Deploying a Common 3D MBE
within a
Multi-CAD, Multi-PLM, Multi-Source
Enterprise Environment

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Anark Company Overview

Leading provider of advanced visualization and PLM software and solutions to industry leaders since 2000.

Empowering 3D Model Based Enterprise revolution within Aerospace, Defense, Automotive, Energy, Industrial, Communications, and Furniture Sectors

Growing company, with world-wide network of technology, integration, and channel partners

Anark Corporation HQ in Boulder, Colorado
Our PLM Integration Partner: Geometric LTD.

- World’s leading solutions provider with exclusive focus on Product Realization – the engineering to manufacturing domain
- Public listed company
- Over 4500 people globally
- Global delivery model with delivery centers in US, Europe, China and India
- Software Solutions portfolio including DFMPro, CAMWorks, Glovius
- Engineering services, embedded systems and technologies.

PLM Integration Partnerships

Cross Industry Customer Footprint

- 8 of the Global Fortune Top 10 Automotive OEMs
- 7 of the world’s leading Aerospace OEMs and suppliers
- 5 of the world’s leading Machine tool players in their respective segments
- 5 of the top 10 Off-highway OEMs
Terms we will use today…

3D MBD/PMI – Model Based Definition (aka. Product Manu Info) =

*Engineering Product Definition inside native CAD* which captures Design Intent (associative 3D GD&T, 3D +/- Tolerances) *without 2D Drawings*

3D MBE – Model Based Enterprise =

*Reuse of 3D MBD outside of CAD*, combined with additional information from PLM, ERP, MES, CRM… *The Complete Product Definition* in Open 3D HTML or 3D PDF

3D TDP – Technical Data Package =

*DOD Release Document which defines The Complete Product Definition* in 3D (in accordance with MIL-STD-31000 Rev A)

Data Sources for *The Complete Product Definition* –

PLM= Assembly Configuration, **some manufacturing** data (Enovia, TC, Windchill)

ERP= **More manufacturing** data, Inventory, Work Processes…(Microsoft, SAP, Oracle)

MES= **Real time manufacturing** data (SAP, Epicore, Apriso, JobBOSS…)

CRM= Manages **Customer and Supplier manufacturing** data (Microsoft, Oracle, Salesforce)
Why the move to 3D Model Based Enterprise

50% Reduction Tooling design & fabrication
33% Reduction Overall assembly hours
30% Reduction Rework

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50% Reduction Rework

30% Reduction Engineering Overhead
20% Reduction Scrap and Rework
50% Reduction Supplier Response Time

Many Enterprises use multiple Proprietary CAD Systems

Designers want to use the Best CAD tool for their Design Requirement
Anark creates a Common 3D-MBE from multi-CAD

From Native
CATIA + MBD

From Native
Creo + MBD

From Native
NX + MBD

From Native
SW + MBD

Consumers of Engineering Data want low-cost Open Platforms
Some Enterprises use multiple Proprietary PLM Systems

Dassault Enovia
CATIA + MBD

Windchill
PTC Windchill
Creo + MBD

Siemens Teamcenter
NX + MBD

Enterprises want to avoid high cost of migrating PLM data to a single software platform
Anark creates Common 3D-MBE from multi-PLM

Consumers of Enterprise Data want low-cost Open Platforms
The Complete Product Def...is stored in many places

...Most Manufacturing data is stored in ERP, MES, CRM
...Most Engineering data is stored in Multi-CAD & Multi-PLM Environments

PLM is good for Engr. data but ERP is Best for Manufacturing data
Anark creates Common 3D-MBE from multi-Source

Suppliers

Consumers of Manufacturing Data want low-cost Open Platforms
Not all Open 3D PDFs / 3D HTML Docs are created equal...

- PIXEL PERFECT 3D MBE DOWNSTREAM
- TRANSFORMS COMPLETE PRODUCT DEFINITION
- TEMPLATE DRIVEN, FIT FOR PURPOSE
- EBOM-MBOM SYNCHRONIZED, COMMON 3D VIEW
- AUTOMATIC UPDATES & ALWAYS IN-SYNC

3D MBD for 3D MBE Processes

High Quality 2D Vector MBD for Paper-Based Processes
Common 3D MBE Deployment on Open Platforms (demo)

Global Product Data Interoperability Summit | 2014

Engr. Rel 3D PDF
Assembly
Technical Data Packages

Engr. Rel 3D PDF
and 2D PDF
Part Level TDPs

MBOM-EBOM Alignment
Make-Buy Bill of Materials

3D MBE NC Machining Animated Work Instr.
Deploying a Common 3D MBE Open Platform (Summary)

• 3D MBE will be the preferred information exchange method
  ▪ For Design to Manufacturing and the Supply Channel
  ▪ Over 2D Drawings and Paper Based Processes

  ▪ The value is clear
    ▪ With savings of 30% Engr, 20% Scrap & 50% Supplier time common.

• Many Enterprises chose to use Multiple CAD Design Software
  ▪ Use the Best CAD tool for the Design Requirements

• Many Enterprises must continue to use Multiple PLM Systems
  ▪ Cost of migration is prohibitive if even possible

• All Enterprises have Enterprise data stored in multiple databases
  ▪ Design Data is best stored in PLM, Manufacturing Data best stored in ERP

• Anark Unleashes the Model Based Enterprise on Low-cost Open Platforms
Ride the 3D MBE Open Platform Wave…

…Don’t just sit on the boat
Thank you for joining us today!!

For a copy of this presentation and/or the 3D PDFs used...

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