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Next Generation ODB++ Intelligent Data Format for Enhanced Modeling to Support DFM, Fabrication, Assembly and Test Now Available

WILSONVILLE, Ore., February 14, 2013—The ODB++ Solutions Alliance (OSA), the open forum for implementers and developers of the ODB++ format—an intelligent, single-data structure for transferring printed circuit board (PCB) designs into fabrication, assembly and test—today announced the next-generation data format with significant enhancements. Developed according to requirements from thousands of established users globally, these new features and enhancements help PCB designers and manufacturers minimize the manual entry of data into new product introduction (NPI), design-for-manufacturing (DFM) and computer aided manufacturing (CAM) software tools. The newly improved format offers increased time savings, further reduction of manual errors, and even higher levels of automation for enhanced user productivity.

Meeting the needs of the most demanding PCB design and manufacturing technologies, the open ODB++ data format is used daily by over thousands of PCB engineers worldwide, using data interfaces delivered by all leading CAD/CAM software vendors. The proven ODB++ format provides a better design-to-manufacturing methodology to communicate and share data across disciplines, replacing traditional lower-level files such as Gerber, Excellon, netlist, placement list, and drawings. With a maximum level of CAD/CAM automation based on the intelligence

embedded in the software model of the PCB product, the ODB++ format reduces PCB fabrication and assembly NPI cycle time, saves cost, and reduces supply chain risk.

Key features in the new ODB++ data format include:

- Enhanced PCB structure:
    - Automated explicit modeling of flexible and flex-rigid PCB structures.
    - Multi-layer PCB build-up information stored in the product model to reduce human error. Build-up information is fed directly into the fabrication material selection and stack-up validation processes.
    - Full implementation of metric units.
    - Drill span direction for accurate DFM analysis of buried and blind vias, back-drilled holes, and holes drilled with various diameters.
- Feature level improvements:
    - Extended and rationalized range of attributes, categorized by purpose, such as DFM analysis, product model definition and intended manufacturing process (fabrication, assembly, test, generic).
    - Expanded range of standard symbols needed for solder-stencil design openings to match manufacturing process rules; this avoids the need to create and maintain the user's library of custom symbols.
    - Unlimited net name length is preserved across the design through manufacturing flow for effective net-related engineering collaboration based on the ODB++ data, even for the most complex PCBs.
- Enhancements for assembly and test:
    - Explicit definition of structural test-probes, enabling the definition and DFT validation of physical test access early in the design stage, and explicit transmission of test intentions from design-to-manufacturing.
    - Unlimited number of bill-of-material (BOM) description attributes to ensure component description data integrity across the flow, thereby reducing the need for multiple BOM access points to maintain BOM integrity.

- o Introduction of component package attributes, enabling DFM analysis and manufacturing process preparation functions to be based on package type for efficient product model processing.

"ODB++ is the most established and supported intelligent data format for the PCB design, manufacturing, and assembly industry, validated by the ODB++ Solutions Alliance and its 3,000 registered members," stated Julian Coates, director of business development, Valor division of Mentor Graphics. "Members and partners of the OSA will be able to adapt to this new and improved version of ODB++ by incremental steps, thus preserving their previous investments in the ODB++ flow. As it is implemented across design-to-manufacturing flows, the next generation ODB++ will release additional value from existing tool-sets without requiring significant changes to business processes."

To download the current ODB++ full specification, go to www.odb-sa.com/resources. For more information on the ODB++ Solutions Alliance, a list of its partners, and membership, visit the website: www.odb-sa.com.

About the ODB++ Solutions Alliance
The ODB++ Solutions Alliance provides a forum for implementers and supporters of the ODB++ format to share their interest and success with others. Alliance members can exchange information, advice and ideas about the format, including implementation best practices and their experiences in using the format across the PCB design-through-manufacturing flow.

The overall goals of the ODB++ Solutions Alliance are to increase awareness of what is being achieved today with ODB++ in reducing time-to-market, cost and supply-chain risk, and provide the basis for wider adoption by designers and manufacturers so as to maximize the benefits for the PCB engineering community, and further enhancement of the format and its implementation methods in line with technological developments. Website: www.odb-sa.com.

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