Pavilion8 Software Platform
The Most Modern Enabling Technology in Manufacturing Today
Pavilion8 Software Platform
A Modular Software Platform for Industry-Specific Solutions that are Integrated into High-Value Applications

Manufacturers face ongoing pressure to reduce costs and complexity and leverage existing technology investments while improving their ability to quickly adapt to changing business priorities and customer demands. Pavilion Technologies’ modular software platform, allows manufacturers to achieve these goals and reduce their total cost of ownership. Based on a modern Service-Oriented Architecture (SOA), Pavilion8 modules work together to support three classes of high-value applications: Model Predictive Control, Environmental Performance Management and Production Performance Management. Powered by the most powerful modeling engine in the industry, Pavilion8’s software platform allows leading manufacturers to thrive in a demand-driven environment.

Pavilion8 Technology Modules
The technology is a modular software platform and the foundation for Pavilion’s industry-specific solutions. Leveraging a powerful modeling engine, Pavilion8 includes modules to control, analyze, monitor, visualize, warehouse and integrate that are combined into high-value applications. Based on a Service-Oriented Architecture, the Pavilion8 platform is implemented in J2EE and is “Powered by SAP NetWeaver®” certified. The platform’s scalability, flexibility and ease of integration with existing business and plant infrastructure provide a lower total cost of ownership than alternative technologies.

Better, Faster Modeling
Modeling manufacturing processes, from simple to complex, is the foundation for all Pavilion8 applications. For more than 15 years, Pavilion has been a leader in the development and deployment of predictive models to control and optimize industrial processes. Powerful data preprocessing tools allow data from multiple sources with different frequencies to be synchronized into a single data set for modeling, providing better models faster. The Pavilion8 hybrid modeling approach enables systematic use of both historic process data and first-principles equations in model development. This approach delivers high-fidelity process models that are computationally efficient for prediction, control and optimization.

Analyze For Improvement
Pavilion8 provides powerful tools for analyzing process models and identifying improvement opportunities. Users simulate processes and run ‘what if’ scenarios to determine how process input changes impact output. Steady-state optimizations can also be performed by setting output variable targets and letting the models determine optimum input variable targets. Pavilion8 also leverages model-based analytics to provide unprecedented insight into operational performance via predictive production metrics.

Flexible Monitoring
Pavilion8 collects and aggregates data from a wide variety of sources including process data historians, distributed control systems (DCS), programmable logic control (PLC) systems, SCADA systems, analyzers and sensors. Once acquired, data can be manipulated, calculated and stored within the Pavilion8 Metadata Repository. Pavilion8 supports the insertion of comments or annotations into the data repository, allowing users to provide explanatory information for modified data that is atypical of normal operations. A complete audit trail is maintained to ensure no unauthorized changes are made and the reports meet local, state and federal regulatory reporting requirements.
Pavilion8 Delivers High-Value to the Process Industries
Software Platform Based on a Modern Service-Oriented Architecture, Enabling Seamless Integration

Straightforward Integration
Pavilion8 is based on a modern Service-Oriented Architecture, enabling seamless integration with ERP applications, data warehouses, historians, distributed control systems and other inherently heterogeneous data sources. The web-services interface provides portability and simplifies deployment throughout the organization with its secure, scalable architecture.

Control for Precise Management of Processes
Pavilion8 provides unparalleled control performance on a wide range of production processes, from simple linear to the most challenging non-linear processes. The powerful multivariable Model Predictive Control (MPC) incorporates dynamic optimization, simultaneously ensuring optimal control without violating economic, process or equipment constraints. Explicit use of variable dynamics in the controller provides fast, accurate control through the most difficult product grade transitions.

Visualize with Personalized Views
Pavilion8 provides a browser-based user interface that presents application views based on a user’s organizational role. These views allow users to personalize their experience to configure process models, monitor applications and to proactively manage production performance, operational efficiency and product quality. In addition, users can independently personalize their choice of local language.

Warehouse Valuable Information
Pavilion8 provides a Metadata repository that gives context to time-series data for control, environmental and performance management applications. Warehousing of data with context to a secure database allows a wide range of reporting and visualization options to support corporate and regulatory agency reporting requirements. In addition, this information may be exchanged with ERP systems as part of a transactional business process flow. A permanent record of key information generated by Pavilion8 applications provides a ‘single version of the truth’ without requiring complex database synchronization.

The Pavilion8 platform is based on a modern Service-Oriented Architecture and implemented in J2EE.
Quickly Adapt to Changing Business Demands
Companies Must Manage Performance in Real-Time

“Companies must manage performance in real-time by creating an adaptable, performance-driven organization that can respond quickly and profitably to changing market conditions. Technology that helps manufacturers to improve their agility and asset effectiveness is essential.”

Tom Fiske, Senior Research Analyst, The ARC Advisory Services
Feature/Benefits

Easy To Use

Features
- Intuitive, browser-based user interface
- Personalized user experience through:
  - Local language support
  - Custom event detections, notifications and alerts
  - Configurable, personal views
- Component-based view assembly makes information presentation clear and simple

Benefits
- Faster user adoption
- Reduced training needs and costs
- Reduced time to recognize, diagnose and respond to exceptions and abnormal occurrences

Straightforward to Integrate

Features
- Web services-based architecture utilizing common technology standards and components (J2EE, SOAP, XML, SQL, Adobe® Flash Player, etc.)
- Open standards-based integration to diverse data sources using OPC, OLE-DB, JDBC ODBC, ISA-95
- Certified “Powered by SAP NetWeaver®”

Benefits
- Faster deployment and lower implementation costs

Adapts to Changing Business Needs

Features
- Embedded model analytic engine for the development of models based on historic process data, first principles equations, decision logic and arithmetic calculations
- Incrementally scalable to a vast number of data sources, calculations, users, views and reports
- Robust and flexible security model with built-in access control, authentication and authorization

Benefits
- Maximized return on existing IT and manufacturing system investments
- Reduced system expansion/upgrade costs and resources
- Better decision making through more accurate model-based infrastructure
- Greater operational efficiencies

Pavilion Technologies

A division of Rockwell Automation Inc., Pavilion Technologies’ model-based software drives profitability for leading manufacturers like Cemex, Dyckerhoff AG, Glacial Lakes Energy, NOVA Chemicals, Nestlé, SABIC Europe and TOTAL Petrochemicals. Based on the most powerful predictive modeling software in the industry, Pavilion’s solutions improve production processes to facilitate quick response to market demands, continuous reduction of costs, consistent achievement of quality targets and enhanced environmental quality. With a commitment to delivering the highest ROI in the industry, Pavilion’s ValueFirst® customer engagement methodology. Delivers Predictable Results.

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