Purpose

This Advanced Aerospace Solutions Environment solution is focused on the Product Lifecycle Management (PLM) and Service Lifecycle Management (SLM) markets of the A&D industry.

Product Lifecycle Management — Concept > Design > Develop

Service Lifecycle Management — Manufacture > After Sales Services > Retirement
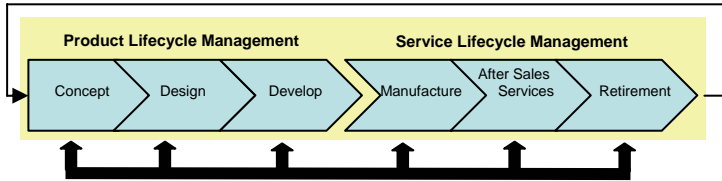
Targeted Business Problems

An Aerospace & Defense Consortium experiences a product defect. The design defect is identified by a maintenance facility in an configuration management system that includes parts from several suppliers. Design changes that a supplier makes need to be federated forward to the OEM design and to the manufacturing and "as-maintained" BOM's.

Solution: PDIF Design Collaboration / BOM Synchronization scenario.

This scenario utilizes IBM's PDIF and architecture to design the integration of OEM Design systems and information to the extended enterprise (suppliers, partners, manufacturing, and maintenance facilities). Synchronized BOM integration and effective collaboration are keys focus points in managing an extended enterprise design. These solutions show how the overall design cost can be lowered while providing a faster time to market for these products.

Customer Pain Points

A&D companies have a number of pain points they encounter as they service aircraft.
- o *Errors during conceptual design when 80% costs get committed*
- o *Incomplete information slowing development by months*
- o *Lack of Timely Process & Data Integration (Different Processes, Different Protocols...)*

Products Used & Architecture View

IBM: WebSphere Process Server, WebSphere Business Modeler, WebSphere Integration Developer, WebSphere Application Server, WebSphere Portal, DB2; Lotus Sametime, Lotus Domino, Tivoli Directory Server; Maximo Configuration Manager.
Business Partners: PTC Windchill, Dessault's Enovia LCA, Pro-Step OpenPDM, SAP
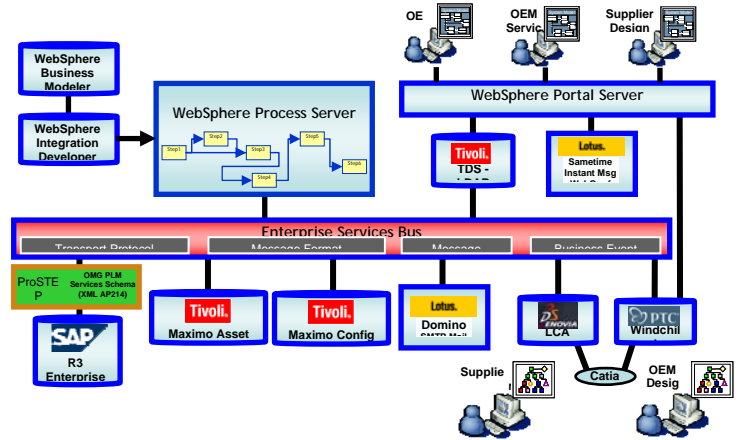
Scenario Scenario – Design Collaboration

1. Analysis points to a high rate of repair on a hydraulic cylinder. Design change is entered into MRO system and it is transformed and sent to OEM enterprise PDM system as an ECR.
2. OEM Engineering determines that redesign is needed and collaborates with supplier to get a cost and schedule estimate.
3. ECR is closed and ECN is opened and assigned to supplier.
4. Supplier design manager reviews ECN in his collaboration portal and assigns one of his engineers to do the redesign which causes the ECN to be sent and transformed into the supplier's PDM's system..
5. Supplier engineer creates a new revision to the part and promotes the part. This causes the ECN and associated part to be sent and transformed back into the OEM's enterprise PDM system.
6. After ECN is approved by the manufacturing and service organizations through their collaboration portal, the part is released along with its CAD file) to the manufacturing PDM system and the MRO system.
7. The Manufacturing PDM system updates the MBOM with the new version of the part.
8. The MRO system updates the "could build" BoM and generates work orders for all tail numbers to replace the old with the new version of the part.
9. Hydraulic cylinder is replaced on all tail numbers which closes the original design change entered into the MRO system.

More Information

For more information on this solution **contact your IBM account representative**. Your account rep can then contact the Global Solution Center (GSC) to get more information and/or arrange for a demonstration.