Sierra Atlantic, Inc. Profile

Type: System Integrator
Founded: 1993
Location: Fremont, CA
Public/Private: Privately held
Size: 1000 employees worldwide
Geography: North America, Europe, Asia
Key Verticals: Discrete Manufacturing: High-Tech, Medical Devices, Consumer Packaged Goods
Expertise: Business-process based integration

URL: www.sierraatlantic.com

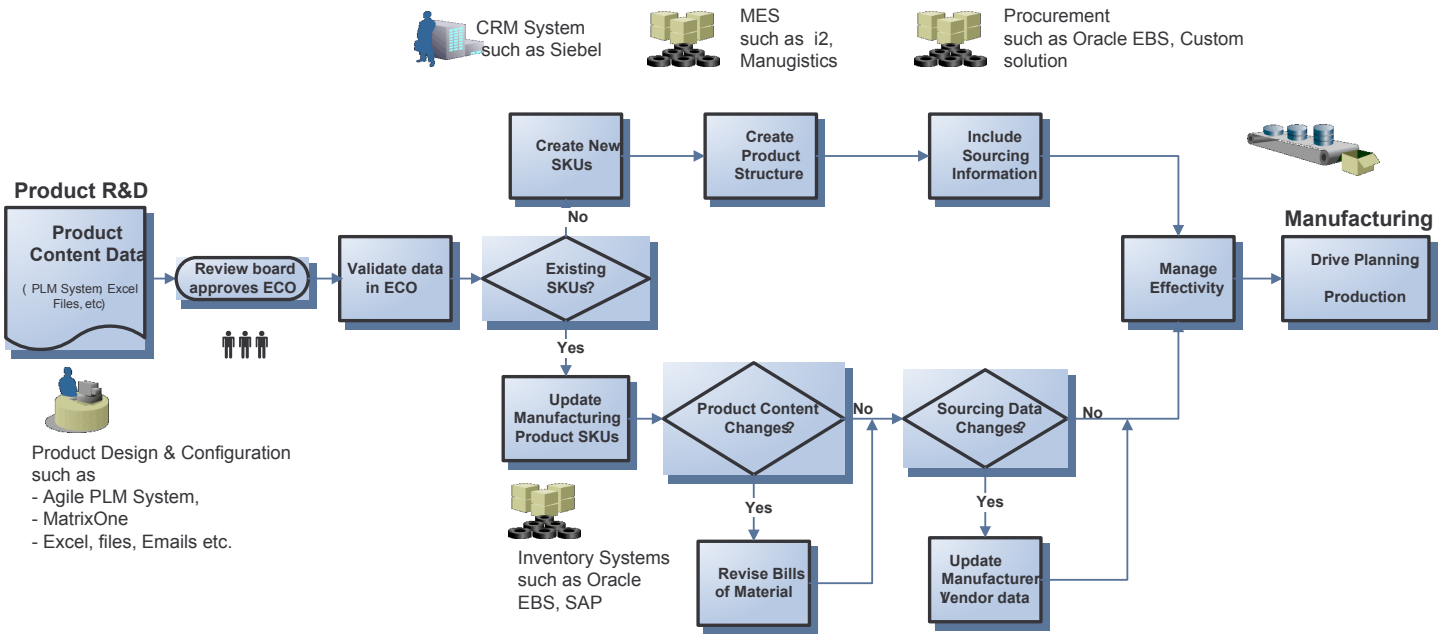
SI Solution for Engineering Change Order Management (ECO) Process between Product R&D and Manufacturing

Manufacturers lose billions of dollars every year to scrap costs and product recalls because of ineffective communication between Product R&D and manufacturing. Without robust communication processes manufacturers lose market share due to delayed time to market of products, and are faced with buildup of excess and obsolete (E&O) inventory. Sierra Atlantic provides integration services for an effective business-process based solution of near real-time delivery of critical product design data to the factory floor, procurement and planning functions. It allows customers to collaborate efficiently with various supply chain partners in the product lifecycle management cycle with an audit trail, thus preventing loss of critical IP that is characteristic of unorganized processes.

"Sierra Atlantic provides business process based integration solutions between major PLM, ERP and CRM enterprise applications, and has over 80 customers in the discrete manufacturing vertical. With Oracle BPEL Process Manager, Sierra Atlantic can quickly configure connectivity to different applications and systems in the context of a visual ECO business process, enabling near real-time collaboration between engineering and manufacturing tailored to each company's business processes without the need for any custom code."
- Brian Rogan, SVP of Product Marketing at Sierra Atlantic

Solution Details:

Sierra Atlantic has developed pre-configured adaptable workflows for Engineering Change Order (ECO) Management business processes for the release of new and modified products in the Discrete Manufacturing vertical. This facilitates effective communication between Product R&D, Procurement, Planning and Manufacturing functions. The process, as shown below, involves a lot of considerations, including phase-in/phase-out best practices, inter-relationships between various business objects that constitute product design data, maintaining audit trail, synchronization with multiple organizations and following business rules specific to each organization.



Manufacturers deploy a variety of mechanisms to drive product innovation. Depending on the size and process maturity of a company, they may use email and excel file based communications to sophisticated PLM systems to manage product design information. After a Review Board approves the

Engineering change order and validation of the data in the ECO is completed, the new SKUs need to be updated in CRM, Manufacturing and Inventory systems. Synchronization of product content data such as new parts, product bills of material structures, product revisions including phase-in dates, sourcing information (such as approved manufacturer or vendor parts) is performed. In order to ensure adequate and timely supply of the parts referenced in the new product structure, the parts are ordered in a procurement system such as Oracle Ebusiness Suite or a custom application. For modified product SKUs the bill of materials is updated and the suppliers for the parts updated as needed. The effective dates for the production of the new product SKUs is updated in the Manufacturing system to drive planning and production. With this automated integration solution, business process transactional integrity is maintained across the different systems and applications. The solution can be extended based on organization specific business rules so that a cancelled ECO or changes in the effective dates can be propagated quickly and accurately to all systems and human personnel compared with manual synchronization processes.

Sierra Atlantic's integration services build on adaptable pre-configured business workflows with more than 150 steps based on Oracle BPEL Process Manager. The pre-configured workflow has been built with endpoints of Oracle E-Business Suite 11.5.9 and an Agile PLM system and can be adapted to other possible endpoints as shown in the diagram. The number of change order transactions from product R&D to manufacturing may vary from a few per day to several hundred per day with ECO complexity ranging from simple single part modifications for an existing SKU to complex change orders that include several hundred parts for new SKUs.

The integration solution can run on BPEL Process Manager installations on a single processor server or on complex grid architectures depending on the size and ECO volume of the customer. It is designed to handle a large range of size of Engineering Changes – from small day-to-day documentation change orders to large end-of-year product phase-out changes. It leverages BPEL Process Manager's inbuilt database adapter to connect to a database for configuration parameters, JMS or File adapters to read incoming XML data from PLM, ERP adapters to call the APIs needed to post data to end-points such as Oracle EBS, SAP R/3 or JD Edwards EnterpriseOne, XSL Transformation utility to map fields between end-point enterprise applications and Email adapter to send out exception email notifications. The solution is designed to have an open architecture to allow configuration of custom business rules that change from company to company, and yet have a small deployment cycle compared to an approach of developing custom code to offer lowest total cost of ownership to customers.