

PLCS

PLCS is the open data standard that enables the UK Defence enterprise across MOD and Industry to make faster, cheaper and better decisions using through-life support data throughout the CADMID cycle

Organisations rely on high-quality information to help support business decisions – having effective processes and technology in place to deliver both the quality and quantity of information required to support decision making activity is critical.

With organisations operating in increasingly complex environments; with more extended supply chains, greater number of technology applications and wider stakeholder involvement, information management is becoming increasingly complex but even more critical to business success.

Business Drivers

For the UK MOD, procurement and through-life support of defence equipment involves a large amount of complex data that needs to be exchanged between, and managed by, a number of systems across the MOD and industry.

With Defence assets having increasingly long life spans (sometimes 50 years or more), the data associated with them invariably outlives most vendor specific data formats. The need to ensure that information is made available in vendor neutral formats is of paramount importance.

The key requirement for the MOD is to reduce the cost of ownership of their assets while maintaining a high level of operational capability. This requires that high quality information be made available to all decision makers at all times. In terms of information management the requirements include:

- the need to support interoperability and integration of systems in a way that minimises the number of point to point interfaces
- the need to support long term archiving of data in vendor independent format

A Proven Solution

LSC Group is delivering a PLCS centric solution that allows the MOD and the wider defence enterprise to manage its information more coherently throughout the lifecycle. This is supporting more efficient and effective decision making.

How do I minimise the cost of doing business electronically with different organisations in my supply chain?

How do I ensure that the quality of critical data is maintained as more applications are added to the enterprise?

How do I ensure business continuity when an application becomes obsolete?

How do I avoid being too reliant on one application vendor?

Improving usability of PLCS solutions across the enterprise

LSC Group is a provider of data exchange and sharing services; and continues to develop solutions driven by PLCS:

- Robust PLCS solutions that are scalable, extendable and reusable, across MOD and Industry partners.
- PLCS interfaces tailored to suit both MOD and Industry partners.
- More simplified supportability, and more efficient use of resources, driven by the reuse of the UK Defence PLCS components.
- Translation code and support documentation from an integrated development environment.
- Graphical mapping between systems, with the code required to implement the mapping generated automatically (see Figure 1).
- Standards development within OASIS and UK defence.

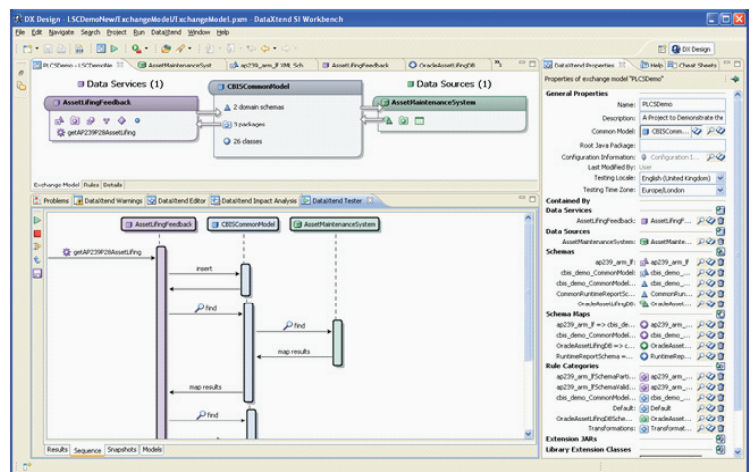


Figure 1: Automating translator implementation through graphical tools

Log NEC PLCS Translator capability - exchanging through-life support information using standards

As part of a pilot to evaluate the use of PLCS for implementing engineering information exchanges between MOD and Industry systems, LSC Group developed a PLCS translator providing a capability to translate to PLCS, Engineering and Asset Management (E&AM) data from existing MOD systems to Industry partners.

This has been specifically used to extract information from the MOD Logistic Information Technology system (LITS) to Rolls Royce as part of the ROCET 2 availability contract. This is the first time PLCS translation capability has been tested between MOD systems and Industry.

In the ROCET 2 contract, LITS provides Engineering & Asset Management information feeding into the Rolls-Royce asset management system through the Assured Messaging Capability (AMC). This consists of 12 different types of data sets, wrapped and transmitted as electronic messages. The data sets include; product structure, fault data, maintenance activities, and resulting removals and fitments.

The PLCS translator, deployed as a translation service within the AMC, converts the data into PLCS format before communicating it to Industry. The architecture of the system is illustrated in Figure 2.

This capability is a fully functional implementation capable of exchanging real data from the MOD LITS system to any system that supports the PLCS standard – demonstrating the practicality and transferability of a PLCS centric solution.

The translator is developed as a service and integrated into an IBM WebSphere Message Broker workflow. The data is transmitted using a messaging system (IBM WebSphere MQ), translating the incoming data from the E&AM schema to PLCS XML.

Benefits

- Provides a seamless flow of information across the extended Defence enterprise
- Reduces the cost of integrating systems by providing a single interface to a number of disparate systems
- Improves data quality by minimizing the number of system to system mappings
- Can be integrated into any enterprise integration platforms in addition to the Assured Messaging Capability (AMC)
- Raised awareness in both industry and MOD
- Provides implementation related feedback to the PLCS standard development community

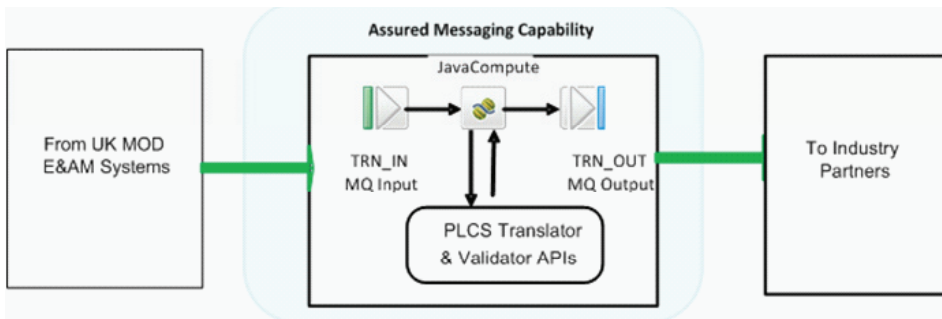


Figure 2: Architecture of the Log NEC PLCS translator

Features

At the core of the translator is the standard PLCS Model. The mapping of business concepts to the PLCS standard is enabled by the current MOD developed data exchange sets and the LCIA Common Business Information sets (CBIS), both of which are part of the Log NEC architecture.

The system workflow is described in the following steps:

1. The data extracted from LITS is translated into the E&AM XML Schema -based messages and passed onto the AMC workflow.
2. When the data gets to the PLCS translation service it is translated into PLCS XML format (part 28).
3. The output of the translation service is then propagated to industry partners' message Queues.
4. Industry partner systems read the PLCS data into their systems.