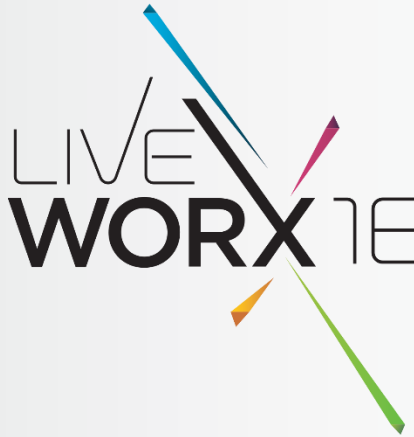


CADENCE ALLEGRO TEAM DESIGN OPTION IN A WINDCHILL ENVIRONMENT

Sandra Humphrey – Fujitsu Network Communications
Design Automation Analyst

Linda Mazzitelli - PTC
Principal Account Technical Specialist

AGENDA

- 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

PRESENTER INTROS

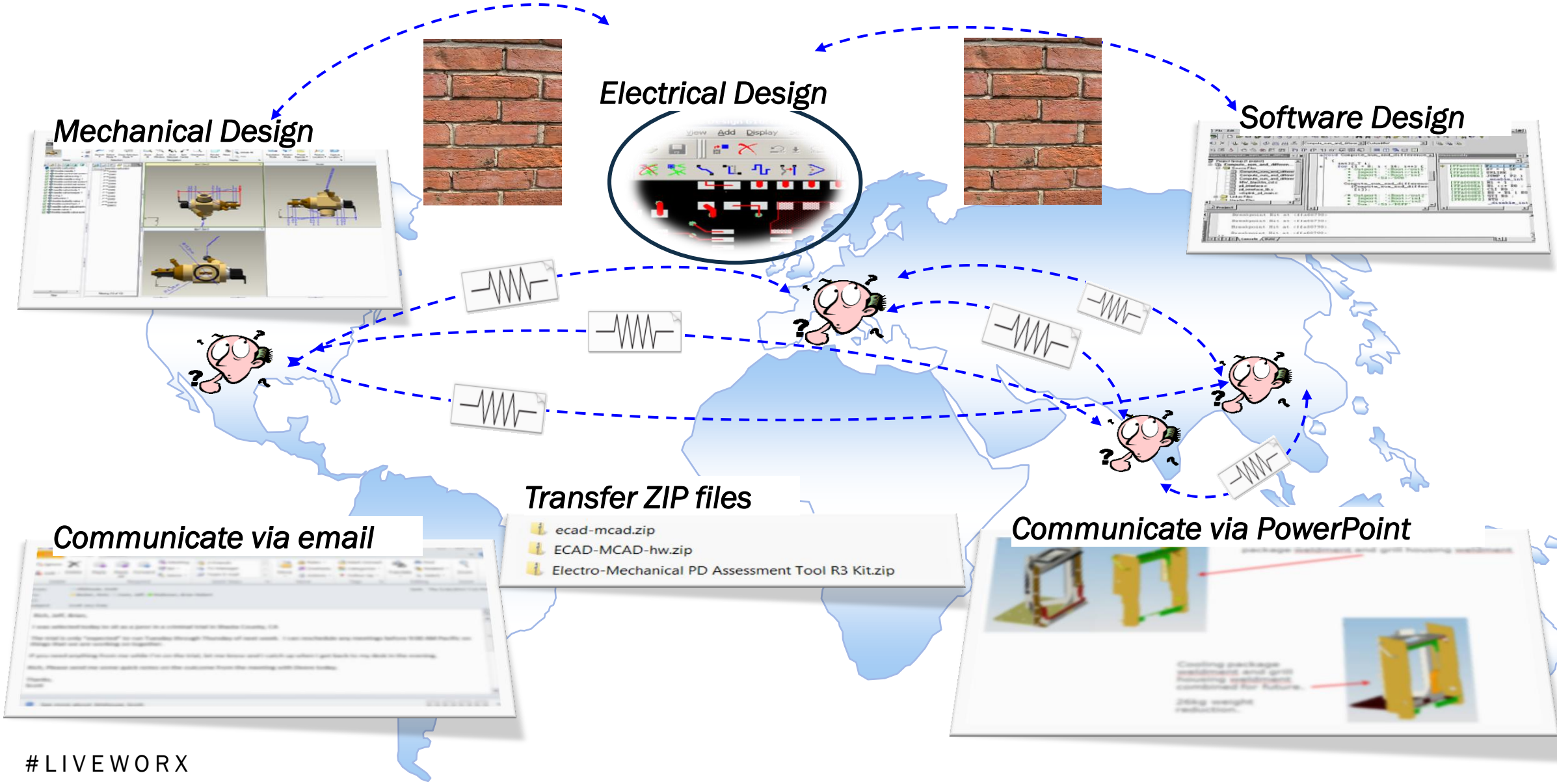
Linda Mazzitelli
PTC
Principal Technical Sales Specialist
lmazzitelli@ptc.com

Sandra Humphrey
Fujitsu Network Systems
Design Automation Analyst
Sandra.Humphrey@us.fujitsu.com

- Linda is a principal support manager for the PTC ECAD tools including TDO, ADW Gateway, PTC Windchill Workgroup Manager, ECAD-MCAD Collaboration and Creo View ECAD

- Sandra has been with Fujitsu Network Systems for 10+ years, She is currently in charge of working on enterprise-wide data integration between Windchill, Creo, Cadence and other engineering systems.

GLOBAL PRODUCT DEVELOPMENT CHALLENGES



ECAD DESIGN DATA MANAGEMENT

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

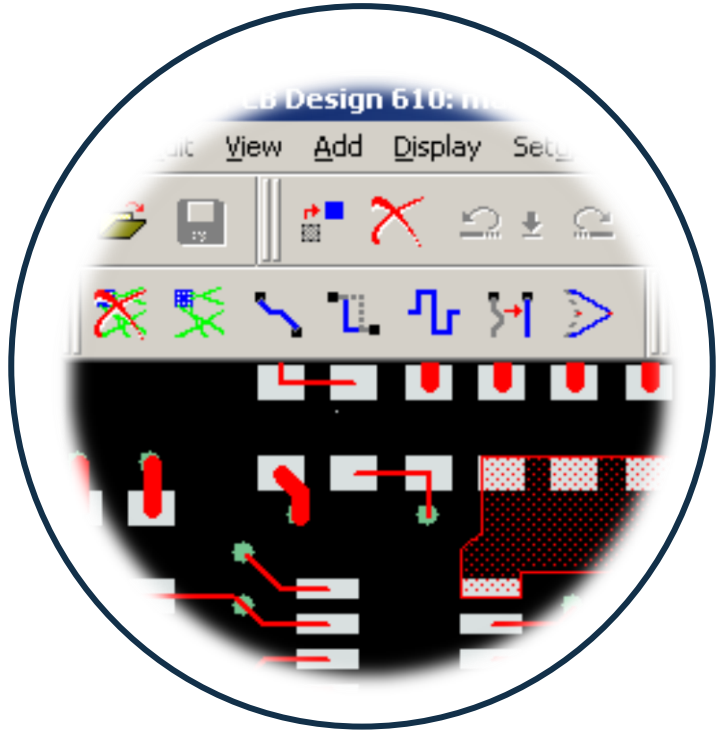
Visualization and comparison reduces prototype spins

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

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

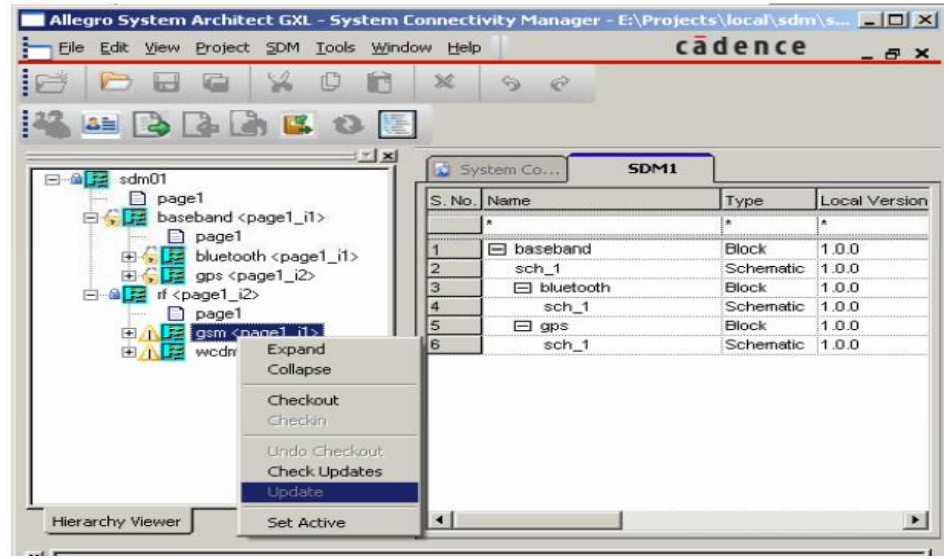
Electrical Design

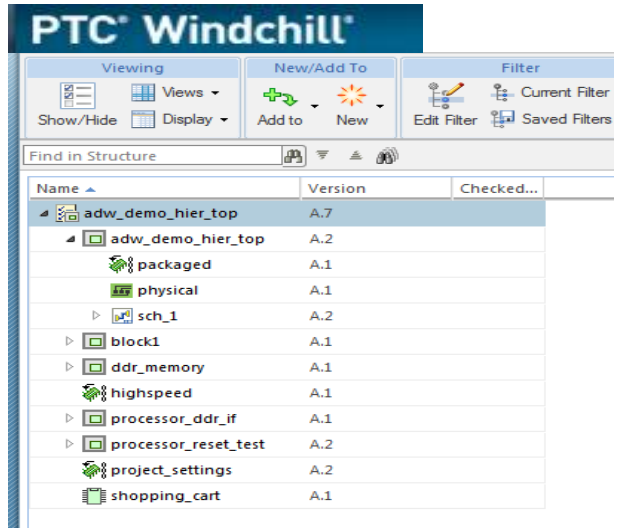


WHAT IS TEAM DESIGN?

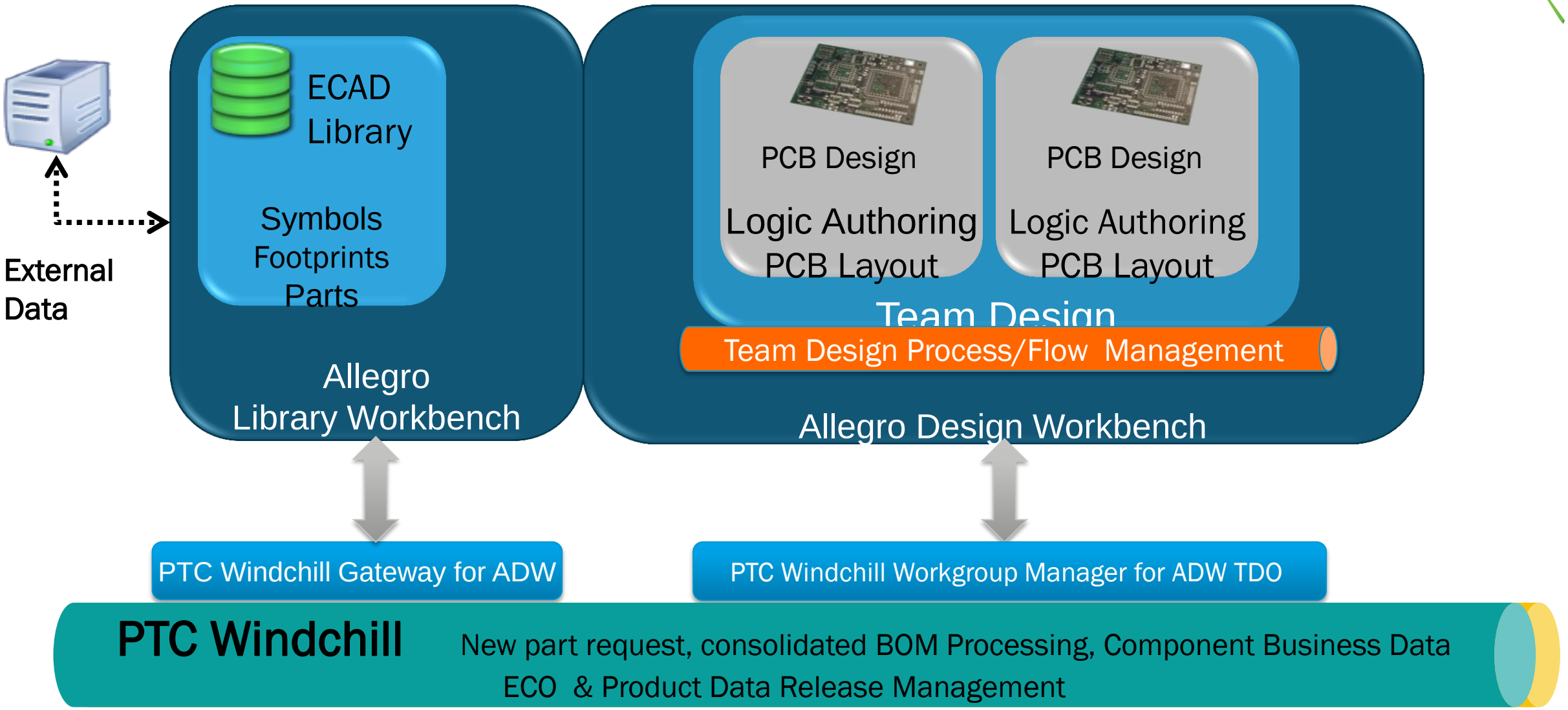
- Cadence® Allegro® Team Design Option (TDO)
  - Team based ECAD Design Environment
  - System level design approach
  - Complex hierarchical design projects
  - Block level IP reuse
  - Enables design authors to work completely within the Cadence environment

- 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



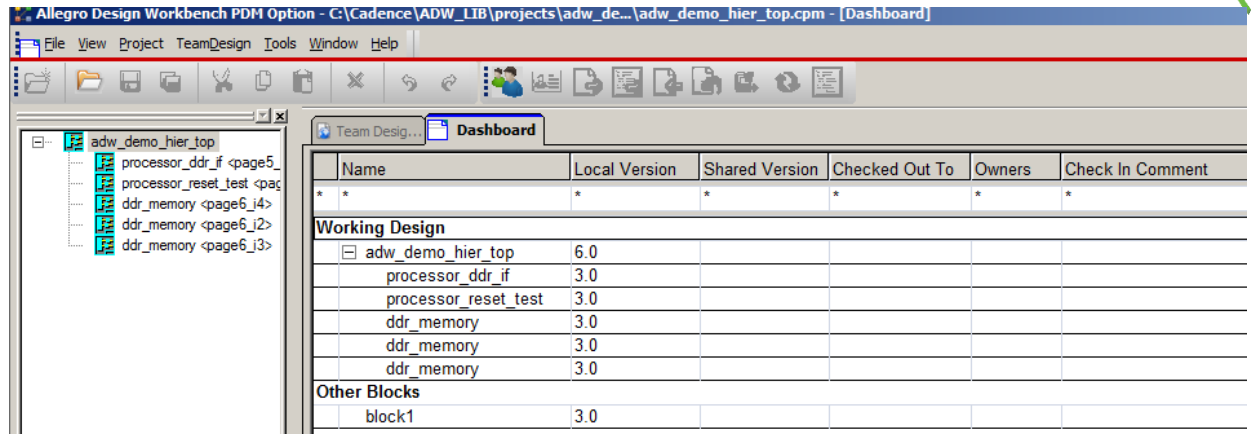
CAPABILITIES OF PTC WINDCHILL WORKGROUP MANAGER FOR CADENCE TEAM DESIGN OPTION

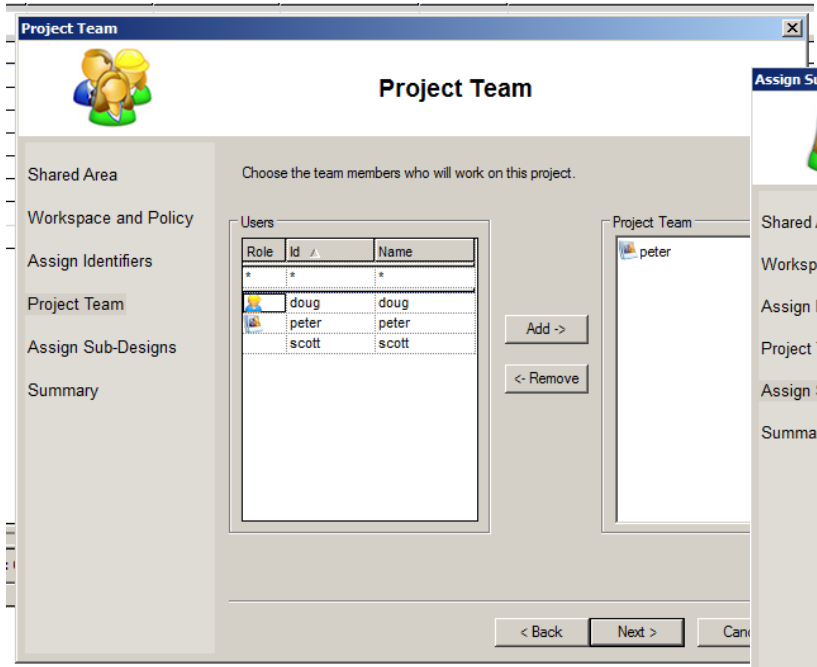
- PTC ECAD Workgroup Manager for Cadence OrCAD and Allegro
- PTC Windchill Workgroup Manager for Cadence Team Design Option

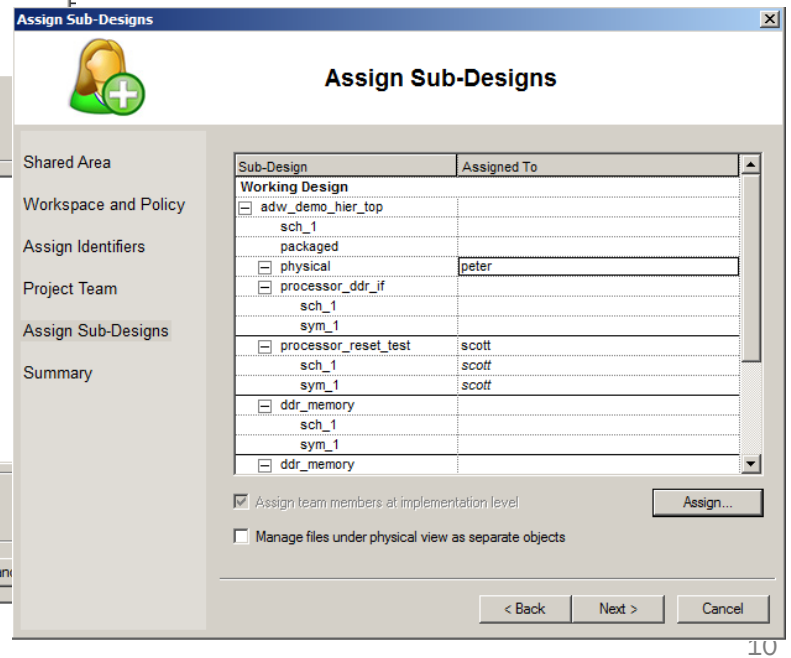
Feature	WGM for Allegro	TDO with Windchill
Concurrent Hierarchical Block Design		✓
Design Level Access Control		✓
Native Cadence UI		✓
CAD tools open during check-in		✓
Native File Data Management	✓	✓
BOM Structure Generation	✓	✓
Source Data Viewable Generation	✓	✓
Derived Data Content Management	✓	✓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

TEAM MEMBER OWNERSHIPS AND ASSIGNMENTS

- Create hierarchal design structure within Cadence Allegro Design Authoring
- Assign specific team members to individual blocks and tasks

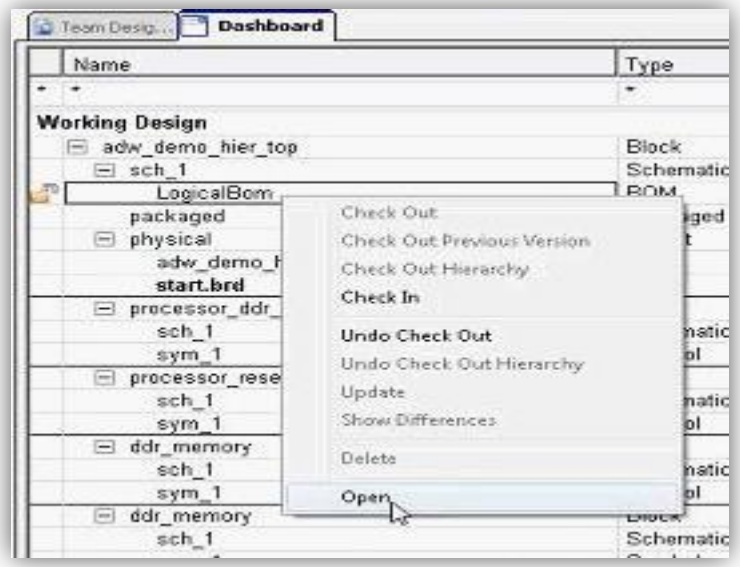






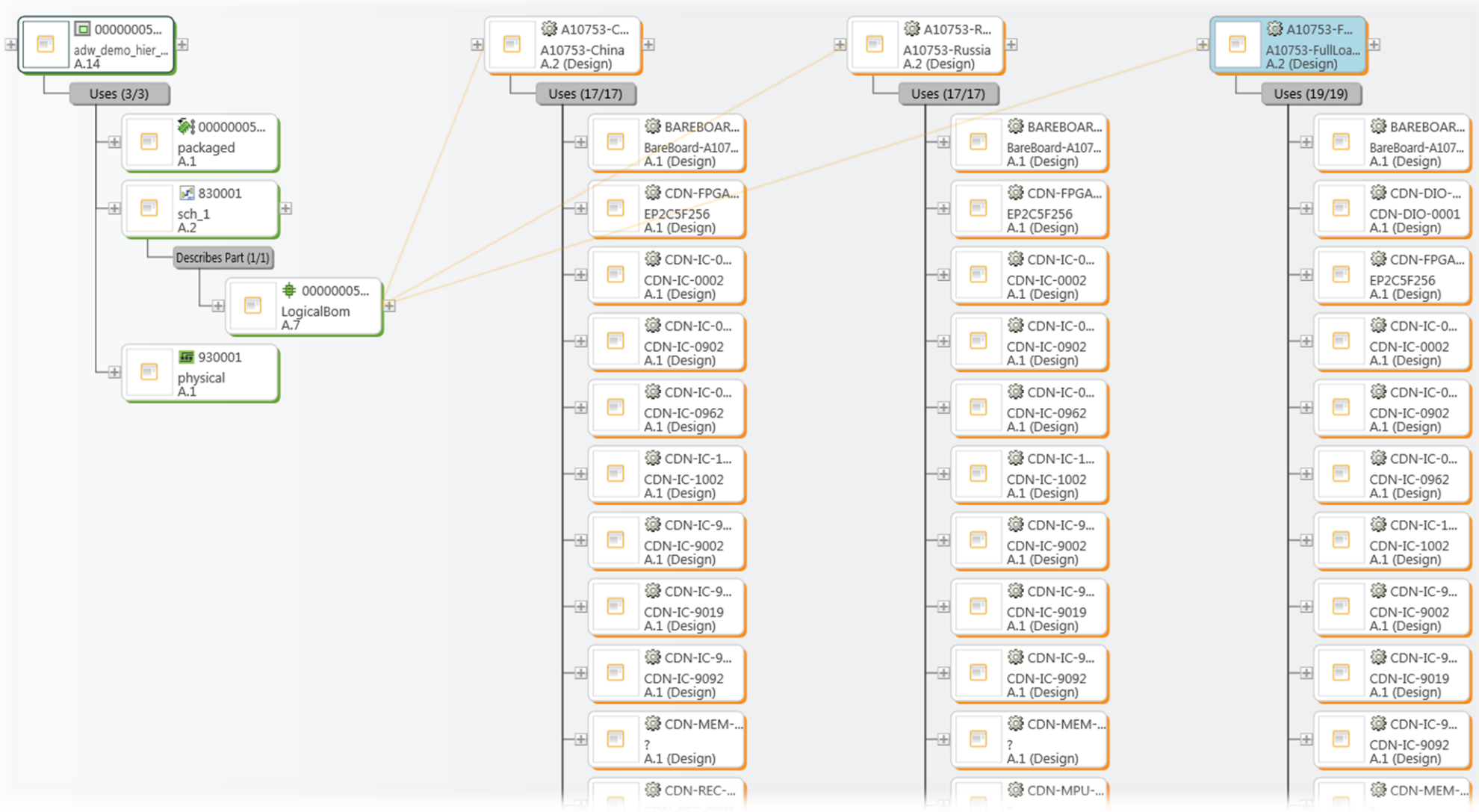
VARIANT BOM SUPPORT

- 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
  - 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

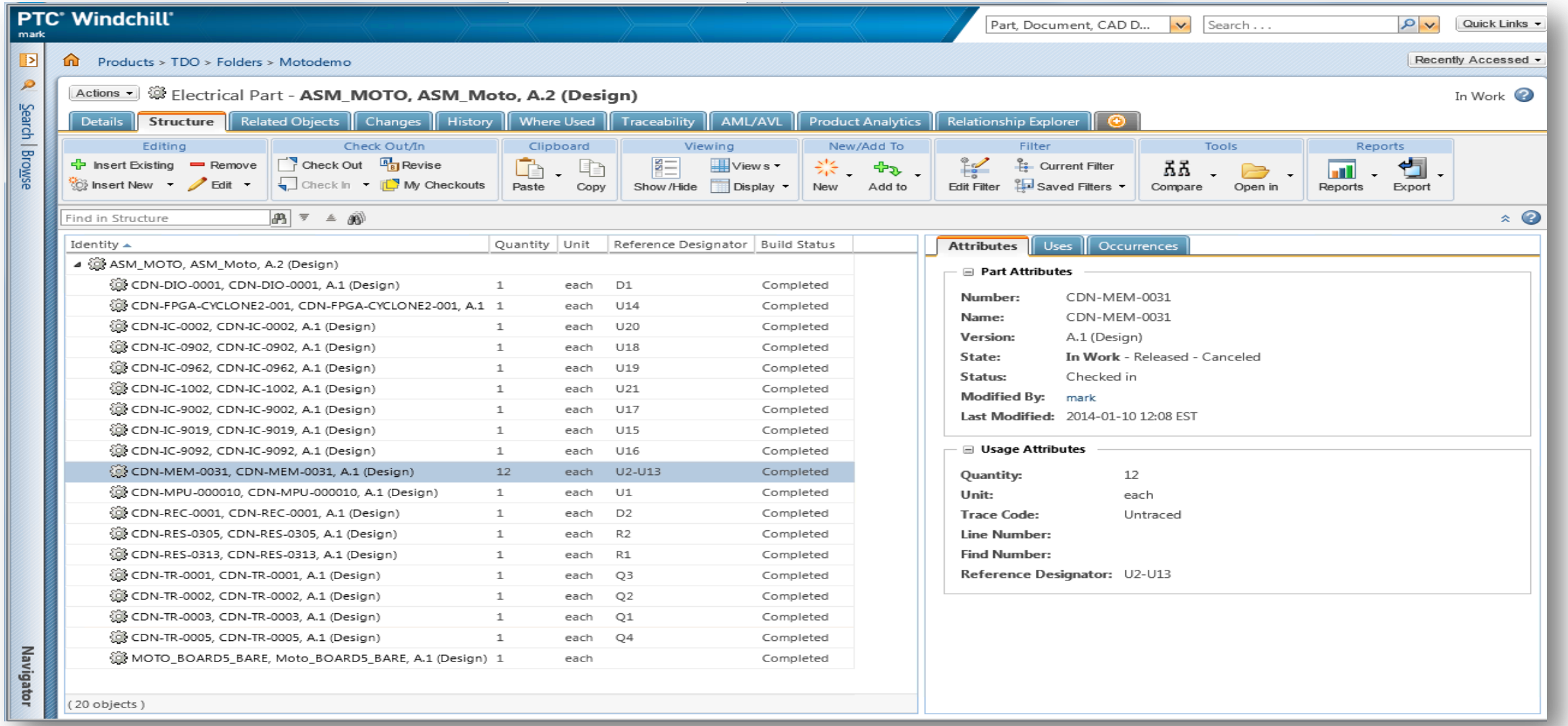


PTC WINDCHILL STRUCTURE (RELATIONSHIP EXPLORER)

Base and Variant BOMs linked to the LogicalBom CAD document



FULL VARIANT BOM STRUCTURE IN PTC WINDCHILL FROM TDO



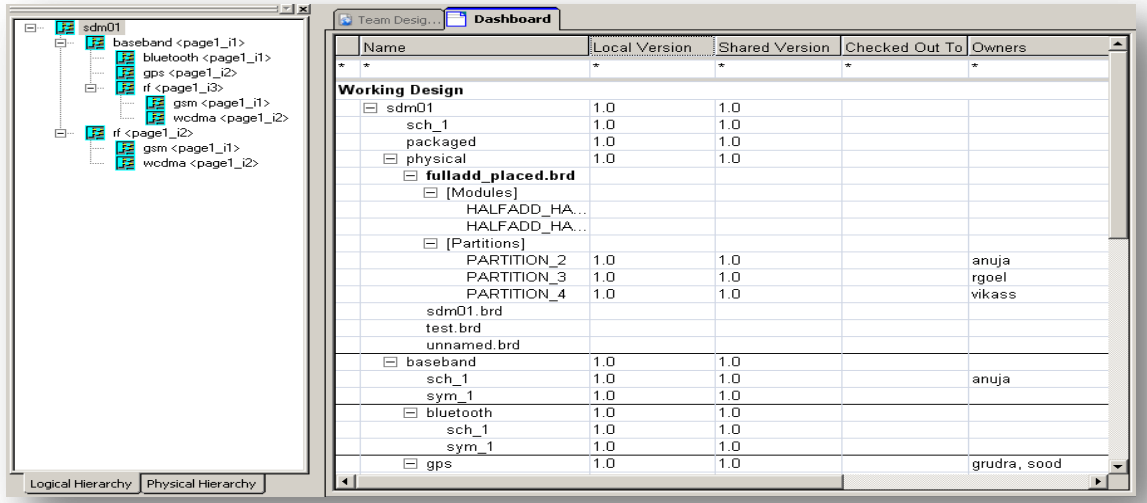
BENEFITS OF TEAM DESIGN MANAGEMENT TO FUJITSU

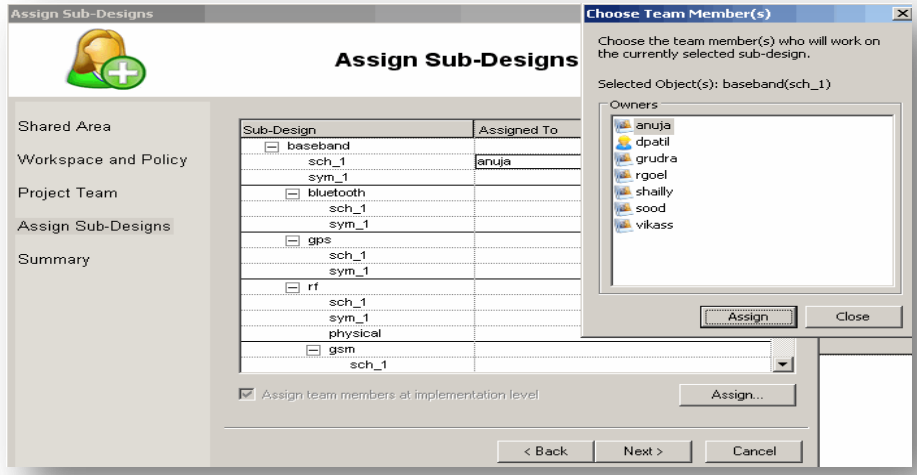
REQUIRED TDO INFRASTRUCTURE

REQUIRED TDO INFRASTRUCTURE

WHAT YOU WILL SEE IN THE DEMO TODAY

- Integrator:
  - Initial PTC Windchill Set-Up and Check-in
  - 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
- PTC Windchill data review
  - BOM Structure





DEMO

CADENCE TEAM DESIGN AND PTC WINDCHILL:
BEST IN CLASS FOR STRUCTURED ECAD TEAM DESIGN AUTHORING

cadence®

PTC®

ECAD Design Environment

- Efficient, structured ECAD work in progress team design authoring shortens design cycle
- Concurrent block based team design ***all within the Cadence environment***
- Predictable and stable environment for engineers to author their designs
- Access control and block-level IP reuse and protection

Enterprise PLM Data Management

- System-level design approach provides a single source of truth for ***all*** product design data
- Global ECAD team design access and management
- Facilitates secure “design anywhere” requirements
- Automated variant BOM generation
- Automated revision control and viewable generation

QUESTIONS

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