



Web Services For Your Supply Chain

When people from different countries speaking uncommon languages come together, communication becomes a serious concern. Interpreters are needed for communication though an ideal solution would be a language that everyone understands. The problem with an ideal solution is that it rarely exists and if it exists, implementing it is next to impossible. Why are we talking about languages and communication when the issue on hand is your supply chain?

A company today possesses software applications for enterprise resource planning (ERP), customer relationship management (CRM), supply chain management (SCM), warehouse management systems (WMS) and a host of other tools. Internally, these applications need to be integrated (EAI) and externally these applications need to interact with those of other enterprises in B2B relationships. Interaction and integration between disparate applications requires a common language or middleware that is independent of the operating platform (Windows or UNIX) and the vendor (Microsoft or Sun or Oracle, etc.) and the programming language used to develop it. Most middleware solutions are costly to implement. One solution to this problem is presented by the concept of web services.

Web Services are the functionality exposed by software applications through a standardized XML interface that can be accessed over the Web. The standardized interface allows interoperability between disparate applications by the use of XML format data and XML based standards (SOAP, WSDL and UDDI).

Web services in an enterprise



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About DecisionCraft Analytics

We provide decision-making solutions to improve operational efficiency and business responsiveness. Our consulting services employ our strengths in industry knowledge, conceptual rigor, and information technologies. Developed using concepts from decision theory; our solutions use robust optimization, simulation, and statistical engines adapted to our client's focus areas.

In a manufacturing enterprise, sales data from the sales management system is used by forecasting software to predict future demand. This forecasted demand is used by its manufacturing resource planning software to calculate materials and resource requirements. The resource requirements need to be conveyed to the suppliers' order management system and the enterprise's inventory management system. All this information should be accessible through a spreadsheet on the manager's desktop. This is just a snapshot of the interactions that take place between software applications in an enterprise today. The exchange of data between these heterogeneous applications built for different platforms by different vendors gets cumbersome as data formats and applications themselves may be incompatible. Web services play an important role in integrating these heterogeneous applications by mapping their input and output data into associated web services that are platform-independent. The resulting standardized interfaces can be accessed by all other applications making the task of integration simple.

Web services in a supply chain

Beyond the boundaries of the enterprise, information exchange between members of a supply chain is critical. Sales data of the retailers is needed by the distributors and manufacturers to plan inventory stocking levels and production. Retailers need inventory information at distributor warehouses to plan their sales promotions. Retailers and distributors need status information about their pending orders. In case of Wal-Mart, the inventory at stores is monitored by suppliers in vendor managed inventory systems to plan replenishment. Access to all this information in real-time can be made available by deploying web services that query the inventory, sales and order databases and return real-time and accurate information.

Further, information flow between supply chain members is being streamlined to enhance the agility of the supply chain and to automate business processes like sales and procurement. Currently, business process automation and integration is supported by CORBA and BPMS (Business process management systems). Comparatively, web services provide standardized interfaces necessary for automation and integration at lower costs and using ubiquitous standards.

Conclusion

Web services possess immense potential to make supply chains more agile and competitive through the quick and secure dissemination of information. Their ease of implementation and the widespread support from technology giants like Microsoft, Sun, Oracle, IBM, etc. makes them a viable option for your supply chain. Some possible implementations for your supply chain include:

DecisionCraft Services

Business Diagnostics

We analyze business processes and transactional data to identify underlying patterns, unravel hidden relationships and recommend areas for improvement that can improve ROI and reduce costs.

Predictive Analytics

We use historical data intelligently to develop a view of future market trends and help our clients focus on the right audiences thereby developing their competitive edge.

Forecasting

We use advanced time-series and regression techniques for forecasting behavior of critical business variables that allows our clients to plan for their resources intelligently.

- A sales person sitting across a customer can access real-time information about a product's inventory status, place an order or check the status of an order using a Pocket PC connected to the internet by invoking a web service.
- A logistics provider can estimate shipping lead times accurately by using the MapPoint web service directly through an Excel spreadsheet.
- Information about potential suppliers for a product can be obtained using a UDDI registry.
- A supplier can plan production based on accurate and current information about inventory and demand at the customer's end using web services.

The possibilities for implementing web services for your supply chain are endless and can play a major role in making your supply chain more streamlined, responsive, and efficient.

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