

# CAD/CAM Data Convergence Forum

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# Importance of Convergence Effort



- **Lucent Goals**

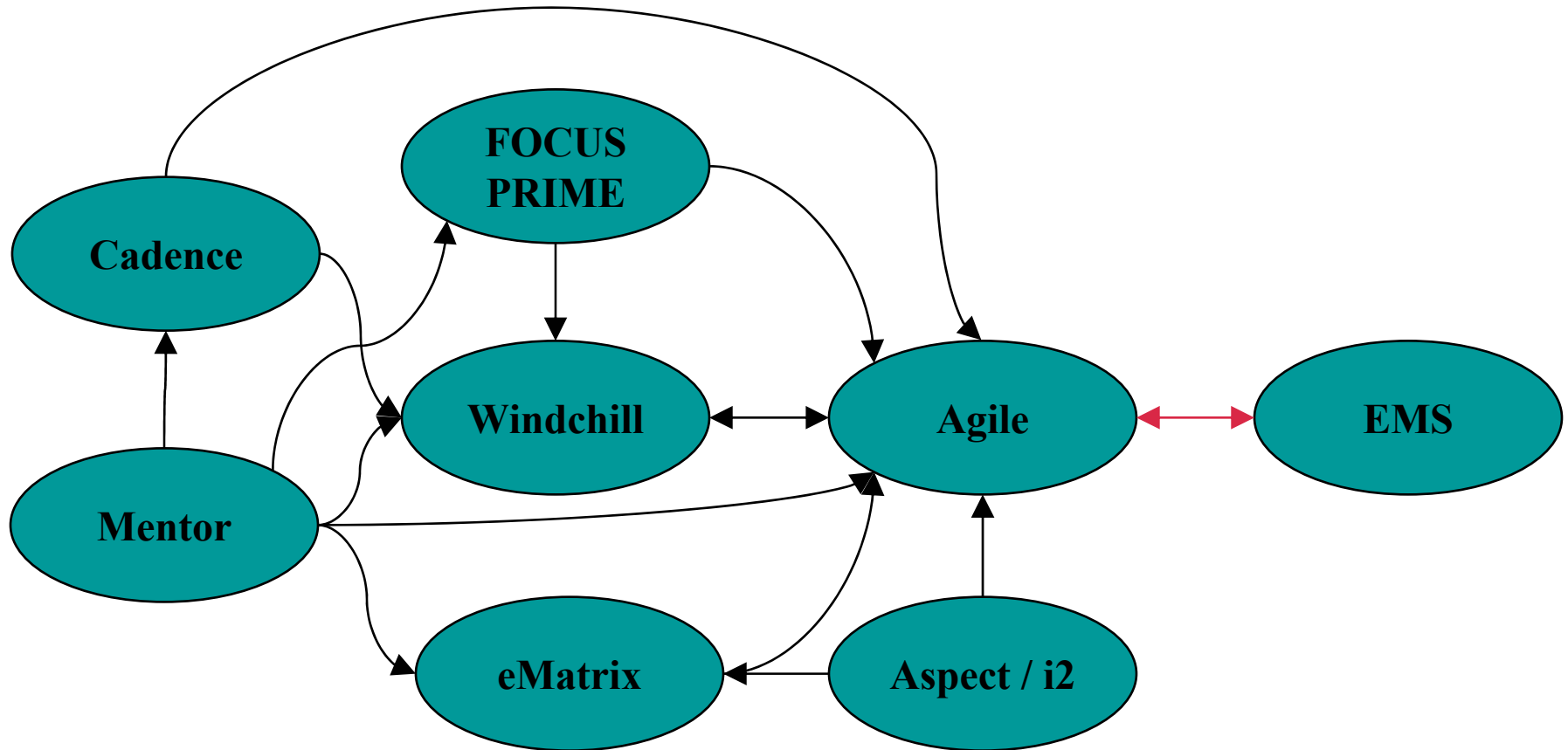
- ✓ Reduced overhead in management of data related to the full breadth of manufacturing processes of Printed Circuit Boards and Assemblies
  - Common deliverable out of different CAD systems
  - Easier PDM management of synchronizing manufacturing supporting data to the BOM and overall product definition
- ✓ Increased accuracy in the data provided by Lucent to it's chosen EMS partners
- ✓ Some level of Vendor independence
  - Ability to plug in “best of breed” tool where appropriate
  - Ability to efficiently and accurately pass data through the different systems encountered during the processes from design through finished product

# Importance of Convergence Effort



- **Generation and Management of “lowest common denominator” set of files to drive Manufacturing**
  - ✓ Native CAD files
    - Several CAD system sources, different files sets from each source
  - ✓ Images of CAD data
    - PDF image files of drawing and schematic data
  - ✓ Traditional machine control files derived from CAD data
    - Gerber, Excellon, etc
  - ✓ Vendor Specific file formats
    - ODB++

# Flows of Circuit Board Related Information



# Importance of Convergence Effort



- **Affects of Generation and Management of “lowest common denominator” set of files**
  - ✓ Increased labor effort and cost around synchronization of complex file set.
    - Different tools used to generate different parts of the data
      - Even within a single Vendor’s tool set
    - PDM integrations load without automated sensing of outdated information, single file should reduce risk
    - Even with the increased effort, some file sets will inevitably get out of sync AND will be delivered to manufacturing
  - ✓ Increased labor and effort associated with making changes to the defined file set
    - Check off / negotiate with each major EMS and model shops
  - ✓ Locked to specific vendor tools