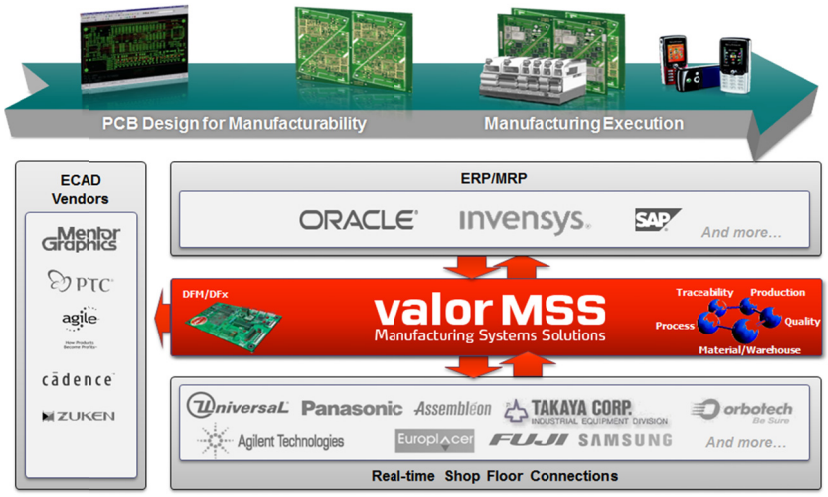
Mentor Consulting Division
Valor MSS™ and DFx Service Solutions

D A T A S H E E T



Valor MSS™ (Manufacturing System Solutions) is a complete manufacturing execution suite designed to seamlessly integrate manufacturing in the PCB assembly environment. . Valor NPI (New Product Introduction) software is recognized as the industry's Best-In-Class DFM tool for identifying the potential fabrication, assembly, and test problems in a PCB design while the product is still in the design stage.

Mentor Consulting's experienced implementation teams instruct clients in best practices of using the Mentor Graphics design and manufacturing environments within their enterprise.

Major Service Features

- Integration of Mentor Graphics Valor MSS (Manufacturing System Solutions) into electronics assembly manufacturing facilities
- Implementation of Valor DFx technologies (Valor NPI/vSure) into PCB design organizations
- Process optimization and integration
- Custom DFx development
- Knowledge transfer of Mentor Graphics technologies and best practice methodologies

Flexible Portfolio of Services

- **Valor MSS™ Standard Installation**
  Rapid installation, configuration, and deployment of Valor MSS™ tools
- **Valor MSS™ Custom Installation**
  Installation and integration of tools and methodologies including interfaces to shop floor equipment, testers, material warehouse systems, MRP or ERP systems.
- **Valor NPI Standard Installation**
  Rapid installation, configuration, and deployment of Valor NPI tools
- **Advanced DFx Development**
  DFx analysis, modified to address the needs of a customer, industry, or even a specific product.

Building the Links between Electronic Product Design and Manufacturing

Traditionally, electronic product design and manufacturing are considered separate processes. In seeking new ways to differentiate new products while keeping cost and production time at absolute minimum, advantages can be gained by considering both design and manufacturing as a single process with interconnectivities and feedback loops.

Manufacturing Intelligence

The Valor MSS™ suite solves the crucial problem of providing complete and accurate information to drive manufacturing planning and execution in the most profitable way. Valor MSS Applications can take advantage of real-time information gathered from automated systems. This information can leverage value across the entire value chain from the supply of materials, to process planning, assembly, inspection, test, box build, final QC and shipping. The result is improved production control, poka-yoke (systemic error proofing) methodology implementation to reduce costly errors, real-time quality alerts across all areas of a factory, complete traceability and immediate visibility of actionable intelligence. These functions continuously enable managers, engineers and operators to strip away cost in manufacturing operations and deliver product, on time, in planned quality, at planned costs.

Design for Manufacturability

The Valor NPI/vSure software is recognized as the industry's Best-In-Class DFM tool for identifying the potential fabrication, assembly, and test problems in a PCB design before manufacture.

Electronics design companies are continuously striving to accelerate their new product introductions (NPI) at the lowest total cost while still attaining the highest level of

quality. With Valor NPI, companies can save significant time and money as fewer revisions are needed to get to production volume and fewer work hours are spent on PCB design reviews and handling questions from manufacturers.

Mentor Consulting Valor Services

Mentor Consulting offers a flexible portfolio of services that are focused on achieving significant returns on your software and service investments. This portfolio includes standard services as well as specific advanced solutions like integration and replacement solutions. All services are fully scalable to fit any engineering, manufacturing and business needs.

Valor MSS™ Standard Installation Services

During an engagement of Valor MSS™ standard installation services, Mentor Consulting offers a proven, multi-step process beginning with a review of your factory floor equipment, processes and requirements. The review process, called an Advanced Site Analysis (ASA), results in an agreed confirmation of factory processes and equipment that may be affected by the installation, and serves as a basis to define a detailed and mutually agreed project plan. The project plan includes tasks for training your team on using and maintaining the system, hardware and software configurations, and best practice definitions. This means factory documentation can be updated for factory operator reference and KPIs can be defined and monitored.

Valor MSS™ Advanced Installation Services

When you are ready to take advantage of the real-time information gathered from Valor MSS factory data, Mentor Consulting can help expand the existing installation or modify it to better meet your enhanced manufacturing demands.

As business needs and technologies change, the environment must change with them. Whether integrating with ERP to receive Work Order, Production Rout and Bill of Materials (BOM) information automatically, or back-flushing WIP and material consumption to ERP, or additionally integrating with parallel material warehouse systems or other shop floor systems and equipment, Mentor Consulting's Valor service experts help you seamlessly integrate new capabilities with existing functionality.

The innovation and experience that Mentor Consulting brings to the table can help you find unique ways to leverage the capabilities of your Valor MSS tools, enhancing manufacturing methodology best practices as well as design process improvements in your factory flows.

Automation provides customization and extensibility within the manufacturing execution products, allowing the addition of functionality, the automation of repetitive tasks, or the ability to tailor the flow to customer-specific use-cases for specialized processes. A wide range of industry-standard languages (VBscript, Jscript, TCL, Java, VB6, C++, C#, VB.NET...) can be used by Mentor Consulting to enhance the functionality of the solutions.

Valor NPI Standard Installation Services

Standard installation services reduce your time-to-productivity with Mentor Graphics Valor NPI software. During such an engagement, our consulting team walks you through a proven, multi-step process, adapting to your unique requirements. Our consultants install your environment and train your team on effective use of Engineering Rules Files (ERFs) that define the design verification constraints. Best practices and workflows are established to achieve quick and accurate design verification analysis results. Finally, the consultants help to create the necessary manufacturing configurations including integration with an EDA system (if available) and analysis results reports back to designer.

Custom DFx Development

Mentor Consulting offers its extensive expertise to those customers that need to add specific DFx analysis capabilities that may be unique to their technology, products or process within the Valor NPI, Valor Trilogy or Valor vSure products. Although the tool comes with over 700 checks covering bare board fabrication checks, assembly analysis checks, HDI check and netlist checks, there are always new needs due to innovative technologies or problematic processes.

Bringing Value and Leaving it with You

As part of the consulting process, our experts ensure the knowledge transfer of technologies and methodologies to ensure your team has the skills and resources to continue with the best practices learned on the consulting project.

About Mentor Consulting

Mentor Consulting provides customers with excellence and expertise in electronic design and manufacturing infrastructure and methodology. We are the only service partner in the industry that invests in the transfer of knowledge to our customers to ensure a smooth deployment and integration of new tools and methods. Mentor Consulting solutions are engaged worldwide by forward-looking electronics companies to optimize design and manufacturing productivity and advance adoption of the latest industry design best practices. For more information, contact mentor_consulting@mentor.com or visit www.mentor.com/consulting.

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