# Pulsonix Version 13.0 Update

IDX Collaboration Interface

The new IDX Collaboration Interface brings PCB and MCAD even closer together in the Pulsonix design environment.

Drive Pulsonix into your MCAD (Mechanical CAD) system or from your MCAD system using event driven methodology, this allows you to control each stage of the mechanical integration within your PCB.

IDX enables the seamless exchange of incremental design data between ECAD and MCAD software, products such as SolidWorks, making it far more efficient. Changes can be tracked more easily and reviewed at each stage of the process.
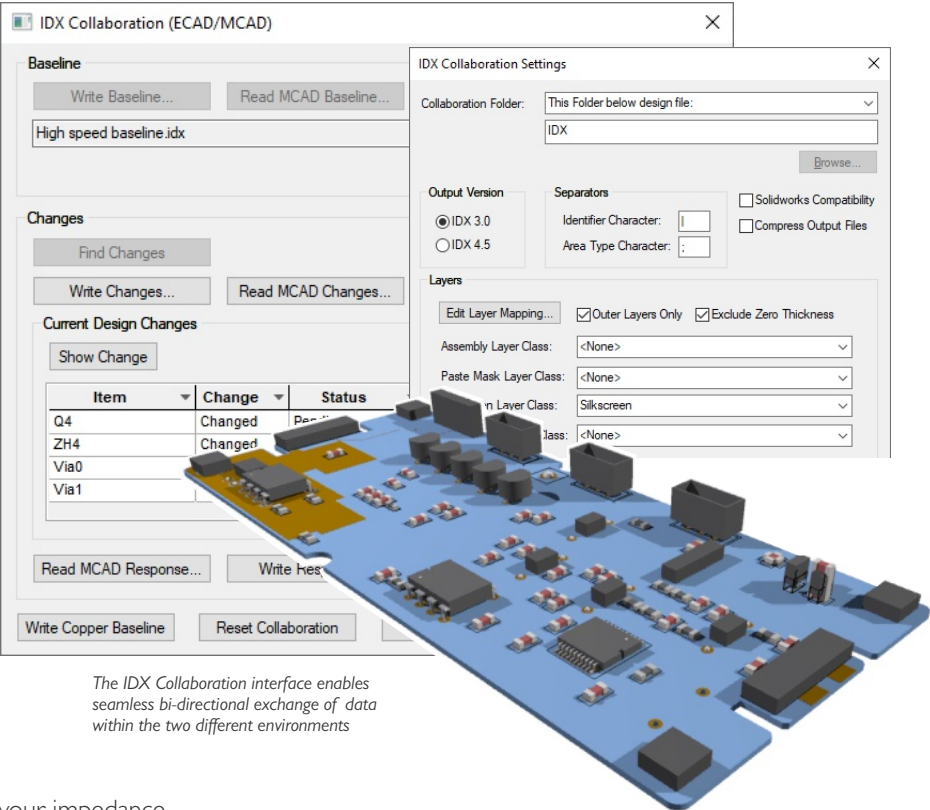
The IDX Collaboration interface enables seamless bi-directional exchange of data within the two different environments

Impedance Controlled Routing

Within the High-Speed Option, you can define your impedance rules with impedance values and generate the Track width required to route against these values. Materials, thicknesses and Layer stack are used within the calculation for accuracy.


Photo-realistic Display in 3D Viewer

With Pulsonix 13, the 3D STEP Preview can now display a photo-realistic image generated using Ray and Path Tracing algorithms. Utilising the GPU, both of these algorithms display higher quality images that are more representative of the physical design.
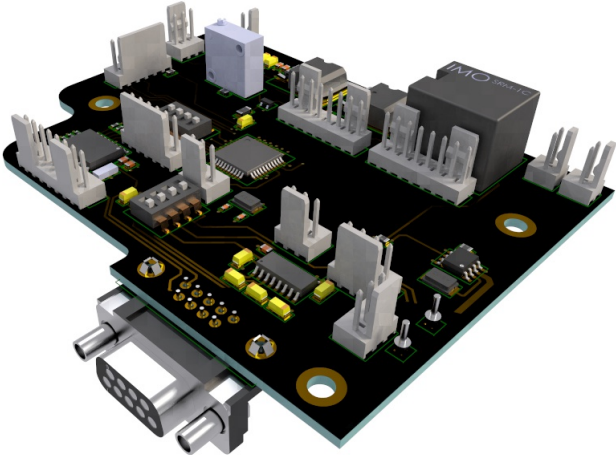
FPGA Enhancements

Further enhancing FPGA support within Pulsonix, version 13 introduces selectable functional logic names of a Part Pin within the design. This means Parts that have pins with multiple functional uses can be defined after placement and once the FPGA tool has been used. Functional logic names can also be imported via a new CSV Import facility.

Design-level functional logic names enable parallel processing of the design and the FPGA internal structure at the same time but then synchronised to bring them together
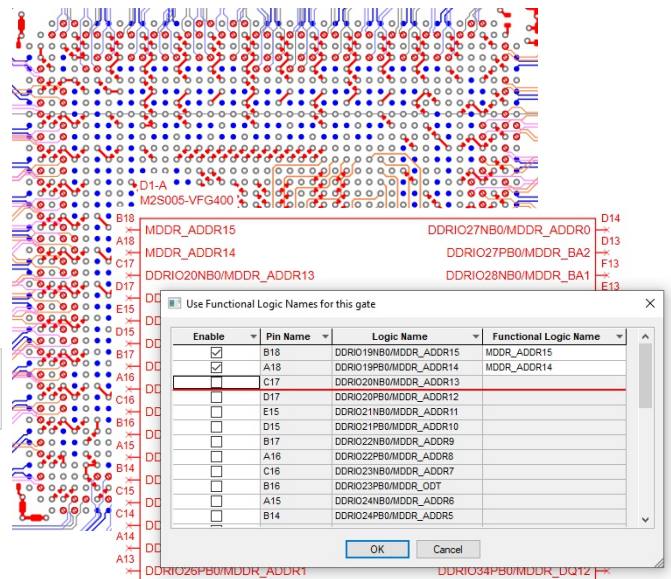
New Electrical Rules Checks in Schematics

12 new checks have been added to ERC in version 13. Accurate checking at the schematic stage eliminates costly mistakes going forward in the PCB process. With the range of new checks provided, your design process relies less on human factors and more on system integrity recognition.

New Checks Added:

- Perform ERC Inside a Named Area
- Delete Locked Errors
- Net on No Connect Pin
- Report Schematic-only Components
- Pins Not On A Net check excludes Mounting Hole or Ancillary
- Pad Pin Types
- Split net – If net name is not shown on all sub-nets
- Split net – If Split Nets are on a Different Page
- Split net – Unless Pin Type is No Connect
- Power Nets on Non-Power Pins
- Technology - New Pin Type – Single Pin Net
- Single Pin Net Check
- Check for 2-Pin Components

Via Layer Indicators

Use the new Via layer indicators to display the outer most track colours within a blind and buried via stack. This instantly shows you the connectivity for easier identification.
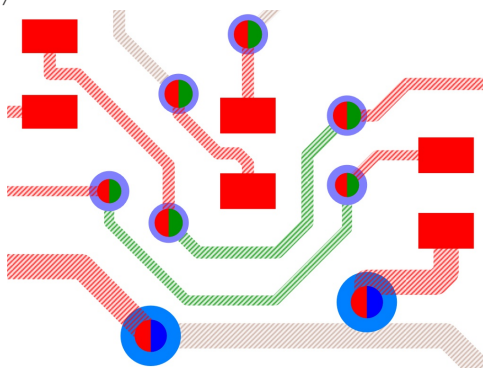
Blind and buried vias display the track colour of the outer-most layers

Enhanced Design Item Visualisation

Layer-based translucency, item hatching and patterned tracks have been introduced for this release. It means any shape can be transparent on a per layer basis. This and patterned tracks add additional clarity to your designs. Embedded Views utilise this feature to enhance final manufacturing drawings.
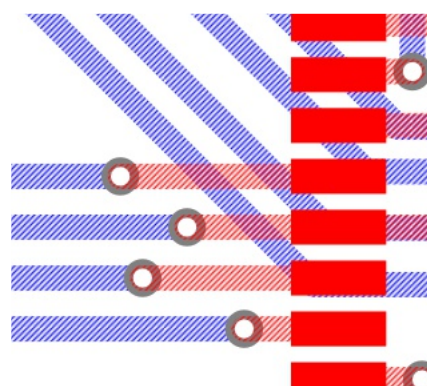
Patterned tracks declutter the design and add clarity
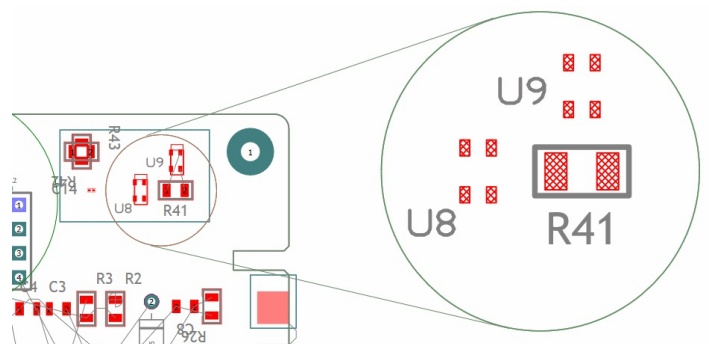
Independent transparency and hatching within an embedded view aid manufacturing drawings

Updated Pulsonix Vault

Vault Item Permissions

Vault Item Permissions and folder Permissions enable you to provide greater refinement and protection to users who need access to the Vault.

Vault Items: 13				
Item ID	Type	Folder	Name	Revision
100	PCB Footprint	\Librar		
101	PCB Footprint	\Librar		
102	PCB Footprint	\Librar		
103	PCB Footprint	\Librar		
104	PCB Footprint	\Librar		
105	PCB Footprint	\Librar		
106	PCB Footprint	\Librar		
107	PCB Footprint	\Librar		
108	PCB Footprint	\Library Content\Footprints\Rand	MMU0102	1.0

Move Selected Item
Delete Selected Item
Check Out Selected Item
Copy Out Selected Item
Show Attributes
Update References to Selected Item
Item Permissions

Vault Item Status

Within the Vault, an item can now be given a status, such as Current, Obsolete or Discontinued for example. This is displayed next to the item and can be sorted and filtered as required.
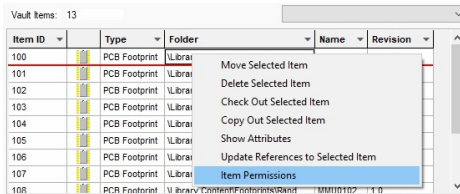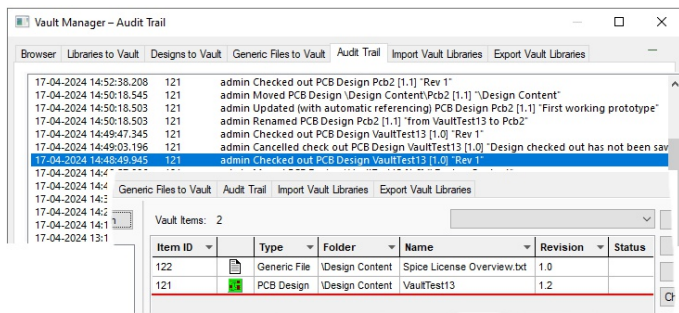
Find from Audit Trail

Double-clicking on an item in the Audit Trial History will now find the item in the vault browser and jump to it as a hyperlink enabling you to quickly locate it.

Vault Manager – Audit Trail

Browser | Libraries to Vault | Designs to Vault | Generic Files to Vault | Audit Trail | Import Vault Libraries | Export Vault Libraries

17-04-2024 14:52:38.208 121 admin Checked out PCB Design Pcb2 [1.1] "Rev 1"
17-04-2024 14:50:18.545 121 admin Moved PCB Design \Design Content\Pcb2 [1.1] "\Design Content"
17-04-2024 14:50:18.503 121 admin Updated (with automatic referencing) PCB Design Pcb2 [1.1] "First working prototype"
17-04-2024 14:50:18.503 121 admin Renamed PCB Design Pcb2 [1.1] "from VaultTest13 to Pcb2"
17-04-2024 14:49:47.345 121 admin Checked out PCB Design VaultTest13 [1.0] "Rev 1"
17-04-2024 14:49:03.196 121 admin Cancelled check out PCB Design VaultTest13 [1.0] "Design checked out has not been sav
17-04-2024 14:48:49.945 121 admin Checked out PCB Design VaultTest13 [1.0] "Rev 1"
17-04-2024 14:4
17-04-2024 14:4
17-04-2024 14:2   Generic Files to Vault | Audit Trail | Import Vault Libraries | Export Vault Libraries
17-04-2024 14:1
17-04-2024 13:1   Vault Items: 2

Item ID	Type	Folder	Name	Revision	Status
122	Generic File	\Design Content	Spice License Overview.txt	1.0	
121	PCB Design	\Design Content	VaultTest13	1.2	

Plus Additional Vault Feature Summary:

Additional Pulsonix Version 13 Vault Features:

- Ability to detach Vault Items for 3D Packages and STEP Models
- View Only Option
- Check in as Replacement
- Library Export – Export by Type
- Save & Print Audit Trail
- Apply Technology Files to Symbols/Footprints in the Vault
- Transfer To Vault - Show full file path
- Updated Vault
- Updated Vault Postgres Server to V14.5
- Vault Database Updated for V13.0

3D Single Entity Merge File Size Reduction

File sizes of the STEP export files when using the Single Entity Merge option has been reduced significantly.
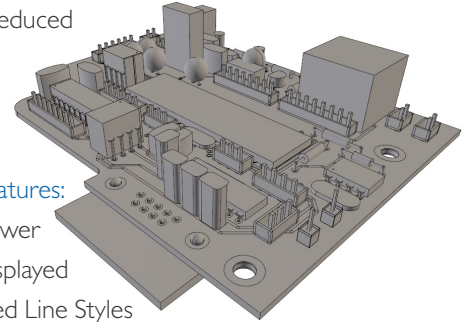
Additional 3D Viewer Features:

- Solder Mask in 3D Viewer
- Component Areas Displayed
- View of Dotted/Dashed Line Styles
- Changes to 3D Settings Colours Page
- Changes to 3D Settings Interaction Page
- Only Items Inside Board Outline option
- Enclosure Position STEP Model dialog – Mounting Hole Drills
- Enhanced Performance when moving drill holes & attached items

Pulsonix Version 13.0 Feature Summary:

- Filtering and Sorting of dialog grids
- Dynamic Component to Component checking during Move
- Perform Optimisation option in Apply Layout Pattern
- Copy Group Patterns from source file in Apply Layout Pattern
- Report Maker commands update
- Mirrored PCB instances in Panel Editor
- Tab Routing for Flexi Board Outlines in Panels
- Drag and Drop for DXF and Gerber Files
- Show Dual Units in Measure tool
- Construction Line Enhancements
- Add Dimensions Update
- Ability to Drag Schematic Pages in Design Browser
- New Styles Tool Option in Library Manager
- Multi-selection Fit / Unfit for Component Variants
- Additional Context Menu Options on Workbook Tabs
- New Functionality added to Tear-off Windows
- Load Technology dialog changes
- Data Matrix Text Font added
- Pad Styles has optional Drill Type & Tolerances
- Acid Trap check overhaul
- New Copper Antennae Rule
- Visual Indicators of Blind / Buried Via Layer Spans in the design
- Pulsonix 13.0 is fully supported under Windows 11
- Plus many more features...