IUID Item Unique Identification
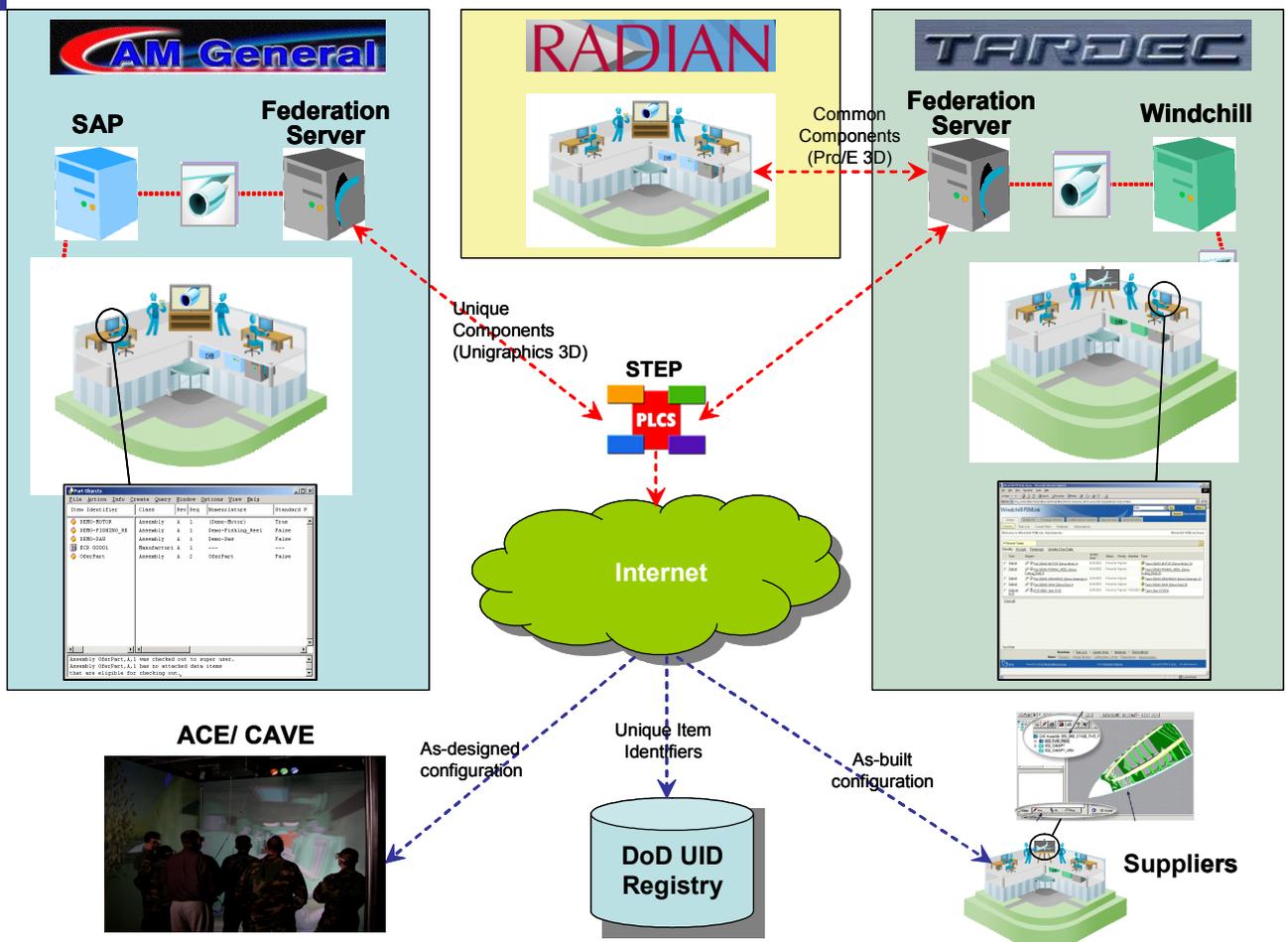
TARDEC/TACOM
Product Life Cycle Support

Unique Identification Policy Office
Integration Project

AM General

SAP | **Federation Server**

RADIAN

TARDEC

Common Components (Pro/E 3D)

Federation Server | **Windchill**

Unique Components (Unigraphics 3D)

STEP

PLCS

Internet

ACE/ CAVE

As-designed configuration

Unique Item Identifiers

As-built configuration

DoD UID Registry

Suppliers

To improve the identification, tracking, and management of Department of Defense (DoD) assets, the Office of the Secretary of Defense has funded multiple projects, including the TARDEC/TACOM Product Life Cycle Support Integration Project.

Description

The Army Tank Automotive Research, Development and Engineering Center (TARDEC), in conjunction with Tank-automotive and Armaments Command (TACOM) performed a Unique Identification (UID) integration project to develop a Product Life Cycle Support (PLCS) based data model to represent UID data and create a path towards a PLCS UID data exchange specification (DEX) to support data input into the DoD UID Registry.

An extension of an earlier project that validated ISO 10303-214, this PLCS project used a non-DEX approach to data integration and consolidation using Eurostep's Share-A-Space.

Simultaneous to the PLCS development, a parts-marking effort was initiated to assign Unique Item Identifiers (UIIs) to over 30,000 combat vehicles. This marking effort specifically sought to develop UID marking, transmission, and tracking processes for the M1 Abrams reset activity and to utilize the PLCS based data exchange and transmission being developed by TACOM/TARDEC.

Challenges & Obstacles

- Completion and formalization of the UID exchange DEX within the Organization for the Advancement of Structured Information Standards (OASIS).
- System and software integration using commercial off-the-shelf products.
- Network and firewall issues relating to the automated exchange of product data between the Government and the Original Equipment Manufacturer (OEM).
- Access to OEM proprietary data and direct access to their information systems.
- Virtual UII of end items unable to be processed because of issues relating to re-serialization of vehicles during reset.

Benefits & Achievements

The PLCS team made significant advances towards their project objectives, including the following accomplishments:

- It is now possible to represent the UID of a weapon system and its components in PLCS form.
- The development of detailed data models consistent with PLCS that show that DoD's requirements can be met.
- Results have been presented to the Office of the Secretary of Defense for adoption consideration of this PLCS model in lieu of a custom XML model.

The combat vehicle part-marking team has:

- Purchased and installed 2D marking and reading equipment in Lima and Tallahassee
- Trained plant personnel on equipment usage
- Drafted high level enterprise UID process flow
- Completed multiple technical data package changes
- Successfully marked the first 30 tanks at Lima (vehicle, hull, and turret)
- Reviewed requirements for PLCS XML output and input
- Procured and installed software to perform electronic submission to UID Registry

This project completed and formalized a PLCS standards-based UID model that can be used throughout the DoD Registry. Results of this effort will provide support to the ongoing development of product data exchange requirements for an important ground systems program that directly benefits the warfighter.

Contact

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IUID Item Unique Identification

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