast majority of existing ones (except the PLCS standard), from information on product types to information on product items, virtually each product item of any given product type. By using the standardized model, it is possible to access all the data available on these product items, with a particular emphasis to filed data access issues. Moreover, the use of this data by the decision support systems to be adopted in specific scenarios (where the standard would be adopted) is also supported, as well as the creation, update and management of useful knowledge on the considered products/components. Identification and tracing of product items at the different levels of the product structure is also enabled by the proposed standard, for products of different degree of complexity. Moreover, the standard can be used to describe and manage information on product structures related to both products "as-designed" (those typically managed by currently available PLM/PDM systems) and to physical products, thus going beyond the classical "configuration management" issues. A semantic description of the different aspects of product life cycle phases in which each specific PLM scenario is interested is also supported by the proposed standard. This semantic description comprises information on the major life cycle events that are expected to happen, on the different PLM activities related to each particular scenario, as well as on the equipment, personnel and other resources involved in the closed-loop approach to PLM.

2.2 Product Lifecycle Data Exchange standard

The PROMISE Middleware Interface (PMI) specified in deliverable DR6.5 [3] provides interface specifications that allow different software products to communicate through a common interface. DR6.5 specifies the methods and the parameters used by the interface. The current choice in PROMISE is to use Web Service technology for implementing these interfaces, which means that they are in practice defined using WSDL (Web Service Description Language). The semantics of the transmitted information is specified using XML Schemas, which allows the correct interpretation of the transmitted information by otherwise incompatible software products.

The specifications will be further developed as a part of the work in WP R6. The objective is to produce documents that are of the level of quality and detail as related standards. These specifications will be promoted for standardisation by other organisations such as EPCglobal.

As part of the functionality of the PROMISE Middleware Interface (PMI), we propose to define an additional set of functions which will allow any information system that is enabled by the PMI, to use a set of standardised means to exchange product life cycle event data whenever a significant change is made to any product instance. This work is now the focus of task TR6.9 in WP R6.

The objective of this new functionality is to allow all participants in a PROMISE-compliant communications infrastructure to exchange data about the creation, modification and eventual destruction of products and product components throughout their life. We also propose that the creation and subsequent processing of these events will be tightly coupled with the PROMISE PDKM system model, so that any PROMISE-compliant PDKM system will not only have the built-in capability to create and send such events to interested parties via calls to the PROMISE middleware, but also the inherent ability to interpret events received from external sources and incorporate the PLM data into its own database.

The high level basis of this functionality will be an event message structure which allows any PMI-enabled software (the PROMISE PDKM is the most obvious instance of this) to create BOL, MOL or EOL events in order to notify interested parties about changes to their product or its components throughout its life.

We are conscious of the existence of some industry-specific (e.g. pharmaceutical) formats for product data exchange, and of the EPCglobal EPCIS work on product lifecycle data exchange. We will take these strongly into account in the definition of the PROMISE PLM Event structure.

3 Overview of relevant standards bodies

This section provides a description of standards bodies that are relevant to PROMISE standardisation efforts. In particular, we examine OASIS, OMG, EPCglobal, NIST, and the Open Group.

3.1 International Organization for Standardisation

3.1.1 Introduction

The responsible ISO standards body that is relevant to PROMISE is the SC4 of TC184 of ISO, or in short: ISO TC184/SC4.

During the last 10 years or so, a working group under SC4 developed the ISO 10303-239 (PLCS) standard on “Product Life Cycle Support” (<http://www.plcs-resources.org/ap239/index.html>).

ISO 10303-239 has published since almost one year and it is promoted and managed by the *OASIS Product Life Cycle Support (PLCS) TC* under the OASIS organisation: *Organization for the Advancement of Structured Information Standards*

3.1.2 Organization for the Advancement of Structured Information Standards (OASIS)

OASIS (Organization for the Advancement of Structured Information Standards) is a not-for-profit, international consortium that drives the development, convergence, and adoption of e-business standards. The consortium produces more Web services standards than any other organization along with standards for security, e-business, and standardization efforts in the public sector and for application-specific markets. Founded in 1993, OASIS has more than 5,000 participants representing over 600 organizations and individual members in 100 countries.

OASIS is distinguished by its transparent governance and operating procedures. Members themselves set the OASIS technical agenda, using a lightweight process expressly designed to promote industry consensus and unite disparate efforts. Completed work is ratified by open ballot. Governance is accountable and unrestricted. Officers of both the OASIS Board of Directors and Technical Advisory Board are chosen by democratic election to serve two-year terms. Consortium leadership is based on individual merit and is not tied to financial contribution, corporate standing, or special appointment.

The Consortium hosts two of the most widely respected information portals on XML and Web services standards, [Cover Pages](#) and [XML.org](#). OASIS Member Sections include [CGM Open](#), [DCML](#), [LegalXML](#), [PKI](#), and [UDDI](#).

OASIS was founded in 1993 under the name SGML Open as a consortium of vendors and users devoted to developing guidelines for interoperability among products that support the Standard Generalized Markup Language (SGML). OASIS changed its name in 1998 to reflect an expanded scope of technical work, including the Extensible Markup Language (XML) and other related standards.

As already written above, the PLCS standard ISO 10303-239 is promoted by the *OASIS Product Life Cycle Support (PLCS) TC*:

http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=plcs

The goal of this TC is “*collaborating on the deployment of an international standard for product data exchange (ISO 10303) to support complex engineered assets from concept to disposal*”.

A FAQ on the PLCS standard is available at:

<http://xml.coverpages.org/PLCSInc-FAQv2-20030804.pdf>

3.1.3 Collaboration activities

3.1.3.1 Possibilities of collaboration with PROMISE

With the EPFL initiative PROMISE was invited by the Chair Howard Mason and presented officially under the liaison presentations program at the official ISO TC184/SC4 meeting on 28 June 2006 in Toulouse.

The first conclusion of this activity as it is expressed in the formal invitation to PROMISE is as follows:

“The scope of your activity seems to align very closely with the PLCS standard (ISO 10303-239) which was completed in 2004 and published by ISO in 2005. The standard represents a \$10M investment in development over 4 years and is already being implemented by the UK, US, Swedish and Norwegian ministries of defence. I enclose a presentation of our latest status report.

PROMISE appears to offer a further opportunity to exploit that investment as an internationally-standardised definition of the information content to be held on your embedded devices and systems. It offers your project a proven information definition as the basis for through life asset management and feedback. You might be interested to note that the aerospace sector is already trialling high-capacity RFID tags embedded in products to hold (copies of) through life product information.

We would like to offer you the opportunity to present the PROMISE project as a liaison report at the next Plenary session of ISO TC184/SC4, which will be held in Toulouse, France on 28 June, between 0800 and 1000. We will also distribute the fact sheet and links to the members of the OASIS PLCS TC, so that active members of the project can contact the project partners.”

Another conclusion drawn after a private discussion with the SC4 Chair is as follows:

“PLCS is a new standard. We should wait it about two years before planning any new discussion or update. No activity on PLCS is planned during this period.”

3.1.3.2 Contact points of the OASIS PLCS TC

Chair	Jerry Smith	jerry.smith@disa.mil
Chair	Howard Mason	howard.mason@baesystems.com
Secretary	Christopher Kreiler	kreilerc@mantech-wva.com

NB: The two leaders of both ISO TC184/SC4 and OASIS PLCS TC are the same individuals.

3.1.3.3 Steps required to be performed by PROMISE in order to participate in their activities.

The first step is to arrange a formal participation of PROMISE representatives in ISO TC184/SC4. This is achieved through EPFL-LICP's membership to the official Swiss member organisation in ISO TC184.

The second step is to follow the relevant activities of SC4 and get involved in the relevant processes when the PLCS update process begins.

3.1.3.4 Steps required to be performed by PROMISE in order for our specifications to be ready for input to their activities.

The following steps are particularly focused around the development of the PROMISE PDKM standard specification, since this represents, among the different aspects of the PROMISE standards proposal, the one which is most related with the future enhancement of the PLCS standard specification.

The first step is to develop a definitive version of the UML 2.0 class diagram representing the PROMISE PDKM semantic object model, based on a final analysis of the eventual new requirements coming from the ten PROMISE demonstrators, which could have arisen in the last year of project activity (during which the model was not substantially modified). This will result in a document containing the UML 2.0 class diagram and the related detailed explanation in textual form.

The second and final step is to develop a new UML 2.0 class diagram representing not only the conceptual view on the PROMISE PDKM (fully covered by the semantic object model finalized by 'step 1' above), but also the additional specification of the same concepts at the interface level, in order for the PROMISE PDKM standard proposal to be more specific also concerning its implementation, and thus to make it more easy to be implemented. This will result in a document containing the UML 2.0 class diagram with the specification of the semantic object model at the interface level, and the related explanation in textual form.

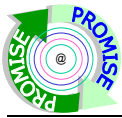
Both steps are to be carried out within the context of WP I1/WP R12, are expected to be completed by M42 and the related outputs are expected to become also part of the "PROMISE Architecture Series".

3.2 EPCglobal

3.2.1 Introduction

EPCglobal is a subsidiary of GS1 (previously EAN (European Article Numbering) in Europe and UCC (Universal Code Council) in America). EPCglobal are responsible for the ongoing standards development process and commercialization of the EPC Network. In addition to those standards described in DI.4[4], the EPCglobal body has now ratified the EPC Information Services standard.

EPCIS is a set of specifications for a software application programming interface (API), associated data specifications, and security mechanisms, through which various clients may capture, secure, and access EPC-related data and the business transactions with which that data is associated. The EPC Information Service allows trading partners to access and exchange well-defined subsets of their live real-time data, through a standard interface, with full web service security access controls and authentication, while interfacing the back-end to diverse databases and information systems from multiple vendors, without their partner needing to know the details or have direct access to the underlying systems.



More details on this standard can be found on the EPCglobal website (<http://www.epcglobalinc.org/standards/>).

3.2.2 Collaboration activities

3.2.2.1 Scope

The PROMISE Middleware Interface plays a similar role as that of the EPCIS - an abstracted way of accessing data, without needing to know how the underlying data is stored or retrieved. However, the data binding to the underlying database is not supported by the EPCIS. Querying for parent/child relationships is supported in the current EPCIS interface - so it could probably be re-used on a device-centric data device, by specifying the parent ID and querying for the “children”. Moreover, the ISC component within the PROMISE middleware (refer to DR9.4) plays a role similar to that of Discovery Services, except that in PROMISE, it is combined effectively with the EPCIS query interface in such a way that an application can get to a remote organization's middleware by sending commands to the ISC.

DR9.2 describes a specific data model to support end of life. A concrete XML schema would probably be the next logical step after the UML diagrams in the document - and it may be possible to align this with an EPCIS vocabulary for the key/value pairs, since EPCIS is also agnostic regarding the industry sector.

The EPCglobal standard that are most relevant to PROMISE is the EPCIS, since they already have the pub/sub interfaces, event messaging and key/value information about objects (EPCIS). PROMISE could also identify and propose requirements for extensions to these standards. Since this standard has only been ratified and published recently, a detailed examination of it would be required to define further steps. This activity will be prioritised, completed, and reported on DI1.6 due M36.

3.2.2.2 Steps required to be performed by PROMISE in order to participate in their activities

Two members of the PROMISE standardisation group, Indyon and Cambridge University are members of EPCglobal. Cambridge in particular is actively involved in the development and refinement of EPCglobal standards. Both organisations will work closely in the coming months in order to develop the PMI specifications and also to promote these to EPCglobal when the specifications are completely defined.

3.3 National Institute of Standards and Technology (NIST)

3.3.1 Introduction

Founded in 1901, NIST (<http://www.nist.gov>) is a non-regulatory federal agency within the U.S. Commerce Department's Technology Administration. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

NIST's mission:

To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

NIST's vision:

NIST will be the world's leader in creating critical measurement solutions and promoting equitable standards. Our efforts stimulate innovation, foster industrial competitiveness, and improve the quality of life.

NIST's core competencies:

- Measurement science
- Rigorous traceability
- Development and use of standards

NIST carries out its mission in four cooperative programs:

- the NIST Laboratories, conducting research that advances the nation's technology infrastructure and is needed by U.S. industry to continually improve products and services;
- the Baldrige National Quality Program, which promotes performance excellence among U.S. manufacturers, service companies, educational institutions, and health care providers; conducts outreach programs and manages the annual Malcolm Baldrige National Quality Award which recognizes performance excellence and quality achievement;
- the Hollings Manufacturing Extension Partnership, a nationwide network of local centers offering technical and business assistance to smaller manufacturers; and
- the Advanced Technology Program, which accelerates the development of innovative technologies for broad national benefit by co-funding R&D partnerships with the private sector.

3.3.2 Collaboration activities

3.3.2.1 Possibility of collaboration with PROMISE

With the Polimi/SINTEF joint initiative, PROMISE contacted Prof. Sudarsan (<http://www.mel.nist.gov/msidstaff/sudarsan/sud.html>), currently working as Guest Researcher in the Design and Process Group of the Manufacturing Systems Integration Division (Manufacturing Engineering Laboratory) at NIST. Starting from previous collaborations, between Polimi/SINTEF and NIST, around the topic of product data modelling for lifecycle purposes, Prof. Sudarsan was informed of the PROMISE project and initiative, and also provided with the needed links to documents concerning PROMISE results reached up to now (M30).

3.3.2.2 Steps required to be performed by PROMISE in order to participate in their activities

At the moment, PROMISE partners are waiting for the NIST formal communication of their interest in working together in future developments of the PROMISE standardization topics, as well as the way of collaboration which is the most appropriate.

3.3.2.3 Steps required to be performed by PROMISE in order to participate in their activities

The steps needed are basically the same as those cited at the end of the previous section, concerning PROMISE participation in future PLCS development works.

3.4 Object Management Group (OMG)

3.4.1 Introduction

OMG (<http://www.omg.org>) has been an international, open membership, not-for-profit computer industry consortium since 1989. Any organization may join OMG and participate in its standards-setting process.

OMG includes hundreds of organizations, with half being software end-users in over two dozen vertical markets, and the other half representing virtually every large organization in the computer industry and many smaller ones. Among the complete list of partners, there are also some of the PROMISE partners, namely EPFL, SINTEF, SAP. Moreover, the OASIS, the NIST and the Open Group organizations are also part of the OMG. Other OMG partners are ORACLE, Sun, Intel, Nokia, Motorola, etc.

OMG Task Forces develop enterprise integration standards for a wide range of technologies, including: Real-time, Embedded and Specialized Systems, Analysis & Design, Architecture-Driven Modernization and Middleware and an even wider range of industries, including: Business Modeling and Integration, C4I, Finance, Government, Healthcare, Legal Compliance, Life Sciences Research, Manufacturing Technology, Robotics, Software-Based Communications and Space.

OMG's modeling standards, including the Unified Modeling Language™ (UML®) and Model Driven Architecture® (MDA®), enable powerful visual design, execution and maintenance of software and other processes, including IT Systems Modeling and Business Process Management. OMG's middleware standards and profiles are based on the Common Object Request Broker Architecture (CORBA®) and support a wide variety of industries.

The requirements document that initiates each OMG standard-setting activity (the Request for Proposal) and other key documents are available for viewing by anyone, member or not. Email discussion, meeting attendance, and voting are restricted to members; though prospective members are invited to attend a meeting or two as a guest observer.

Dozens of standards organizations and other consortia maintain liaison relationships with OMG. OMG is an ISO PAS submitter, able to submit our specifications directly into ISO's fast-track adoption process. OMG's UML, MOF™ and Interface Definition Language (IDL™) standards are already ISO standards and ITU-T recommendation.

3.4.2 Collaboration activities

3.4.2.1 Possibility of collaboration with PROMISE

Since the OASIS, the NIST and the Open Group organizations are already part of OMG, to strengthen the relationships between PROMISE and the formers means to have the possibility to work directly with the latter, if needed. At the moment, no direct collaboration between

PROMISE and the OMG is foreseen. In addition, OMG is also a member of the Open Group (see section 3.5), and PROMISE activities within the Open Group could provide a means to collaborate with OMG if synergies are found at later stages.

3.5 Open Group

3.5.1 Introduction

The Open Group (<http://www.opengroup.org>) is an international consortium for buyers and suppliers of technology with a mission to “... cause the development of a viable global information infrastructure that is ubiquitous, trusted, reliable, and easy-to-use”. Open Group has a membership of over 200 organisations ranging from research institutes, manufacturers, technology vendors and standards bodies.

The objective of the Open Group is “...to create an environment where all elements involved in technology development can cooperate to deliver less costly and more flexible IT solutions”. They have extensive experience and a long track record in facilitating consensus to develop standards, including defining new standards, evolving existing ones, building consensus and providing support services, and developing best practices.

The Open Group is largely a federation of semi-autonomous forums that enable their members to guide development and adoption of industry directives and standards. Covering a range of technical, business, legal and regulatory issues, each forum addresses a specific functional area, and provides a neutral platform to meet others with similar issues and work together on best practices. Each Forum is lead by a Forum Director, a specialist with thorough knowledge of their subject, and access to the vendor and user community.

On discussion with Open Group officials, the Architecture Forum was found to be the most relevant forum for the promotion of PROMISE standards. The Architecture Forum focuses on development of open methods and tools for IT architecture at the enterprise level. The Architecture Forum currently has a membership of 142 organisations including SAP (Israel).

The key activity of interest in the Forum is The Open Group Architecture Framework (TOGAF). This brings together customers, vendors, consultants, governments and academia to work on a comprehensive architecture framework and methodology which enables the design, evaluation and implementation of the right architecture for an enterprise.

3.5.2 Collaboration activities

3.5.2.1 Possibility of collaboration with PROMISE

PROMISE agrees with the reviewers’ recommendation regarding the Open Group. PROMISE will work closely with the Open Group with an objective to promote as well as refine the standards. In order to do so, Cambridge University will join the Architectures Forum within the Open Group and generate interest within the Open Group member community and facilitate discussion.

4 Action plan for promotion of PROMISE standards

The Product Lifecycle Management (PLM) domain, as envisaged by the PROMISE project currently lacks standards for managing, storing, and transferring product data. Clearly, the industry will benefit from the outcomes of the PROMISE project, if the architecture specifications developed through research and application could pave way to standards.

In this section, we discuss the action plan for the promotion of PROMISE standards and architecture specifications. Promotion-related activities within PROMISE will take shape in four different ways, as summarised in Figure 1:

- (1) **The Open Group.** The primary means of promotion will be through the Open Group standards development community based on the Architectures Forum. The first task for PROMISE is to generate awareness and create interest within the member community of the Architectures Forum. This is necessary in order that the forum members consider PROMISE standards as a “work item”. The pre-requisite for this that at least 6-7 members should express interest in the proposed standards.

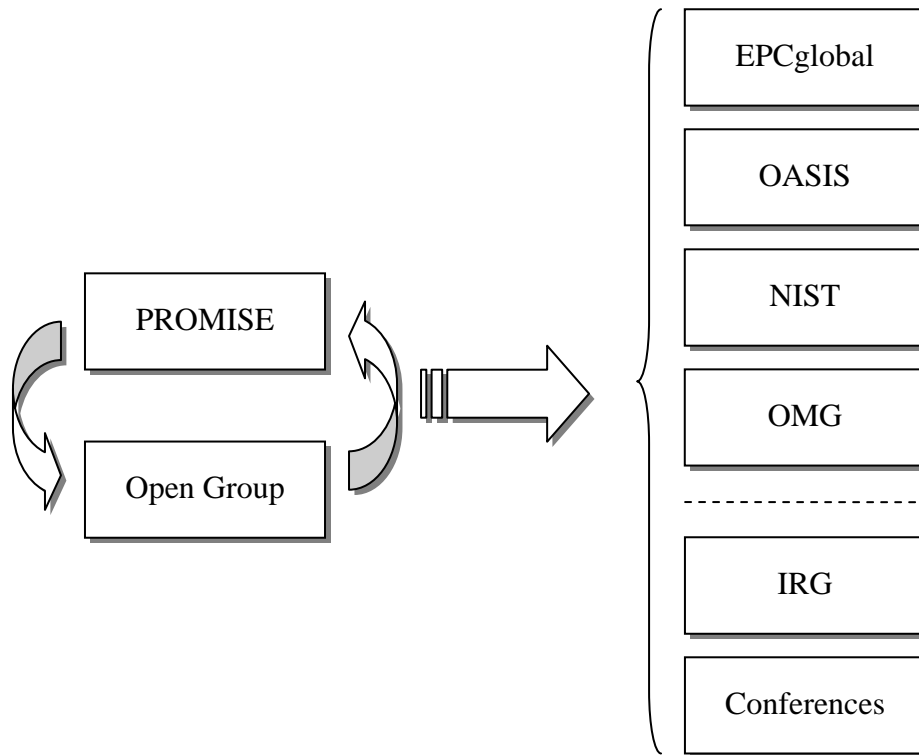


Figure 1: PROMISE standards promotion action plan

Once the standards are accepted as a work item, the knowledge and expertise of the Architectures Forum members will be used to evaluate and refine the specifications, and also for promoting the salient points of the PROMISE architecture. This will particularly bear fruit as a number of standards bodies such as OMG are members of the Open Group Architectures Forum.

- (2) **Standards bodies.** PROMISE does not view itself as a standards body. As made clear in previous deliverables, PROMISE will focus on the development and refinement of the

specifications of key architectural components and interfaces. Upon satisfactory development of such specifications, PROMISE intends to propose these specifications to standards bodies outlined in Table 1 (and other standards bodies in due course of time, if found suitable) to adopt these specifications for ratification.

- (3) **Industrial Reference Group.** The PROMISE Industrial Reference Group (IRG) is the next most important avenue for the promotion of PROMISE standards. As a first step, the standardisation and architecture development activities were described in detail at the kick-off meeting of the IRG on the 24th of April. This generated a lot of interest within the participants, particularly due to the fact that standardisation of PROMISE architecture is a way to ensure that future users of PROMISE technology are not locked into using proprietary technology and software.
- (4) **Academic and industrial conferences.** In addition, PROMISE architecture specifications will be presented at academic and industrial conferences in order to generate discussion, as well as to promote them to the wider community.

The scope, responsibility and schedule for promotion of standards to each standards body targeted are summarised in Table 1. As discussed before, the Open Group will be used as a primary mode of promotion and evaluation of PROMISE specifications. This will be achieved through the membership of Cambridge University in the Architectures Forum. This activity will start in M30 by publishing the PDKM object model at the forum, and will continue to publish other specifications as they become ready.

Table 1: Summary of responsibilities for standards promotion

Standards group	Scope	Responsibility	Schedule
Open Group (Architectures Forum)	PROMISE Architecture	Cambridge	Membership of Open Group through Cambridge. (M30-M42)
OASIS	PDKM object model	EPFL	Ongoing discussion. No update to PLCS possible within PROMISE timeframe (M30-M42)
EPCglobal	PMI	Cambridge, Indyon	Ongoing collaboration. Will propose to the business action groups as soon as PLM Events and PMI are fully specified. (M25-M42)
NIST	PDKM object model	POLIMI	Contact established with NIST. (Schedule will be established in accordance with response)
OMG	PROMISE Architecture	Cambridge	Through membership of the Open Group (M30-M42)

As discussed in section 3.1.3.1, no update is planned for PLCS within the timeframe of the PROMISE project. However, this does not prevent ongoing discussions to keep the OASIS community aware of PROMISE specifications (the PDKM object model in particular) and the

refinement process. This will be carried out by EPFL to ensure that the PROMISE PDKM object model will be taken up for consideration as soon as OASIS decides to review their PLCS standard.

EPCglobal and PROMISE will work closely in the coming months in order to develop the PMI specifications. This activity has started since M25 starting when Cambridge University has been guiding the development of PLM event notification specifications to ensure that duplication is avoided as compared to the EPCIS event specifications. As the PMI and PLM event specifications are finalised by workpackage R6, PROMISE will promote these to EPCglobal through Cambridge and Indyon.

As discussed in section 3.3.2, PROMISE contacted Prof. Sudarsan who is currently working at NIST. Upon his request, we have provided him with details on PROMISE specifications and action plans. We are awaiting his response, and an appropriate action plan and schedule will be established in accordance with the interest expressed by NIST.

5 Conclusions

This report describes the revised standardisation plans for PROMISE. In particular, we focus our standardisation efforts in two areas: (a) a standard for product lifecycle data representation based on the PDKM object model, and (b) a standard for product lifecycle data exchange based on the PMI. We examined ways by which PROMISE can collaborate with these bodies, and this led to a detailed action plan for standards promotion.

This report is the first of a three-part deliverable. The next deliverable due M36 will report on promotion activities carried out in the six month period, and also describe action plans for NIST as well as other standards bodies, if found suitable.

Bibliography

- [1] J. Brusey, M. Harrison, and D. McFarlane, "DI1.3: Standardisation strategy," DI1.3, 2006.
- [2] A. Parlikad, J. Cassina, D. Potter, L. Rabe, M. Tomasella, K. Framling, P. Folan, and D. Kiritsis, "DI1.6: Evaluation of PROMISE Standards," DI1.6, 2007.
- [3] B. Forss, J. Petrow, K. Framling, C. Dikici, and J. Anke, "DR6.5: Interface definition and design of enterprise communication infrastructure," DR6.5, Nov.2006.
- [4] A. Parlikad, J. Brusey, A. Metin, D. Barisic, K. Framling, and J. Anke, "DI1.4: Assessment of existing standards," DI1.4, 2006.