

Solution Brief – eAlliance EDI Solutions

eAlliance Consulting Profile

Type: System Integrator (SI)
Location: Naperville, IL
Public/Private: Private
Geography: North America

Key Verticals:

Manufacturing

Expertise:

- Oracle Fusion Middleware
- Oracle Portal
- Oracle E-Business Suite
- Oracle Database

URL:

<http://www.ealliancecorp.com>

eAlliance extends E-Business Suite with an EDI solution at Eaton Steel

Business to Business transactions automation in the Manufacturing Vertical

Eaton Steel Bar Company was founded in 1953 and has been in the forefront of cold-drawn and hot-rolled steel products. With production and warehouse facilities of approximately 550,000 sq feet on 40 acres of land, they have the capacity to store 100,000 tons of inventory and ship 400,000 tons annually.

eAlliance automated the EDI handling with customers and vendors to help Eaton Steel drastically reduce the turn-around time for handling of the documents and thereby processing them. It reduced the inherent errors involved in handling the EDI documents manually.

The EDI process was automated by extending E-Business Suite using Oracle BPEL Process Manager and Oracle B2B Integration Server. The solution comprised of multiple BPEL processes, BPEL Human Workflow, XML Gateway and Customized mapping as well as Canonical mapping.

Technology

Stack

- Oracle BPEL Process Manager 10.1.3.1
- Oracle JDeveloper 10.1.3.3
- Oracle B2B Integration Server
- EDIFECS – SpecBuilder
- Oracle Apps Adapter

Integration Components

- Oracle BPEL PM 10.1.3.1

Endpoints:

- Oracle E-Business Suite 11.5.10
- FTP through GXS/VAN

Oracle BPEL PM Deployment

- Solaris 9 Server for BPEL PM

Problem Statement

Typically Invoices and other business documents are faxed or Emailed by vendors – the handling of which is a labor intensive and error-prone process. Through this approach, there is no visibility or consistency into interaction between parties. When there is a need to quickly scale to meet diverse partner requirements: EDI, XML and Excel, the manual process becomes overwhelming. To overcome this, Eaton Steel automated the process to transmit EDI documents from a vendor as well as transmit EDI documents to customers, it become relatively quick to modify it to changing requirements, or to setup EDI document for a new trading partner for the same document type. Without the new automation in place, there was a significant wastage of time and resources to perform new setups or modifications.

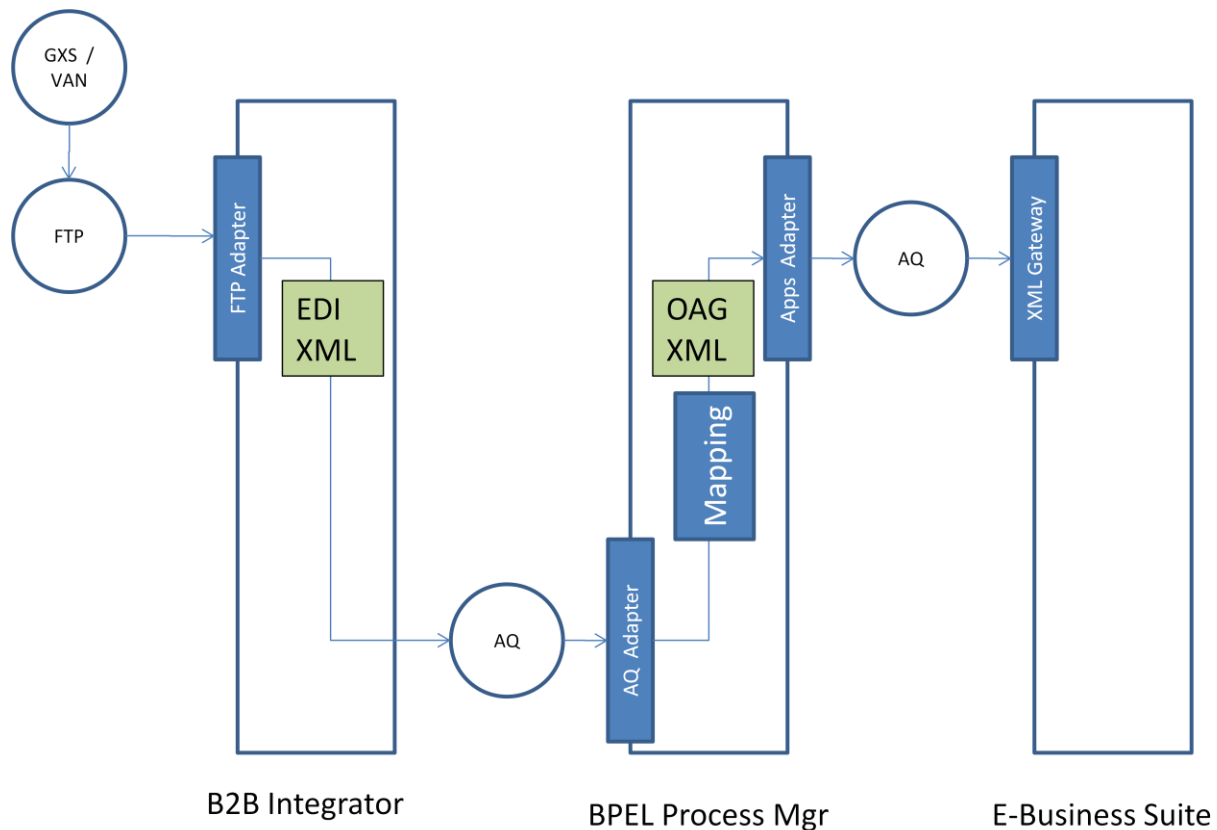
Solution Details

Using EDIFECS SpecBuilder the schema is created for EDI documents obtained after customizing the Document Type and Revision. The Oracle B2B Integration Server is setup for Trading Partners, Transactions, Incoming locations and Protocol. It is then setup to interpret the incoming EDI documents using the schema from the SpecBuilder and translate into EDI XML. The Oracle BPEL Process Manager is setup with mappings to translate the EDI XML to OAG XML. Since E-Business Suite understands OAG XML, the BPEL process will convert the EDI XML and prepare the message header for it. The Oracle Apps Adapter acts as the interface with XML Gateway and is configured through the BPEL Designer plug-in of

JDeveloper. The Oracle E-Business Suite is setup with custom mappings for XML Gateway to match the customers' business processes in E-Business Suite.

B2B Transactions

- EDI 810 - Inbound Invoice: Based on the X12 format, the 810 was sent by their vendor – Corus, and received by Hercules, a subsidiary of Eaton Steel. This invoice was a cross-border transaction and contained additional information for customs and currency exchange
- EDI 846 - Inventory Advice: Based on the X12 format, the 846 was used by Eaton Steel to notify some of their customers of an on-hand inventory that may be purchased and present an opportunity for special buys of overstocked inventories



Implementation Cycle:

- Requirements Gathering and Documentation
- Sample Data File Analysis
- Trading Partner - Classification of Requirements by Document Type, Version ,etc
- Oracle B2B Integration Server Setups
- BPEL Process Creation
- XSLT Mappings

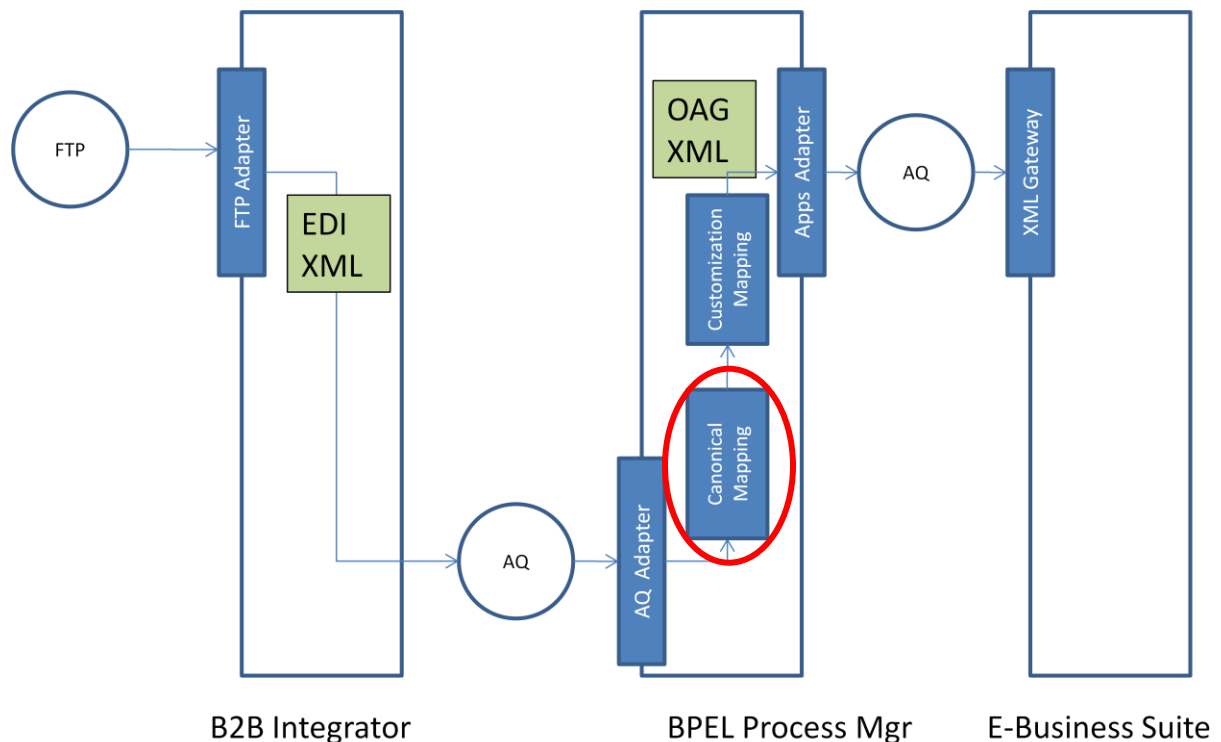
- Unit Tests
- Production

Feature Benefits

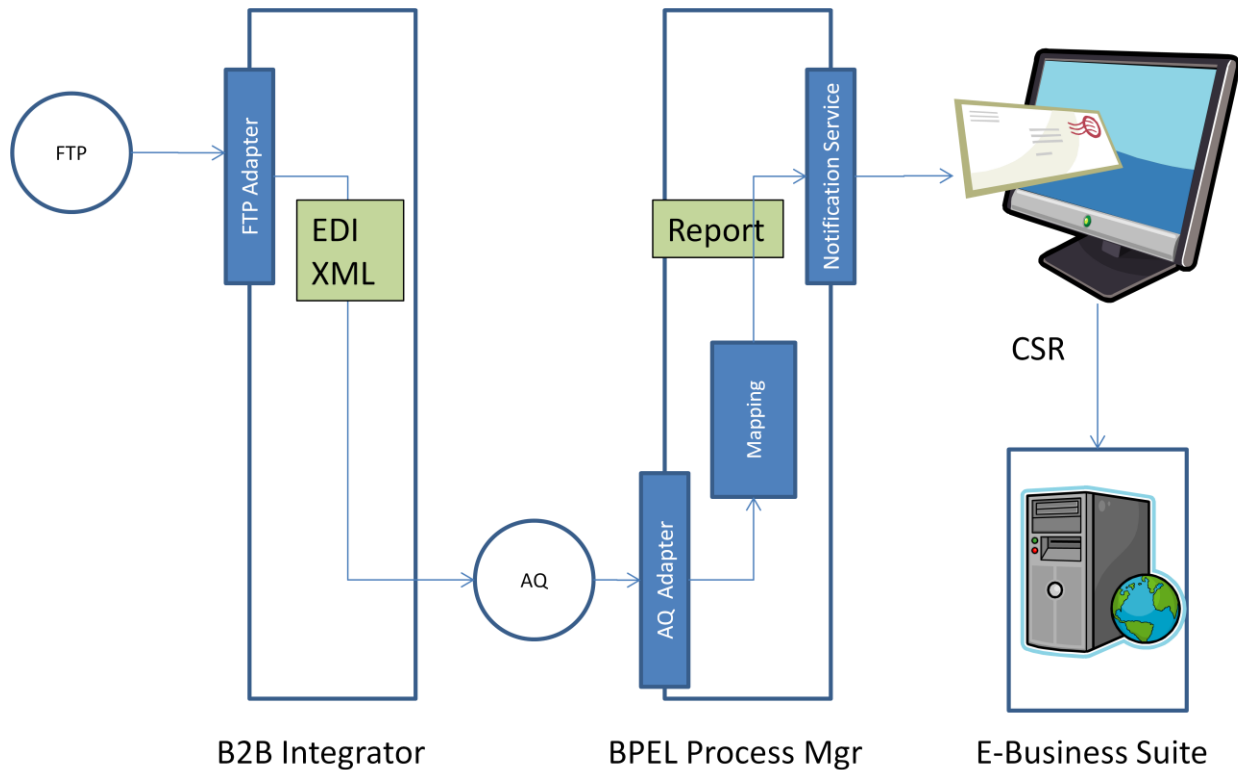
- One generic outbound bpel process can accommodate multiple trading partners by using the dynamic web service for invoking pre-existing pl/sql packages exposed as webservice
- Canonical Format Design and Implementation – Allows Rapid development of customized mappings for the same document but different Trading Partners. We have developed and implemented the canonical form that lets the BPEL Designer focus only the specific customizations required for each trading partner

Other EDI Solutions implemented by eAlliance

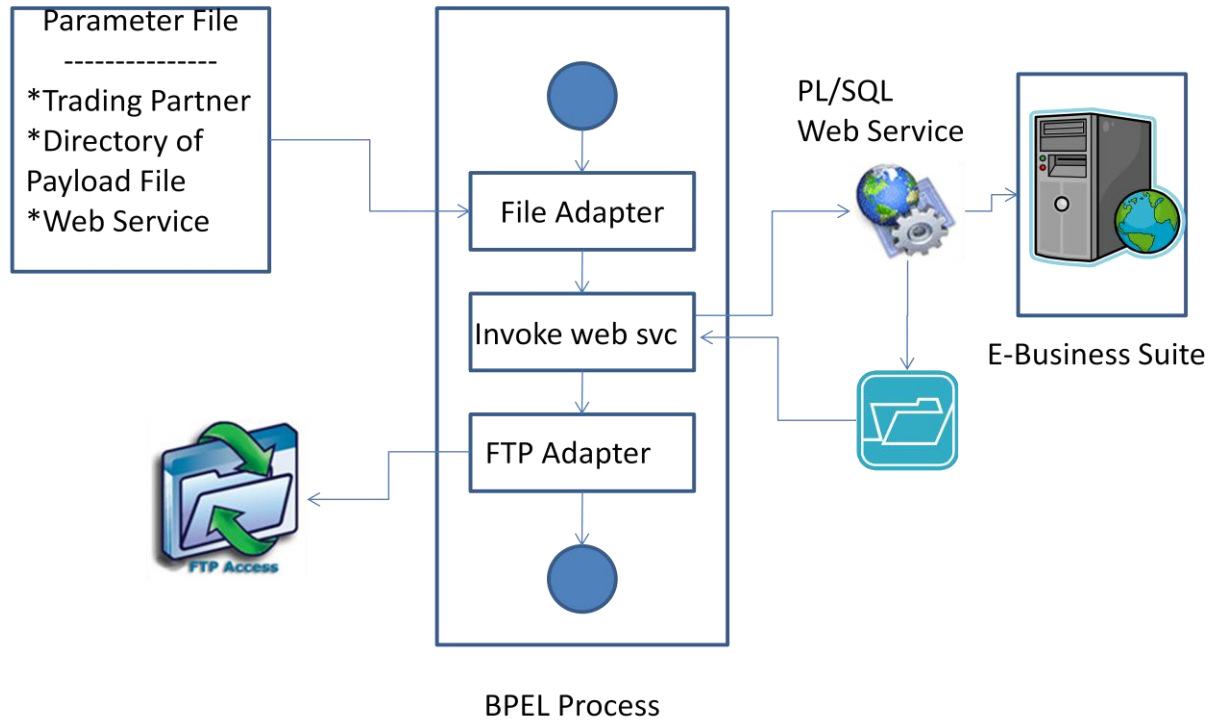
- **Canonical Format Design and Implementation** –Implementation time and QC time for mapping each document type (from EDI to OAG XML) for every trading partner was quite substantial. eAlliance corporation designed a process for rapid development of customized mappings for the same document but different Trading Partners. The solution developed and implemented was to create a **canonical form** for XSLT mapping for each document type. This lets the BPEL Designer focus only the specific customizations required for each trading partner, and not have to do a complete EDI XML to OAG XML exercise.



- 860 PO Inbound changes processed in manual, controlled fashion** – A Steel manufacturing and distribution company, required a SOA process for few transactions such as the 860 PO Inbound changes but they did not want a complete end-to-end solution that inserts data directly into E-Business Suite. eAlliance implemented this in a BPEL process, where a report is generated containing EDI transaction details and then e-mailed to concerned CSRs. The CSR will then manually process the PO changes in the E-Business Suite directly.



- Leveraging existing PL/SQL packages for flat file handling** – A specialty steel manufacturing company had PL/SQL packages that processed flat files to be FTP'd as payment advice to respective banks. A SOA solution was designed and implemented by eAlliance to automate this process. The B2B integration server was not used for this solution because the customer already had existing PL/SQL packages for generating these flat files. The solution involved leveraging these pl/sql packages by exposing them as Web Services. The BPEL process was then designed to have dynamic ports so that FTP locations and Web Service could be passed to it as parameters. Finally, the BPEL process was invoked with the following parameters: Trading Partner, Directory of the payload file, location of incoming folder on the client's server, and the pl/sql web service.



Solution Benefits

The automation of the EDI handling process allowed Eaton Steel to save at least 50% setup time for handling similar EDI documents for various clients. The SOA approach made it a very modular approach to solution development. Subsequent benefit was easier exception handling through superior monitoring tools provided by Oracle technology stack.

The solution has resulted in a framework for additional enhancements whereby we are looking to develop for a more sophisticated Exception Handling and Recovery tool. We will also be using ADF and BPEL Workflow tools to develop applications that holistically manage the process with superior notification and control mechanism.