



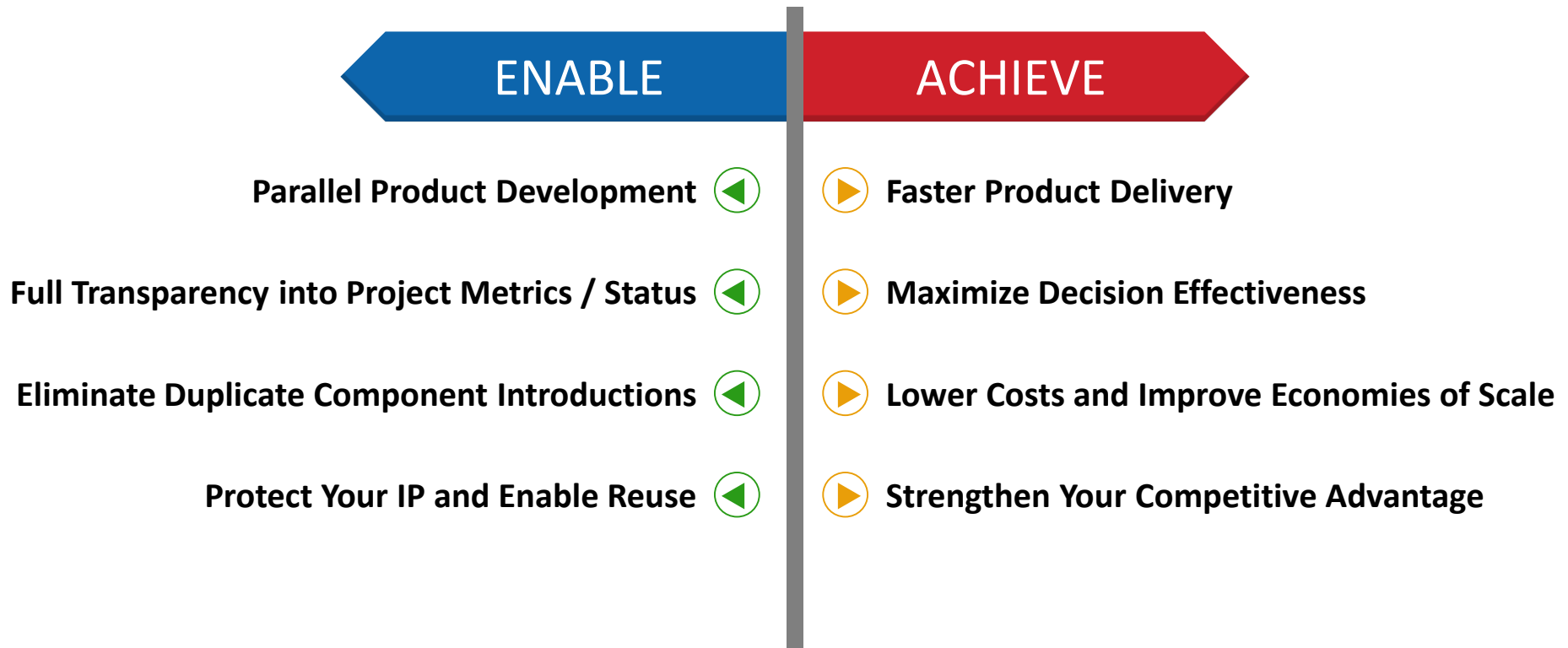
# OrCAD Engineering Data Management (EDM) Overview

Официальный дистрибьютор – ООО «ПСБ СОФТ»

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# What If You Could...



# Managing your Engineering Data is a great start!

It will improve quality and your time to market

20%

Reduction in  
product respins

10%

Decrease in overall PCB  
development time

Current methods take too long and lead to errors

Up to 29%

Of design time is spent  
**manually searching** for PCB  
related information

Up to 26%

Of design time is spent  
**fixing** data integrity issues

PCB design data  
is complex

44%

of respondents cited  
complexity of PCB as  
their top data  
management challenge

Manual or custom  
methods often don't  
work and cant scale

\* source: Aberdeen Group 2014 study

# All Other Aspects of Product Design Are Already Doing It

Released Product is managed in PLM system (ex: Windchill, Enovia, Arena)

Mechanical enclosure is managed in MCAD PDM (ex: Solidworks PDMworks)

**RISK**  
PCB data is still managed in network drives!!

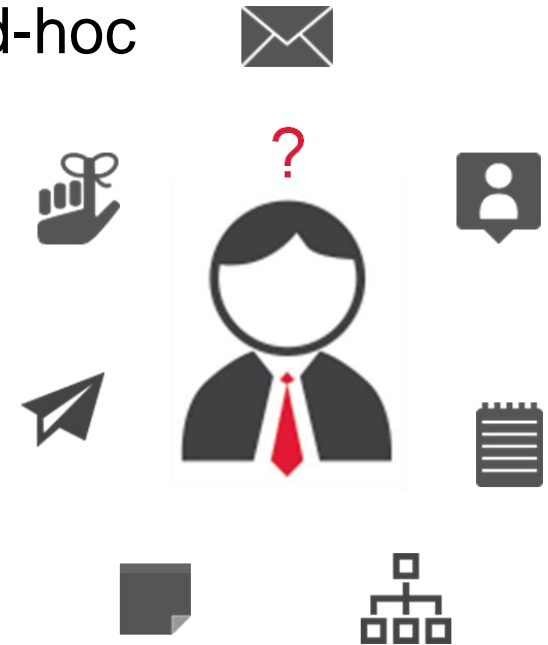
Software is managed in standard rev control system (ex: clearcase, git, svn, etc)



# PCB Data Management Today

- Collaboration and design / data management often being done as an ad-hoc process outside the CAD tools

- Emails
- Conference calls / meetings
- Notes
- Shared drives
- PDM / PLM



- **Drawbacks**

- None of the information or data is pushed back into the design environment for management and traceability
- Engineers required to access external systems to manage PCB data
- This can quickly become a management mess

# Top Business Issues Driving Data Management and Process Improvement Needs

(source: Aberdeen)

**53%** cited limited time to develop PCBs (**time to market**)

EDM helps reduce design cycle times with a purpose built native PCB data management environment

**32%** cited need to support better collaboration (**time to market**)

EDM enables automated and controlled collaboration

**21%** cited manufacturing delays due to data inconsistencies (**quality**)

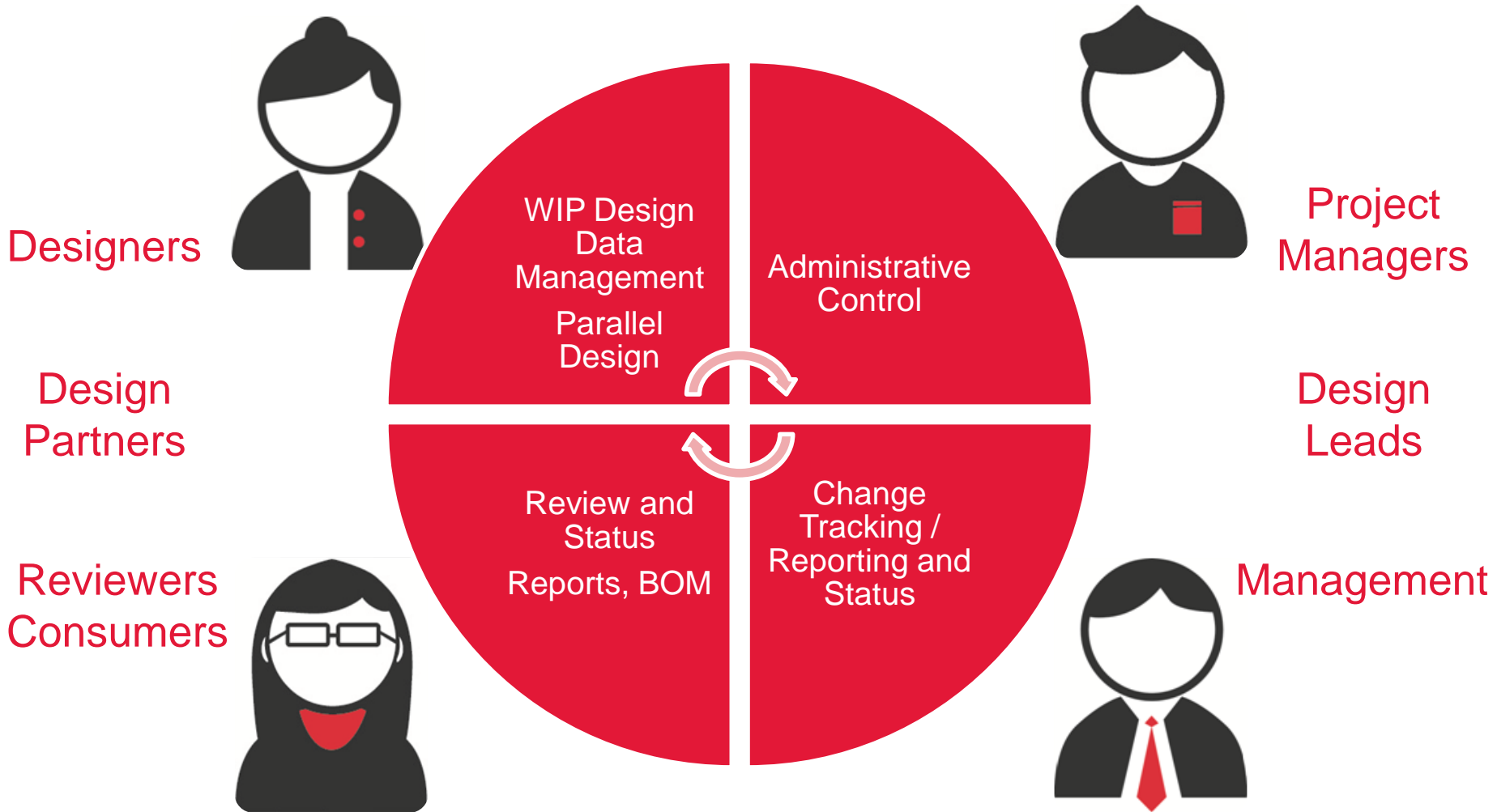
EDM ensures data integrity and traceability with PCB CAD aware revision control and data management

**19%** cited need for better predictability into design cost (**profitability**)

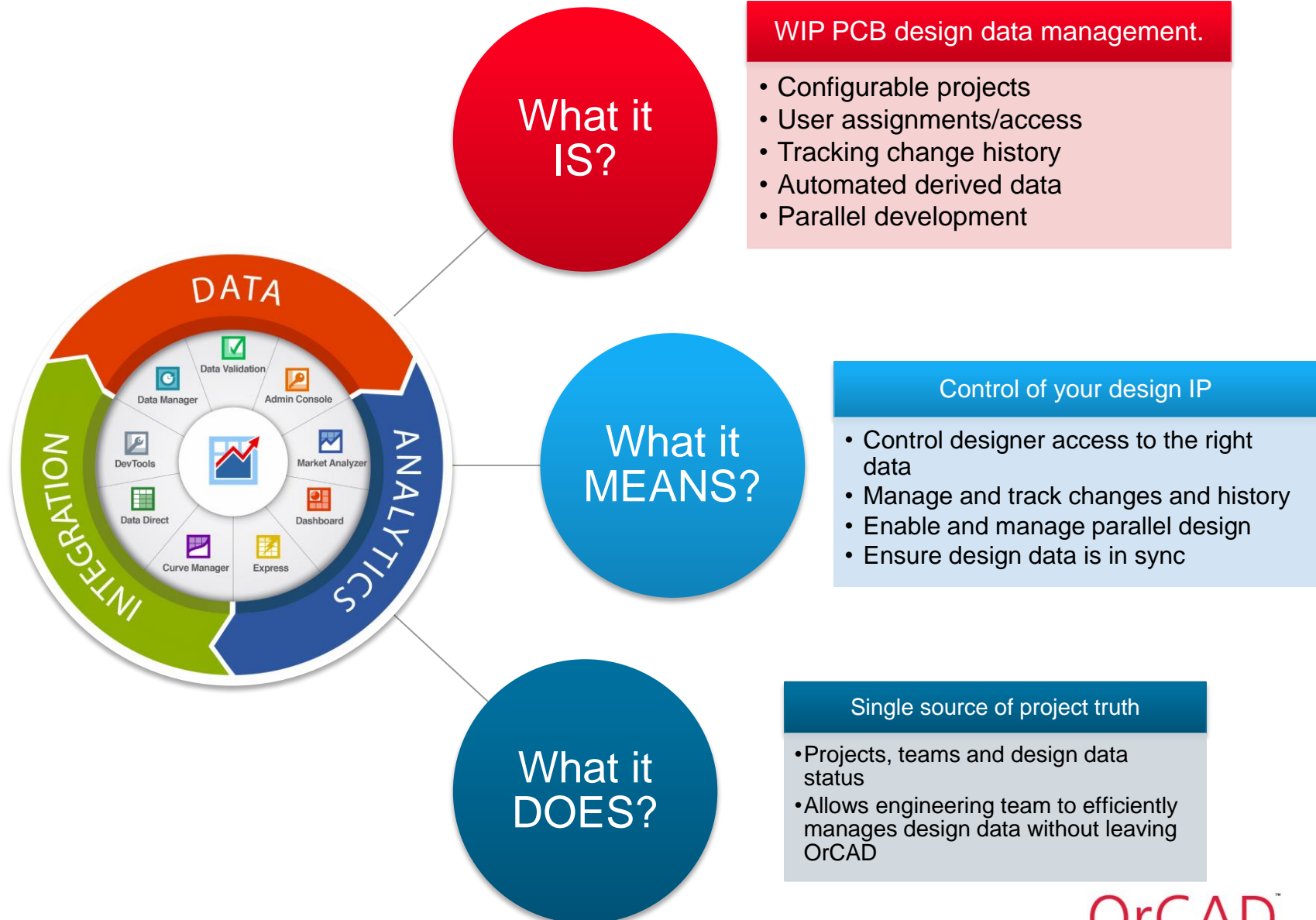
EDM provides real-time visibility into project timelines, status, and up-to-date BOM information

# OrCAD EDM

## Comprehensive PCB Design Data Management



# OrCAD Engineering Data Management Overview





# Example Scenario

## Manager – Status Update

- Manager needs to report status of current project to stakeholders.

Current Methods	With EDM
<ul style="list-style-type: none"><li>• Manager sets meeting</li><li>• Collects email updates from everyone</li><li>• Must collate data and then generate a report for management</li><li>• As soon as update is sent it is instantly out of date</li></ul>	<ul style="list-style-type: none"><li>• Checks dashboard to get real-time update on status<ul style="list-style-type: none"><li>• Can even provide stakeholders controlled access to dashboard as needed)</li></ul></li></ul>
<p>Result:</p> <p><b>Time consuming, error prone</b></p>	<p>Result:</p> <p><b>Quick, easy, accurate, and up-to-date</b></p>

# Example Scenario

## Version Roll-Back & Change History

- Error in design found need to roll back to a previous revision

<b>Current Methods</b>	<b>With EDM</b>
<ul style="list-style-type: none"><li>• Design team requests backup restore from IT (if they have them)</li><li>• IT provides giant repository of entire backed up drive</li><li>• Engineering tries to identify affected files</li><li>• Must rollback to latest available full design. Cannot rollback at the page level</li></ul>	<ul style="list-style-type: none"><li>• Review design history in EDM</li><li>• Identify change (at page level if you want) that needs to be rolled back</li><li>• Rollback to version before specific change was made</li><li>• Continue with design</li></ul>
<p>Result:</p> <p><b>Time consuming, error prone, results in re-work anyway</b></p>	<p>Result:</p> <p><b>Quick, easy, and error-free</b></p>

# Example Scenario

## Multiple Users Editing the Same Version

### Current Methods

- Two designers, working remotely from each other, are both editing local versions of the same design
- Both post their changes to shared drive at different times. Designer two unknowingly overwrites the changes designer one had made
- Designer one doesn't find out this is the case until she pulls down the design a week later
- Emergency meeting called to try and reconcile version issue

Result:

**Time consuming, error prone,  
results in re-work**

### With EDM

- Can't happen

Result:

**Quick, easy, and accurate**



# Key Capabilities

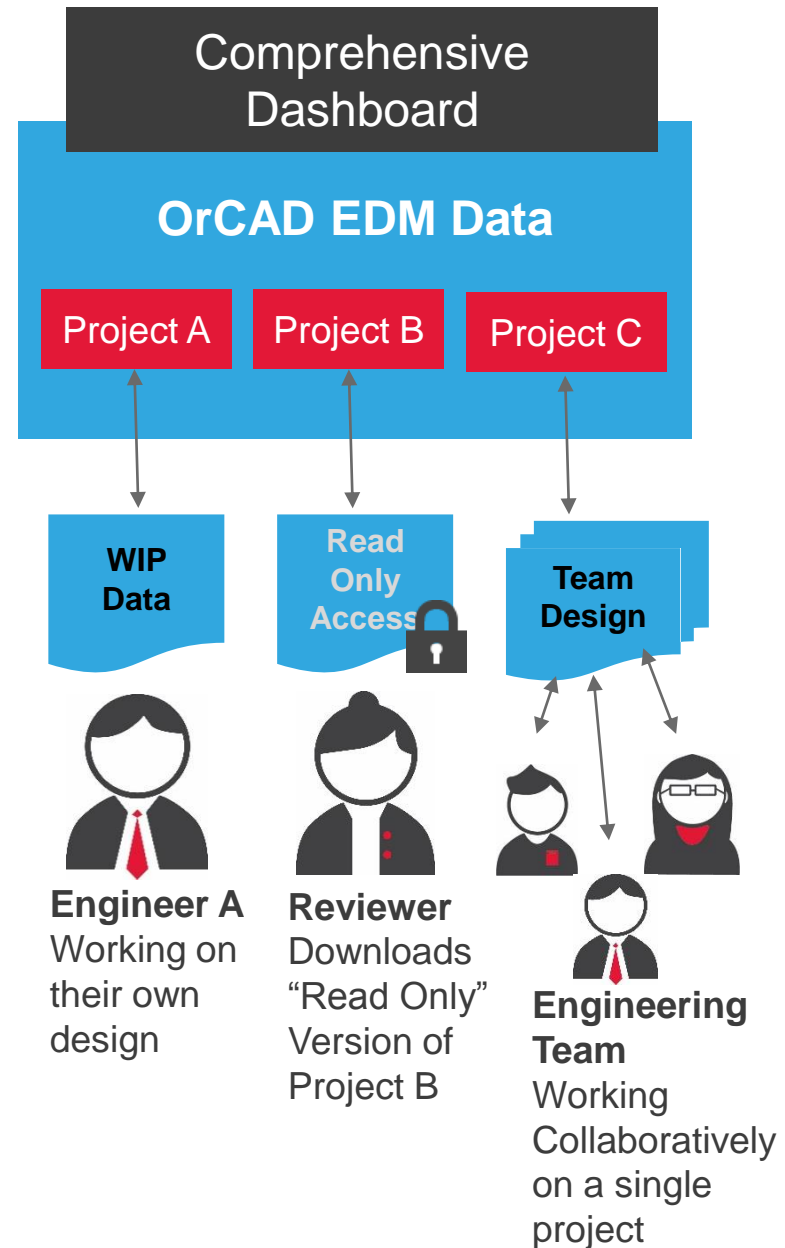
# Project Management

- **What is it?**

- The ability to manage and track progress across all projects and users
  - Dashboard with real-time updates
  - Full revision history
  - User assignment / role management
  - Quick project access inside Capture or through the web / desktop client

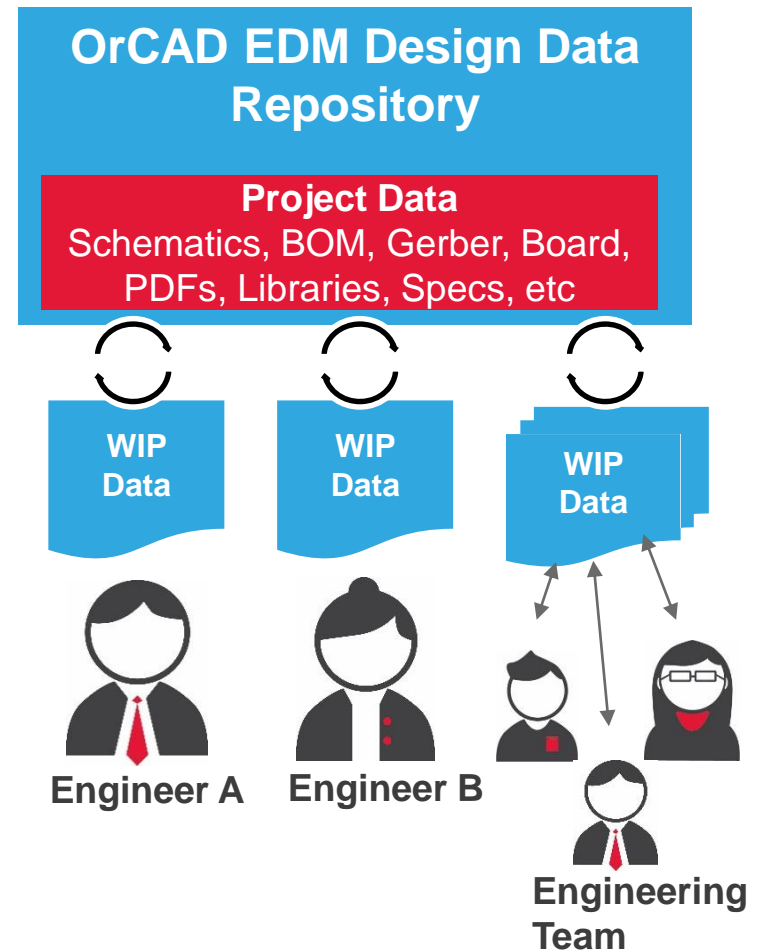
- **Why it's valuable?**

- Capability to control data access across projects
  - Real-time status on projects
  - Assign projects to users
  - Allow users to add new projects
  - Archive / release projects
  - Invite stakeholders and partners to collaborate in “read-only” mode



# Work in Progress (WIP) Design Data Management

- What is it?
  - Manage any file related or associated with your PCB design
  - OrCAD schematic design files, PCB files, Gerbers, Netlists, PDF, Word doc, etc
- Why it's valuable?
  - Single source of truth for your OrCAD work in progress data
  - Ensure all files needed to successfully release the design are in sync and up-to-date.



# Team based design

Multi user access for OrCAD design access

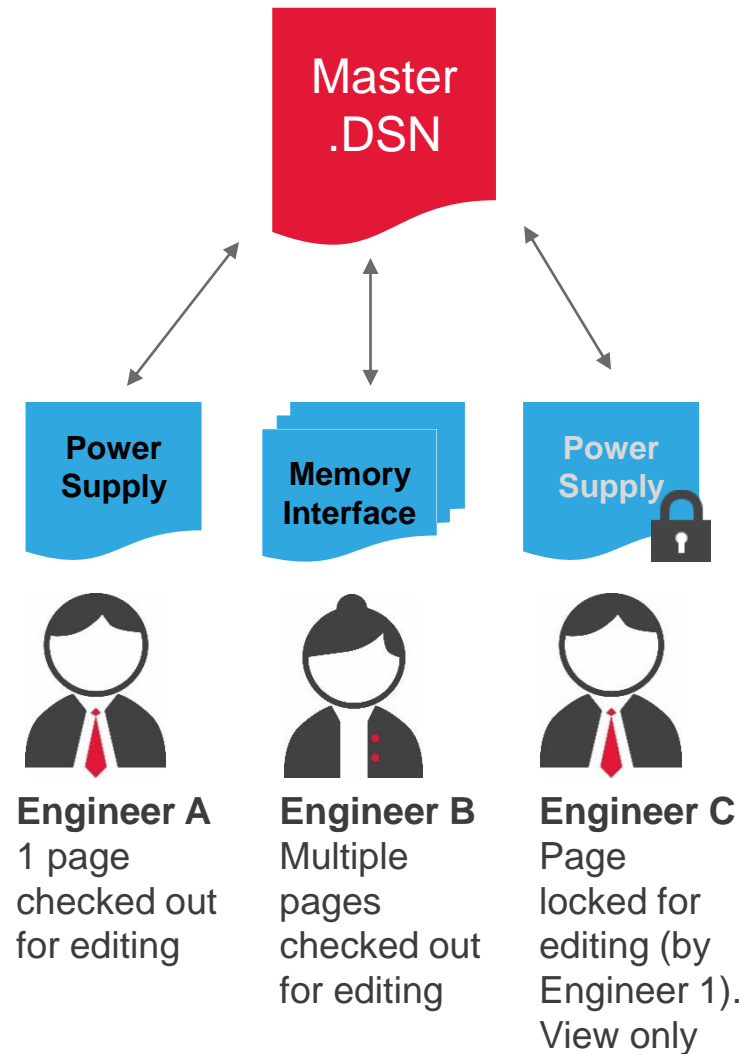
- **What is it?**

- The ability to manage and track progress at the page level
  - Assign specific pages to users
  - Track changes on a page by page basis
  - Track changes to individual symbols and lib elements

- **Why it's valuable?**

- Capture uses a single file architecture per project; great for portability, not so much for collaboration

- **Best of both worlds – portability and page-level management**



# Team based design

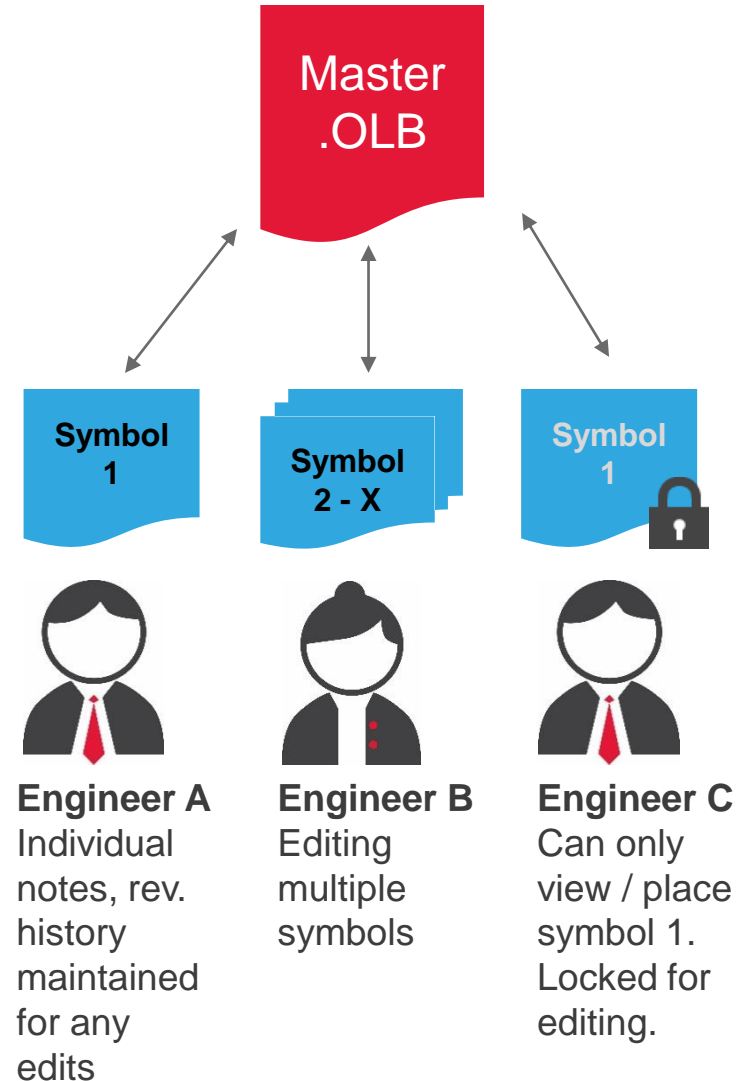
## Multi-user library access

- **What is it?**

- The ability to manage and track changes to your libraries
  - Create, edit, review, promote
  - Dashboard with real-time updates
  - Full revision history
  - Quick part(s) access inside Capture

- **Why it's valuable?**

- Capture uses a single file architecture per library (OLB); great for portability, not so much for collaboration
- Enables editing and version tracking of individual symbols within OLB files
  - Reduces duplication of effort
  - Improved efficiency with a centralized part / library process





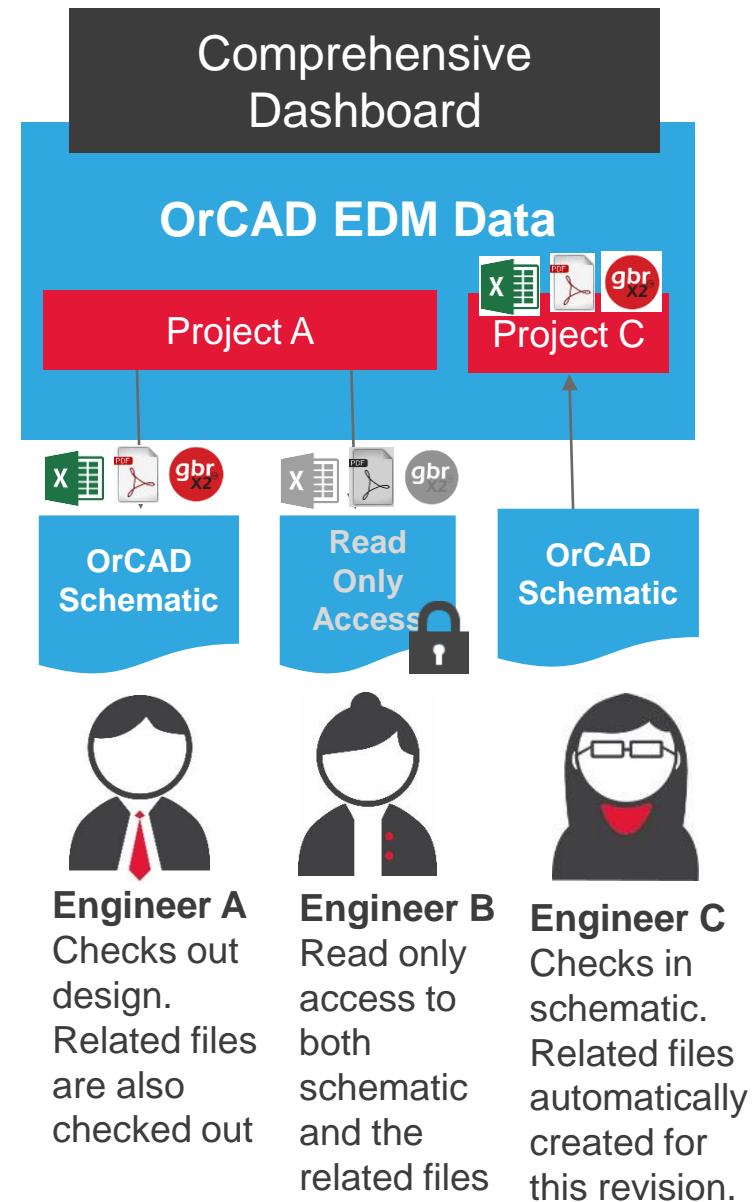
# Derived file management

- **What is it?**

- The ability to track and keep in sync files associated with core OrCAD data
  - Automatically create related files on check-in
  - Capture to intelligently lock related files on checkout
  - Track related file history with OrCAD files

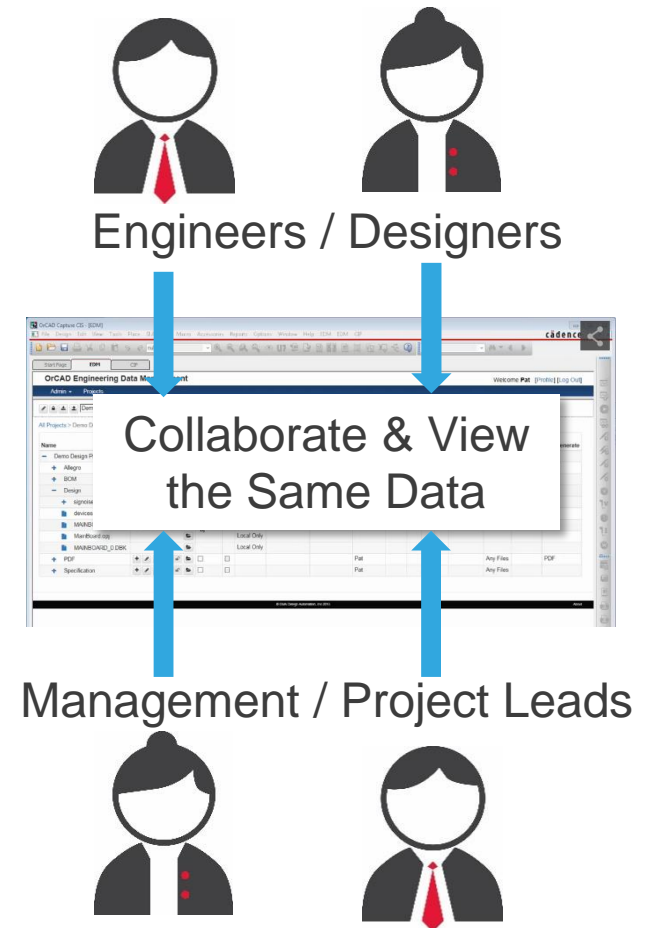
- **Why it's valuable?**

- Related files drive business processes downstream if they are not in synch with the latest design data errors occur
  - Example incorrect Gerber gets sent to manufacturing (re-spin)
  - Management approves old PDF version of design (delay)
  - Incorrect BOM is released and wrong parts are ordered (miss market window)



# Change Tracking / Reporting

- **What is it?**
  - The ability to input and track change through a design management cockpit
- **Why it's valuable?**
  - Full audit trail is maintained
    - Who made changes
    - What changes did they make
    - When were those changes made
    - Why were the changes made
  - Real-time status of
    - Individual project status
    - All project progress
    - User tasks / progress



# Flexible Use Models

- **EDM inside Capture**
  - Target: Engineers using Capture to create and manage designs
  - Have access to all the EDM features
  
- **EDM Desktop**
  - Target: PCB Designers who do not use Capture and want to manage their PCB files in EDM
  - Have access to all EDM features (check-in / check-out) except those that specifically require Capture to run
  
- **EDM Browser**
  - Target: Management, Program Managers, Doc Control, QA, Regulatory Compliance, manufacturing, procurement
  - Can download files only, view status, and configure projects / assign users



Demo

# Why OrCAD EDM?

## It CAN improve quality and your time to market

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product respins

10%

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development time

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## It CAN manage PCB team and design data

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OrcAD™

**CADENCE PCB SOLUTIONS**



# What's New in EDM 16.6-2015 (2.0)

# EDM 2.0 What's New

## Top Capabilities

- Full file management capabilities
  - Can manage and version control ANY file type (.DSN, .BRD, DOC, .PDF, etc)
  - Makes EDM a complete PCB design WIP tool
- Browser and Desktop version for non Capture users
- Integration with PCB Editor
  - Menu item to launch EDM
- Automated Check-In Configurations
  - At each check-in EDM can store data about the design including: BOM, Netlist, PDF, Parts Changed, Total # of Parts, Total # of Nets













































# What's new?

- **Flexible Project Configuration**

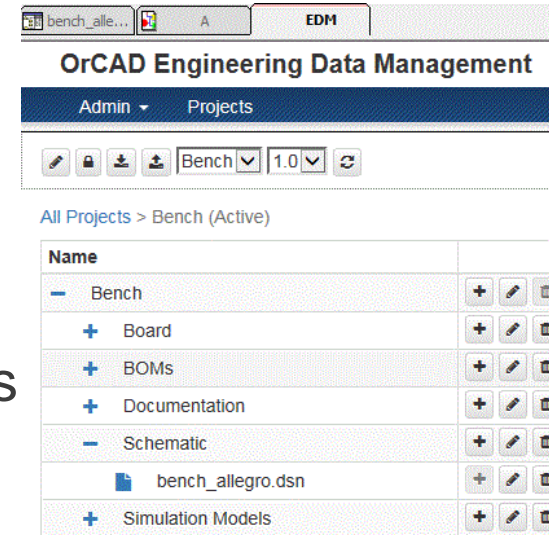
- Folder structure and permissions fully configurable by project leader
- File types can be specified at the folder level
- Configure whether users can create folders on check in
- Project type (Capture, General (non-Capture))
- Team Designs and Team Library will belong in projects instead of being projects

All Projects > Project F (Active)

Name		Get Copy	CO	Local State	Checked Out By	Assigned Users	Updated By	Status	Rev Status	Ext Rules	Extension	Autogenerate
- Project F	     	<input type="checkbox"/>	<input type="checkbox"/>									
- Allegro	     	<input type="checkbox"/>	<input type="checkbox"/>				Admin			Any Files		Netlist
+ Gerber	     	<input type="checkbox"/>	<input type="checkbox"/>		Kris	Kris, Jim	Admin			Any Files		
+ BOM	     	<input type="checkbox"/>	<input type="checkbox"/>				Admin			Exclude Files	.pdf	BOM
+ Design	     	<input type="checkbox"/>	<input type="checkbox"/>				Admin			Any Files		DSN
 Hier (Hierarchical)	    	<input type="checkbox"/>	<input type="checkbox"/>				Admin	Unfrozen		Any Files		
+ Specs	     	<input type="checkbox"/>	<input type="checkbox"/>				Admin			Specific Files	.doc, .docx, .xls, .xlsx	

# What's new?

- **Project Templates**
  - Project Templates can be created and re-used
  - Projects can be created from defined templates
- **User access list controlled by EDM Admins**
  - Users can be added as Windows or non-Windows users
  - Users can be disabled
  - Project access can be switched from one user to another
- **Statuses of local files as compared to repository version are provided**
- **Can open known file types directly from EDM screen**



# What's new?

## Derived File Management

Items to be checked in	State	CI	Keep Checked Out	Status	Rev Status
Main/Project F/1/Design/MAIN.DSN	unversioned	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1-Implementing <input type="text"/>	0-NA

Select ...     Also Change Keep Lock

### Auto Generate Related Files

- BOM
- Netlist
- PDF

### Auto Comment

- Parts Changed
- Total # of Parts
- Total # of Nets

Update Title Block


Comment \*

Added drivers to design|




# What's new?











- Customizable userfields associated to projects, files, pages and libraries.
  - Examples userfield usage: Description, Date Approved, Engineer

Settings For **File** 

Standard Fields

	Name	Edit Type	Pick List Values
	status	Pick List	1-Implementing, 2-I

Custom Fields

	Field ID	Visible	Display Name	Edit Type	Pick List Values
	user_field_01	<input type="checkbox"/>	FileRev	Text	
	user_field_02	<input type="checkbox"/>	EE	Text	
	user_field_03	<input type="checkbox"/>	ME	Text	
	user_field_04	<input type="checkbox"/>	QA	Text	
	user_field_05	<input checked="" type="checkbox"/>	Rev Status	Pick List	0-NA, 1-Review Sched
	user_field_06	<input type="checkbox"/>	user_field_06	Text	
	user_field_07	<input type="checkbox"/>	user_field_07	Text	
	user_field_08	<input type="checkbox"/>	user_field_08	Text	
	user_field_09	<input type="checkbox"/>	user_field_09	Text	
	user_field_10	<input type="checkbox"/>	user_field_10	Text	

# What New Feature Comparison

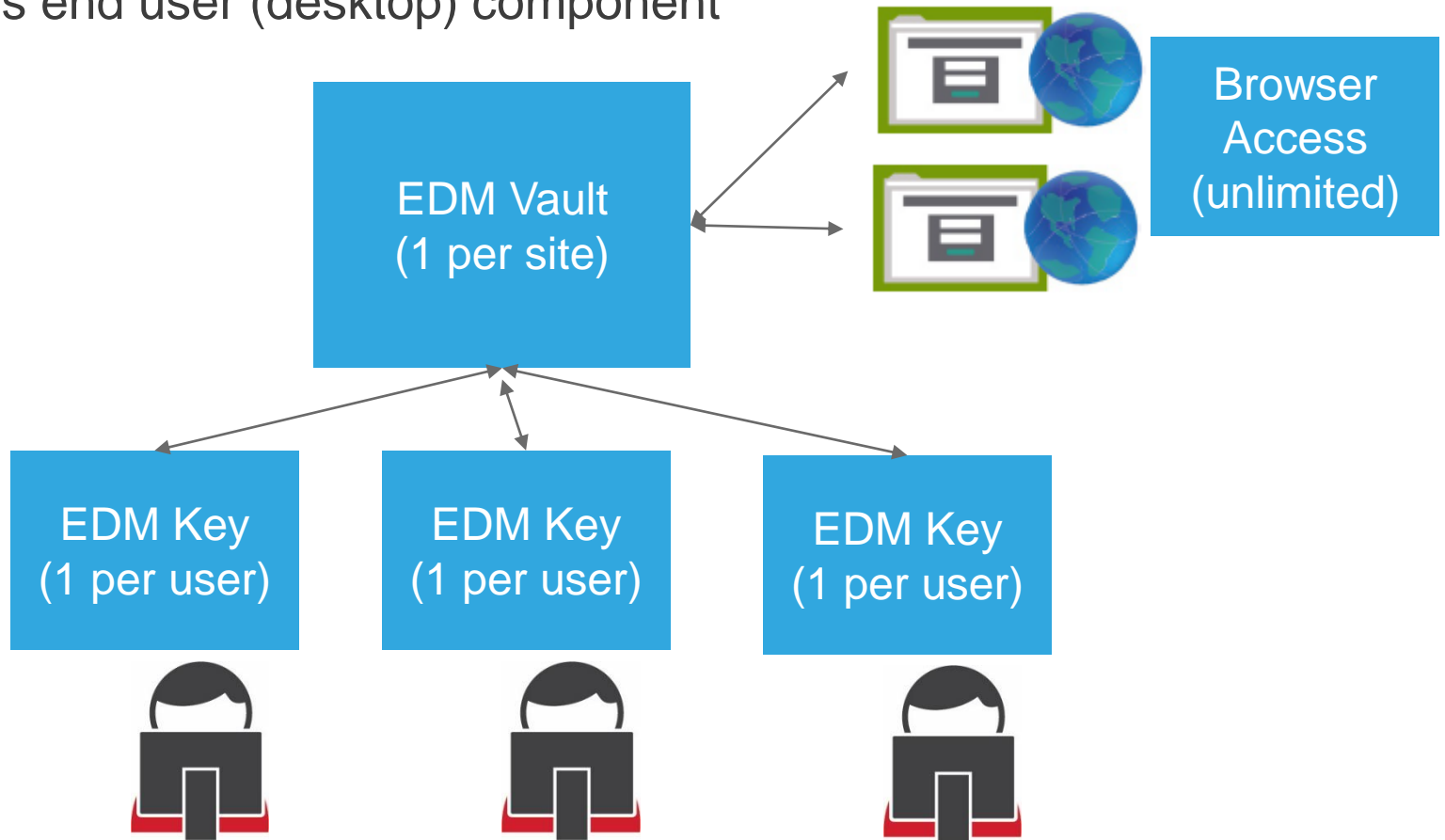
Feature	EDM 1.0	EDM 2.0
Integrated with OrCAD Capture	X	X
OrCAD Capture DSN File Management	X	X
Permission Control	X	X
Revision Control & History	X	X
File Locking	X	X
Email Notifications	X	X
Library Management	X	X
Commenting	X	X
OrCAD & non-OrCAD File Management		X
Automated check-in and creation of related files		X
Configurable / Reusable Project Structure		X
Browser & Desktop Client		X
PCB Editor Integration		X
Custom Fields		X



# Backup Slides

# EDM 2.0 Tiering

- New: Two Part Numbers – Vault and Key
  - Vault is server component
  - Key is end user (desktop) component



# EDM Pricing / Packaging

- PO5210 OrCAD Engineering Data Management Vault
  - 99 Yr \$3,000 (USD)
  - 99 Yr. maint \$600 (USD)
  - TBL \$1,200 (USD)
- PO5220 – OrCAD Engineering Data Management Key
  - 99 Yr. \$1,190 (USD)
  - 99 Yr. maint = \$240 (USD)
  - TBL = \$480 (USD)
- EDM 2.0 Requires company to have one Vault license. Keys provide local user connection to vault.
- OrCAD and EDM do not support WAN licensing

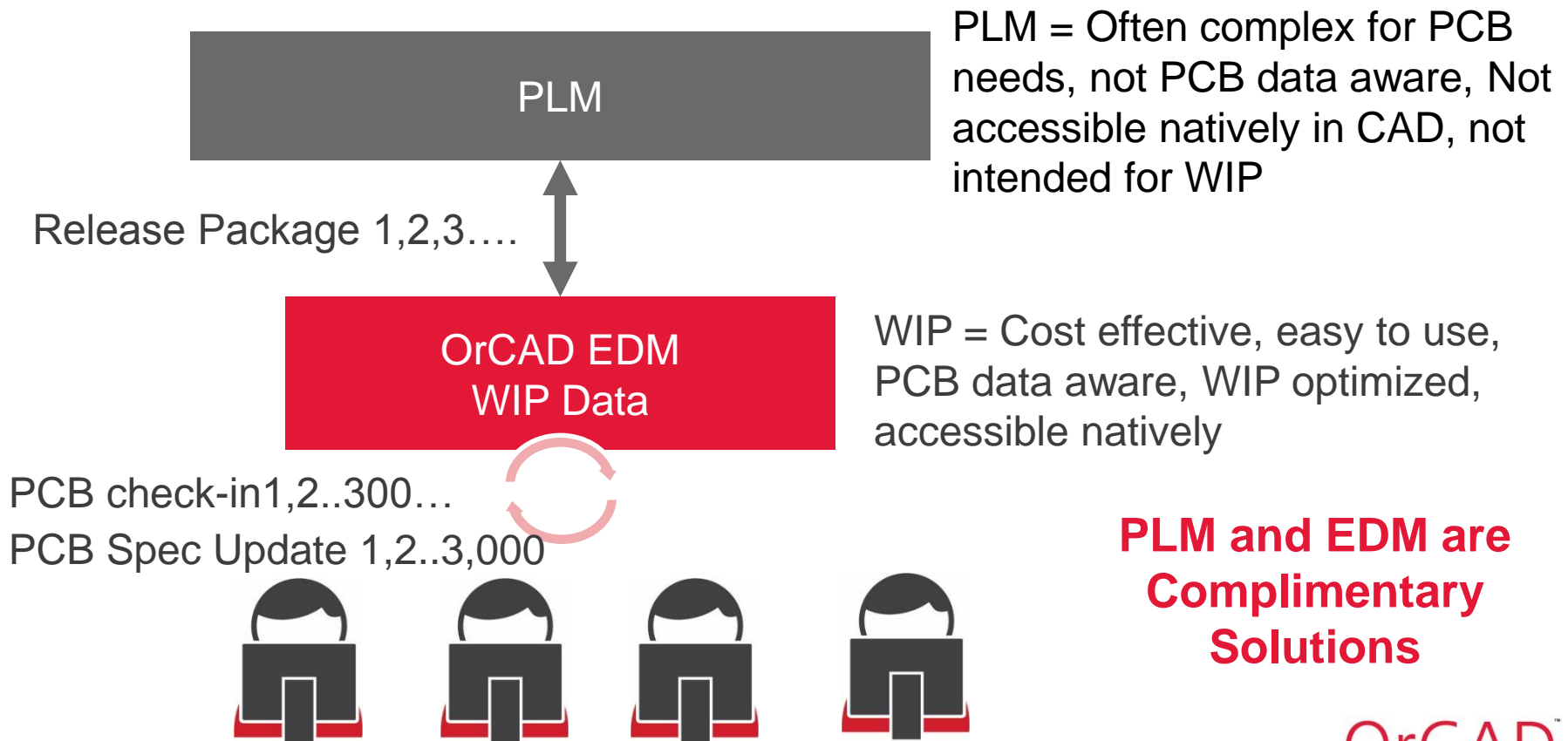


# Upgrade Path

- EDM 1.0 users can transition to EDM 2.0 providing they are willing to accept the annual maintenance fee for the Vault
  - \$500 per year
- A utility will be made available that will migrate a users EDM 1.0 environment to EDM 2.0
  - Target availability in Q4 2015

# What it is NOT

- OrCAD EDM is **not** a PLM system it is purely intended and designed for PCB Work In Process Data (WIP)
  - EDM is used to manage the design as it is being developed BEFORE it is released to PLM



# Implementation

- EDM is intended to be implementable out-of-the-box for standard configurations
  - IT support will be required
- EDM does have some pre-requisites that need to be configured by the customer
  - System requirements / prerequisites doc is available
  - Engage IT early on in the sales process
- Custom or advanced implementations can be supported (Ex: multi-site database replication). Contact EMA for help with these opportunities