

**Library Management for  
Allegro X System Capture  
with CIP**

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Senior Applications Engineer  
EMA Design Automation**

# Today's Agenda

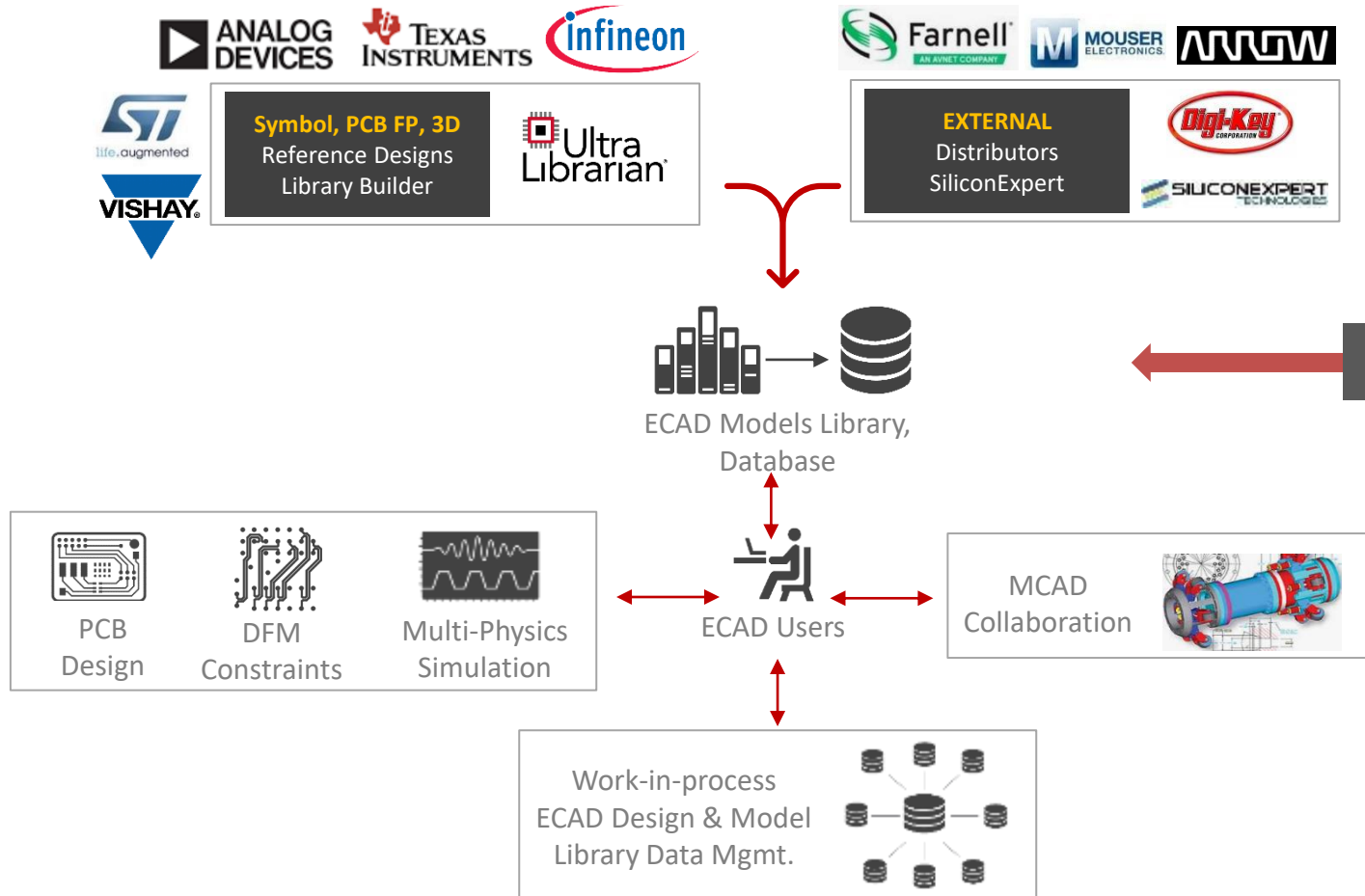


- System Integration & Library Management
- What is Allegro X System Capture
- Introduction to the new CIP and System Capture integration
  - How CIP can now be used to manage System Capture Libraries
  - How to bring supply chain intelligence into System Capture
  - Integration with Enterprise Systems

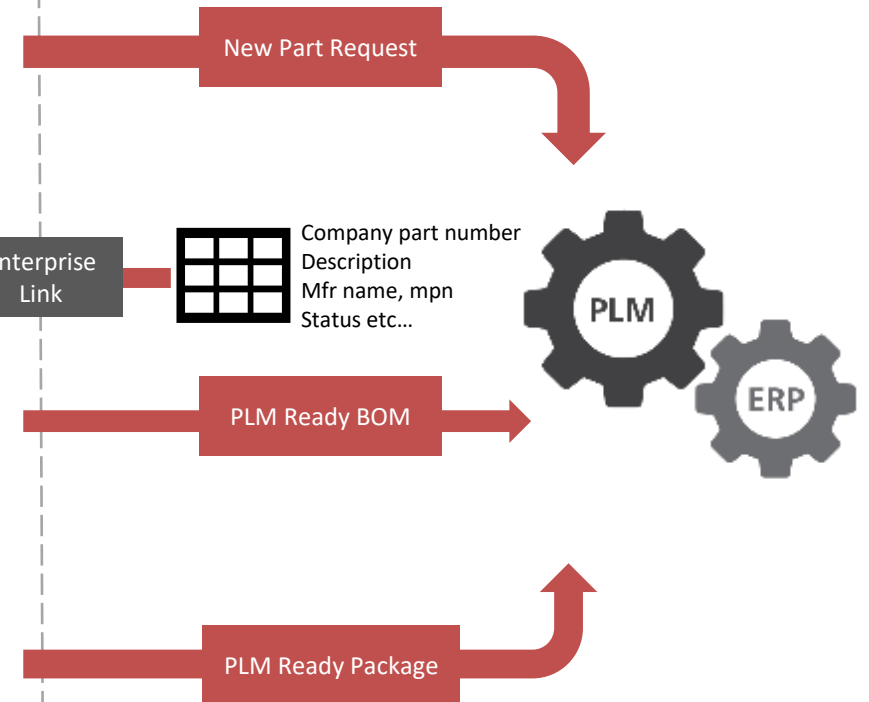
# Unified Library Management

## Decades of Systems Integration Experience

### ECAD Work In Process



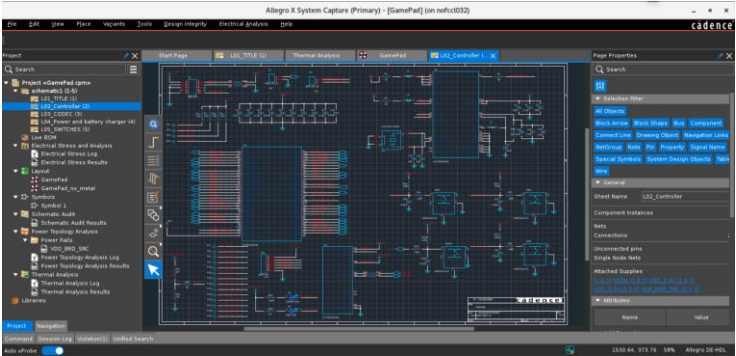
### Enterprise / RTM



# System Capture: Beyond Schematic Entry tool

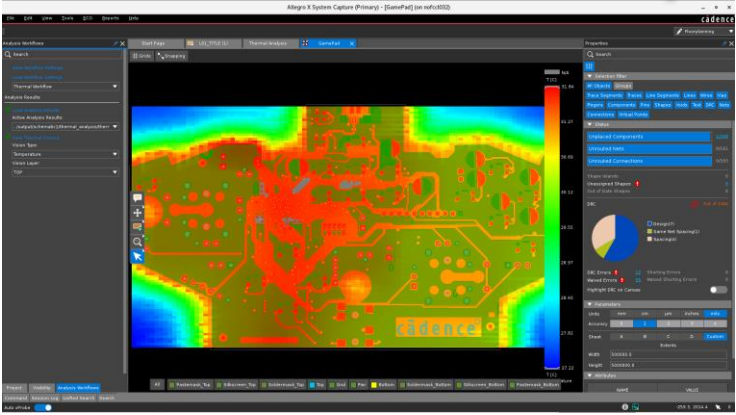
Schematic

Design faster



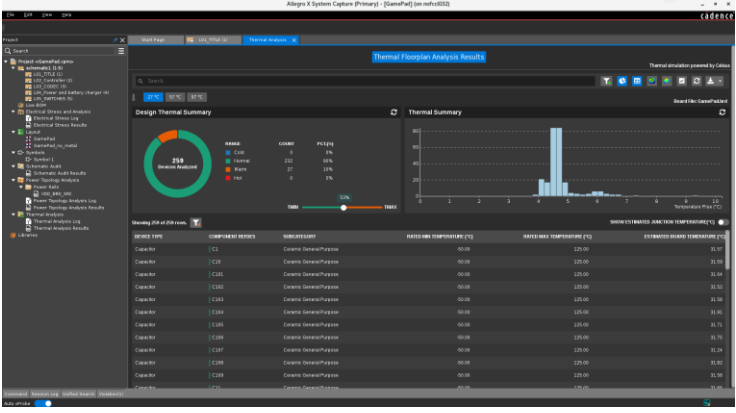
EE-Cockpit

Electrically aware + RF flows



Design Integrity

Reliable Design



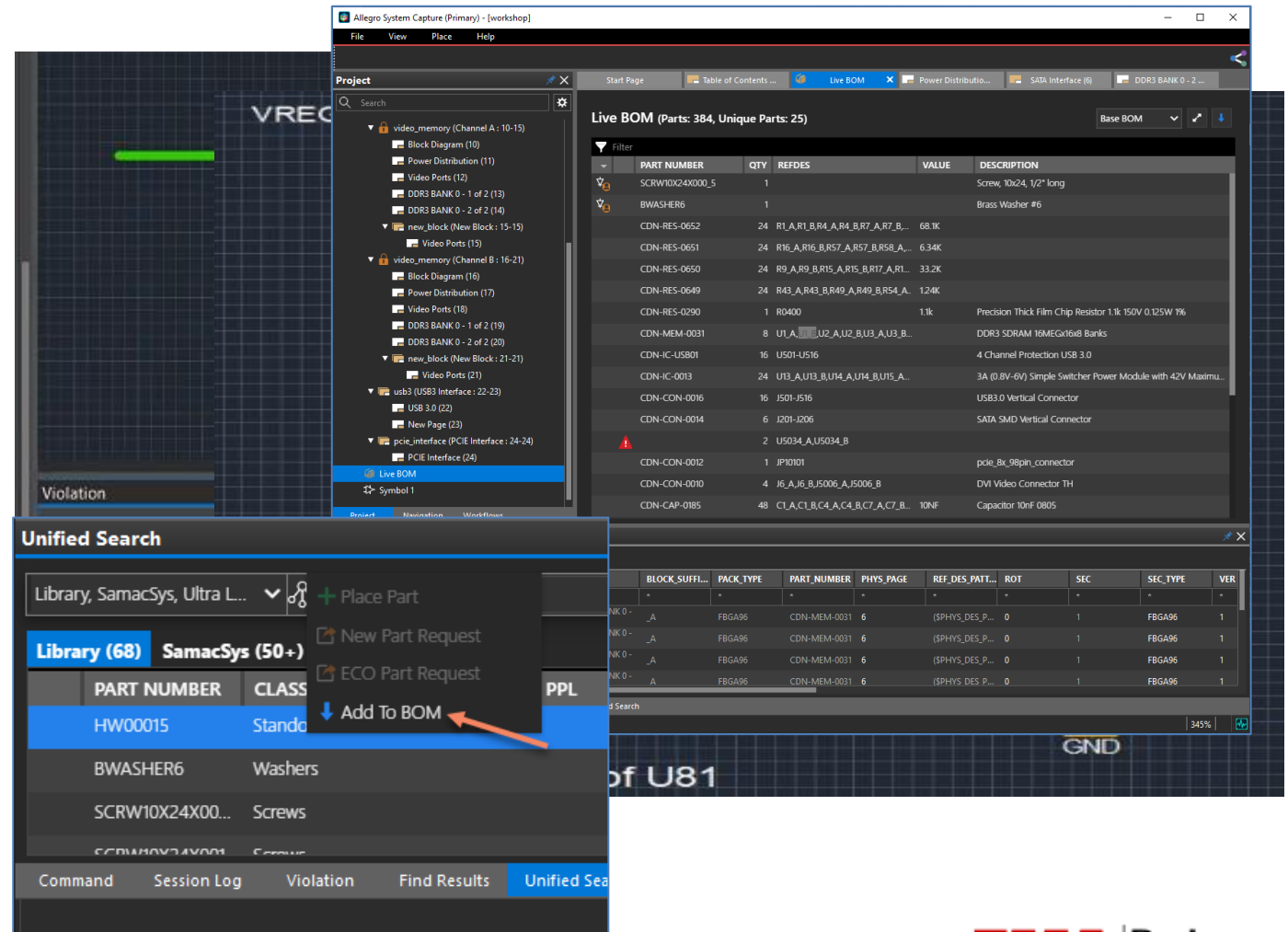
System-Level Design

System of PCBs

# What is Allegro X System Capture?

## Schematic Accelerators

- Design Navigation through multiple objects: nets, pins, refdes, bus/netgroups
- Interface-based design: Net-groups and Port-groups
- Bypass Rail Auto-creation
- Real Time BOM
- Many others...
  - Smart Connectivity
  - Automatic short prevention
  - Integrated Version Control
  - Dynamic Packaging
  - Object Formatting



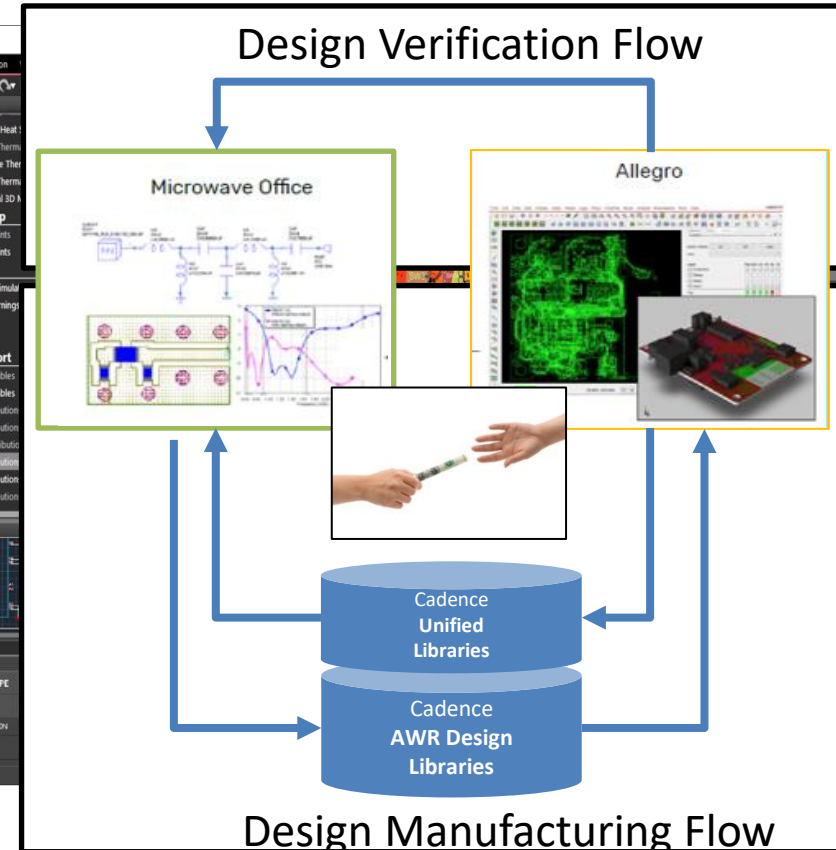
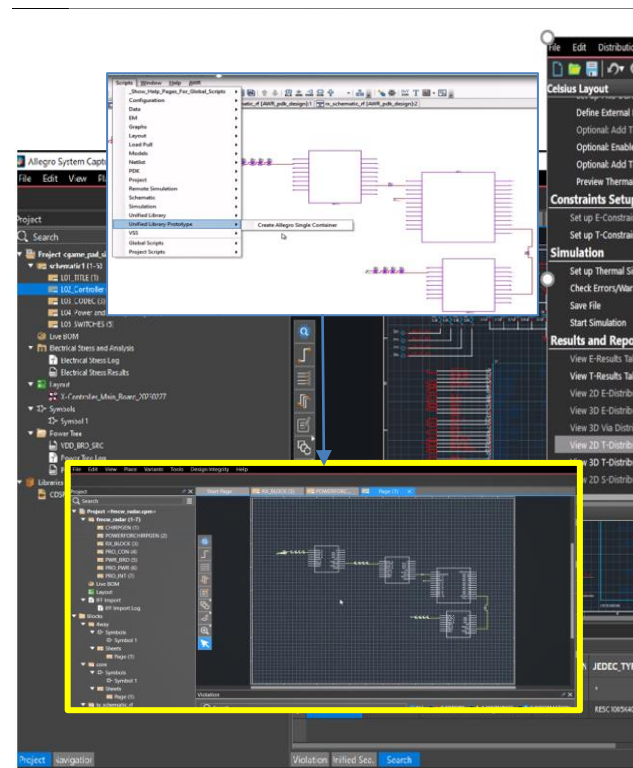


# What is Allegro X System Capture?

## System Level Design – EE Cockpit

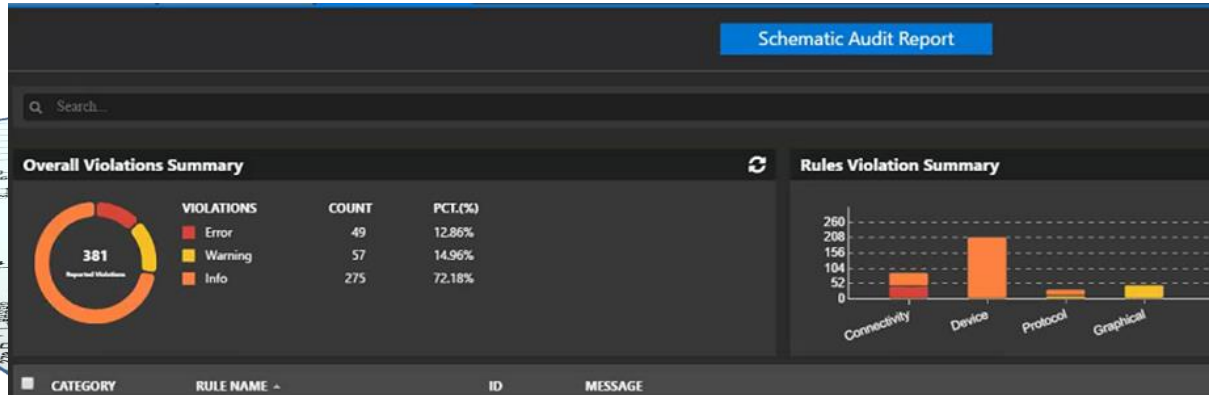
- Provides easy management of multi-discipline technology

- Schematic creation
- PCB Layout
- PowerTree Integration for PI
- TopXP Integration
  - Analyze high-speed nets
  - Develop Constraints / Floorplan
- Celsius Integration
  - Thermal based component placement and stress estimates
- MicroWave Office (AWR) flow



# What is Allegro X System Capture?

## Design Reliability

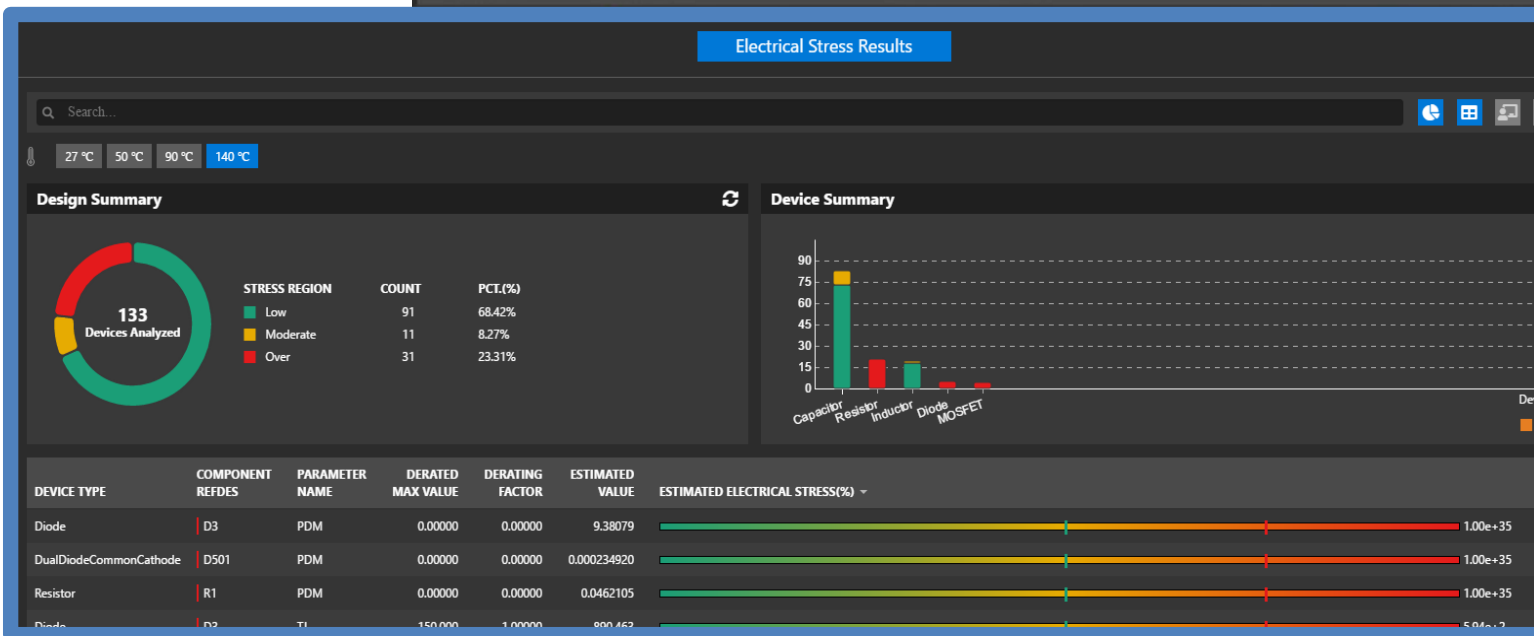


### Schematic ERC

- Schematic grammatic correctness
- Basic connectivity checks

### Schematic Audit

- Verify Integrity of Schematic for net-connectivity, part-properties and component-values:
- Ability to Cross-probe to instances and nets to fix warnings and errors
- **No models required!**



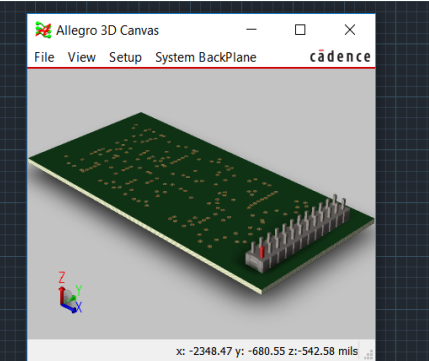
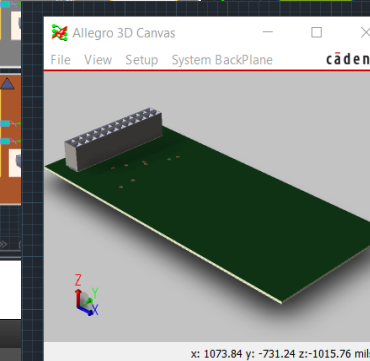
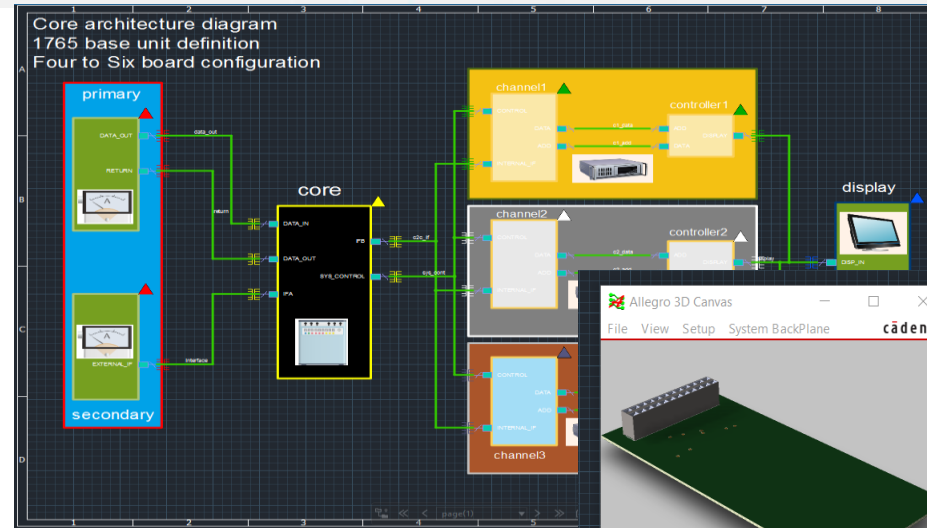
### Electrical Overstress

- Verify Electrical Stress for each Device in the Design
- Visualize stress reports with different derating
- Ability to improve accuracy through refinement of device categories
- Ability to modify design to fix Stress
- **Create MTBF reports**

# What is Allegro X System Capture?

## System Level Design

- Functional Diagram
- Abstract System Connectivity
- Establish Physical Sub-system(s) with verifying connectivity
- Guideline definition for Design teams
- Start-point for System Design
- Maintained view throughout System Design development



Port/Pin Assignment

View Options:  
Display:  
 Pin Number  
 Block Net  
 System Net  
Show Pin/Ports:  
 All  
 Connected  
 Unconnected  
ECO Resolution Options:  
View Pins/Ports:  
 All  
 Resolved  
 UnResolved  
Resolve Pins/Ports:  
Selected  
All

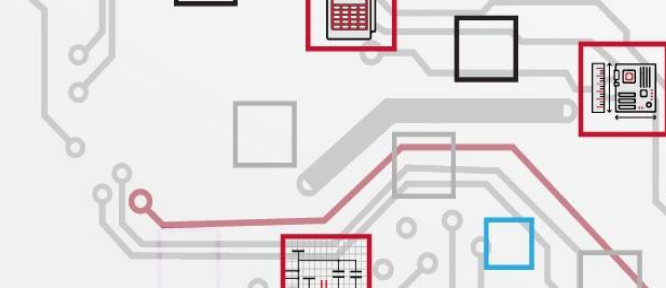
Connected Pin/Ports		Manual Assignments	
handsensor001		Pin Number	
PL1		SK1	0/24
PL1.1		SK1.1	
PL1.2		SK1.2	
PL1.3		SK1.3	
PL1.4		SK1.4	
PL1.5		SK1.5	
PL1.6		SK1.6	
PL1.7		SK1.7	
PL1.8		SK1.8	
PL1.9		SK1.9	
PL1.10		SK1.10	
PL1.11		SK1.11	
PL1.12		SK1.12	
PL1.13		SK1.13	

Unresolved connections indicated in RED

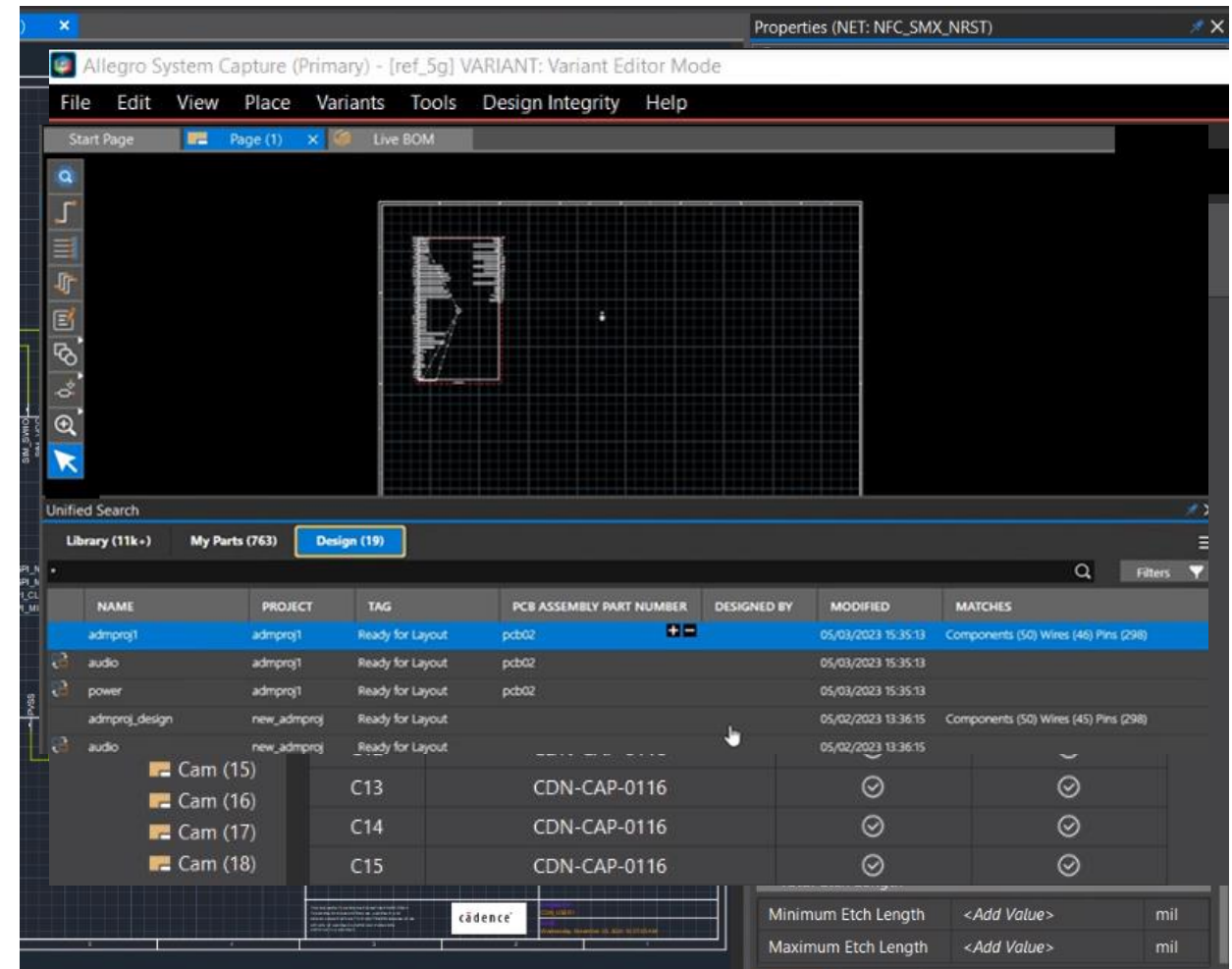


# What is Allegro X System Capture?

## Constraints, Design Re-Use, Variants



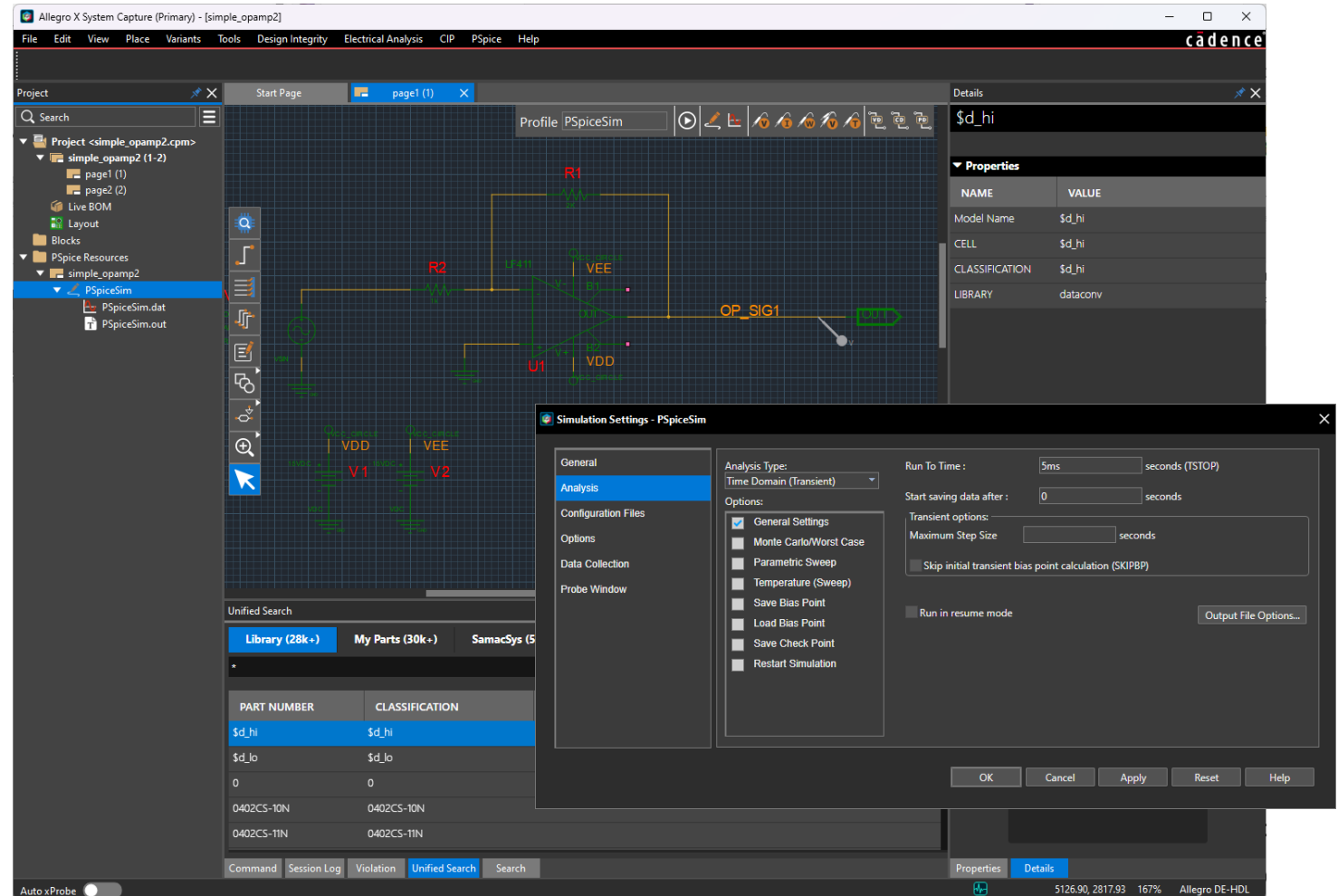
- Constraint Management
  - Edit Constraints in Canvas
- Design Re-Use
  - Designs for re-use available in Unified Search
  - Import Capture / DEHDL blocks & pages
- Variants
  - Table Based Variants
  - Hierarchical Variants and Function groups



# What is Allegro X System Capture?

## Circuit Simulation – Mixed Signal

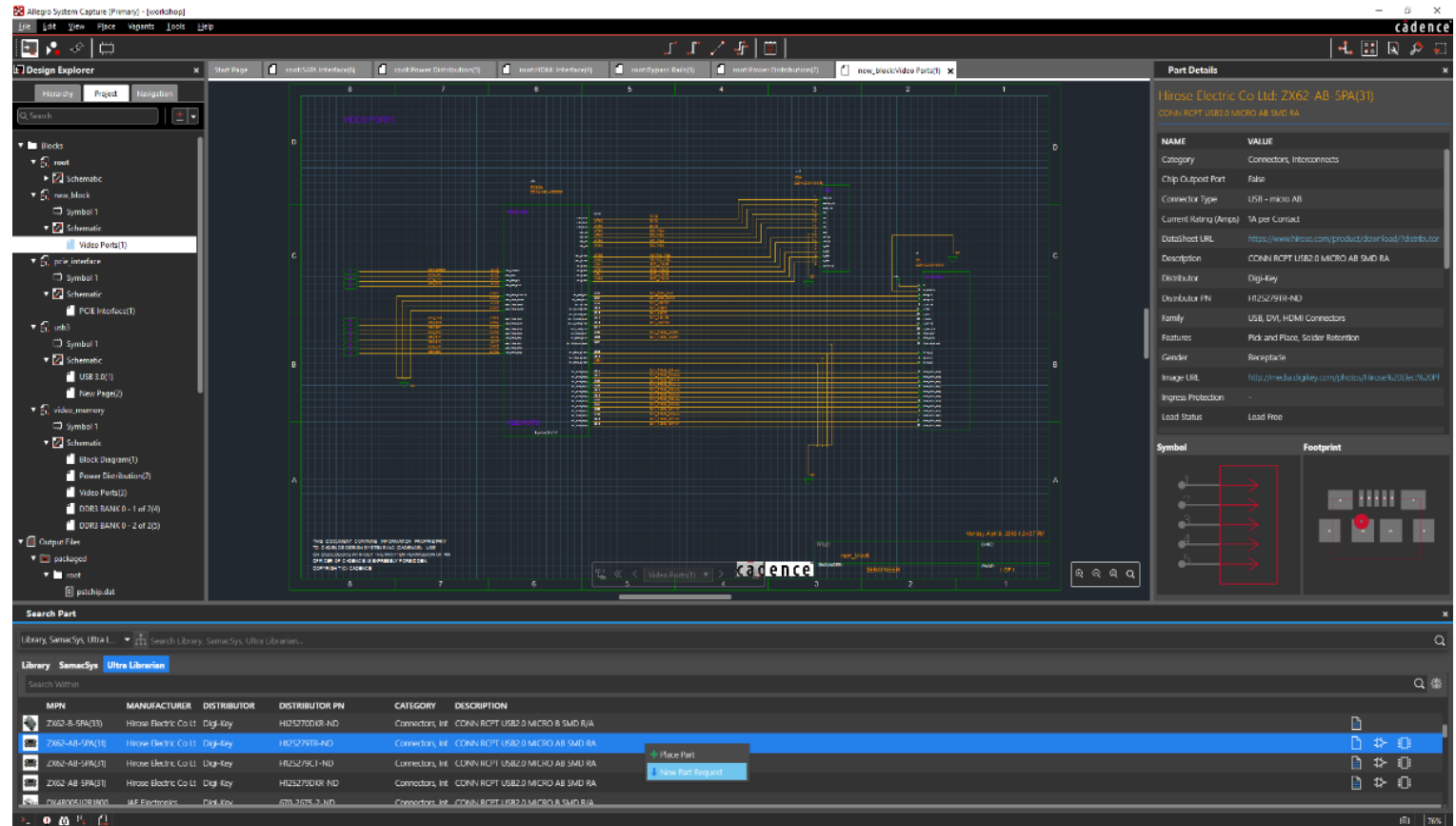
- Full Analysis
  - DC Sweep
  - AC Sweep
  - Transient
- Temperature Sweep
- Parametric Sweep
- Monte Carlo
- Worst Case
- Auto-Convergence
- Probe Window Control
- Systems Features
  - MATLAB interface
  - Device Modeling Interface
  - Advanced Analysis



# What is Allegro X System Capture?

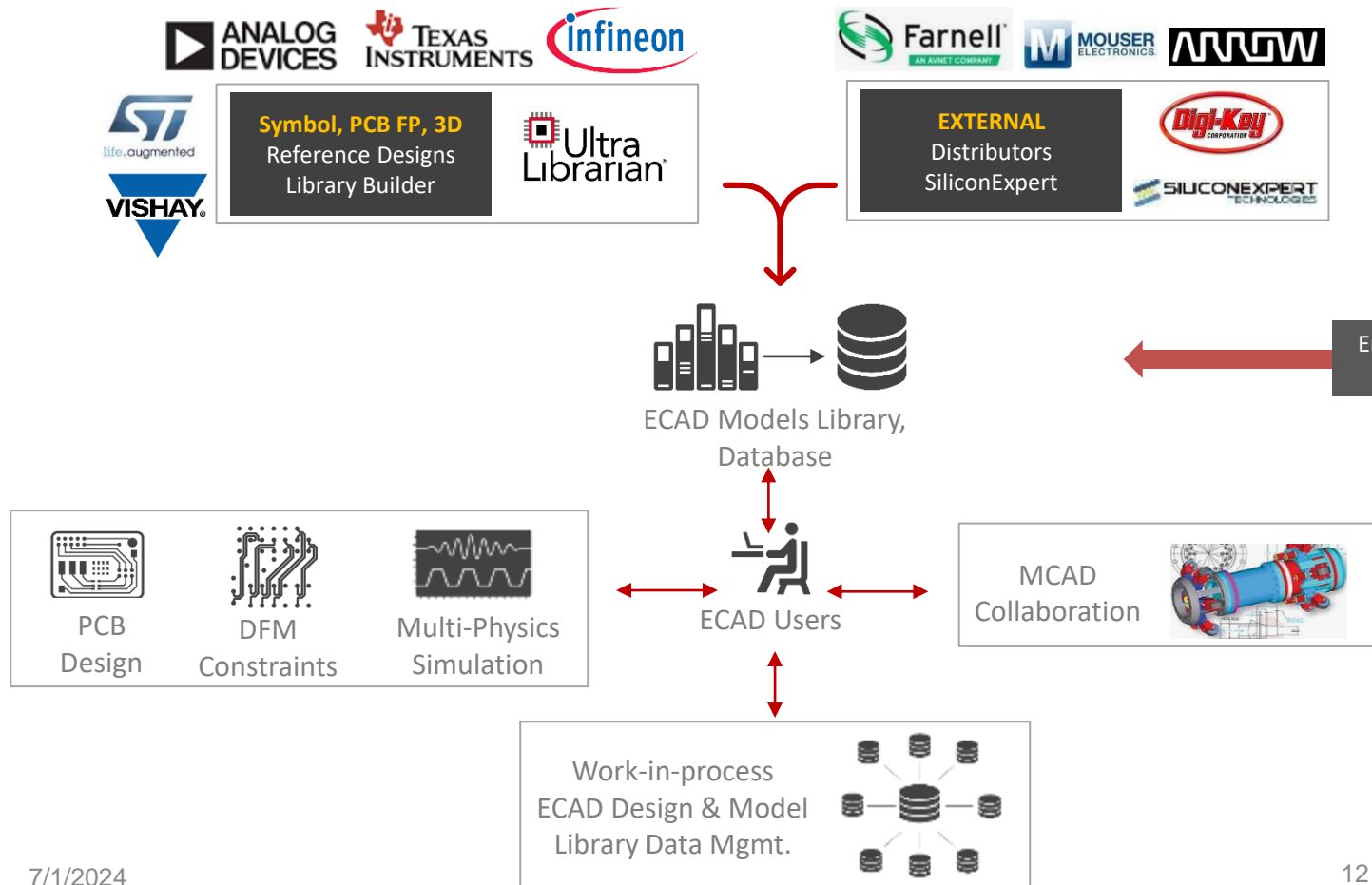
## Unified Search

- Embedded inside System Capture
- Search CAD library and other systems
- All the functionality of the full screen
- Dockable and configurable panels
- Drag-and-drop parts into design
- Fast free-text search
- Parametric refinement
- Request new part
- Search across multiple sources simultaneously
  - Cadence managed library
  - Ultra Librarian
  - SamacSys
  - Future: enterprise content
  - Future: PLM

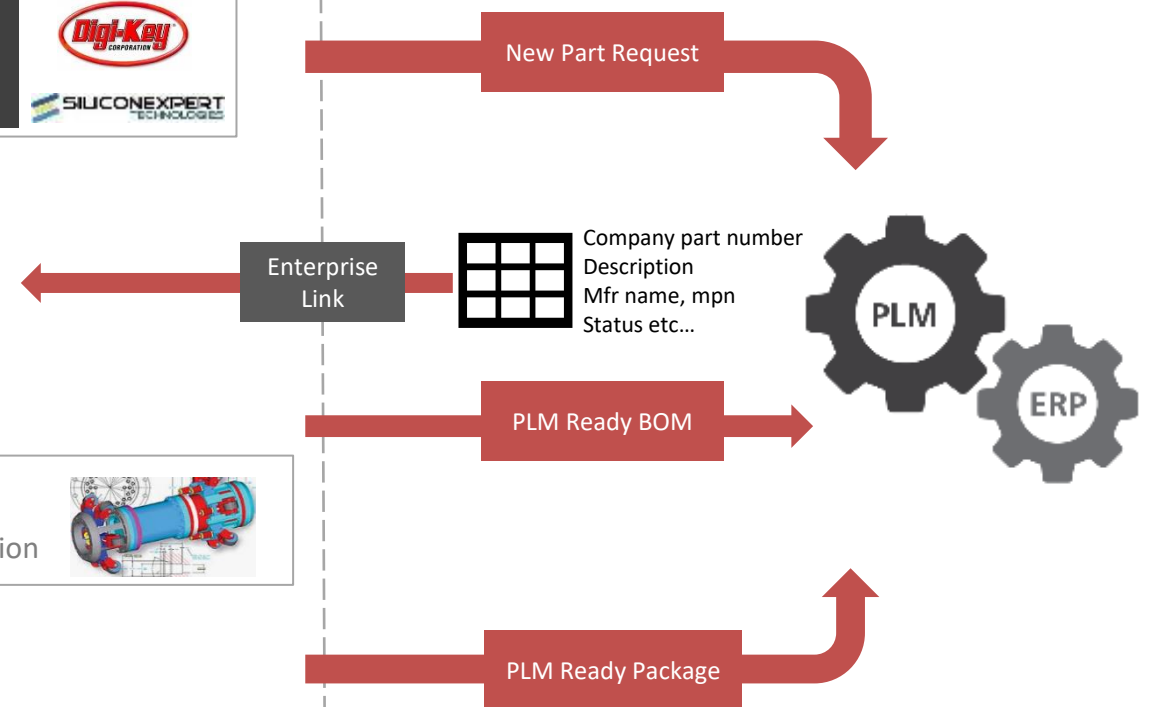


# Introduction – System Capture with CIP Integration

## ECAD Work In Process

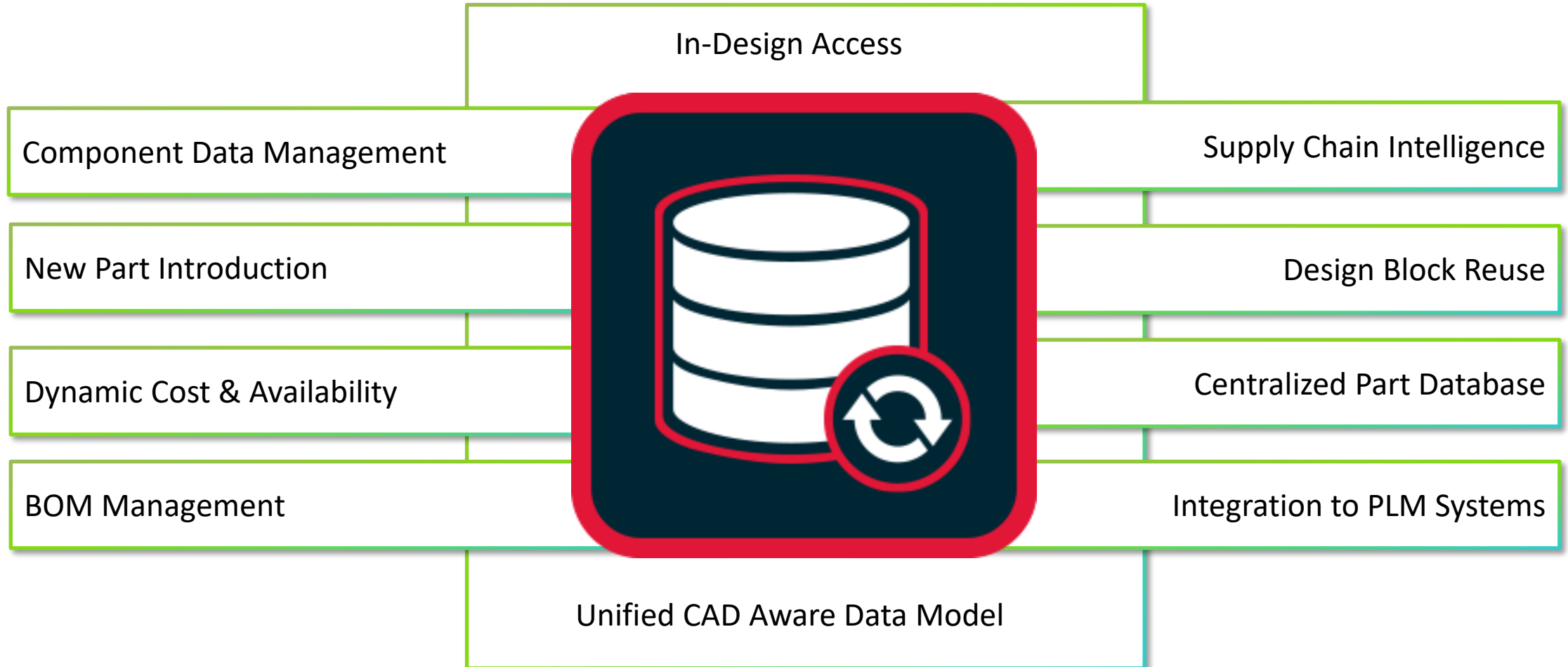
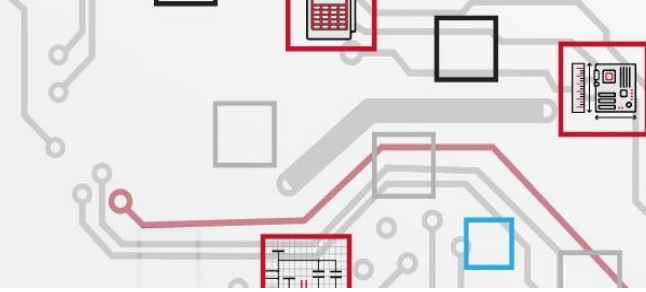


## Enterprise / RTM



# System Capture with CIP Integration

## Parts & Data Library Management





# System Capture with CIP Integration Component Data Management

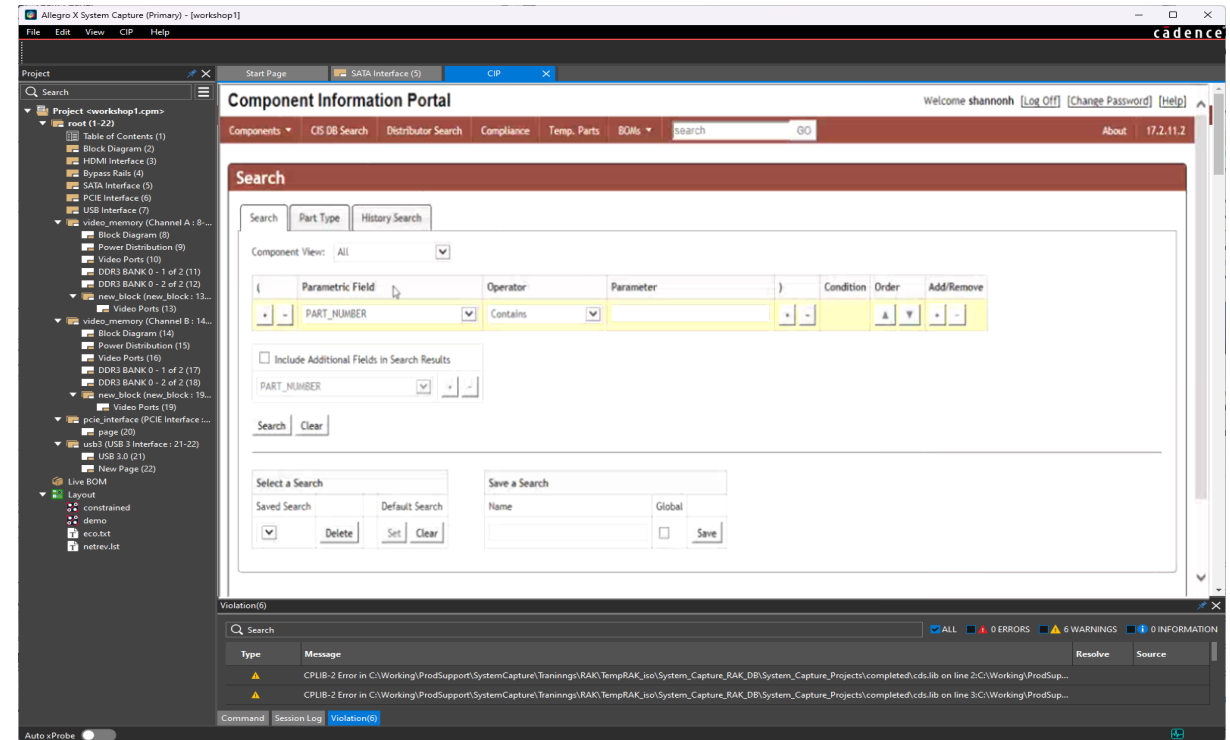
- Single Managed Part Data Library
  - Shared managed location to house component data
- Integrated Component Discovery
  - Add, maintain, and search component parametric data on millions of available parts
  - Direct Distributor integration for real-time part updates
  - Automatic population of component information upon part creation
- Comprehensive Database
  - Easily associate simulation models, symbols, footprints, documents, and multiple manufacturers to components



# System Capture with CIP Integration

## New Part Introduction

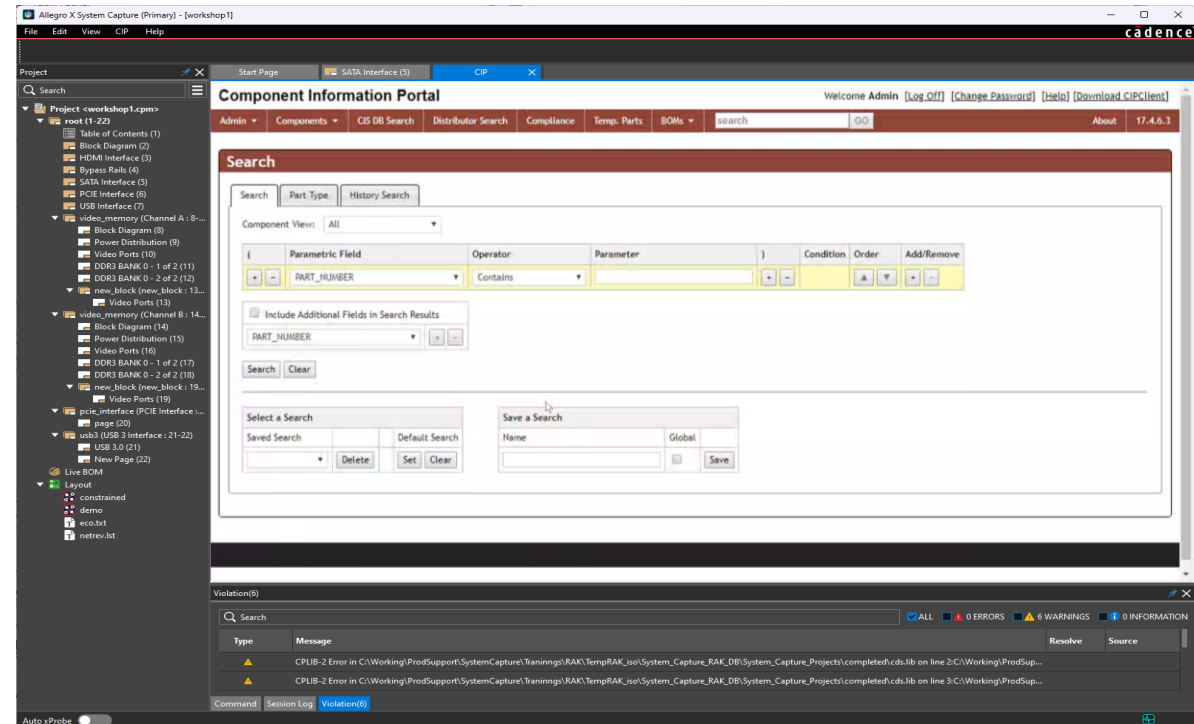
- Flexible
  - Quickly find new parts through distributor search integrations
  - Place and use part immediately – Part lifecycle flagged as a temporary part pending approval
- Collaborative
  - Leverage workflows to trigger notifications to confirm part addition and usage
- Automated
  - Automated part approval updates and notifications
  - Automatic Population of live parametric and distributor information
- Part Management History
  - Part edits and update history are tracked



# System Capture with CIP Integration

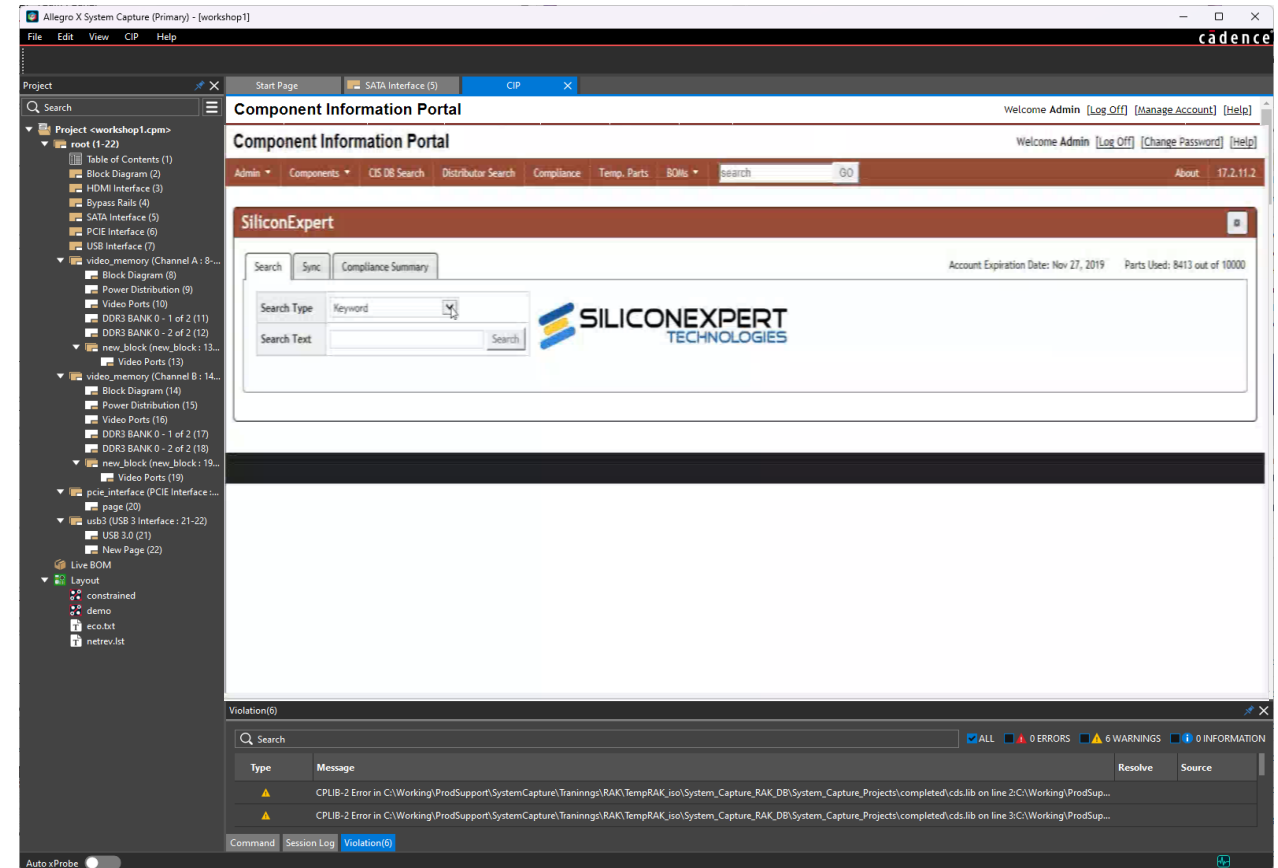
## Automated BOM Management

- Produce “Purchasing Ready” BOMs
  - Leverage templates to meet corp requirements automatically
  - Ensure critical component data such as Part Number, Value, Price, Qty on hand, RoHS status, and more are accurate and included in your BOMs every time
- Where Used
  - Easily Identify Designs Parts Were Used in
  - Across multiple designs
  - Quickly make updates and rev designs based on part changes

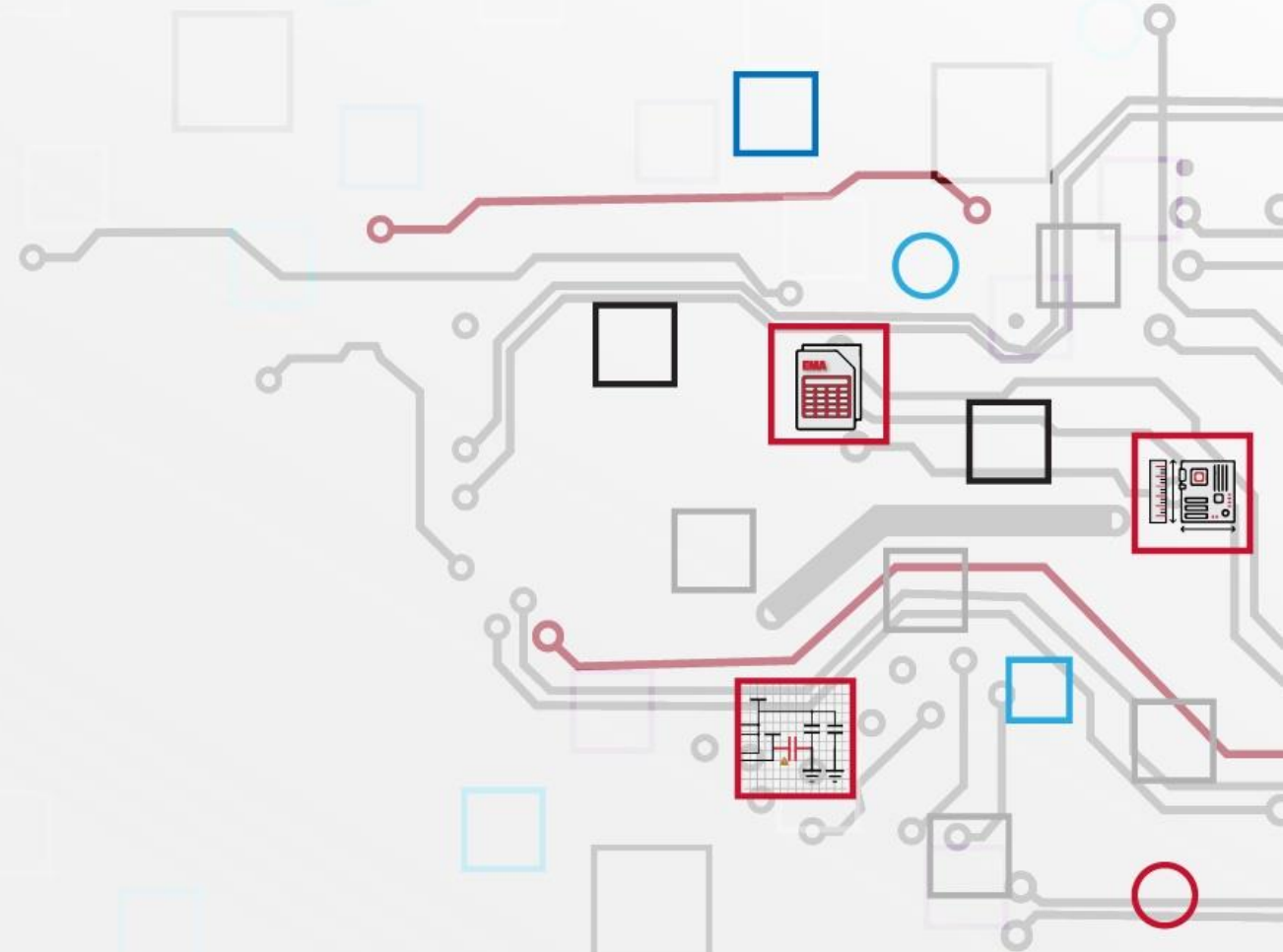


# System Capture with CIP Integration Supply Chain Intelligence

- Compliance-Driven Design
  - Access to vital component information during schematic design creation including lifecycle, environmental compliance, and inventory
- Intuitive Interface and Dynamic Data
  - Add, maintain, and search component parametric data on millions of available parts directly
  - Automatic population of component information upon part creation



# Demo





# Questions?

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