

CAMCAD Update

Agilent User's Group, Texas

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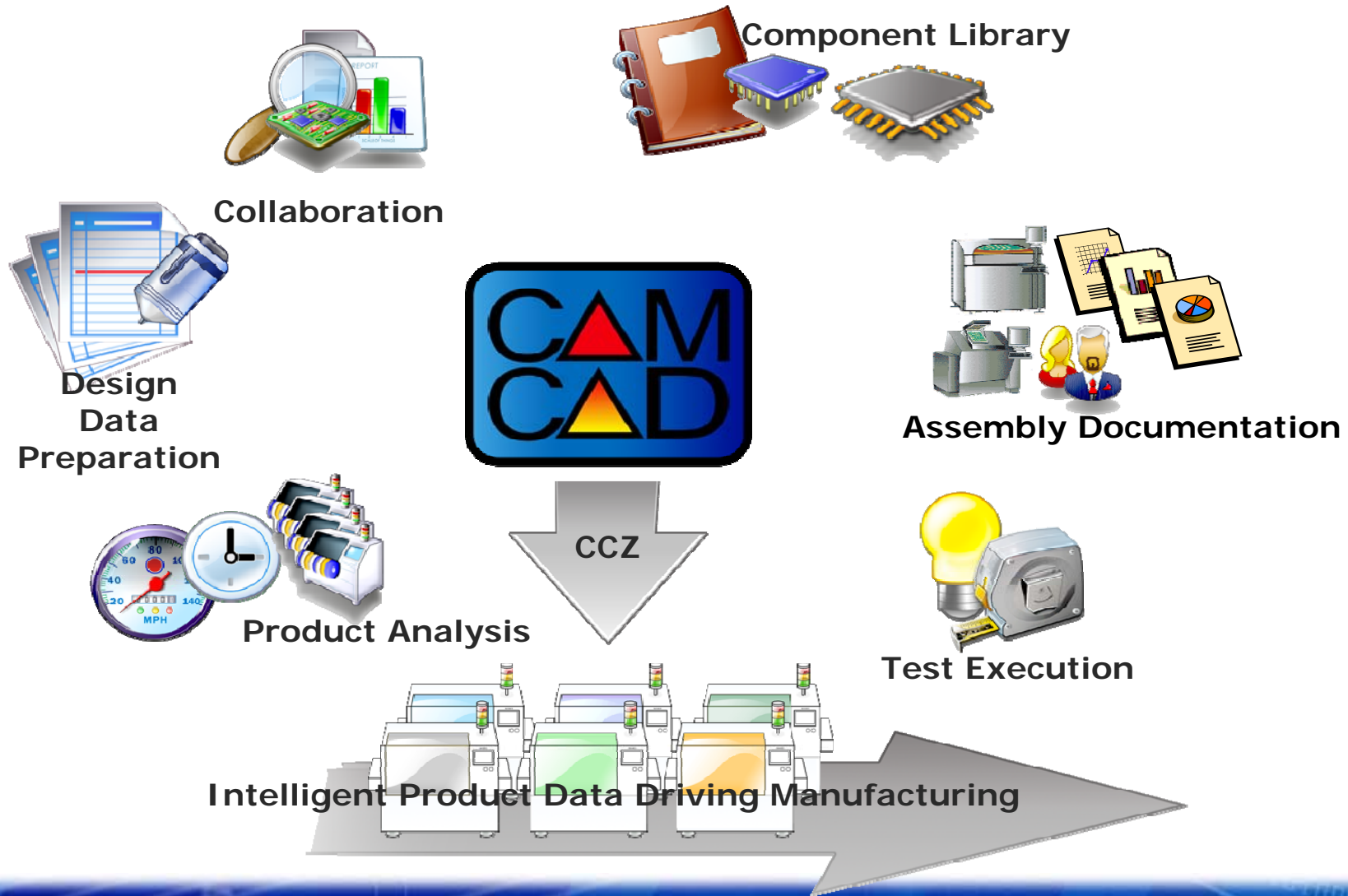
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**Mentor
Graphics®**

CAMCAD Manufacturing Flow



Agilent and CAMCAD

- **For 14+ years, Agilent has provided CAMCAD to their customers to initially support:**
 - ECAD data preparation
 - BOM analysis and CAD data merge
 - Machine program generation

- **In recent years we have:**
 - Added complete physical DFT analysis
 - Gerber soldermask and exposed metal analysis
 - Flexlm floating license upgrade options
 - Gerber centroid merge capability
 - Gerber reverse engineering
 - Fixture reuse analysis

Agilent AOI/AXI Update

- **Multiple input data formats supported for Agilent inspection equipment**
 - CAD
 - Manufacturing data
 - Gerber

- **CAMCAD supports all Agilent inspection equipment**
 - AOI: SJ, SP1/2, SP50, FX, VIA, Mixed Mode
 - AXI: CC and NDF

Agilent 3070/i5000 Update

- **Complete physical DFT based on full CAD data**
- **Use Gerber soldermask layers in addition to the CAD data for accurate probe analysis**
- **Board and Board_XY files updated to reflect the accessibility determined in CAMCAD**
- **Configurable message field**

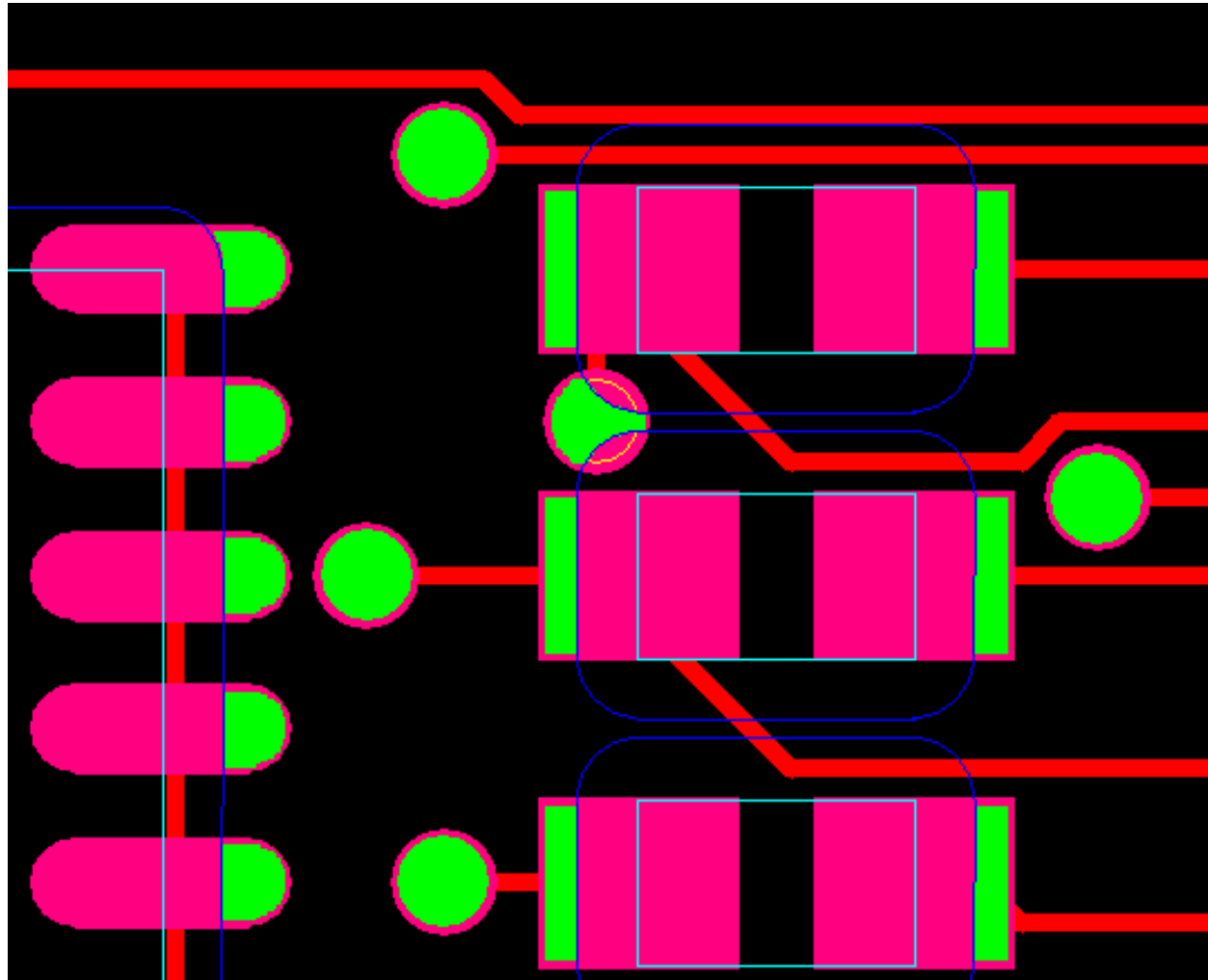
Agilent i1000 Update

- **Only solution to fully support i1000**
 - **Creates ATD, Nails and Pins files**
 - **No additional scripts to run**
- **Complete physical DFT based on full CAD data**
- **Use Gerber soldermask layers in addition to the CAD data for accurate probe analysis**
- **Available in CAMCAD V4.6 SPac1**

Fixture Reuse

- Quickly analyze of fixture reuse for product ECOs
- Perform access analysis on ECO CAD data
- Import fixture.o and compare to ECO accessibility
- Creates actionable report of:
 - Retained
 - Changed
 - Moved
 - Removed
 - Nets requiring probes and available access points
- Engineering can now determine if fixture reuse is a viable option

CAMCAD exposed metal analysis



Controlling probe placement

- **CAMCAD enables cost-effective fixturing**
- **CAMCAD allows a comma delimited file to be imported that specifies test probe requirements for each net**
 - **Boundary Scan tools can provide this data**
 - **Test Engineers can manually create this file**
 - **CAMCAD facilitates creation of this file**
- **Available in Probe Placement Options tab**

Part Data Reuse

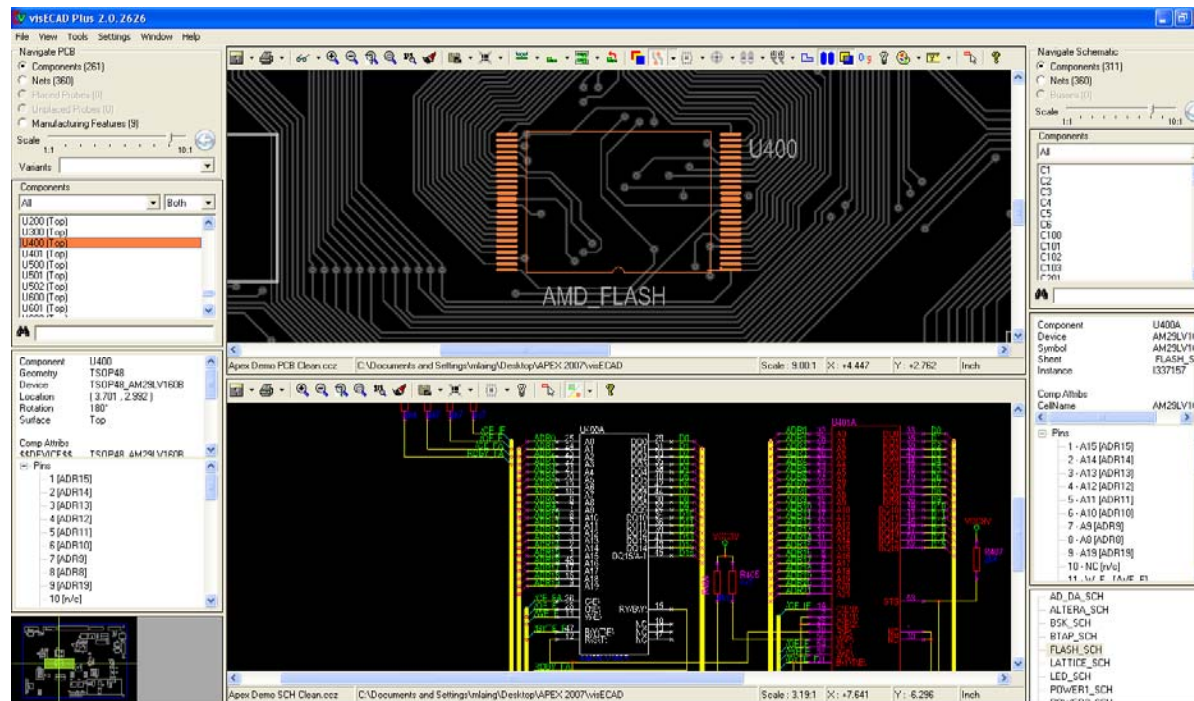
- **CAMCAD Parts Library is a reusable parts database that speeds data preparation**
- **CAD data contains the physical board data**
 - **Typically does not contain accurate component data**
 - **Part numbers**
 - **Values**
 - **Device types**
 - **Tolerances**
 - **Model names**
 - **Pin types**
 - **Package aliases**
- **Easily create, edit and store the missing data in Data Doctor**
- **Automatically apply on future designs**

Licensing

- **Licensing was administered by Router Solutions prior to Mentor acquisition**
- **Licensing now is administered by Agilent for all CAMCAD software supplied by them**
- **Following releases use Mentor Flexlm not RSI Flexlm**
 - **CAMCAD V4.6**
 - **BOM Explorer V7.0**
 - **Data Exchange V7.0 (was RSI Exchange)**

visECAD

- Neutral Schematic and Layout viewing solution
- Cross probe between schematic and layout
- Facilitate DFT reviews
- Assist with debug and repair
- Uses CCZ file created by CAMCAD



Coming soon

- **Enhanced DFT functionality**
- **New DFT reporting capability**
- **Enhanced panelization module**
- **Comparison tools**
 - **Components**
 - **Nets**
 - **Test probes**
- **New visECAD release**
 - **New reporting**

Customer Feedback

- **“With the CCZ File we finally have readily available data that everyone can work with”**
-Automotive OEM
- **“CAMCAD has really sped up our NPI Process”**
-Consumer OEM
- **“Since we started working with the CAMCAD tools, our BOM process time has been reduced substantially.”**
-Major EMS Provider
- **“With the CAMCAD test prep tool I probably save hours each day.”**
-Major EMS Provider
- **“We are seeing about a 50% time reduction depending on the size of the board. We allocate 8 hours on average per model using the existing process. With the Gerber Educator process, on average, we can process a model in 4 hours”**
-Top 20 EMS Provider
- **“This last project I couldn’t use BOM Explorer and I spent 4 hours manually sorting Bill of Materials data (for an average sized project). It usually takes me about 15 minutes using BOM Explorer.”**
-Major Assembly Equipment Vendor
- **“CAMCAD DFT is light-years ahead of DigitalTest’s C-Link”**
-Major EMS Provider