

PTC® Live Global

CUST106 - Cadence Allegro Team Design Option in a PTC Windchill Environment

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Agenda

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- Global Product Development Challenges
- ECAD Design Data Management
- Team Design Authoring and Data Management Challenges
- Understanding Team Design
- Benefits of TDO to Orbital Sciences
- Required Infrastructure
- **Demo**
- Summary
- Q&A



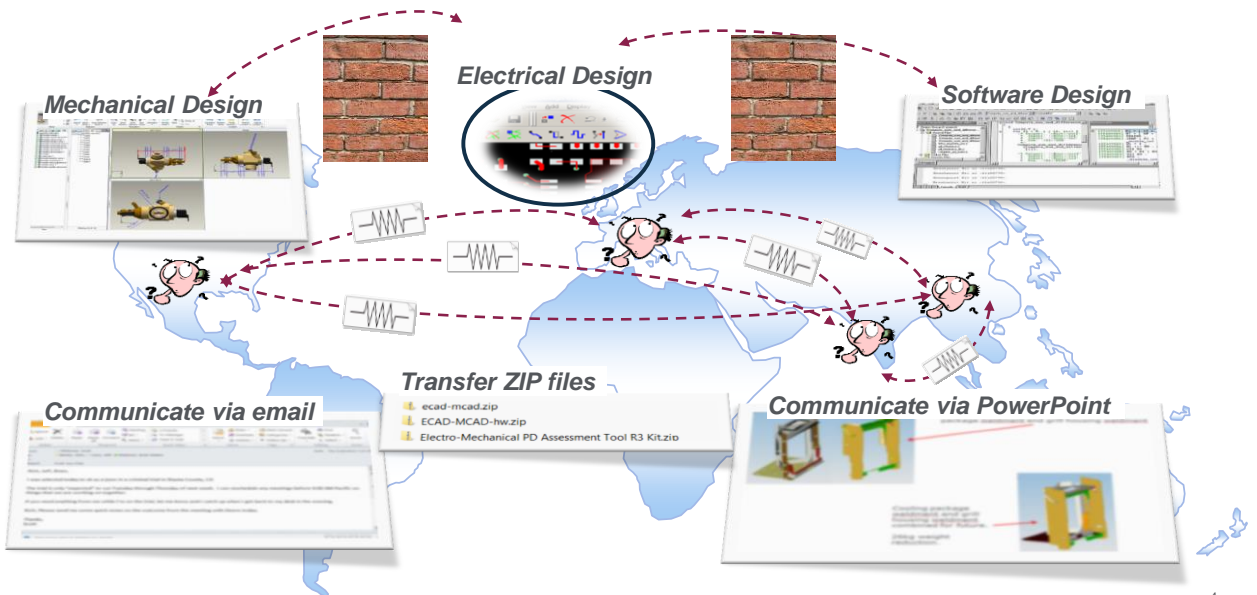


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- Joined PTC in July 2012 as principal support for the ECAD tools including TDO, ADW Gateway, PTC Windchill Workgroup Manager and ECAD-MCAD Collaboration
- Prior to PTC, was Product Manager at Cadence Design Systems for the ADW, TDO, Library Management and ECAD-MCAD Collaboration tools

3

Global Product Development Challenges



4

WHAT IT MEANS

- **Lifecycle Managed ECAD Data**
with secure centralized vaulting of the native design and derived content
- **Automated Import of BOM files**
provides a consolidated source for the complete Electromechanical BOM
- **Automated Visualization**
of PCB Layout and Schematic data
- **ECAD Design Data Comparison**
for evaluating, managing and retaining a history of all project design changes
- **Secure Sharing of Design Data**
with external partners



WHY IT MATTERS

Right people working on the *Right* versions of the *Right* data

Eliminate ECAD-MCAD BOM data entry errors

Traceability during Partner Collaboration

Easily locate and re-use designs

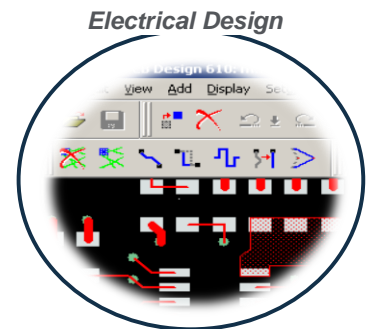
Visualization and comparison reduces prototype spins

¹ Source: PTC survey of Electro-Mechanical Collaboration Seminar participants, January 2006

5

Challenges in ECAD Team Design Authoring

- Geographically distributed teams
- Concurrent design data management
- Block level version control
- Stable environment for individual engineers
 - Not impacted by work done by other engineers
- Access control / IP Protection
- Synchronized derived content
 - Visibility for extended teams

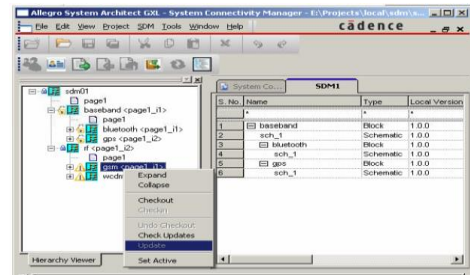


6

What is Team Design?

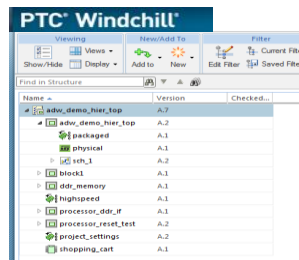
- Cadence® Allegro® Team Design Option (TDO)

- Team based ECAD Design Environment
- System level design approach
- Complex hierarchical design projects
- Block level IP reuse
- Available in SPB 16.6



- Data managed directly in Windchill enables

- Enables global team design for ECAD
- Early visibility to ECAD design modules
- Earlier & easier creation of consolidated BOM
- Robust and secure management of IP
- Handoff of Derived Content to MFG (IPC-2581)
- Available in PTC Windchill 10.2 M010



ECAD Team Design IP Management

Work in Progress library and design IP data management



Capabilities of PTC Windchill Workgroup Manager for Cadence Team Design Option

- PTC ECAD Workgroup Manager for Cadence OrCAD and Allegro
- PTC Windchill Workgroup Manager for Cadence Team Design Option

Feature	WGM for Allegro	TDO with Windchill
Concurrent Hierarchical Block Design		✓
Design Level Access Control		✓
Native Cadence UI		✓
CAD tools open during check-in	✓	✓
Native File Data Management	✓	✓
BOM	✓	✓
Viewables	✓	✓
Derived Content	✓	✓
Lifecycle Management		✓

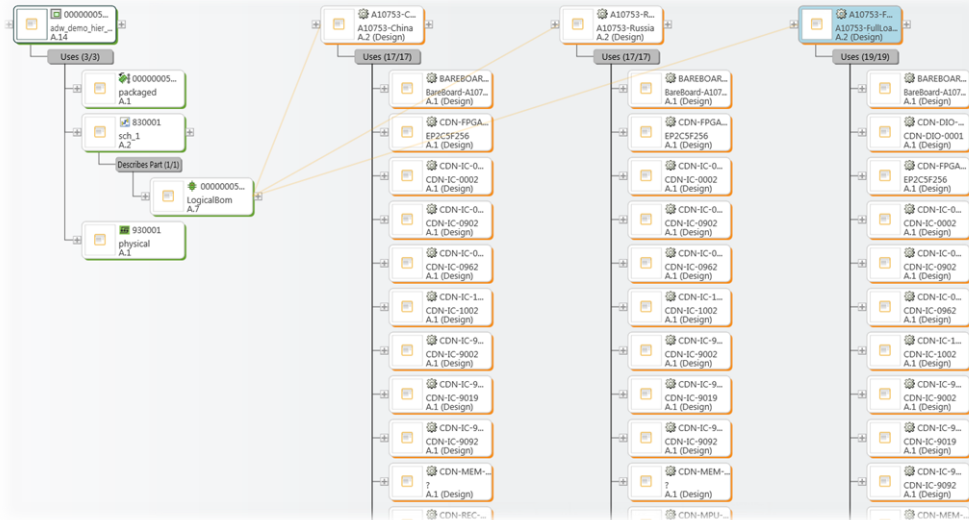
9

BOM checked-in from TDO Builds full structure in PTC Windchill

The screenshot displays the PTC Windchill interface for an Electrical Part named 'ASM_MOTO, ASM_Moto, A.2 (Design)'. The main workspace shows a hierarchical BOM structure with columns for Identity, Quantity, Unit, Reference Designator, and Build Status. The selected item is 'CDN-MEM-0031, CDN-MEM-0031, A.1 (Design)' with a quantity of 12. The right-hand panel shows the 'Attributes' for this part, including Part Attributes (Number: CDN-MEM-0031, Name: CDN-MEM-0031, Version: A.1 (Design), State: In Work - Released - Canceled, Status: Checked in) and Usage Attributes (Quantity: 12, Unit: each, Trace Code: Untraced, Line Number, Find Number, Reference Designator: U2-U13).

10

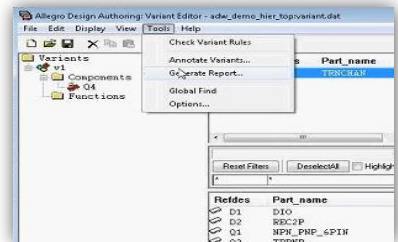
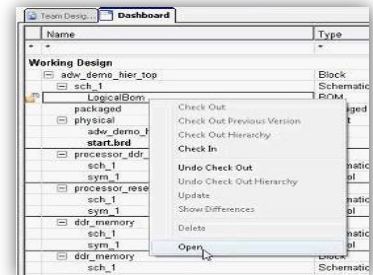
Base and Variant BOMs linked to the LogicalBom CAD document



11

PTC Windchill Workgroup Manager for Cadence Team Design Option: Variant BOM support

- From the Cadence Variant Editor the *Generate Reports* action is used to launch BOM-HDL
 - Each variant is exported to a CSV format with a *.rpt extension
- Automatic collection of multiple BOMs occurs during TDO check-in
 - BOMS are collected from a fixed location in the design container defined by the Cadence policy file
 - BOM report is shown for each Variant
- These BOMs can be iterated independently from the Schematic or PCB.
 - Allows for check-in of a new Variant or alteration of an existing one without needing to iterate the schematic

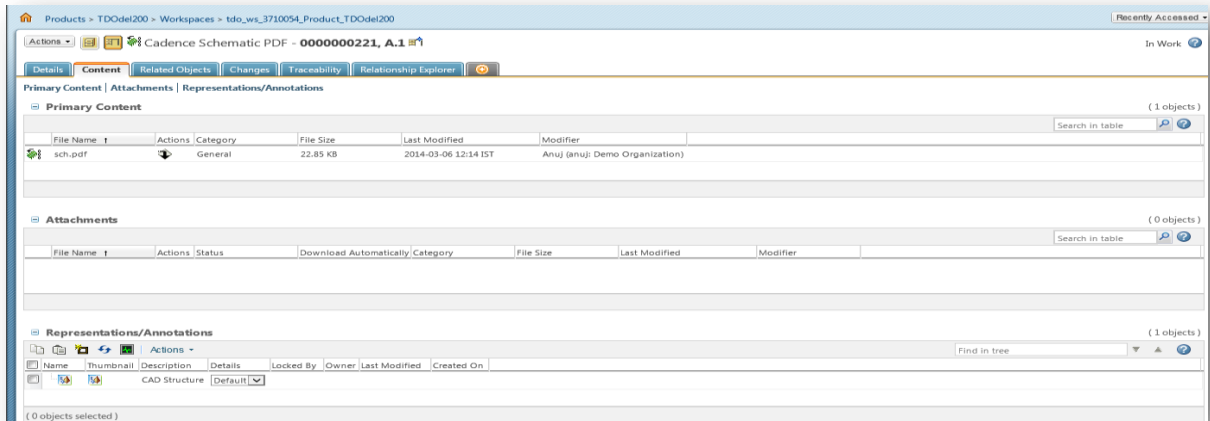


12

TDO checked-in Derived Content Available directly to PTC Windchill team members

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PDFs, Manufacturing Files, Gerber, IPC-2581, etc.



13

Benefits of Team Design Management to Orbital

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- Compelling reason for adoption
- Issues prior to implementation
 - No automation
 - Scheduling/budget risk
 - Common location for all data
 - The right people with access to the right data

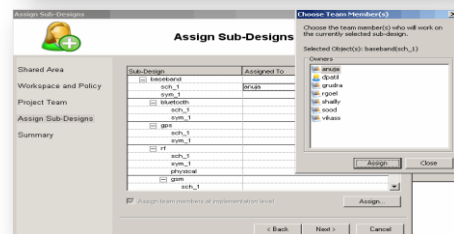
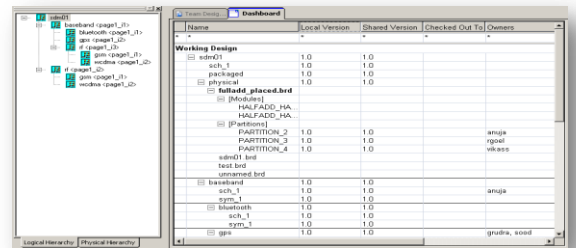
14

- Resources
- Hardware
- Software
- Setup

15

What you will see in the demo today

- **First PTC Windchill Check-in**
 - Design Integrator Initial Design Setup
- **TDO Block Structure and Objects**
 - Structure in TDO and Windchill are the same
- **Assign new team member to a Block**
- **Member Joins Project**
 - Checks out Block and makes changes
 - Adds BOM variant
 - Checks in Block
- **Integrator Sees Update on Block**
 - Variant BOM Check-in
 - Viewable Check-in
- **PTC Windchill data review**



16

Demo

17

Cadence Team Design and PTC Windchill: Best in Class for structured ECAD Team Design Authoring

ECAD Design Environment

- Enables efficient and structured team design authoring for ECAD Work in Progress to shorten design cycle
- Concurrent block based team design
- Predictable and stable environment for engineers to author their designs
- Access control and IP protection



**Combined
Value**

Enterprise PLM Data Management

- Single source of truth for all product design data
- Automated MCAD-ECAD BOM integration
- Facilitates secure 'design anywhere' requirements
- Provides secure 3rd party supplier data collaboration

18



19

- Your feedback is valuable
- Don't miss out on the chance to provide your feedback
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20

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