

Siemens PLM Software

# Teamcenter integration for Cadence OrCAD

Integrating OrCAD design tools, data and processes  
into your Teamcenter PLM environment

## Business challenges

- Integrating ECAD process into product development process
- Managing ECAD data in the context of the overall product configuration
- Verifying environmental compliance
- Coordinating ECAD/MCAD collaboration
- Establishing communication within and across a multisite supply chain
- Ensuring that ECAD design implementation meets customer requirements

## Summary

Teamcenter® software's integration for Cadence OrCAD schematic capture and the Teamcenter Gateway for Electric Design Automation system enables users to capture and manage their schematic, printed circuit board (PCB) layout, bill of material (BOM), fabrication, assembly and visualization data in Teamcenter – the world's most widely used product lifecycle management (PLM) system.

## Managing the electronics product lifecycle

Teamcenter's integration for OrCAD provides schematic capture and the Teamcenter Gateway for Electric Design Automation a comprehensive solution for

the entire electronics product lifecycle that extends from initial inception through creation, analysis, manufacturing, service and end-of-life disposition. The integration enables users to store and manage all of their PCB design, collaboration and manufacturing data in Teamcenter – Siemens PLM Software's digital PLM platform.

Teamcenter menus allow the user to log-in to Teamcenter and open, save, check-in and checkout design data. Adhering to the Teamcenter data model, design teams are assured their ECAD data is accurately captured and consistently managed in the Teamcenter environment in sync with other product definition data.

# Teamcenter integration for Cadence OrCAD

## Benefits

- Manages entire PCB product lifecycle
- Provides a single source of product and process data
- Fosters environmental compliance initiatives
- Facilitates collaboration and concurrent engineering initiatives
- Aligns ECAD design with product requirements

## Features

- Store, access and manage OrCAD objects (such as schematic, layout, BOM) as items in Teamcenter
- Create new product revisions or version updates for work in progress
- Establish security and data access control policies in Teamcenter
- Establish relationships between Teamcenter objects and engineering BOMs
- Share PCB design data across engineering domains through open interchange formats
- View, annotate and mark-up schematic data in a collaborative environment
- Associate and trace product requirements to PCB designs

## Providing a single source of product and process knowledge

Users can access, manage and archive schematic and PCB design data in a single secure location. On an enterprise level, the integration allows globally dispersed PCB design teams to manage released design data, collaborate and execute design changes across the entire product lifecycle, thereby minimizing change-related rework.

At the user level, the Teamcenter integration supports the ability to open and save native design files, access approved parts, manage vendor part data, collaborate with mechanical engineers, generate derived visualization files, share fabrication and assembly data with suppliers, and create BOMs containing both mechanical and electrical parts. To reduce interpretation errors, BOM data can be displayed as "packed" or "unpacked" while Teamcenter's compare capabilities can be used to quickly identify any differences between BOM revisions.

When ECAD design procedures are brought under Teamcenter control, they can be incorporated into structured workflows and effective change management processes. By managing data in Teamcenter, product manufacturers can quickly identify, access and manage the creation, modification and release of their most critical ECAD data.

## Facilitating collaboration and concurrent engineering

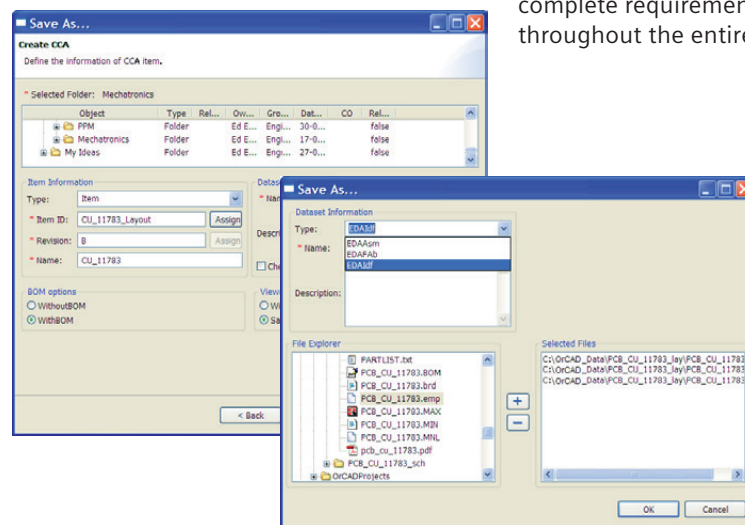
To facilitate the flow of accurate design data across multiple domains, the Teamcenter integration leverages ECAD/MCAD interchange files that facilitate the exchange of data, such as board outlines, fixed component placements, keep-out areas and other placement restrictions.

Electrical engineers can pass this information as 2.5D/3D elements to mechanical engineers to simulate and analyze various conditions, including interferences, thermal, vibration, shock, dust and humidity. Sharing data for this type of cross domain analysis helps improve quality and increase product reliability.

The ECAD viewer's graphical navigation features enable design teams and suppliers to interactively view and annotate schematic data without the use of an expensive authoring tool. Many frequently used annotations are translated and displayed using the local language specified by the user's system.

## Complete requirements management and traceability

Teamcenter's OrCAD integration enables users to leverage Teamcenter's powerful requirements management capabilities. PCB logic functions can be associated with specific design requirements, providing complete requirements traceability throughout the entire PCB lifecycle.



### Supported objects

Teamcenter's integration with Cadence OrCAD supports:

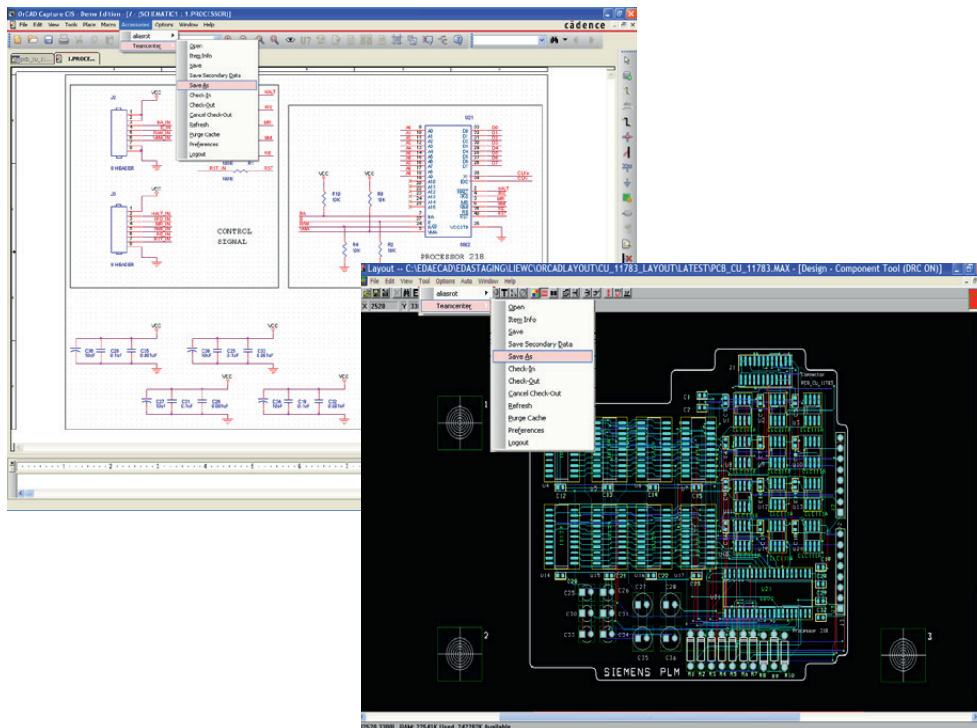
- Schematic design data
- Secondary data (Bill-of-Materials)
- Schematic files in native tool ASCII file format
- Teamcenter-neutral format files for schematic visualization

Teamcenter integration for Electronic Design Automation supported objects:

- Components on a CCA (BOM)
- Layout design data
- Secondary data (fabrication and assembly)
- ECAD/MCAD and analysis interchange files
- Layout files in native tool ASCII file format

### Supported functions

- Open, save, check-in and check-out objects to/from Teamcenter
- Extract components and attribute information
- Generate bill of material (BOM)
- Place OrCAD objects under enterprise-wide revision control
- Manage OrCAD objects in structured workflows
- Options
  - Teamcenter Gateway for Electronic Design Automation
  - Facilitate enterprise-wide ECAD library management
  - Manage OrCAD objects in change processes
  - Link OrCAD objects to product/project requirements
  - Leverage ECAD viewer to markup and share schematic data with suppliers



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