

Real-time
visibility of
globally
distributed
assets.



Xoriant helps the client create pre-built,
business-issue specific eBusiness
solutions.

Client Problem

Our client, a U.S.-based company, offers a new class of software solution around the edge of the enterprise. These solutions automate the status of material process, using eBusiness framework on the RosettaNET domain, combined with RFID and sensor-based technologies.

More importantly, the supply-chain solution provides real-time visibility of globally distributed assets over desktop and mobile devices. This quality and timeliness of data about asset movements across the enterprise, trading partners and other stakeholders helps enterprises become more confident and effective in their outsourcing and process improvement strategies.

Given the agile nature of the information processing that our client solution delivers, our client was seeking to work with partners who brought supply chain knowledge, and the full spectrum of product development, maintenance, and cyclical improvement roll-outs.

Client Requirements

In the supply chain context, our client's customers typically communicate with distributors, warehouse owners and other trading partners, generating a wide range of information sets. Our client required this information from these trading partners in the RosettaNET format to ensure uniformity in the message requests, and thereby leading to faster processing time for a business document (Purchase Order, Sales Order etc).

In creating a real-time supply-chain intelligence framework, our client sought a business intelligence system that would facilitate real-time information access over the Web and as a mobile application.

Real-time visibility of globally distributed assets:

Such specific requirements necessitated that the offshore partner team adapt itself to manage the various standards used at the end-customer site, ensuring that they are EDI compliant and support the RosettaNET partner in handling the messaging scenarios.

In addition, the offshore team had to interact with the distributors, warehouse owners and others, install the client product, configure the system and help in the transmission of messages in the RosettaNET format.

Our Solution

Xoriant's engineering team helped the client create pre-built, business-issue specific eBusiness solutions. The eBusiness solutions allow the customers to deploy comprehensive collaborative applications for systems-to-systems integration across purchase orders, invoicing, shipping or complete collaboration from forecast to cash collection. Xoriant also supported the applications deployed at the customer site through a support team from its offshore centre in India.

Xoriant's team also interacted with the customers trading partners on the type of messaging standards used and helped them reconfigure the messages in the RosettaNET standards.

Xoriant's team worked with end user and developed mobile applications for field use in asset tracking that is powered by RFID tags and devices. This enables business users to have real-time visibility on movement of assets.

Client Results

The client has been able to go into the market, analyze the latest trends in the enterprise sphere and decide on the latest set of innovations to go into the product. This has led to better features like RFID being incorporated into the product, thus enhancing the product and the client's standing in the market place. With Xoriant handling the development of some its products, the professional services and support the client has been able to cut costs substantially. The client provided mobile devices to business users helped them have more control over their demand and supply information.

Problems and Challenges

1. Customer did not have a quick visibility over business information across the supply chain
2. Several manual operations like generating auto receipt, shipment notices, etc were time consuming
3. Validation of incoming partner data was critical to drive customer backend systems
4. System performance to capture RFID reads and translating the same into statistical data in the form of reports and dashboards was critical feature of the project

Xoriant approach and its benefits

Xoriant along with the client developed solutions across

1. Forecast-to-Cash – The module had the capability to automatically forecast and commit a process, hub replenishment, hub shipment and delivery receipts, invoicing and cash receipts, user task workflows, dashboards, alerts and metrics.

Benefits:

1. Substantially extend functionality of existing ERP systems
 2. Enable XML-based electronic messaging with partners
 3. Reduce manual data entry
 4. Reduce cycle time (inventory to cash)
 5. Reduce inventory holding costs
 6. Total asset visibility
2. RFID Connectivity – The module that we developed for RFID connectivity is used to collect, manage, and leverage near real time sensory data (hands-free tag reads) at the company and its trading partner sites. Xoriant developed RFID adapter module is used to configure RFID and sensory devices. Our client’s RFID software is compatible with all commercially available models of RFID and sensory hardware including GPS, temperature and proximity sensors, barcodes, printers and more. Applications leverage the RFID enabled mobile sets and Windows mobile made it possible to deliver the reports and information on dashboards.

Benefits:

1. Substantially automate the cumbersome data entry processes for supply chain intensive semiconductor companies
2. Substantial business value through real-time visibility, item-level tracking, higher data quality
3. Reduce manual data entry
4. Ability to obtain real time visibility across the enterprise and across the ecosystem
5. Information available on real-time on desktop as well as on mobile/handheld devices.

3. RosettaNet – The key features of this module are
- Support for RNIF 1.1 and 2.0
 - Multiple trading partners
 - Multiple trading partner agreements
 - Business rules
 - Data validations, filters
 - Exception and alerts
 - Digital certificates, encryption
 - Commonly used adapters for back-end integration
 - Visual drag and drop mapper
 - Canonical data model
 - Configurable PIP library
 - Library of web services enabled adapters
 - Browser-based profile administration
 - Browser-based PIP and trading partner configuration
 - Browser-based tracking and tracing capability
 - Enterprise scheduler
 - File-based, message bus-based, or web services interfaces
 - Integration with Microsoft Office suite

Benefits:

1. Since the solution comes pre-packaged with a library of all the latest PIPs (partner interface processes) supported by RosettaNet, minimal customization is needed for some of the commonly used business processes listed below
 - Product information management
 - Order management
 - Transportation and distribution
 - Returns and finance
 - Product configuration
 - Inventory management
 - Collaborative forecasting
 - Manufacturing (work-in-process)

2. These have been configured and pre-tested for compatibility some of the leading companies that have embarked in RosettaNet-based private trading partner initiatives. B2B becomes simple

3. The solution hides the complexities of the RosettaNet standards and provides a pre-configured and pre-tested, out-of-the-box application that provides a flexible approach to sending and receiving partner RosettaNet messages. Transaction handling becomes easy and standardized

4. Business Intelligence System – This system we developed was primarily for business users to have real-time access of information from the field. This system leverages technology tools like Web2.0 (Ajax, Flex) for front end while backend system integrated with Oracle database.

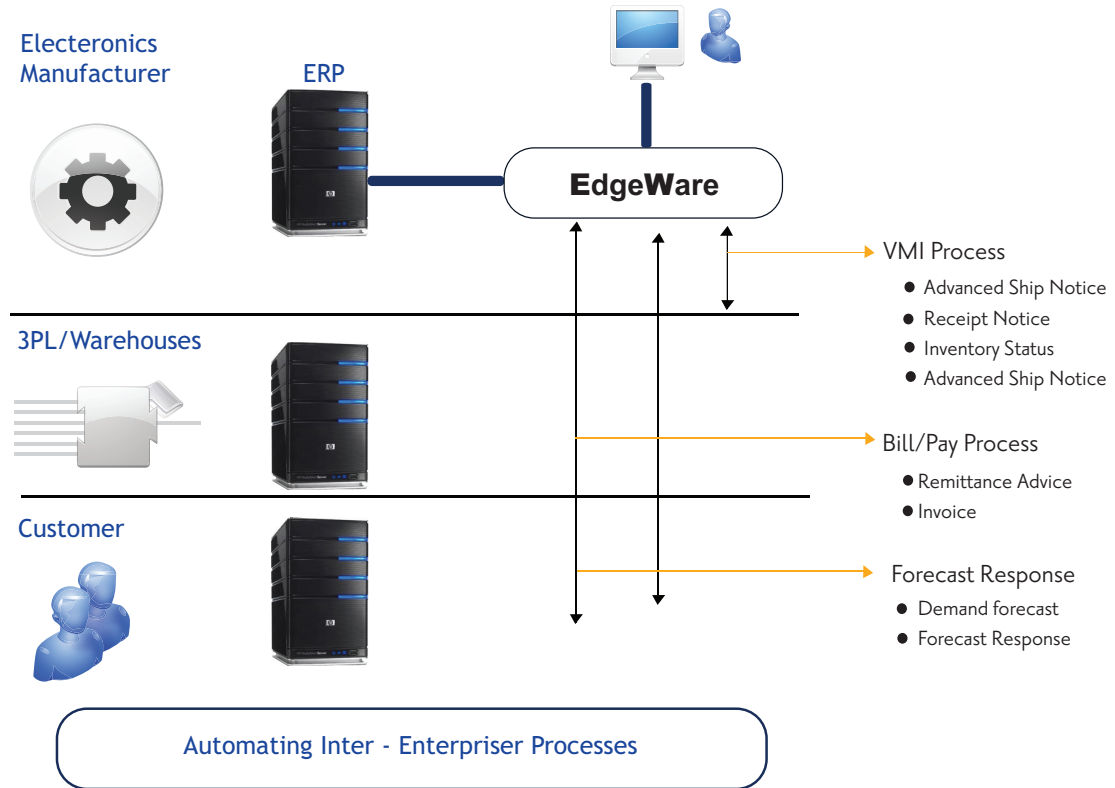
Benefits:

1. Web2.0 facilitate in high performance compared to classic version of dynamic and static web pages.
 2. Fast to develop and easier to maintain
 3. It hides the intricacies of the processing time resulting in higher performance
5. Mobile Application – Mobile applications were developed for end users and business users. End users were powered with RFID enabled handheld devices to read tags in the field and send the tag information along with the GPS coordinates using GPRS protocol over the air to backend servers. This information is then translated into real-time information on dashboards visible on mobile devices of business users.

Benefits:

1. Mobile devices could be easily carried to field, warehouse and other mobile locations
2. RFID and GPS enabled devices help users to read tags easily and accurately, thus yielding high data reliability.
3. GPRS enabled mobile devices help business users track information of the operations taking place at manufacturing units, warehouse on real-time basis.

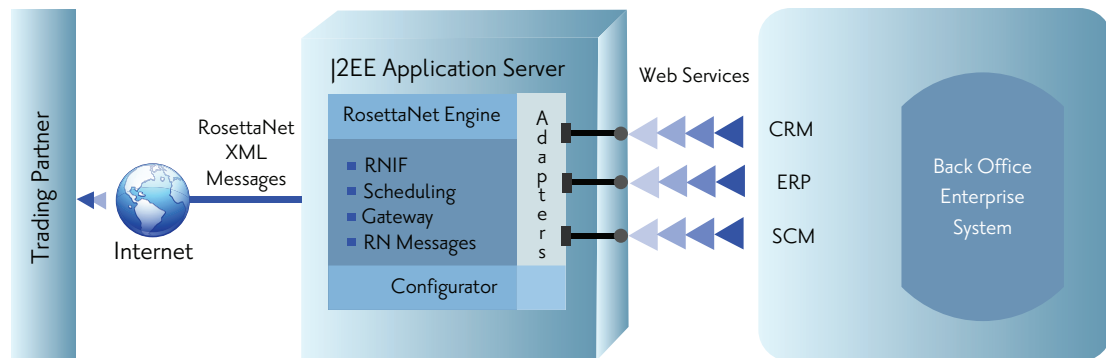
Process flow diagram/Architecture



This is a typical supply chain management diagram. The customer places an order or there could be a history tracker, used for forecasting. The information about the customer's order is sent to the ERP software at the manufacturer's site through the use of Edgeware. The VMI process gives the manufacturer's executive, information on the status of the PO or ASN. This info helps in inventory planning. So also, the billing to the customer can be done on the basis of the ASN.

All this info can be sent in a standardized format that conforms to RosettaNET standards. That ensures uniformity in the receipt of details and ease in processing for the manufacturer.

The high level Edgware Product Architecture is shown below:



In a nutshell, the customer will interact with the trading partner using the client's product (J2EE application server in the above diagram).

Client Benefits:

1. Standards based messaging
2. Time saved from manual processes
3. Visibility across entire supply chain

Conclusion:

Our client was able to significantly cut the engineering costs, speed up development and satisfy the customers using highly versatile Xoriant team. By tactically moving resources between Development, Testing, Support and PSO, Xoriant was able to reduce the down-time, while at the same time, offer maximum resource bandwidth to the function that was more critical to our client at a given time. In addition, Xoriant team members were able to pick up the relevant expertise in supply chain domain, as well as technologies such as RFID, mobile communications/applications, GPS as well as the nuances of using the LAMP stack for almost real-time environment.